

On the nature of anticausative morphology: External arguments in change-of-state contexts

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List of Abbreviations

| | | | |
|---------|----------------|----------|---------------|
| ABS | absolute | PART | partitive |
| ACC | accusative | PRTL | particle |
| ACT | active | PASS | passive |
| ADE | adessive | PAST | past tense |
| AD.ELAT | adelative | PERF | perfective |
| AOR | aorist | PL | plural |
| CL | clitic | POSS | possessive |
| COMP | complementizer | POST | postessive |
| COND | conditional | PRS | present tense |
| DAT | dative | PROG | progressive |
| ERG | ergative | REFL | reflexive |
| GEN | genitive | SG | singular |
| IMP | imperative | SUBJ | subjunctive |
| INF | infinitive | SUPERLAT | superlative |
| NACT | non-active | TOP | topic |
| NOM | nominative | WIT | witnessed |

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Introduction

This thesis is concerned with anticausative verbs, i.e. the intransitive version of verbs that undergo the causative alternation. The main topic is the investigation of the so-called *anticausative morphology* that is found in a subclass of anticausatives in many languages.¹ The phenomenon is illustrated below with German examples. The examples in (1a) and (2a) involve transitive, causative verbs. The examples in (1b) and (2b) involve the intransitive, anticausative counterparts of these verbs. As the examples show, German has two classes of anticausative verbs. One class of anticausatives, exemplified by the verb ‘*öffnen*’ (to open) in (2b), necessarily co-occurs with the reflexive pronoun ‘*sich*’ in addition to the lexical DP-theme while the other class of anticausatives, exemplified by the verb ‘*zerbrechen*’ (to break) in (1b), does not allow the addition of the reflexive pronoun in addition to the DP-theme. The transitive versions of these two types of anticausatives do not differ; they combine both with a subject DP and an object DP. I call anticausatives of the type exemplified in (1b) *unmarked anticausatives* and those exemplified in (2b) (*reflexively*) *marked anticausatives*.

- (1) a. Hans zerbrach die Vase
 John broke the vase
 b. Die Vase zerbrach (*sich)
 the vase broke REFL
- (2) a. Hans öffnete die Tür
 John opened the door
 b. Die Tür öffnete *(sich)
 the door opened REFL

¹ Note that I use the term ‘anticausative’ in a different way than Haspelmath (1993). I call all types of intransitive change-of-state verbs that have a causative counterpart ‘anticausatives’, irrespectively of whether such an intransitive verb comes with or without special morphological marking.

The main questions of this thesis are: Why do we find these two classes of anticausatives? Do the two classes differ in other respects besides their morphological difference? Since reflexive pronouns are typically used to express semantic binding between argument positions, what is the role of the reflexive pronoun in marked anticausatives?

This morphological partition of the class of anticausative verbs is by far not a phenomenon restricted to German. We find a similar partition in many other languages. So, while German is indeed the main language of investigation in this thesis, the method of investigation will be strongly comparative, including mainly Balkan and Romance languages. It is the goal of this thesis to shed light on the deeper linguistic mechanisms behind this morphological partition found with anticausatives across languages.

I use the following theoretical tools: I assume that verbs are syntactically decomposed into a number of verbal layers on top of a category-neutral Root (Distributed Morphology; cf. Halle & Marantz (1993), Marantz (1997) among others). Further, I assume that theta-roles are syntactically determined by the specific configuration within the decomposed verbal event in which an argument is merged (Configurational Theta Theory, cf. Hale & Keyser (2002), Borer (2005), Ramchand (2006) among others). Within such a framework, the bulk of what is traditionally assumed to be lexical information is shifted to the conceptual component (the Conceptual-Intentional interface; cf. Chomsky (1995)).

The thesis is structured as follows: Chapter 1 and chapter 2 deal with the question of whether the two morphological classes of anticausatives differ semantically. In **chapter 1**, I discuss marked and unmarked anticausatives in Italian, French and Greek. Specifically, I will evaluate the claim made in the literature that, in these languages, marked and unmarked anticausatives differ in their aspectual interpretation. It will turn out that the proposed interpretational differences are not always as clear-cut and systematic as is proposed. More importantly, it will turn out that German marked and unmarked anticausatives do not show similar effects.

In **chapter 2**, I identify a semantic difference between German marked and unmarked anticausatives. This difference is related to the way a so-called *free dative* (i.e. a dative

DP not subcategorized by the verb) can be interpreted in the context of anticausatives. I show that such a dative can receive two interpretations in the context of unmarked anticausatives, namely what I call the *affectedness interpretation* and the *unintentional causer interpretation*, while, in the context of marked anticausatives, only the *affectedness interpretation* is possible while the *unintentional causer interpretation* is blocked. This difference is clearly related to the presence vs. absence of the reflexive pronoun in German anticausatives. I investigate and ultimately reject the hypothesis that the *unintentional causer interpretation* is blocked in the context of marked anticausatives because marked anticausatives involve an (implicit) external argument of some kind. Both marked and unmarked anticausatives never show any reflex of external argument semantics. In this respect, anticausatives crosslinguistically differ from passives as well as generic middles which involve an implicit external argument

Chapter 2 will also reveal a clear difference between marked anticausatives in German and their counterparts in the Romance or Balkan languages. The latter languages allow the same two interpretations for a free dative in the context of anticausatives. But, in contrast to the case in German, they allow both interpretations in the context of unmarked anticausatives as well as marked anticausatives. Chapter 2, thus, leaves us with two questions: How does anticausative morphology in German block the *unintentional causer interpretation* of a dative and why does it not have the same blocking effect in other languages?

In order to better answer these two questions, I investigate, in **chapter 3**, in detail the syntax and semantics of the *affectedness dative* and the *unintentional dative causer*. Concerning the latter of the two questions above, I will hypothesize that this difference between German and all other languages under consideration is related to a phrase-structural difference between the anticausative markers of these languages: The German reflexive ‘*sich*’ is a full pronoun, i.e. a maximal projection, while its counterparts in the Romance and Balkan languages are either like reflexive clitics or like verbal heads. I will postpone further discussion of why this phrase-structural difference should have the effect that the *unintentional causer dative* is blocked in the context of German marked anticausatives but not in the other languages until chapter 7.

Chapter 4 discusses the syntax of the causative alternation. I argue that neither theories assuming some derivational process of detransitivization nor theories assuming some derivational process of transitivization (i.e. theories that assume some form of consistent directionality for the causative alternation) can do justice to all properties of the alternation found crosslinguistically. I then introduce the theory of the causative alternation developed by Alexiadou et al. (2006a, b) which does not assume that there is a direct derivational relationship between causative and anticausative verbs but which, instead, proposes that both are derived from a common category-neutral Root. I show that causatives and anticausatives do not differ in their event decomposition and thereby motivate the view developed by Alexiadou et al. that the causative alternation is simply a Voice alternation; causatives and anticausatives only differ in that the former have an external argument while the latter lack such an external argument. The external argument is, in turn, introduced by a Voice projection (following Kratzer (1996)). What this essentially means then, is that causatives involve a Voice projection while anticausatives lack such a Voice projection. Further, I argue that the information as to whether a specific verb takes part in the causative alternation or not cannot be strictly linguistic or lexical in nature; instead I propose, once again following Alexiadou et al., that this information is encyclopedic information (cf. e.g. Marantz (1997)) about the change-of-state event expressed by the verb, i.e. world knowledge, which is computed at the Conceptual-Intentional interface.

The theory discussed in chapter 4 accounts for the alternation between causatives and unmarked anticausatives; it has, so far, not much to say about the two morphological classes of anticausatives, marked and unmarked, that we find crosslinguistically. In **chapter 5**, I will, therefore, return to this morphological partition in the class of anticausatives and deal with the following two questions:

Q: (How) do unmarked and marked anticausatives differ syntactically?

Q: What is the phrase-structural position of the extra morphology or with which the extra morphology is associated?

Building on the results of the typological study by Haspelmath (1993), I will argue that unmarked anticausatives differ from marked anticausatives syntactically; while the former are syntactically and semantically unaccusative, the latter are formally (i.e. syntactically) transitive or passive although they are semantically unaccusative, too. In particular, I will propose that marked anticausatives crosslinguistically involve a non-thematic or expletive Voice projection. This Voice projection does not introduce any external argument (semantics) but is just the syntactic host of the different kinds of anticausative morphology that can be found across languages. As is explained in detail in the chapter, this morphology shows up with some anticausative verbs mainly for reasons of iconicity. Further, the proposal to consider Voice as a host of anticausative morphology is well motivated and independently supported to the extent that the same morphology is often used in the context of other Voice-related phenomena (e.g. the passive).

I argue that the reflexive pronoun that we find with German marked anticausatives is located in the specifier of this expletive Voice projection, while in other languages, the anticausative morphology is located in the expletive Voice head itself. This view, that anticausative morphology is connected to Voice, allows us to answer the following question about anticausatives:

Q: Why are there so often two (instead of, for example, three or five) morphological classes of anticausatives?

If anticausative morphology is associated with a Voice projection, then the two morphological classes of anticausatives that we find crosslinguistically reflect the syntax of the causative alternation itself. As mentioned, I argue in chapter 4 that the causative alternation is a Voice alternation; causatives have a Voice projection introducing an external argument while anticausatives lack such a projection. If the morphology of marked anticausatives is associated with a Voice projection, too, albeit an expletive one which does not introduce an external argument theta-role, then we can understand why there are exactly two classes of anticausatives. The answer to this question is the same as the answer to the question why the causative alternation involves exactly two constructions; this is so because, in both cases, one version builds

on the presence of Voice (a thematic one in the case of causatives and an expletive one in the case of marked anticausatives) while the other version builds on the absence of Voice. Besides the presence and the absence of Voice, there is no further option.

The conception of German marked anticausatives proposed in chapter 5 poses a number of questions: If the reflexive pronoun is located in the specifier of Voice, then the full theme DP must be the internal argument. How can the reflexive pronoun in the specifier of Voice fulfil Principle A of the Binding Theory and how can it be that the internal argument is marked nominative although the reflexive pronoun is an external argument (which as I will show is marked with accusative)? I will postpone the answer to these questions until chapter 7. Instead, I will empirically corroborate the proposed syntactic conception of marked anticausatives in the second half of chapter 5 where I discuss the behavior of German marked anticausatives with respect to the unaccusativity diagnostics. I will show that, in contrast to what has been argued in the recent literature, German marked anticausatives are unaccusatives insofar as their theme is indeed an internal argument which is base-generated in a position below the reflexive pronoun.

In **chapter 6**, I discuss generic middles. I argue that generic middles have exactly the same syntax as marked anticausatives, i.e. they involve an expletive Voice projection. This claim is motivated by the observation that there is a strong crosslinguistic tendency that generic middles are marked by the same morphological device that is also used for marked anticausatives of a language. The claim that generic middles involve an expletive Voice projection, in turn, leads to the following question: If both, marked anticausatives and generic middles involve just an expletive Voice, how can it be that (marked) anticausatives do not involve any implicit external argument while generic middles clearly involve such an implicit argument? One thing to note in this connection is the fact that the implicit argument of generic middles, while felt to be present, is not syntactically active (in contrast for example to the implicit argument of passives). The main goal of chapter 6 is therefore to develop a theory about the non-syntactic source of the implicit external argument in middles. I will argue that this implicit argument emerges as an implication at the C-I interface. This implication which is guided by our world knowledge about events is heavily dependent on the generic semantics involved in middles.

In **chapter 7**, I turn to the following, final question about marked anticausatives.

Q: Why do we find the type of morphology that we actually do?

I concentrate specifically on the question of why we find reflexive morphology as a marker on anticausatives in so many languages. I will propose that a reflexive pronoun (a SE-reflexive) which is merged in the specifier of Voice is a way to deactivate the thematic potential of Voice, i.e. it is a way to *derive* an expletive Voice. My reasoning is the following: It is generally assumed that reflexive pronouns are referentially defective and, therefore, need an antecedent in order to receive some denotation. However, I proposed that the reflexive pronoun in marked anticausatives is merged in the specifier of Voice, i.e. the highest argument position of the (anti-)causative predicate. If this is true, then this reflexive will not find a local antecedent and remains unbound. If a reflexive pronoun remains without an antecedent, this is typically assumed to lead to a violation of Principle A of the binding theory. I argue that a reflexive pronoun without an antecedent does not necessarily lead to a syntactically deviant structure. Instead, I propose that such an unbound reflexive pronoun which remains without interpretation or denotation cannot be assigned a theta-role. This is so because theta-roles are assigned not in the syntax to an element in a specific syntactic position but at the C-I interface to the denotation of an element occurring in a specific syntactic position. If an unbound reflexive pronoun occurs in the specifier of Voice, then no external theta-role can be assigned to it at the C-I interface due to the fact that the reflexive pronoun remains without denotation. The thematic impact of Voice is, so to speak, “switched off” by the unbound reflexive pronoun. The result is a semantically anticausative or unaccusative verbal structure. Such a verbal structure is only possible with verbs that can be interpreted as occurring without an external argument, i.e. with verbs undergoing the causative alternation. Other verbs which cannot be interpreted as occurring without an external argument (for example, agentive verbs) are filtered out as unintelligible at the C-I interface if they are construed with such a reflexive pronoun in the specifier of Voice. As I will show, a side-effect of an unbound reflexive pronoun in the specifier of Voice is the kind of ergative case frame found with marked anticausatives where the internal argument (the theme) gets nominative and triggers

verbal agreement while the reflexive pronoun in the external argument position is marked with accusative.

In the second and third section of chapter 7, I give further motivation for both the proposed derivation of expletive Voice via an unbound reflexive pronoun in the specifier of Voice and the proposal that theta-roles are assigned to (or better realized by) the denotation of syntactic entities post-syntactically at the C-I interface.

The proposal that an unbound reflexive pronoun in the specifier of Voice cannot be assigned a theta-role (and that such a constellation leads, therefore, to an anticausative predicate) makes the strong prediction that the reflexive pronoun in the specifier of Voice can be assigned the external theta-role as soon as it can find a local antecedent. I argue that this prediction is, indeed, fulfilled and that the blocking of the *unintentional dative causer* in the context of German marked anticausatives can be explained by such reasoning.

In chapter 3, I argue that the interpretation of a dative as the *unintentional causer* of an event results if a dative is applied to a change-of-state event, i.e. if it is introduced by an applicative head c-commanding the whole decomposed change-of-state predicate. In the case of marked anticausatives, such an applicative projection would be on top of the expletive Voice projection. This would mean that the dative in the specifier of the applicative phrase would locally c-command the reflexive pronoun in the specifier of Voice. This constellation leads to a binding relation between the dative and the reflexive pronoun. Since the reflexive is bound now by the dative, it gets some denotation and, in turn, it is assigned the external theta-role at the C-I interface. But this leads to a situation where the dative as the *unintentional causer* of the event can no longer be thematically integrated into the change-of-state event because this change-of-state event already has an external argument, i.e. the bound reflexive pronoun in the specifier of Voice. Since one event with two external arguments is not possible, this results in a conceptual clash. In the Romance languages which mark their anticausatives with a reflexive clitic, the problem does not arise as reflexive clitics cannot be bound by datives but only by nominative subjects.

Finally, I discuss two further constructions possible with change-of-state verbs, namely the German ‘es-construction’ and its Icelandic counterpart, the ‘stray accusative construction’ (also called ‘FATE accusative construction’). These constructions have an

interpretation close to anticausatives but they involve, in addition, the feeling that some kind of unidentified force is responsible for the coming about of the change-of-state event. I argue that this semantic peculiarity can be understood if theta-roles are assigned to (or better realized by) the denotation of a syntactic argument at the C-I interface.

The thesis ends with an **appendix** on inherent reflexive verbs in German. I argue that German inherent reflexive verbs are syntactically different from marked anticausatives despite the fact that both involve the reflexive pronoun '*sich*'. While marked anticausatives are unaccusative in that their full DP is an internal argument, inherent reflexive verbs cannot be unaccusative and their full argument must be an external argument. The main argument for this conclusion is the observation that inherent reflexive verbs in German undergo passivization.

Chapter 1

The morphological patterns of anticausatives and their interpretation

1.1 The causative alternation

Across languages, verbs expressing a change of state (or change of degree) can participate in the so-called *causative alternation*, i.e. they can either be used as a transitive, causative verb or as an intransitive verb (the latter called anticausative or inchoative) (cf. Smith (1970), Levin & Rappaport Hovav (1995)). In (1)-(2), the alternation is illustrated with the English verb ‘*break*’ and its counterparts in German and Italian.

- (1) a. John broke the window (*English*)
 b. The window broke

- (2) a. Hans zerbrach das Fenster (*German*)
 John broke the window
 b. Das Fenster zerbrach
 the window broke

- (3) a. Gianni ha rotto la finestra (*Italian*)
 John has broken the window
 b. La finestra si è rotta
 the window REFL is broken

The meanings of the two variants are closely related. This is illustrated in (4): the object of the transitive variant and the subject of the intransitive variant bear the same thematic role (*theme* or *undergoer*) and the transitive variant has an external argument (bearing the theta-role *agent*

or *causer*) which is missing in the intransitive variant. The meaning of the transitive variant is roughly ‘*cause to V-intransitive*’.

(4) The causative alternation:

- a. *agent* V-transitive *theme* (*causative*)
- b. *theme* V-intransitive (*anticausative*)

Anticausatives are typically assumed to be unaccusative verbs; under this view, the theme in (4b) originates as an object exactly as in (4a) and moves to a structural subject position during the derivation. Many (but not all) unaccusative verbs participate in this alternation. Verbs that are considered prototypical unergatives, on the other hand, never do, as illustrated in (5).

- (5) a. The crowd laughed
- b. *The comedian laughed the crowd
- (cf. The comedian made the crowd laugh)

In fact, the causative alternation has been regarded in the literature as one of the main investigations into the nature of unaccusativity. In order to arrive at the semantic characterization of the class of unaccusative verbs, the research goal was to figure out “what element of meaning sets causative alternation verbs like *break* apart from non-altering verbs like *speak*” (Levin & Rappaport Hovav (1995:80)).

1.2 The causative alternation in German

German verbs undergoing the causative alternation fall into two classes. The verbs of the first class behave like English verbs undergoing the alternation; they are morphologically unmarked in both their transitive and their intransitive uses (cf. (6) and (7)). Verbs of the second class, however, obligatorily co-occur with the reflexive pronoun ‘*sich*’ when they form anticausatives (cf. (8) and (9)). I will call the verbs in (6b) and (7b) ‘*unmarked anticausatives*’ and the verbs in (8b) and (9b) ‘*(reflexively) marked anticausatives*’.

- (6) a. Hans zerbrach die Vase
- John broke the vase

- b. Die Vase zerbrach
the vase broke
- (7) a. Der Sturm zerriss das Segel
the storm tore the sail
- b. Das Segel zerriss
the sail tore
- (8) a. Hans öffnete die Tür
John opened the door
- b. Die Tür öffnete sich
the door opened REFL
- (9) a. Der Tankwart entzündete das Benzin
the attendant ignited the petrol
- b. Das Benzin entzündete sich
the petrol ignited REFL

It is the main goal of this thesis to shed more light on the linguistic principles and mechanisms that lie behind this morphological partition in the class of German anticausative verbs. As a starting point, I will investigate whether this morphological partition is associated with any interpretational differences.

The phenomenon of two morphological classes of anticausatives is definitely not just restricted to German. Instead, we find a similar morphological partition in language after language. I will, therefore, compare in this thesis the causative alternation in German with the causative alternation in a number of other languages (mainly English, Greek and the Romance languages). While it will turn out that there are subtle differences between languages (both in the way in which the languages mark their anticausatives as well as in the interpretational properties sometimes associated with this marking), I will argue that the underlying motivation for this morphological partition is identical across languages.

1.3 Theories about the derivational relation between causatives and anticausatives

Judging the approach, according to which each variant of the alternating verbs is assigned an independent lexical entry, conceptually unsatisfactory, it is typically assumed in the literature that the two variants in the causative alternation have to be derivationally related. This means that only one variant of these alternating verbs is listed in the mental lexicon and that the other variant is derived from the listed one. The question, then, is which one of the two variants is basic and where in the grammar this derivation takes place.

Two directions of derivation are theoretically possible and both have been proposed. Some authors have claimed that the transitive use is basic and that the intransitive use is derived by some “detransitivization” operation as in (10).

(10) *detransitivization*: transitive → intransitive

Such approaches have been proposed, for example, by Levin & Rappaport Hovav (1995) who suggest that the external argument of a causative can be “lexically bound” at the level of lexical semantic representation (LSR) so that it does not project to argument structure and syntax, and by Reinhart (1996, 2000, 2002) who proposes that a lexical rule of reduction eliminates the external argument of a verb in the argument structure.

The other logically possible direction for a derivation assumes that the intransitive version is basic and that the transitive version is derived via a process of “causativization” as in (11). This process adds an external argument which is interpreted as a causer (cf. e.g. Dowty (1979), Williams (1981) among others)

(11) *causativization*: intransitive → transitive

Both types of analysis assume that anticausative constructions form a homogeneous class. But a closer look at the causative alternation across languages makes it clear that this assumption is not borne out by fact in these languages and that this cannot be true.

On the one hand, there are differences in *form* across and (more importantly) within languages. As mentioned in the last section, anticausative verbs are divided crosslinguistically into two morphological classes, one forming unmarked anticausatives and the other forming marked anticausatives. As I will discuss in depth in chapter 4, neither the detransitivization-

account nor the transitivity-account of the causative alternation can do justice to, let alone explain this partition. On the other hand, as has recently been shown for some languages, these differences in form sometimes go hand-in-hand with (subtle) differences in *aspectual meaning*; this, once again, cannot be captured under the assumption that the class of anticausatives is uniformly derived.

Lack of (morphological as well as interpretational) uniformity leads one to rethink unaccusativity. Either not all forms of anticausatives qualify as unaccusatives or the syntax of unaccusatives is not homogenous.

1.4 Semantic effects of anticausative morphology

In this section, I will discuss the different morphological classes of anticausatives in three further languages: Italian, French and Greek. The goal of this first section is twofold: First, it serves as a deeper, cross-linguistic introduction into the phenomenon of the morphological split found within anticausatives; it therefore serves as the basis for the later chapters.

Further, as mentioned above, the starting point of my investigation of German anticausatives is the question of whether we can identify interpretational differences that go along with the morphological partition. I will, therefore, discuss in this chapter the interpretational differences that have been proposed, in the literature, to hold between the two classes of anticausatives of Italian, French and Greek. It is not my goal to account for these differences. Instead, I will first evaluate how general and how predictable these alluded differences in the three languages are, and I will then investigate whether we can find similar differences in German. As we will see, the interpretational differences that have been supposed to hold in these languages are not as clear-cut as one would hope. We will see that, at least in the Romance languages, they are at best tendencies which are not without counterexamples. Further, and most importantly, it will turn out that German anticausatives do not show comparable effects. This result will then provide the need to search, in chapter 2, for other interpretational differences between German marked and unmarked anticausatives.

1.4.1 Anticausatives in Italian

Italian has three morphological classes of anticausative verbs. Verbs of *class A* are obligatorily marked with the reflexive clitic ‘*si*’, verbs of *class B* are obligatorily unmarked and do not allow modification with the reflexive clitic ‘*si*’, and verbs of *class C* can optionally be marked with ‘*si*’. The three classes are exemplified in (12)-(14) below. TABLE I lists some more verbs of each class. (The examples are taken from Folli (2002); cf. also Centineo (1995) for a discussion of Italian anticausatives and their morphological marking.)

- (12) a. Gianni ha chiuso la finestra (*class A*)
 John has closed the window
 ‘John closed the window’
 b. La finestra **(si)* è chiusa
 the window REFL is closed
 ‘The window closed’
- (13) a. Gianni ha diminuito la temperatura (*class B*)
 John has decreased the temperature
 ‘John decreased the temperature’
 b. La temperatura **(si)* è diminuita
 the temperature REFL is decreased
 ‘The temperature decreased’
- (14) a. Maria ha fuso il cioccolato (*class C*)
 Mary has melted the chocolate
 ‘Maria melted the chocolate’
 b. Il cioccolato *(si)* è fuso
 the chocolate REFL is melted
 ‘The chocolate melted’

TABLE I: *Italian anticausatives*

| Class A | Class B | Class C |
|-----------------------------|---------------------------------|------------------------------|
| <i>verbs that need 'si'</i> | <i>verbs that disallow 'si'</i> | <i>verbs that allow 'si'</i> |
| rompere (break) | diminuire (decrease) | fondere (melt) |
| alterare (alter) | aumentare (increase) | cuocere (cook) |
| svegliare (wake up) | invecchiare (age) | raffreddare (cool) |
| aprire (open) | cambiare (change) | riscaldare (heat) |
| chiudere (close) | allungare (lengthen) | asciugare (dry) |
| estendere (extend) | guarire (heal) | congelare (freeze) |
| sbriciolare (crumble) | migliorare (improve) | bruciare (burn) |
| dividere (divide) | affondare (sink) | sgonfiare (deflate) |
| sfilacciare (fray) | bollire (boil) | ingrandire (enlarge) |

Folli (2002) argues that the difference in morphological marking is accompanied by a difference in aspectual meaning. According to her, the *si*-marking of anticausative verbs either reflects the *telic* nature of a verb or encodes an (in principle, optionally available) *telic* interpretation. This is shown in TABLE II. Verbs that come with the reflexive marking are interpreted as *telic* while verbs that are unmarked are interpreted as *atelic*. Verbs of class C₂ (although unmarked) are claimed to be aspectually ambiguous, as indicated below.

TABLE II: *aspectual properties of Italian anticausatives* (cf. Folli 2002)

| | + telic | + telic | +/- telic | - telic |
|------|----------------|----------------------------|----------------------------|----------------|
| + si | <i>Class A</i> | <i>Class C₁</i> | | |
| - si | | | <i>Class C₂</i> | <i>Class B</i> |

Folli offers a number of tests that suggest that reflexive anticausatives of *Class A* are *telic* in both their transitive and their intransitive use: (i) They can occur with “*in X*” adverbials (cf. (15)); these adverbials set a temporal frame in which the event terminates. (ii) The negation of the final end-state by means of an additional phrase is infelicitous (cf. (16)). (iii) The progressive form does not entail the past form (cf. (17)).²

² Folli (2002) discusses some further tests, not mentioned here, to prove the (a-)telic nature of Italian anticausatives.

- (15) a. Gianni ha chiuso la finestra in un secondo
 John has closed the window in one second
 ‘John closed the window in one second’
- b. La finestra si è chiusa in un secondo
 the window REFL is closed in one second
 ‘The window closed in one second’
- (16) a. ?Gianni ha chiuso la finestra, ma non è chiusa
 John has closed the window but not is closed
 ‘John closed the window, but it is not closed’
- b. ?La finestra si è chiusa, ma non è chiusa
 the window REFL is closed but not is closed
 ‘The window closed, but it is not closed’
- (17) Gianni sta chiudendo la finestra \nRightarrow Gianni ha chiuso la finestra
 John is close.PROG the window John has closed the window
 ‘John is closing the window \nRightarrow John has closed the window’

These tests indicate that verbs of *class A* are always telic. Folli uses the verbal decomposition model developed in Ramchand (2006)³ and assumes that these verbs are built up by a combination of a process head (spelled out as ‘*si*’ in their anticausative use) which takes a resultant state (lexicalised by the verb) as its complement.

Folli argues that verbs of *class B*, on the other hand, show atelic behavior in their intransitive and transitive uses. (i) They can occur with “*for x*”-adverbials which modify a period of time in which the event is going on (cf. (18)). (ii) They do not allow modification by the adverbial ‘*completamente*’ (completely) (cf. (19a)). (iii) They can occur with a phrase denying the achievement of a final state (cf. (19b)). (iv) The progressive licenses the entailment of the past tense form (cf. (20)).

- (18) a. Gianni ha diminuito la temperatura per un’ora
 John has decreased the temperature for one hour
 ‘John decreased the temperature for an hour’

³ This work has been in circulation already for a number of years.

- b. La temperatura è diminuita per un'ora
 the temperature is decreased for one hour
 'The temperature decreased for an hour'

(19) a. ??Gianni ha diminuito la temperatura completamente

John has decreased the temperature completely
 'John decreased the temperature completely'

- b. La temperatura è diminuita, ma non è diminuita completamente
 the temperature is decreased but not is decreased completely
 'The temperature decreased, but is not completely reduced'

(20) Gianni sta diminuendo la temperatura =>

John is decrease.PROG the temperature

Gianni ha diminuito la temperatura

John has decreased the temperature

'John is decreasing the temperature' => 'John has decreased the temperature'

This indicates that the verbs in *class B* are always atelic. Folli (as well as Ramchand (2006)) assumes that these are verbs expressing a change of position or change of degree without a proper final state but only with a contextual resultant state. That is, these verbs are pure processes with no syntactically represented resultant state. Since, in their anticausative use, there is only one structural layer which is necessarily realized by the verb, the structure has no room for the insertion of the reflexive clitic. Folli assumes that these verbs are so-called 'degree achievements' as they also allow modification with "in X" adverbials if a telos is contextually added.⁴

Verbs of *class C*, finally, optionally appear with 'si' in their intransitive use. As the following tests suggest, these verbs are aspectually ambiguous in their unmarked intransitive use (as well as in their regular transitive use). But in the intransitive use with 'si', they are

⁴ Folli notes that verbs of *class B* are compatible with "in X" adverbials. However, she argues that this does not argue against the analysis of these verbs as atelic because in these cases telicity is not produced by the lexical-syntactic structure of the verbs themselves but is a case of "semantic telicity" produced either by syntactic coercion (e.g. as in (i) via the addition of a measure phrase) or contextual coercion (as in ii). These effects on degree achievements are discussed in Hay et al. (1999). See also Kearns (2007) and the short discussion at the end of this section for a different view on degree achievements.

(i) The temperature decreased *five degrees*. (ii) The tailor lengthened my trousers.

obligatory telic. (i) Intransitives without ‘*si*’ can occur both with “*in X*” and “*for X*” adverbials (cf. (21a)). Intransitives with ‘*si*’ are not possible with “*for X*” adverbials (cf. (21b)). (ii) Negation of the final state is infelicitous with the intransitive form with ‘*si*’ but gives rise to grammatical sentences if added to the intransitive form without ‘*si*’ (cf. (22a, b)).

- (21) a. Il cioccolato è fuso per pochi secondi/in pochi secondi
 the chocolate is melted for few seconds/in few seconds
- b. Il cioccolato *si* è fuso *per pochi secondi/in pochi secondi
 the chocolate REFL is melted for few seconds/in few seconds
 ‘The chocolate melted for a few seconds/in a few seconds’

- (22) a. La casa è bruciata (per un’ora), ma non è bruciata
 the house is burned (for one hour) but not is burned
 ‘The house burned (for an hour), but it is not burnt’
- b. *La casa *si* è bruciata, ma non è bruciata.
 the house REFL is burned but not is burned
 ‘The house burned, but it is not burnt’

To conclude, Folli argues that anticausatives of *class C* behave as the degree achievements of *class B* if they are unmarked and behave as the telic verbs of *class A* when they are marked with the reflexive clitic ‘*si*’.

One might ask whether this correlation between morphology and (a)telicity is really as strict as Folli proposes. Folli herself mentions two verbs of *class B* (‘*affondare*’ (to sink) and ‘*guarire*’ (to heal)) which are actually telic in contrast to what their morphology would predict. For reasons explicated below, I question that these two verbs are the only counterexamples to Folli’s generalization. A fair question would be, therefore, whether the directness of the relationship between telicity and the morphological marking of anticausatives is really as direct as Folli claims or whether this generalization needs to be modified.

For example, Folli (2002:122) argues that strict unaccusatives (i.e. those unaccusatives which do not allow a transitive use) which are morphologically unmarked have the same syntax and semantics as the anticausatives verbs of *class B*. In this context, she mentions verbs such as ‘*evaporare*’ (to evaporate), ‘*scoppiare*’ (to burst), ‘*appassire*’ (to fade), ‘*esplodere*’ (to explode), ‘*crescere*’ (to grow), ‘*tacere*’ (to hush/to be silent). But are these

verbs atelic, as we would expect if their morphological behavior would drive their aspectual interpretation? For two of them, ‘*scoppiare*’ (to burst) and ‘*esplodere*’ (to explode), this is obviously not the case. The German or English counterparts of these verbs are clearly telic. If these verbs are atelic in Italian, this means that the concepts that Italian speakers have of “exploding-events” and “bursting-events” are quite different from the concepts that German or English speakers have. But as the following data show, this is not the case.⁵ (i) These verbs license “*in X*” adverbials but not “*for X*” adverbials which modify the period of time during which the event is going on (cf. (23)). (ii) They also cannot occur with a phrase denying the achievement of a final state as shown in (24).

(23) a. Il pacchetto è esploso in un secondo / *per un secondo
 the parcel is exploded in one second for one second
 ‘The parcel exploded in one second / for one second’

b. La caffettiera è scoppiata in un secondo / *per un secondo
 the coffee-machine is burst in one second for one second
 ‘The coffee machine burst in one second / for one second’

(24) a. ?Il pacchetto è esploso ma non è esploso completamente
 the parcel is exploded but not is exploded completely
 ‘The parcel exploded but it is not exploded completely’

b. ??La caffettiera è esplosa ma non è esplosa completamente.
 the coffee machine is exploded but not is exploded completely
 ‘The coffee machine burst but it is not burst’

Turning to verbs of *class A*, we can find already in TABLE I two verbs which are not necessarily telic. Both ‘*alterare*’ (to alter) and ‘*estendere*’ (to extend) allow atelic readings in both their transitive and anticausative uses. This can be concluded from the fact that (i) besides “*in X*” adverbials “*for X*” adverbials are acceptable which modify the period of time during which the event is going on, as shown in (25) and (26). (ii) Modification with ‘*completamente*’ (completely) is not well formed (cf. (27a)). (iii) Negation of the achievement of a final state is well formed (cf. (27b)). (iv) Finally, the progressive licenses the entailment of the past tense form (cf. (28)).

⁵ The following Italian data were kindly provided by Chiara Frigeni and Giuseppina Rota (p.c.).

- (25) a. Gianni ha alterato la temperatura della stanza in pochi minuti /
John has altered the temperature in-the room in few minutes /
per due ore.
for two hours
'John altered the temperature in the room in a few minutes/for two hours'
- b. La temperatura si è alterata in pochi minuti / per due ore
the temperature REFL is altered in few minutes for two hours
'The temperature altered in a few minutes / for two hours'
- (26) a. Lui ha esteso la sua sfera di influenza in un mese /
he has extended the his sphere of influence in one month /
per molti anni
for many years
'He extended his sphere of influence in one month/for many years'
- b. La sua sfera di influenza si è estesa in un mese /
the his sphere of influence REFL is extended in one month /
per molti anni
for many years
'His sphere of influence extended in one month/for many years'
- (27) a. ??Lui ha alterato la temperatura completamente
he has altered the temperature completely
'He altered the temperature completely'
- b. La sua sfera di influenza si è estesa,
the his sphere of influence REFL is extended
ma non si è estesa completamente
but not REFL is extended completely
'His sphere of influence extended but it is not extended completely'
- (28) a. Lui sta alterando la temperatura => Lui ha alterato la temperatura
he is alter.PROG the temperature => He has altered the temperature
'He is altering the temperature => He has altered the temperature'

- b. Lui sta estendendo la sua sfera di influenza
 he is extend.PROG the his sphere of influence
 => Lui esteso esteso la sua sfera di influenza
 => he has extended the his sphere of influence
 ‘He is extending his sphere of influence => He has extended his sphere of influence’

These data show that the generalization that Folli proposes for the distribution of ‘*si*’ in Italian anticausatives is, at best, not a perfect one. We find exceptions in both directions, namely with verbs that are predicted to allow atelic readings which in fact do not have atelic readings and with verbs that are predicted to be strictly telic but which have atelic readings. We might question, therefore, that the distribution of ‘*si*’ in Italian anticausatives is really directly associated with telicity.⁶ In order to reach a final conclusion on this topic, further research is necessary; even if the generalization is not perfect but, nevertheless, a quite strong one, this would be an interesting result for which a theory about the distribution of ‘*si*’ in anticausatives would have to give an explanation. However, the fact that Folli’s generalization has a number of exceptions makes it questionable that the distribution of ‘*si*’ in Italian anticausatives is directly connected to the syntactic encoding of telicity.

A further issue along similar lines relates to Folli’s view on the syntax of degree achievements as mere process events without a syntactically represented stative component. Anticipating the discussion in later chapters, degree achievements behave similar to clearly telic anticausatives in a number of respects, and all of them point to a telic syntax. Both license so-called *affectedness datives* as well as datives expressing so-called *unintentional causers* (see chapters 2 and 3). Further, both license causers in subject position and in prepositional phrases (see chapter 4). As we will see, all these properties are dependent on a telic syntax, i.e. on the syntactic projection of a stative component. This then suggests that degree achievements do not differ syntactically from clearly telic anticausatives and that both involve a syntactically represented resultant state. The fact that degree achievements can license “*for X*” adverbials can then no longer be explained by an atelic syntax. Instead, it

⁶ There is at least one context where Italian ‘*si*’ is unquestionably associated with telicity. This is the context of verbs of consumptions (cf. Folli & Harley (2005)). I would like to argue, however, that in these cases ‘*si*’ is syntactically in a different position than in anticausatives. In the former cases, it really takes part in the syntactic projection of a resultant state while, in the latter case, it is associated with a high verbal projection (Voice) as I will argue in later chapters.

seems that degree achievements contribute to an interpretation involving a series of small, successive changes (cf. Erteschik-Shir & Rapoport (2004) or Kearns (2007) for related ideas).

A final point to mention has to do with the phrase-structural status of the clitic ‘*si*’. Folli proposes that ‘*si*’ in anticausatives is merged in a verbal head position (the process head in Ramchand’s (2006) system). She argues that ‘*si*’ cannot be located in an argument position, as this would lead to theory-internal problems with the theta criterion and case theory. Concerning the former, ‘*si*’ does not carry a theta-role, something which seems to be incompatible with the assumption that ‘*si*’ is located in an argument position. Concerning the latter, if the theme in anticausatives is assumed to be an internal argument marked with nominative case, then ‘*si*’ should be marked accusative although it is not the internal argument. As we will see, both problems are overcome by my account of marked anticausatives in German developed in chapter 7. As I propose there, this account can be transferred without problems to marked anticausatives in the Romance languages. If this is true, then ‘*si*’ in Italian marked anticausatives starts out as the specifier of Voice and attaches only afterwards to a head position due to its clitic status.

1.4.2 Anticausatives in French

In French, we also find three classes of anticausative verbs. As in Italian, *class A* comprises verbs which are obligatorily marked by the reflexive clitic ‘*se*’, verbs of *class B* are necessarily unmarked, and verbs of *class C* are optionally marked with ‘*se*’. These classes are exemplified in (29)-(31). TABLE III lists for each class a number of further verbs (all data is taken from Labelle 1990, 1992).

(29) L’image *(s’) agrandit
 the picture REFL becomes-wider
 ‘The picture is becoming wider’

(30) La neige (*se) fond
 the snow REFL melts
 ‘The snow is melting’

- (31) Le vase (se) casse
 the vase REFL breaks
 ‘The vase breaks’

TABLE III: *French anticausatives*

| Class A | Class B | Class C |
|-----------------------------|---------------------------------|------------------------------|
| <i>verbs that need ‘se’</i> | <i>verbs that disallow ‘se’</i> | <i>verbs that allow ‘se’</i> |
| agrandir (become bigger) | cuire (cook) | gonfler (inflate) |
| alléger (become lighter) | durcir (harden) | élargir (widen) |
| améliorer (improve) | fondre (melt) | épaissir (thicken) |
| calcifier (calcify) | grandir (grow) | gonfler (inflate) |
| civiliser (civilize) | grossir (to grow bigger) | noircir (blacken) |
| couvrir (become covered) | maigrir (to grow thinner) | rougir (redden) |
| rabougrir (shrivel up) | moisir (mold) | refroidir (cool) |
| assécher (to dry out) | pourrir (rot) | ramollir (soften) |
| engourdir (to numb) | sécher (dry) | caraméliser (caramelize) |

This morphological partition suggests that French anticausatives are quite similar to their Italian counterparts. There is, however, one clear difference between the two languages. While in Italian, marked as well as unmarked anticausatives select the auxiliary ‘*essere*’ (be) in the perfect, in French only reflexively marked anticausatives select ‘*être*’ (be), while unmarked anticausatives select ‘*avoir*’ (have).⁷ This pattern might suggest that, in Italian, all anticausatives are unaccusative while in French only the marked anticausatives are unaccusative while the unmarked anticausatives are unergative. This is actually the analysis of Labelle (1990, 1992) for the two morphological types of French anticausatives. Besides auxiliary selection, she gives a number of further tests (the impersonal construction, *en-*clitization, ...) which are generally taken to differentiate between unaccusatives and unergatives in French and claims that these tests give unaccusative results for reflexive anticausatives and unergative results for unmarked anticausatives.

I will not discuss these tests and their putative role as unaccusativity diagnostics here. Instead, let us concentrate on Labelle’s second claim, namely that the morphological differences in French anticausatives (which, she argues, reflect a significant syntactic

⁷ Non-alternating unaccusatives such as ‘*arriver*’ (to arrive) select ‘*être*’ (be), however.

difference between unergatives and unaccusatives) are also accompanied by an aspectual difference. Specifically, Labelle argues that French anticausatives with the reflexive clitic ‘*se*’ (i.e. marked anticausatives) focus on the final state/the result of the event due to an unaccusative syntax where the sole argument is merged in object position and measures out the event (in the sense of Tenny 1987). Anticausatives without ‘*se*’ (unmarked anticausatives), on the other hand, focus on the process component of the event due to the fact that their sole argument is merged as an external argument (a “patient subject” in Labelle’s terms). Labelle also attributes the cause for the unfolding of the event to (properties of) this sole-argument that is projected as an external argument in the unmarked construction. Reflexive anticausatives, on the other hand, do not assign any responsibility (for the unfolding of the event) to their sole argument as this is merged internally.

It is important to notice, however, that Labelle does not argue for the view that this difference between marked and unmarked anticausatives is strictly connected to the perfectivity/telicity or imperfectivity/atelicity of these verbs (as proposed by Folli (2002) for Italian and also by Zribi-Hertz (1987) for French). The French effects are, therefore, not claimed to be as strong or categorical by far, as Folli claims that they are for Italian.

Labelle uses a number of tests to illustrate this difference in aspectual focus. One test (originally from Zribi-Hertz (1987)) is the embedding under the expression ‘*mettre quelque chose à*’. This expression describes the fact of creating the appropriate conditions for an event to start, i.e. it focuses on the beginning of the event. The test is exemplified with the verb ‘*caraméliser*’ (caramelize) which is a verb of *class C* as (32) shows. But as the data in (33) show, the expression ‘*mettre quelque chose à*’ is only possible in the context of the unmarked version of ‘*caraméliser*’. Labelle argues that this is so because the reflexive anticausative places an overt emphasis on and draws particular attention to the theme’s coming to be in a final state, a property incompatible with the expression ‘*mettre quelque chose à*’ which, in contrast, focuses on the beginning of an event. In the unmarked version, on the other hand, such an emphasis is absent and therefore ‘*mettre quelque chose à*’ is able to be licensed.

- (32) a. Le sucre caramélise
 the sugar caramelized
- b. Le sucre se caramélise
 the sugar REFL caramelized
 ‘The sugar is turning into caramel’

- (33) a. Le cuisinier a mis le sucre à caraméliser
 the cook has put the sugar to caramelize
- b. *Le cuisinier a mis le sucre à se caraméliser
 the cook has put the sugar to REFL caramelize
 ‘The cook put the sugar on to caramelize’

Some further tests show the difference in the aspectual focus; these tests do not make a principled distinction between the verbs of the two morphological classes but produce an effect if one tries to shift verbs from their habitual morphological class to the other. For example, “*in X*” adverbials do not seem to make a consistent distinction between the verbs of the two morphological classes (Labelle 1992). However, verbs like ‘*durcir*’ (harden) or ‘*cuire*’ (cook) which usually form anticausatives without ‘*se*’ (especially when modified with a durative PP of the type “*for X*” as shown in (34) and (36)) can be used with ‘*se*’ if a telic PP of the “*in X*” type is added which centres the focus on the final state. This is illustrated in (35) and (37).

- (34) a. Le ciment a durci pendant 3 heures
 the cement has hardened during 3 hours
- b. *?Le ciment s’est durci pendant 3 heures
 the cement REFL is hardened during 3 hours
 ‘The cement has hardened for 3 hours’
- (35) a. Les joints de caoutchouc durcissaient en quelques années
 the joints of caoutchouc hardened in few years
- b. Les joints de caoutchouc se durcissaient en quelques années
 the joints of caoutchouc REFL hardened in few years
 ‘The rubber joints were hardening in a few years’
- (36) a. Le poulet a cuit pendant 3 heures
 the chicken has cooked for 3 hours
- b. *Le poulet s’est cuit pendant 3 heures
 the chicken REFL is cooked for 3 hours
 ‘The chicken cooked for 3 hours’

- (37) a. Le poulet a cuit en très exactement 30 minutes
 the chicken has cooked in very exactly 30 minutes
- b. ?Le poulet s'est cuit en très exactement 30 minutes⁸
 the chicken REFL is cooked in very exactly 30 minutes
 'The chicken cooked/got cooked in exactly 30 minutes'

It seems, therefore, that a strong focus on the final state has a licensing effect for the use of the reflexive clitic. The effect can become even stronger if the resultant state is lexicalised by a resultative phrase. In the specific example below, the presence of such a phrase even shifts the grammaticality judgement completely; in (38), without the resultative phrase, only the unmarked verb is allowed while in (39), with the resultative phrase, only the marked verb is allowed.

- (38) a. L'oiseau a mué sous l'effet du virus
 the bird has moulted under the effect of-the virus
- b. *L'oiseau s'est mué sous l'effet du virus
 the bird REFL is moulted under the effect of-the virus
 'The bird moulted under the effect of the virus'
- (39) a. *L'oiseau a mué en un monstre à cinq têtes
 the bird has turned into a monster of five heads
- b. L'oiseau s'est mué en un monstre à cinq têtes
 the bird REFL is turned into a monster of five heads
 'The bird turned into a five-headed monster'

It must be noted, however, that the correlations between aspectual focus and morphological behavior are only tendencies which are not always agreed upon by all speakers of French. Further, the effects that Labelle describes pertain only to individual verbs but not systematically to classes of verbs. For example, in contrast to what happens in the examples in (35) and (37), it is not the case that all verbs of *class B* can optionally occur with the reflexive clitic 'se' as soon as they are modified by an "in X" adverbial.⁹

⁸ Labelle argues that, in this example, it is the combination of the "in X" adverb and the Passé Composé (which also focuses on the final state) which improves the reflexive construal of the verb.

⁹ Thanks to Steffen Heidinger for discussing the French data with me.

- (41) a. O Janis ekapse ti supa
 the John.NOM burnt.ACT the soup.ACC
 ‘John burnt the soup’
 b. I supa kegete
 the soup.NOM burns.NACT
 ‘The soup is burning’
- (42) a. O Janis adiase ti sakula
 the John.NOM emptied.ACT the bag.ACC
 ‘John emptied the bag’
 b. I sakula adiase
 the bag.NOM emptied.ACT
 ‘The bag emptied’
- (43) a. O Janis lero~~se~~ to trapezomandilo
 the John.NOM dirtied.ACT the tablecloth.ACC
 ‘John dirtied the tablecloth’
 b. To trapezomandilo lero~~se~~ apo mono tu
 the tablecloth.NOM dirtied.ACT by self it
 c. To trapezomandilo lero**thike** apo mono tu
 the tablecloth.NOM dirtied.NACT by self it
 ‘The tablecloth got dirty by itself’

But ‘*apo*’ followed by the anaphoric element ‘*mono*’ to which a possessive clitic attaches (an expression corresponding to English ‘*by itself*’) is not permitted with passives and permitted with anticausatives.

- (ii) a. *To vivlio diavast**ike** apo mono tu (passive)
 the book.NOM read.NACT by self it
 ‘The book was read by itself’
 b. To bukali adia~~se~~ apo mono tu (anticausative)
 the bottle.NOM emptied.ACT by self it
 ‘The bottle emptied by itself’
 c. To pani skist**ike** apo mono tu (anticausative)
 the cloth.NOM tore.NACT by self it
 ‘The cloth tore by itself’

Note that if a verb forms the anticausative construction by means of non-active morphology, a passive interpretation is often blocked or deviant (Alexiadou & Anagnostopoulou (2004), Alexiadou et al. (2006a, b)).

(44) TABLE IV: *Greek anticausatives*

| class A | class B | class C |
|---|---|---|
| <i>verbs that use non-active morphology</i> | <i>verbs that use active morphology</i> | <i>verbs that use non-active or active morphology</i> |
| kommatiazō (tear) | asprizō (whiten) | zarono (wrinkle) |
| miono (decrease) | kokinizo (redden) | tsalakono (crumple) |
| eksafanizo (diminish) | mavrizo (blacken) | zesteno (heat) |
| veltiono (improve) | katharizo (clean) | skizo (tear) |
| diplasiazo (double) | stroggilevo (round) | erimono (desert) |
| singentrono (collect/gather) | klino (close) | madao (pluck) |
| dhiadhidho (spread a rumor) | anigo (open) | lerono (dirty) |
| vithizo (sink) | plateno (widen) | gremizo (demolish/collapse) |
| giatrevon (heal) | stegnono (dry) | stravono (bend) |

Alexiadou & Anagnostopoulou (1999, 2004) notice that all de-adjectival verbs undergoing the causative alternation are members of *class B* and do not show up with non-active morphology. They further note that the verbs of *class C* are not really optionally marked with non-active morphology but that the difference in morphological marking induces a difference in interpretation: Verbs of *class C* with the *active* form denote a partial change and verbs of *class C* with the *non-active* form may denote a change of state that takes place completely. The *active* entails and does not simply imply incomplete change. This is shown by the sentences in (45) which overtly state that the change is incomplete. In the first conjunct, which states that the change of state is partial, the *active* form can be used. Moreover, when complete change is asserted by the adverb ‘*entelos*’ (completely) in the second conjunct, only the non-active form is licit and the active is ruled out as a contradiction.

- (45) a. To ktirio gremise se ena simio
the bulding collapsed.ACT in one spot
alla den gremisthike/*gremise entelos
but NEG collapsed.NACT/*ACT completely
- b. To trapezomantilo lerose se ena simio
the table-cloth dirtied.ACT in one spot
alla den lerothike/*lerose entelos
but NEG dirtied.NACT/*ACT completely

But the *non-active* form does not exclusively denote complete change. The following examples show that the *non-active* form can also express partial change since the *non-active* form is licit in the first conjunct which asserts partial change.

- (46) a. To ktirio gremistike se ena simio
 the building collapsed.NACT in one spot
 alla den gremistike/*gremise entelos
 but NEG collapsed.NACT/*ACT completely
- b. to trapezomantilo lerothike se ena simio
 the table-cloth dirtied.NACT in one spot
 alla den lerothike/*lerose entelos
 but NEG dirtied.NACT/*ACT completely

To conclude, in Greek, the *active* form seems to assert incomplete change while the *non-active* is compatible with both total and partial change.

But the study under consideration also leaves open a number of questions: Since the authors apply the tests for the aspectual behavior only to anticausative verbs of *class C*¹² but not to verbs of *class A* or *class B*, the ultimate relationship between morphology and interpretation is not examined. That is, the authors do not show that verbs of *class A* behave like the verbs of *class C* when these have non-active morphology – a result that would be expected if the aspectual behavior were driven by or connected to the morphological make-up of anticausatives. A similar aspectual behavior of the verbs in these two classes is also predicted by the fact that the authors assume the same syntactic structure for them. One would further like to know whether verbs of *class B* show the same aspectual behavior as verbs of *class C* when they are unmarked. In this case, the authors apply different structures to the verbs of *class B* and to the active verbs of *class C*. For verbs of *class B*, they argue for a de-adjectival syntactic structure which should actually induce telicity (contrary to what we saw above); for verbs of *class C* with active morphology, they argue for a denominal syntactic structure and claim that this structure would not induce telicity. Without going into detail here, it is not clear why the latter structure consisting of a *become* head embedding a denominal, possessive structure, should not induce telicity.

¹² Not all speakers of Greek agree that the verbs listed in *class C* really show an optional behavior (p.c. Artemis Alexiadou).

1.4.4 Conclusion and outlook

We saw that all three languages under discussion, Italian, French and Greek have two morphological variants of anticausative verbs. Some verbs do not make a formal difference between their causative and their anticausative use; these verbs form unmarked anticausatives. Other verbs use some special device to mark the anticausative use; these form marked anticausatives. In the Romance languages this special device is the reflexive clitic '*si*' or '*se*', while in Greek it is non-active morphology. Both devices have other, prototypical uses. Reflexive clitics are used to express local binding between argument positions as well as for inherent reflexive verbs; non-active morphology is used to form passives, inherent reflexive and real reflexive constructions. We also saw that all three languages have a class of verbs which can optionally form either marked or unmarked anticausatives.

A number of questions arise from this short survey. A first question is to what extent the marking of anticausatives with a reflexive clitic and the marking of anticausatives with non-active morphology are the same phenomenon? The fact that we find some two-way partitions in the morphological marking of anticausatives not only in these three languages but actually crosslinguistically (e.g. Haspelmath 1993) suggests that the phenomena in Greek and in the Romance languages are indeed related. The question, however, remains what the exact relationship is, i.e. what is the common part of non-active and reflexive morphology?

A further question is whether the different classes of anticausatives are a purely morphological phenomenon or whether some deeper syntactic or even some lexical-semantic parameter drives the different morphological marking of anticausatives. A brief inspection of the verbs in two classes of anticausatives in Greek, Italian or French suggests that the partition is purely idiosyncratic. That is, whether a specific anticausative verb does or does not show up with some morphological marking is a property which seems to be simply listed with the lexical entry of the verb and not to be derivable from the lexical-semantic properties of the verb. One might, therefore, want to analyse it as a case of contextual allomorphy.

However, a number of arguments present themselves against this view. First, if we follow such an account, we have no way of explaining why we find the morphological partition in the first place; and the fact that we find it in so many languages suggests a deeper reasoning behind the phenomenon. Further, such an account predicts that the two types of anticausatives behave the same syntactically as well as semantically. The discussion above has, however, suggested that this is not the case in Italian, French and Greek. As mentioned, the studies about the three languages are not without problems or counterexamples and provoke further

questions. But as we will see in the next chapter, we find some semantic difference between marked and unmarked anticausatives in German, too; and again, such a difference argues against a treatment of the morphological marking as a case of allomorphy.

Finally, if we find semantic differences between the two types of anticausatives, what is their origin? That is, how is the difference in morphological marking connected with the syntax so that the semantic differences occur? As mentioned above, I will not discuss this question in relation to the semantic differences in the languages discussed above, partly because I doubt the generality of the phenomena. But I will discuss this question in connection to the semantic difference that I will identify for German in the next chapter.

A final question that occurs, but which will not be discussed in depth in this thesis, has to do with the connection between morphology and the categorial source of the verb; that is, we have seen that, in Greek, the de-adjectival and the de-nominal nature of the verb is relevant; de-adjectival verbs are always of class B. This poses the question of whether similar correlations hold in other languages, too, and whether we can derive conclusions from this about the other questions mentioned above, especially the question of whether marked and unmarked anticausatives differ syntactically and, if so, how. In the next section, I turn to marked and unmarked anticausatives in German. I will investigate whether we find similar effects with German as were reported for Italian, French or Greek.

1.4.5 Anticausatives in German

In German, we can also identify three morphological classes of anticausatives. Verbs of *class A* form anticausatives with the reflexive pronoun ‘*sich*’, verbs of *class B* form anticausatives necessarily without the reflexive pronoun, and a small class of verbs (*class C*) forms anticausatives optionally with or without a reflexive pronoun. I start the discussion with *class A* and *class B*, exemplified in (47)-(49) and (50)-(52) respectively. In TABLE V some more verbs of the two classes are listed.

- (47) a. Hans verändert die Temperatur
 Hans changes the temperature
 b. Die Temperatur veränderte sich
 the temperature changed REFL

- (48) a. Hans öffnete die Tür
John opened the door
b. Die Tür öffnete sich
the door opened REFL
- (49) a. Der Tankwart entzündete das Benzin
the attendant ignited the petrol
b. Das Benzin entzündete sich
The petrol ignited REFL
- (50) a. Hans schmilzt die Schokolade
Hans melts the chocolate
b. Die Schokolade schmilzt
The chocolate melts
- (51) a. Hans zerbrach die Vase
John broke the vase
b. Die Vase zerbrach
The vase broke
- (52) a. Der Wind zerriss das Segel
the wind tore the sail
b. Das Segel zerriss
The sail tore

(53) TABLE V: *German anticausatives*

| class A | class B |
|-------------------------------|-----------------------------------|
| <i>verbs that need 'sich'</i> | <i>verbs that disallow 'sich'</i> |
| vergrößern (enlarge) | schmelzen (melt) |
| ausdehnen (extend) | kochen (cook) |
| verbreiten (spread) | zerbrechen (break) |
| verbessern (improve) | umstürzen (overturn) |
| aufrichten (straighten up) | ein-/zerreißen (tear) |
| verdoppeln (double) | austrocknen (dry out) |
| verändern (alter) | zerknittern (crumple) |
| verlängern (lengthen) | ab-/zunehmen (in/decrease) |

German has a lot more marked than unmarked anticausatives. I counted about 170 marked and about 80 unmarked anticausatives in my database.¹³ While I do not know the situation in the languages discussed in the previous sections, it is remarkable that Dutch, a close relative of German, shows the opposite distribution. In Dutch, most anticausatives are unmarked and only a small subset of anticausatives is marked with the reflexive pronoun 'zich' (cf. Everaert (1986), Fagan (1992)). The realization of neologisms in the two languages suggests that this difference in the relative frequency reflects the default type of anticausative formation in each of these two languages. In German, newly-coined verbs undergoing the causative alternation such as 'digitalisieren' (to digitalize) and 'html-isieren' (to html-ize) form their anticausative versions with the reflexive pronoun while in Dutch, as discussed by Lekakou (2004), newly-coined verbs like 'finlandiseren' (to finlandize) and 'resocialiseren' (to resocialize) form unmarked anticausatives.

A short morphological analysis of the German verbs of *class A* and *class B* does not reveal clear-cut results. The strongest tendency concerns the de-adjectival nature of verbs; the de-adjectival verbs tend to form marked anticausatives. In my database, I actually identified

¹³ This database was built by simply collecting all anticausatives I came across during the work on this thesis. It is certainly not exhaustive but the relation between marked and unmarked anticausatives should be representative. It is important to notice that reflexively marked change-of-state verbs nearly without exception have a causative alternate for all speakers while the situation is often not so clear-cut with unmarked change-of-state verbs; there are a number of unmarked change-of-state verbs that are accepted as causatives only by some speakers while others seem to conceptualize these verbs as pure, non-alternating unaccusatives. This fact is in accordance with the motivation for the two morphological classes of anticausatives discussed in chapter 5.

half of the verbs forming marked anticausatives as de-adjectival. Within the class of unmarked anticausatives, the rate of de-adjectival verbs is much smaller (less than 20%). However, since this is only a tendency, I conclude that the de-adjectival nature of verbs does not predict the morphological shape of anticausatives in German. Below, I list a number of de-adjectival verbs that form marked and unmarked anticausatives, respectively.

(54) *German de-adjectival verbs in class A:*

erhärten (to harden), erwärmen (to warm), aufhellen (to brighten), anreichern (to enrich), ausweiten (to widen), vereinfachen (to simplify), ...

(55) *German de-adjectival verbs in class B:*

trocknen (to dry), vertrocknen (to dry up), austrocknen (to sear), verdummen (to stupefy), ermüden (to tire), einweichen (to soak), abstumpfen (to blunt), ...

Denominal verbs can also be found in both morphological classes as the lists below show.

(56) *denominal verbs in class A:*

abbauen (to decompose), deformieren (to deform), erhitzen (to heat), färben (to color), formieren (to form up), ...

(57) *denominal verbs in class B:*

verwässern (to dilute), verdrecken (to get/make dirty), zersplittern (to splinter), verdampfen (to vaporize), überfluten (to flood), ...

Prefixation also does not influence the morphological behavior of anticausatives. On the one hand, there is no relationship between specific prefixes (separable or non-separable) and the anticausative morphology, as most prefixes combine with both, verbs of *class A* as well as verbs of *class B*. This is illustrated with the separable prefix 'ab' (off).

(58) *class A verbs with prefix 'ab':*

abbauen (to decompose), ablagern (to deposit), ablösen (to detach), abschwächen (to lessen)

(59) *class B verbs with prefix 'ab':*

abbrechen (to break off), abbrennen (to burn off), abbröckeln (to drop off), abtauen (to defrost)

On the other hand, we also find a small number of un-prefixed verbs in both classes.

(60) *unprefixed verbs in class A:*

leeren (to empty), mildern (to milden), lockern (to loosen), teilen (to divide) ...

(61) *unprefixed verbs in class B:*

brechen (to break), schmelzen (to melt), heilen (to heal), trocknen (to dry) ...

If those verbs can co-occur with prefixes, then the prefixed version typically behaves like the non-prefixed one:

(62) *verbs derived from class A are of class A:*

verteilen (~ to divide), zerteilen (~ to trench)

(63) *verbs derived from class B are of class B:*

austrocknen (~to dry up), vertrocknen (~to dry up), eintrocknen (~ to dry up)

As mentioned above, we can also identify a *class C* of anticausatives in German, i.e. a class of anticausatives that can optionally be used with or without the reflexive pronoun. However, one must be careful with the notion 'optional' here.

The first observation about this class of verbs is that it is quite restricted in German. I was able to find only a very small number of optional verbs. The next thing to notice is that the notion 'optional' is relative subjective; it is in fact the case that individual speakers often accept only one version of a specific verb in this list or at least prefer one version. This makes it actually difficult to identify verbs of *class C*. There are two ways to investigate the existence of this class. One way is to consult the Duden, the standard German dictionary and look for 'optional' entries. The other way, which I used, is to evaluate corpora.

In TABLE VI below, I have collected a list of anticausatives of *class C*. This list is not meant to be a complete representation of this class but I would not expect to find many more verbs with an optional behavior. The list was built by going through my personal database of

alternating verbs in German and suggesting which verbs might show an optional behavior. About 30 verbs were afterwards tested by consulting the COSMAS-II corpus (Korpus der geschriebenen Sprache/corpus of written language) at the IDS Mannheim; only 17 of them turned out to be optional to some obvious degree. For each individual verb (column 1) I first searched all anticausative uses found in the corpus (column 2) and then counted the uses with and without reflexive morphology (columns 3 and 4). Afterwards, I calculated the percentage relation for the two uses (column 5) which was then used to order the verbs in TABLE VI. As can be seen from the numbers in column 5, the 17 verbs listed differ a lot in their degree of ‘optionality’; only the top 7 of the verbs have a percentage of 25/75 or closer. The last column indicates what the Duden, the standard German dictionary, says about the individual verbs. As one can see in column 6, the information in the Duden did not always match the data found in the corpus. However, if the Duden proposes that only one form is grammatical, this is always the one that turned out to be the more frequent one in the corpus.

(64) TABLE VI: *anticausatives of class C (optionally class A or class B):*

| | anti-causative | + sich | - sich | percentage | Duden |
|---|----------------|--------|--------|------------|------------------------------|
| 1. abkühlen (to cool) | 349 | 147 | 202 | 42/58 | ± sich |
| 2. verwischen (to blur) | 244 | 143 | 101 | 59/41 | + sich |
| 3. abflachen (to flatten) | 313 | 102 | 211 | 33/67 | ± sich |
| 4. kumulieren (to cumulate) | 119 | 80 | 39 | 67/33 | + sich |
| 5. ausdünnen (to thin out) | 35 | 10 | 25 | 29/71 | - sich |
| 6. verstopfen (to congest) | 55 | 14 | 41 | 25/75 | - sich |
| 7. bräunen ¹⁴ (become brown) | 32 | 8 | 24 | 25/75 | ± sich |
| 8. verklumpen (to agglutinate) | 85 | 19 | 66 | 22/78 | only intransitive, - sich |
| 9. verkanten ¹⁵ (to cant) | 44 | 35 | 9 | 80/20 | ± sich |
| 10. verkrümmen ¹⁶ (to curve) | 5 | 4 | 1 | 80/20 | ± sich |

¹⁴ This verb has also an inherent reflexive use (to sunbathe) which was filtered out.

¹⁵ The real number of intransitive hits for this verb was much higher (165/100/65). Most of these uses (121) described the situation where a skier had his skis cross and fell over. This situation was described with both types of constructions (+/- reflexive). Since it is not clear that the unmarked version is not an unergative use of the verb (in which case the auxiliary ‘haben’ (have) would be chosen) and since it is not clear that the reflexive use of this verb is not an inherent reflexive use of the verb, I filtered out all these uses with human DPs.

| | | | | | |
|---|-----|-----|----|-------|----------------------|
| 11. verdicken (to thicken) | 57 | 47 | 10 | 82/18 | ± sich |
| 12. härten (to harden) | 23 | 3 | 20 | 13/87 | ± sich |
| 13. entfachen (to ignite) | 64 | 57 | 7 | 89/11 | only transitiv |
| 14. verhärten (to harden) ¹⁷ | 346 | 324 | 22 | 94/6 | ± sich |
| 15. verbiegen (to bend) | 54 | 51 | 2 | 94/6 | + sich ¹⁸ |
| 16. entflammen (to ignite) | 100 | 5 | 95 | 5/95 | ± sich |
| 17. ausfransen (to fray) | 62 | 2 | 60 | 3/97 | ± sich |

Two further comments about TABLE VI are necessary: Verbs of *class A* select the reflexive pronoun and, in the perfect tense, they further select the auxiliary ‘haben’ (have) while verbs of *class B* do not take the reflexive and select ‘sein’ (be) (we will come back to this difference in auxiliary selection in chapter 5). However, in the adjectival passive, verbs of *class A* do not realize the reflexive pronoun and they also select ‘sein’ (be). Therefore, a string ‘be + perfect participle’ is in principle ambiguous; it could either be an eventive perfect of a *class B* verb or it could be an adjectival passive of a *class A* or of a *class B* verb. When I collected the data for TABLE VI, I therefore counted those instances of ‘be + perfect participle’ as a realization of the perfect of a *class B*-like use only when the context made an eventive interpretation obvious; otherwise, I did not include such a string at all.

A final question is whether the actual behavior of verbs that, in principle, occur optionally with or without the reflexive pronoun is affected by the semantics of the theme DP that the verb combines with. I checked this for the first verb in TABLE VI, ‘abkühlen’ (to cool).

The first point to mention is that this verb can also be used as a “weather verb” with the weather-expletive ‘es’ in subject position (cf. (65)). This use is not relevant here; it is an unergative use of the verb, since no further argument is realized and the auxiliary ‘haben’ (have) is selected.

¹⁶ Notice the small number of overall hits for this verb.

¹⁷ 210 hits with the reflexive involved the idiom “die Fronten verhärten sich / the front ends harden REFL” (the two parties become intransigent).

¹⁸ The Duden mentions a non-reflexive intransitive use of the verb which is used to describe a property of some material (“zur Bezeichnung einer Beschaffenheit auch ohne sich”) (Das Blech verbiegt leicht / The plate bends easily).

- (65) Über Nacht hat es merklich abgekühlt
 during night has it noticeably down-cooled
 ‘Over-night, it cooled down noticeably’

An analysis of the different theme arguments that occurred with the anticausative verb ‘*abkühlen*’ (to cool) revealed three thematic subgroups which occurred most frequently. The first comprised nouns expressing different natural elements, ‘*Temperatur*’ (temperature), ‘*Boden/Erde*’ (ground/soil), ‘*Wasser*’ (water) and ‘*Luft*’ (air). As the following table shows, these themes all give a similar picture as we had already seen in TABLE VI above: there is a slight tendency in favour of the unmarked use. However, if we look at the individual nouns, we see that, with ‘*Temperatur*’ (temperature) and ‘*Wasser*’ (water) this tendency is much greater than in the overall picture while with ‘*Luft*’ the tendency is actually slightly to the opposite.

(66) TABLE VII: ‘*abkühlen*’ with themes expressing natural elements

| | temperature | water | ground/soil | air | overall |
|-------------|-------------|-------|-------------|-----|---------|
| with ‘sich’ | 3 | 4 | 3 | 11 | 21 |
| unmarked | 10 | 13 | 3 | 9 | 35 |

The second group of themes combining with anticausative ‘*abkühlen*’ comprises different nouns expressing emotions, including the noun ‘*Emotionen*’ (emotions) and the term ‘*(erhitzte) Gemüter*’ which means something like “heated minds”. Here, we see that the overall distribution is balanced, but while the term ‘*erhitzte Gemüter*’ has a strong tendency to combine with the marked anticausative, all other nouns expressing emotions tend to combine with the unmarked version.

(67) TABLE VIII: ‘*abkühlen*’ with themes expressing emotions

| | emotions | (erhitzte) Gemüter | overall |
|-------------|----------|--------------------|---------|
| with ‘sich’ | 8 | 34 | 42 |
| unmarked | 37 | 6 | 43 |

The third group of themes contains the terms ‘*Wirtschaft*’ (economy) and ‘*Konjunktur*’ (business cycle). We can see that, in contrast to the overall picture in TABLE VI where the

unmarked version is slightly favoured, with these themes there is a very strong tendency to use the marked version.

(68) Table IX: ‘*abkühlen*’ with economic themes

| | Wirtschaft | Konjunktur | overall |
|-------------|------------|------------|---------|
| with ‘sich’ | 6 | 36 | 42 |
| unmarked | 1 | 6 | 7 |

The last group of themes combining with anticausative ‘*abkühlen*’ contains different terms connected to atomic fuel, ‘*Atombrennstoff*’ (atomic fuel), ‘*Brennelemente*’ (fuel elements) and ‘*Castor*’ (the name of the container for the transport/suspension of atomic fuel). With these themes, the tendency changes completely; the unmarked version is strongly favoured.

(69) Table X: ‘*abkühlen*’ with atomic themes

| | atomic fuel |
|-------------|-------------|
| with ‘sich’ | 1 |
| unmarked | 14 |

I leave it for future research to further investigate such tendencies.¹⁹

In order to complete the overview of the morphological variation with German anticausatives, I want to mention here two very restricted patterns of the morphological realization of the causative alternation; these are what Haspelmath (1993) calls ‘*equipollent alternations*’ and ‘*suppletive alternations*’. The former means that two unrelated verbal Roots are used to express the causative and the anticausative variant of an event. This is found in German as in many other languages with the causative/anticausative relation ‘*töten*’ vs. ‘*sterben*’ (to kill vs. to die) (cf. (70)). The latter involves cases of stem alternation, as in ‘*fällen*’ vs. ‘*fallen*’ (to fell / to fall), ‘*aufwecken*’ vs. ‘*aufwachen*’ (to awake) or ‘*versenken*’ vs. ‘*versinken*’ (to sink) (cf. (71)).

(70) a. Hans tötete das Huhn
Hans killed the chicken

¹⁹ For example, whether the morphological behavior of the verb ‘*abkühlen*’ in (69) reflects an unergative use or an internally caused use of the verb (see chapter 4 for explanation of the term ‘internally caused’).

- b. Das Huhn starb
the chicken died

- (71) a. Die Marine versenkt das Schiff
the navy sinks the ship
b. Das Schiff versinkt
the ship sinks

The final question to be discussed in this section is whether we find the same or similar semantic differences between marked and unmarked anticausatives in German that are reported from the other languages. Recall that Folli (2002) argued that, in Italian, reflexively marked anticausatives are necessarily telic while unmarked anticausatives are atelic. A similar, though not so strong, interpretative difference was argued to hold in French; Labelle (1992) argued that marked anticausatives focus on the final state/the result of the event while unmarked anticausatives focus on the process component of the event. Finally, Alexiadou & Anagnostopoulou (2004) argued that in Greek the active form asserts an incomplete change while the non-active form is compatible with both complete and partial change. The question, therefore, is whether we find similar effects in German, too.

It turns out that this is not the case; the presence of *'sich'* in anticausative contexts does not induce or reflect telicity. To see this, look first at the behavior of the verb *'abkühlen'* (to cool), which we identified above as the standard representative of *class C* verbs (cf. (72)). The marked and the unmarked versions of this verb do not give different results with respect to the standard telicity tests. Actually, both versions show the behavior of a degree achievement; both license *"for X"* as well as *"in X"* adverbials (cf. (73) and (74)), they allow the addition of a concrete delimiter phrase (cf. (75)), and both versions are compatible with continuations which deny the achievement of a complete change.²⁰ This data show that the presence or absence of the reflexive pronoun does not influence the aspectual interpretation of the anticausative verb.

²⁰ This data was checked in a questionnaire with 15 German speakers.

- (72) a. Das Wasser kühlt sich ab
 b. Das Wasser kühlt ab
 the water cools REFL down
 ‘The water cools down’
- (73) a. Das Wasser kühlte sich eine Stunde lang ab
 b. Das Wasser kühlte eine Stunde lang ab
 the water cools REFL one hour long down
 ‘The water cooled down for an hour’
- (74) a. Das Wasser kühlte sich in einer Stunde ab
 b. Das Wasser kühlte in einer Stunde ab
 the water cooled REFL in one hour down
 ‘The water cooled down in an hour’
- (75) a. Das Wasser kühlte sich auf unter 10 Grad ab
 b. Das Wasser kühlte auf unter 10 Grad ab
 the water cooled REFL at under 10 degree down
 ‘The water cooled down to under ten degrees’
- (76) a. Das Wasser kühlte sich ab, wurde aber nicht wirklich kalt
 b. Das Wasser kühlte ab, wurde aber nicht wirklich kalt
 the water cooled REFL down became but not really cold
 ‘The water cooled down but did not become really cold’

The same conclusion is reached by a closer look at the aspectual properties of verbs in *class A* and *class B*. The general point is that we find, in both classes, verbs which are necessarily telic as well as verbs that are not necessarily telic, i.e. that behave as degree achievements. (77) and (80) show that the verbs ‘*aufrichten*’ (~ to straighten) and ‘*verbreiten*’ (to spread) are of *class A* and form marked anticausatives. However, the data in (78) and (79) show that the former is necessarily interpreted as telic while the data in (81) and (82) show that the latter allows both a telic as well as an atelic interpretation.

- (77) a. Die Pflanze richtet sich auf
 b. *Die Pflanze richtet auf
 the plant straightens REFL up
 ‘The plant straightens itself up’
- (78) a. Die Pflanze richtete sich in wenigen Augenblicken auf
 the plant straightens REFL in few moments up
 ‘The plant straightened itself up within a few moments’
 b. *Die Pflanze richtete sich eine Zeit lang auf
 the plant straightens REFL a time long up
 ‘The plant straightened itself up for some time’²¹
- (79) ??Die Pflanze richtete sich auf
 the plant straightened REFL up
 aber sie war nicht (vollständig) aufgerichtet
 but she was not completely up-straightened
 ‘The plant straightened itself up but it was not completely straightened’
- (80) a. Das Gerücht verbreitet sich
 b. *Das Gerücht verbreitet
 the rumour spreads REFL
 ‘The rumour spreads’
- (81) a. Das Gerücht verbreitete sich jahrelang
 the rumour spread REFL years-long
 ‘The rumour spread for years’
 b. Das Gerücht verbreitete sich in kürzester Zeit
 the rumour spread REFL in shortest time
 ‘The rumour spread in a very short time’

²¹ This sentence is acceptable if the resultant state is modified by the time specification.

- (82) Das Gerücht verbreitete sich (jahrelang)
 the rumour spread REFL years-long
 aber es war nicht wirklich weit verbreitet
 but it was not really wide spread
 ‘The rumour spread for years but it was not really spread far’

The same can be shown for *class B*. ‘*Umstürzen*’ (~ to fall over) and ‘*austrocknen*’ (to dry up) are verbs of *class B* (cf. (83) and (86)). But the former is necessarily telic (cf. (84) and (85)) while the latter is not (cf. (87) and (88)).

- (83) a. *Die Leiter stürzt sich um
 b. Die Leiter stürzt um
 the ladder falls REFL over
 ‘The ladder falls over’

- (84) a. Die Leiter stürzte in wenigen Augenblicken um
 the ladder fell in few moments over
 ‘The ladder fell over in a few moments’
 b. *Die Leiter stürzte minutenlang/sekundenlang um
 the ladder fell minutes-long/seconds-long over
 ‘*The ladder fell over for minutes/seconds’

- (85) *Die Leiter stürzte um aber sie war nicht (vollständig) umgestürzt
 the ladder fell over but she was not completely over-fallen
 ‘The ladder fell over but it was not (completely) fallen over’

- (86) a. *Der See trocknet sich aus
 b. Der See trocknet aus
 the lake dries REFL out
 ‘The lake dries out’

- (87) a. Der See trocknete jahrelang aus
 the lake dried years-long out
 ‘The lake dried out for years’

b. Der See trocknete in kürzester Zeit aus
 the lake dried in shortest time out
 ‘The lake dried out in a very short time’

(88) Der See trocknete seit Jahren aus
 the lake dried for years out
 aber er was nicht (vollständig) ausgetrocknet
 but he was not completely out-dried
 ‘The lake dried out for years but it was not (completely) dried out’

To conclude this section, I showed that there is no consistent difference in the aspectual behavior of German marked and unmarked anticausatives. German differs, therefore, from Italian and Greek (and also, to some extent, French) according to the treatment of these languages in the literature. However, as mentioned in the sections discussing these languages, there is either strong evidence that the description is not correct or without exception (Italian, French) or, the matter is not yet really resolved (Greek). It is, therefore, not clear whether German really differs from these languages in a meaningful way.

Having arrived at a negative result for German, we are still without an answer to the question as to whether the difference between (German) marked and unmarked anticausatives is a pure morphological phenomenon or whether there is a deeper syntactic or semantic difference between the two. However, in the next chapter, I will identify such a difference. This, then, will suggest that the difference between marked and unmarked anticausatives cannot be a mere morphological phenomenon of allomorphy.

Chapter 2

The dative causer construction

In this chapter, I will identify and discuss a semantic difference between marked and unmarked anticausatives in German. This difference emerges if a so-called ‘free dative’ (i.e. an optional, not subcategorized dative) is added to the anticausative predicates. Such a dative in the context of change-of-state verbs can, in principle, get two interpretations. I will show that both interpretations are possible in the context of German unmarked anticausatives (section 2.1) but only one of them is possible in the context of German marked anticausatives (section 2.2). We will see that German differs in this respect from a number of languages that also have marked and unmarked anticausatives but which allow both interpretations of the dative in both contexts (section 2.4). Before this, I will discuss and reject a first hypothesis about why this difference between German marked and unmarked anticausatives could exist (section 2.3).

2.1 Datives in the context of unmarked anticausatives and non-alternating unaccusative verbs

As mentioned, the causative alternation is considered to be one of the main diagnostics for unaccusativity (e.g. Levin & Rappaport Hovav (1995)). The participation in this alternation is a syntactic test which correlates with a semantic restriction, since, typically, verbs expressing a change of state or a change of degree take part in this alternation.

We also saw that German, like many other languages, has two types of anticausative verbs, morphologically unmarked and marked anticausatives. Below, two further examples are given.

(1) a. Hans zerbrach die Vase
 John broke the vase

b. Die Vase zerbrach
 the vase broke

(2) a. Hans öffnete die Tür
 John opened the door

b. Die Tür öffnete sich
 the door opened REFL

Not all verbs expressing a change of state allow for the alternation, a fact to which we will return in chapter 4. A number of these verbs can only be used transitively (e.g. destroy, kill, ...) and a number of them can only be used intransitively (e.g. decay, grow, ...). For the latter class, one has to use other diagnostics to determine their unaccusativity status. In German, one telling test is auxiliary selection. Unaccusatives typically select ‘*sein*’ (be), while unergatives and transitives select ‘*haben*’ (have) in the perfect tense.¹ Two examples of non-alternating unaccusatives expressing a change of state are given in (3) and (4).

(3) a. Das Kartenhaus ist zerfallen
 the house of cards is fallen-apart
 ‘The house of cards has fallen apart’

b. *Hans hat das Kartenhaus zerfallen
 Hans has the house of cards fallen-apart
 ‘John caused the house of cards to fall apart’

(4) a. Der Ballon zerplatzte
 the balloon popped
 ‘The balloon popped’

¹ See chapter 5 for a more detailed discussion of unaccusativity tests in German.

- b. ??Hans zerplatzte den Ballon
 Hans popped the balloon
 ‘John caused the balloon to pop’

Both unmarked anticausatives and pure unaccusative structures can optionally be enriched with a dative DP, a “free dative” as it is called in the German literature (cf. (5) and (6)). Before we turn to the interpretation of these structures, note first that, with respect to the selection of the auxiliary ‘*sein*’ (be) and nominative marking on the theme DP, the structures are still anticausative/unaccusative (see the b-examples below.) That is, it seems that, syntactically, the dative DP is not part of the lexical array of the verb, at least not to the same extent as a nominative marked external agent or causer argument would be which would trigger accusative case on the theme DP and the auxiliary ‘*haben*’ (have).²

- (5) a. Die Vase zerbrach dem Hans (unmarked anticausative)
 the vase broke the.DAT John

- b. Dem Mann ist das Segel zerrissen
 the.DAT man is the.NOM sail torn

- (6) a. Das Kartenhaus zerfiel ihm (unaccusative)
 the house of cards fell (apart) him.DAT

- b. Ihm ist der Ballon zerplatzt
 him.DAT is the.NOM balloon burst

The sentences in (5) and (6) all allow for two different interpretations (cf. Härtl (2003), McIntyre (2006), Wegener (1985)). Under the first reading, the dative DP is interpreted as the *benefactor* or *malefactor* of the event described by the sentence. I call this reading the affectedness reading; whether this affectedness is positive or negative seems to be a contextual effect or driven by world knowledge about the nature of the change-of-state

² I use main sentences as examples. Word order is totally free and only pragmatically/contextually determined; both the dative DP or the nominative theme can occur in the sentence initial position.

event. Sentence (5a) therefore has a reading “The vase broke and John is (negatively or positively) affected by this fact”. Sentence (5b) has a reading “The sail tore and the man is (negatively or positively) affected by this fact”. (6a) has a reading “The house of cards fell apart and he is (negatively or positively) affected by this fact”. (6b) has a reading “The balloon burst and he is (negatively or positively) affected by this fact”. These readings can be forced if the reason for or the cause of the change-of-state event expressed by the verb is mentioned somehow in the sentence, for example with the help of an adjunct clause as in (7).

- (7) Die Vase zerbrach dem Hans weil der Sturm das Fenster aufdrückte
 the vase broke the.DAT John because the storm the window open-pressed
 ‘The vase broke because the storm forced the window open and John is the malefactor of this’

Note that a free dative DP can get exactly the same (and only this) interpretation in transitive or passive change-of-state contexts. This is shown by the sentences in (8).

- (8) a. Maria zerbrach dem Hans die Vase
 Mary broke the.DAT John the vase
 ‘Mary broke the vase and John is the malefactor of this’
 b. Dem Hans wurde (von Maria) die Vase zerbrochen
 the.DAT John was (by Mary) the vase broken
 ‘The vase was broken (by Mary) and John is the malefactor of this’

The second interpretation for the datives in (5)-(6) is what I call the *unintentional dative causer* reading. Under this reading the dative DP is interpreted as the *unintentional causer* of the event of change of state. This second reading can be forced, if the adverb ‘*versehentlich*’ (by mistake or unintentionally) as in (9a) or an adjunct clause that further modifies the causer’s action as in (10) is added. Note that while the adverb ‘*versehentlich*’ forces the causer reading over the affectedness reading, the adverb ‘*absichtlich*’ (intentionally, on purpose) leads to complete deviance (cf. (9b)).

(9) a. Dem Hans zerbrach versehentlich die Vase
 the.DAT John broke unintentionally the vase
 ‘The vase broke and John caused this unintentionally’

b. *Dem Hans zerbrach absichtlich die Vase
 the.DAT John broke intentionally the vase
 ‘The vase broke and John caused this on purpose’

(10) Dem Hans zerbrach die Vase
 the.DAT John broke the vase
 weil er sie zu fest auf dem Boden aufsetzte
 because he it too heavily on the floor put
 ‘The vase broke and John caused this unintentionally because he put it on the floor too heavily’

Besides the restriction that the dative causer can only act without intention, this second reading has the following key features:

- i) it is blocked in transitive and in passive sentences (only the affectedness reading is available, cf. (8a, b)). An intuitive explanation for this is that transitive and passive change-of-state constructions already realize an external agent or causer argument and since it is not possible to have two independent external arguments of one event the dative has to switch to its alternative interpretation, i.e. the affectedness interpretation.
- ii) the dative DP, although interpreted as an unintentional causer of the event, must be human. That is, non-human dative DPs are not allowed in this construction although such DPs are not able to have intentions in the first place. This means that besides the unintentionality restriction there is a human restriction on the interpretation. These two restrictions are illustrated in (11) and (12). The contrast between (11a) and (11b) shows that while a human nominative subject can cause a change of state either wilfully and with a specific purpose or unwilfully, a human dative causer can cause the change of state only unwilfully. (12a) illustrates that non-human causers can be realised as nominative subjects but they are not compatible with any adverb that asserts or denies intentionality. Irrespective of the use of such an adverb, non-human causers cannot show up in the dative causer construction in (12b). One possible view on these facts

- (13) a. Der Maria öffnete sich die Tür
 the.DAT Mary opened REFL the door
 ‘The door opened and Mary was affected by this’
 *‘Mary unintentionally caused the door to open’
- b. Das Essen kühlte sich ihm ab
 the meal cooled REFL him.DAT down
 ‘The food cooled down and he was affected by this’
 *‘He unintentionally caused the food to cool down’
- c. Mir hat sich der Wecker verstellt
 me.DAT has REFL the alarm clock shifted
 ‘The alarm clock shifted and I was affected by this’
 *‘I unintentionally caused the alarm clock to shift’
- d. Der Menschheit verändert sich das Klima
 the.DAT mankind changed REFL the climate
 ‘The climate changed and mankind was affected by this’
 *‘Mankind unintentionally caused the climate to change’
- e. Mir hat sich der Bohrer verkantet/verbogen
 me.DAT has REFL the borer canted/bended
 ‘The borer canted/bended and I was affected by this’
 *‘I unintentionally caused the borer to cant/bend’

There are a number of ways to make this contrast between unmarked and marked anticausatives more substantial.³ First, it was mentioned above that the adverb

³ Some speakers find some of these examples involving marked anticausatives and a dative DP completely ungrammatical. The reason for this, I suggest, is the following: In the context of unmarked anticausatives the unintentional causer reading is typically preferred over the affectedness reading of the dative. That is, the former is more accessible than the latter. Since in the context of marked anticausatives the unintentional causer reading (i.e. the reading which is in principle more accessible) is blocked, speakers find such structures completely ungrammatical if the affectedness reading is hard to motivate. For example, in (13d) it is not so easy to interpret the noun phrase ‘*Menschheit*’ (mankind) which abstracts away from individual human beings, as affected. Besides these difficulties, speakers agree that the unintentional causer reading of the dative is impossible in the context of marked anticausatives.

‘*versehentlich*’ (unintentionally, by mistake) forces the unintentional causer reading and can be used to break up the ambiguity between the affectedness reading and the unintentional causer reading of the free dative with unmarked anticausatives (cf. (9)). If we add this adverb to the marked anticausatives in (14), the resulting structures are completely ungrammatical; this means the adverb is not licensed in the context of marked anticausatives and this, in turn, shows that the unintentional causer reading is not possible in the context of marked anticausatives. That is, in (14) the affectedness reading is blocked (marked by #) by the interpretational needs of the adverb which is looking for an actor-like argument to predicate over while the unintentional causer reading is blocked (marked by *) by something else which has to do with the status of these anticausative verbs as morphologically marked.⁴

- (14) a. Der Maria öffnete sich die Tür aus Versehen
 the.DAT Mary opened REFL the door by mistake
 #‘The door opened unintentionally and Mary was affected by this’
 *‘Mary unintentionally caused the door to open’
- b. Mir hat sich aus Versehen der Wecker verstellt
 me.DAT has REFL by mistake the alarm clock shifted
 #‘The alarm clock shifted unintentionally and I was affected by this’
 *‘I unintentionally caused the alarm clock to shift’
- c. Der Menschheit veränderte sich aus Versehen das Klima
 the.DAT mankind changed REFL by mistake the climate
 #‘The climate changed unintentionally and the mankind was affected by this’
 *‘The mankind unintentionally caused the climate to change’
- d. Dem Tankwart entzündete sich aus Versehen das Benzin
 the.DAT attendant ignited REFL by mistake the petrol
 #‘The petrol ignited unintentionally and the attendant was affected by this’
 *‘The attendant unintentionally caused the petrol to ignite’

⁴ There is only one way to rescue these structures, i.e. to assume that the theme is actually an anthropomorphized subject which unintentionally acts and thereby causes itself to come into the resultant state. The dative is then interpreted as an *affectedness* dative.

- e. Mir hat sich aus Versehen der Bohrer verkantet/verbogen
 me.DAT has REFL by mistake the borer canted/bended
 #‘The borer canted/bended and I was affected by this’
 *‘I unintentionally caused the borer to cant/bend’

A second way to make this contrast between unmarked and marked anticausatives more substantial is to look at nearly synonymous verbs of the two morphological classes. For some marked anticausatives, there exist nearly synonymous unaccusatives that are not marked by a reflexive pronoun. As expected, the marked anticausatives do not allow for the unintentional causer reading while with the synonymous unaccusatives the reading is possible. That is, the a-examples below allow only the affectedness reading while the b-examples are ambiguous between the two readings.

- (15) a. Ihm öffneten sich (*aus Versehen) dauernd die Schnürsenkel
 him.DAT opened REFL (by mistake) all the time the shoelaces
 ‘The shoelaces opened all the time and he was affected by this’
 *‘He (unintentionally) opened all the time the shoelaces’
- b. Ihm gingen (aus Versehen) dauernd die Schnürsenkel auf
 him.DAT came (by mistake) all the time the shoelaces open
 ‘The shoelaces opened all the time and he was affected by this’
 ‘He (unintentionally) opened all the time the shoelaces’
- (16) a. Die Flasche leerte sich mir (*aus Versehen)
 the bottle emptied REFL me.DAT (by mistake)
 ‘The bottle emptied and I was affected by this’
 *‘I unintentionally caused the bottle to empty’
- b. Die Flasche lief mir (aus Versehen) aus
 the bottle ran me.DAT (by mistake) out
 ‘The bottle emptied and I was affected by this’
 ‘I unintentionally caused the bottle to empty’

- (17) a. Dem Chemiker verflüssigte sich (*aus Versehen) das Präparat
 the.DAT chemist liquefied REFL (by mistake) the preparation
 ‘The preparation liquefied and the chemist was affected by this’
 *‘The chemist unintentionally caused the preparation to liquefy’
- b. Dem Chemiker schmolz (aus Versehen) das Präparat
 the.DAT chemist melted (by mistake) the preparation
 ‘The preparation melted and the chemist was affected by this’
 ‘The chemist unintentionally caused the preparation to melt’
- (18) a. Dem Chemiker entzündete sich (*aus Versehen) das Gemisch
 the.DAT chemist ignited REFL (by mistake) the mixture
 ‘The mixture ignited and the chemist was affected by this’
 *‘The chemist unintentionally caused the mixture to ignite’
- b. Dem Chemiker entflammte (aus Versehen) das Gemisch
 the.DAT chemist inflamed (by mistake) the mixture
 ‘The mixture inflamed and the chemist was affected by this’
 ‘The chemist unintentionally caused the mixture to inflame’

Third, we can use the small class of anticausative verbs which optionally come with and without the reflexive pronoun. While this optionality might be speaker dependent (as discussed in chapter 1), for those speakers that allow both versions we find again the expected contrast. This is indicated below by the status of the adverb ‘*versehentlich*’ (unintentionally).

- (19) a. Das Badewasser ist ihm (versehentlich) abgekühlt
 b. Das Badewasser hat sich ihm (*versehentlich) abgekühlt
 the bathwater is/has (REFL) him.DAT (by mistake) cooled down
- (20) a. Dem Indianer sind (versehentlich) die Spuren verwischt
 b. Dem Indianer haben sich (*versehentlich) die Spuren verwischt
 the.DAT Indian is/have REFL (by mistake) the traces blurred

I conclude that the difference between the two types of anticausative verbs is real and stable; only unmarked anticausatives allow the unintentional causer reading for a (human) dative DP.

One of the main topics of this thesis is to explore the difference between marked and unmarked anticausatives; why we find two morphological classes of anticausatives and whether this morphological difference is reflected by further semantic and/or syntactic differences. While we saw in chapter 1 that marked and unmarked anticausatives do not differ with respect to a number of tests, we finally found a semantic difference between the two classes of anticausatives. One goal of this thesis will be to relate this semantic difference to the morphological difference. I will return to the (blocking of the) dative causer construction in the context of German marked anticausatives repeatedly throughout this thesis.

2.3 The absence of the unintentional causer reading: Semantic blocking?

In this section, I will examine the hypothesis that the unintentional causer reading is impossible in the context of marked anticausative verbs for semantic reasons similar to the situation that is found in the context of transitive or passivized causative verbs. More specifically, this reading might be blocked in order to avoid a semantic clash between two agents/causers for one change-of-state event, a situation that is typically assumed to be prohibited by the theta criterion as it would result in uninterpretability. However, it will turn out that the overall behavior of (marked) anticausatives does not support such a hypothesis.

We saw in the last section that, in German, marked and unmarked anticausatives differ not only morphologically but also interpretatively; a free dative can have two different interpretations (the affectedness reading and the unintentional causer reading) in the context of unmarked anticausatives but only one interpretation (the affectedness reading) in the context of marked anticausatives. We therefore have to conclude that datives in change-of-state contexts can, in principle, receive both interpretations and

further that the unintentional causer reading is blocked in the context of the reflexive morphology. In (21) the situation is displayed again.

- (21) a. Die Vase zerbrach dem Hans (aus Versehen)
 the vase broke the.DAT John (by mistake)
 ‘John was affected by the vase breaking’
 ‘John unintentionally caused the vase to break’
- b. Der Maria öffnete sich die Tür (*aus Versehen)
 the.DAT Mary opened REFL the door by mistake
 ‘The door opened unintentionally and Mary was affected by this’
 *‘Mary unintentionally caused the door to open’

Of course, we would like to find an explanation for this contrast. A first suggestion might come from other contexts where the affectedness reading but not the unintentional causer reading is possible. As already mentioned, this is the case for datives in the context of transitive and passive change-of-state verbs. Below, the relevant examples are given once more. The sentences in (22) are the transitive and passive counterparts of the unmarked anticausative verb in (21a). The sentences in (23) are the transitive and passive counterparts of the marked anticausative verb in (21b). As the translations show, datives in transitive and passive constructions (expressing a change of state) always obtain the affectedness interpretation but never the unintentional causer interpretation.

- (22) a. Maria zerbrach dem Hans die Vase
 Mary broke the.DAT John the vase
 ‘John is affected by Mary breaking the vase’
 *‘John is a causer ...’
- b. Dem Hans wurde die Vase zerbrochen
 the.DAT John was the vase broken
 ‘John is affected by the vase being broken’
 *‘John is a causer ...’

- (23) a. Maria öffnete dem Hans die Tür
 Mary opened the.DAT John the door
 ‘John is affected by Mary opening the door’
 *‘ John is a causer ...’
- b. Die Tür wurde dem Hans geöffnet
 the door was the.DAT John opened
 ‘John is affected by the door being opened’
 *‘ John is a causer ...’

The lack of the unintentional causer reading of the free dative DP in transitive and passive structures is obviously related to the fact that both transitive and (eventive) passive constructions have an external argument which is interpreted as the agent or causer of the event expressed by the verb. Since these external arguments are obligatory arguments of the constructions while the free dative is only optionally realized, the lack of the unintentional causer reading for the dative in transitives and passives can arguably be accounted for by the following assumption:

- (24) “... a causer role for a dative is ruled out if the clause contains another causer (agent), since a single event cannot have two causers” (McIntyre (2006:204)).

This principle in (24) clearly relates to (one clause of) the theta criterion (Chomsky (1981), (1986)) which requires that each theta-role is assigned to only one argument. We can either assume that (24) reflects the fact that nominative external arguments and implicit external arguments of passives are “superior” to the dative and block its unintentional causer interpretation; this might be so because the former are obligatory arguments of transitive or passive predicates while the dative is only optional. An alternative explanation would simply be built on the fact that only the dative has the option to switch to another interpretation (the affectedness reading) while such an option does not exist for the nominative external argument in transitives and the implicit external argument in passives.

Turning back to the anticausative structures, we can now formulate the hypothesis that the lack of the unintentional causer reading for datives in the context of marked

anticausative could have the same (or at least a similar) reason as the lack of this reading for datives in the context of causative structures (active and passive), i.e. it might be blocked by another, in some sense superior agent/causer already present in the structure. Further, the presence of such a(n) agent/causer should be associated to the presence of the reflexive pronoun in some way. This hypothesis is formulated in (25).

(25) Hypothesis: (to be rejected)

- i) Marked anticausatives are (to some extent) semantically causative, i.e. they have a causative meaning component which is not present in unmarked anticausatives.
- ii) This causative meaning component is related to the presence of the reflexive pronoun. The reflexive pronoun is the (relic of the) external argument of a transitive change-of-state predicate.
- iii) This causative meaning component blocks the causer interpretation of a free dative in the sense of principle (24) above.

In fact, something like the hypothesis (25i) and (25ii) has been pursued in some way or the other, and more or less explicitly, by a number of linguists (e.g. Marantz (1984), Chierchia (1989/2004), Pesetsky (1995), among many others).⁵ Especially for German, Haider (1985) argues that the reflexive pronoun in anticausatives bears the external θ -role of a transitive predicate. His reasoning was probably guided by the theoretical need to fulfil the theta criterion. Simplifying somewhat, both versions of an alternating verb should be projected from one and the same lexical entry. Since these verbs can be transitive, the lexical entry must contain two argument slots, an internal theme position and an external agent/causer position. The theta criterion demands that lexical information must always be completely projected to the syntax. Therefore, the external

⁵ Many authors proposed that the reflexive clitic in marked anticausatives occupies the external argument position. The consequence that the reflexive clitic should, therefore, carry an external theta-role is not always discussed however. Many authors also proposed a more generalized account of this type which tries to cover, besides marked anticausatives, also inherently reflexive constructions or even all kind of reflexive constructions. I will discuss German inherently reflexive constructions in the appendix to this work.

argument must somehow be realised in anticausative constructions, too. The only way out, then, is to assume that the external argument is realized by the reflexive pronoun. Haider does not, however, discuss the verbs forming unmarked anticausatives. Since these verbs have a transitive use, too, they should also have a transitive lexical entry. The question, then, is how unmarked anticausatives can fulfil the theta criterion although they do not take a reflexive pronoun. One could assume that, in the case of unmarked anticausatives, the external argument is simply covert, but this assumption would not only be quite stipulative but it would also undermine our hypothesis, formulated above, about why marked and unmarked anticausatives differ with respect to the licensing of the unintentional causer reading of the dative. The only way out then which is compatible with the theta criterion would be to assume that verbs forming unmarked anticausatives have two lexical entries, a transitive and an intransitive/unaccusative one.

In a (to some extent) similar vein, Levin & Rappaport Hovav (1995:83, 108) argue that anticausative verbs are derived from underlying causative entries through a process of detransitivisation whereby the causer role is “lexically bound”. The causative subevent nevertheless remains active.⁶ The semantic representation they propose for anticausative verbs is given in (26), where $\emptyset x$ stays for the lexically bound causer argument.

(26) $\lambda y. \emptyset x. [[x \text{ DO-SOMETHING}] \text{ CAUSE } [y \text{ BECOME OPEN}]]$

Levin & Rappaport Hovav (1995) make no difference between marked and unmarked anticausatives. In order to make the above hypothesis about the difference between marked and unmarked anticausatives work, we would have to assume, similar to the discussion of Haider’s (1985) account above, that the structure in (26) represents only marked anticausative structures while unmarked anticausatives have no external argument at all, either because the whole causative event is missing in their representation or just the external argument variable. Leaving details aside, we would

⁶ “...the intransitive form ... arises from binding the external argument within the lexical semantic representation, where this binding is interpreted as existential quantification“ (Levin & Rappaport Hovav (1995:108)).

further have to assume that the reflexive pronoun of anticausatives is somehow related to the existentially bound external argument in (26), either as a diacritic for its existence or as the spell out of it.

To conclude, I briefly discussed two out of many theories that propose that anticausative verbs are derived from transitive verbs/lexical entries and are semantically causative in that they involve some kind of external causer argument.⁷ Levin & Rappaport Hovav (1995) and probably also Haider (1985) make this assumption for all anticausative verbs. In order to make our hypothesis in (25) about the difference in the interpretation of the free dative in the context of marked and unmarked anticausatives work, we would have to limit this assumption to marked anticausative verbs.⁸ If marked anticausatives contain an external argument (of some kind) we might be able to derive the fact that the unintentional causer reading is blocked from some version of the theta criterion (in a similar way as proposed in (24)). This hypothesis will be investigated in detail in the next section. It will turn out, however, that it is not tenable. A number of tests which are sensitive to external argument semantics will lead to the conclusion that marked and unmarked anticausatives do not differ with respect to any causative meaning component in their linguistic representation (be it syntax, semantic or conceptual structure).

2.3.1 Do marked anticausatives involve external argument semantics?

Härtl (2003) argues with a series of tests that there is no causative meaning component active in unmarked anticausatives in German. His tests can therefore be used to verify the hypothesis developed above. If marked anticausatives differ from unmarked anticausatives in that only the latter involve some external argument semantics or causative meaning component, then we expect the two classes of anticausatives to differ with respect to these tests. It turns out, however, that the hypothesis developed above is

⁷ For further discussion of such theories see chapter 4.

⁸ Verbs forming unmarked anticausatives could be seen as basically intransitive and their causative counterparts could be derived via a process of causativization. See chapter 4 for discussion of theories of the causative alternation which assume such a process of causativization.

not fulfilled. As this section shows, marked and unmarked anticausatives do not show any different behavior with respect to the tests sensitive to the presence of external argument semantics.

The standard instance of external argument suppression is the passive. Passives differ from corresponding actives in that the external argument is not realized overtly. However, there are good arguments to assume that the external argument is only suppressed but not deleted; despite the fact that it is not overt, it is still interpreted, i.e. it is present at some linguistic level. Some assume that this level is syntax, some assume that it is just the level of argument structure. A number of tests are taken to show the general presence of an implicit argument in passives. If these tests are in turn applied to anticausatives, they suggest that anticausatives do not have such an implicit external argument.

The first test is the licensing of a *by*-phrase. It is well known that passives (in many though not all languages) license prepositional phrases which take up the implicit external argument and realize it overtly. While English uses the preposition ‘*by*’, in German the relevant preposition is ‘*von*’ (cf. (27) and (28)).

(27) Das Segel wurde von Peter / vom Wind zerrissen
 the sail was by Peter / by-the wind torn
 ‘The sail was torn by Peter/by the wind’

(28) Die Tür wurde von Peter / vom Wind geöffnet
 the door was by Peter / by-the wind opened
 ‘The door was opened by Peter/by the wind’

Crosslinguistically, anticausatives do not license *by*-phrases introducing external arguments. The common reasoning behind this fact is that anticausatives do not have an implicit external argument. Importantly for the topic of this section, crosslinguistically marked and unmarked anticausatives do not differ in this respect (cf. Alexiadou et al. 2006a, b). Below this is illustrated for German.⁹

⁹ This view on the non-licensing of causers in anticausatives will be modified in section 2.3.2.2 and especially in chapter 4. The parallel between marked and unmarked anticausatives, however, remains.

- (29) a. Das Segel zerriss (*von Peter / *vom Wind)
 the sail tore by Peter / by-the wind
- b. Die Tür öffnete sich (*von Peter / *vom Wind)
 the door opened REFL by Peter / by the wind

The same point is usually made with the following two tests, the licensing of agentive adverbs and the licensing of purpose clauses (cf. Roeper (1987); Levin & Rappaport Hovav (1995) among many). Again, both tests give positive results for passives (cf. (30) and (31)) and negative results for unmarked as well as marked anticausatives (cf. (32) and (33)).

- (30) a. Das Segel wurde (absichtlich/leichtsinnigerweise/gerne) zerrissen
 the sail was on purpose / carelessly / willingly torn
 ‘The sail was torn on purpose/carelessly/willingly’
- b. Das Benzin wurde (absichtlich/leichtsinnigerweise/gerne) entzündet
 the petrol was on purpose / carelessly / willingly ignited
 ‘The petrol was ignited purpose/carelessly/willingly’
- (31) a. Das Schiff wurde versenkt um die Versicherung zu kassieren
 the ship was sunk in-order-to the insurance to collect
 ‘The ship was sunk in order to collect the insurance’
- b. Das Benzin wurde entzündet um die Feinde abzuhalten
 the petrol was ignited in-order-to the enemies keep-away
 ‘The petrol was ignited in order to keep the enemies away’
- (32) a. Das Segel zerriss (*absichtlich/*leichtsinnigerweise/*gerne)
 the sail tore on purpose/carelessly/willingly
- b. Das Benzin entzündete sich (*absichtlich/*leichtsinnigerweise/*gerne)
 the petrol ignited REFL on purpose/carelessly/willingly
- (33) a. Das Schiff versank (*um die Versicherung zu kassieren)
 the ship sank in-order-to the insurance to collect

- b. Das Benzin entzündete sich (*um die Feinde abzuhalten)
 the petrol ignited in-order-to the enemies keep-away

As often noted, these tests are not without problems because they are sensitive only to a specific type of external arguments, i.e. intentionally acting agents. Sentences with external arguments of a different thematic role give negative results with these tests even if they are overtly realized. This is shown for a causer subject below.

- (34) a. Der Sturm versenkte (*absichtlich/*versehentlich) das Schiff
 the storm sank (on purpose/unintentionally) the ship
 ‘The storm sank the ship (*on purpose/unintentionally)’
 b. Der Sturm versenkte das Schiff (*um die Versicherung zu betrügen)
 the storm sank the ship in-order-to the insurance to trick
 ‘The storm sank the ship in order to trick the insurance’

The last two tests leave it therefore open whether anticausatives have no external argument at all or whether they have an external argument which, however, is not an agent.¹⁰

In order to come to a more general conclusion about the presence of an external argument in anticausatives we need further criteria, which are equally applicable to agentive as well as non-agentive external arguments. Härtl (2003) develops such criteria to show that no external argument (neither an intentional agent nor a natural force - no causal meaning component in his terms) is introduced implicitly with unmarked anticausatives. Importantly for our purposes here, all these tests give the same results

¹⁰ If the latter were the case, the tests would simply give a wrongly negative result for anticausatives. Notice that a wrongly positive result has been noted for the purpose-clause test, too. That is, purpose clauses are sometimes licensed with predicates which arguable do not have any implicit external argument (cf. (i), from Williams (1974) via Williams (1985)).

(i) Grass is green in order to promote photosynthesis

for both, marked and unmarked anticausatives in German. Two of his tests are illustrated below.¹¹

The first one builds on information structure by focusing on a causing entity. This is illustrated with an unmarked anticausative verb in (35). The reason for the unacceptability of the examples (35b) and (35c) lies in the negative contrastive nature of these continuing sentences introduced by ‘*aber*’ (but). These sentences focus on a causal entity responsible for the change of state expressed in (35a) (an agent in the b-example and a causer in the c-example). The reasonable integration of these continuations presupposes the existence of a causal entity in the discourse. But the anticausative structure in (35a) does not introduce such an entity and therefore focusing/presupposing such an entity is inadequate and leads to deviant results.

- (35) a. Der Teller zerbrach
The plate broke
- b. ??Aber es war nicht Peter, sondern Maria
But it was not Peter but Mary
- c. ??Aber es war nicht das Erdbeben sondern der Wind
But it was not the earthquake but the wind

Importantly, this test gives the same result with marked anticausatives.

- (36) a. Das Benzin entzündete sich
The petrol caught-fire REFL
- b. ??Aber es war nicht Peter, sondern Maria
But it was not Peter but Mary
- c. ??Aber es war kein Blitz sondern die Sonneneinstrahlung
But it was not a lightning but the sun

¹¹ Härtl (2003) discusses one further test which builds on the compatibility of anticausatives with embedded sentences expressing a *causa finalis* vs. a *causa efficiens*. For reasons of space, I do not illustrate this test here; once again, marked and unmarked anticausatives give the same results and differ in their behaviour from passives.

If, on the other hand, the first sentence is passive and thereby introduces a causal factor via its implicit external argument, then focusing this causal factor becomes possible.

- (37) a. Der Teller wurde zerbrochen
The plate was broken
- b. Aber es war nicht Peter, sondern Maria
But it was not Peter but Mary
- c. Aber es war nicht das Erdbeben sondern der Wind
But it was not the earthquake but the wind

A further test where marked and unmarked anticausatives behave alike is the ‘*by itself*’ test. Both types of German anticausatives can be modified with the phrase ‘*von selbst*’ (by itself). This phrase stresses the fact that no external force can be identified that brought about the change-of-state event expressed by the verb. Since neither unmarked nor marked anticausatives involve an implicit external argument, both verb types are compatible with this phrase (for further discussion of the semantics of the ‘*by itself*’ phrase see Schäfer (2007) as well as the discussion in chapter 4).

- (38) a. Der Teller zerbrach von selbst
the plate broke by self
‘The plate broke by itself’
- b. Die Geige verstimmte sich von selbst
the violin got-out-of-tune REFL by self
‘The violin got out of tune by itself’

Passives (which involve an implicit external argument) do not allow modification with ‘*by itself*’.

- (39) a. *Der Teller wurde von selbst zerbrochen
the plate was by self broke
*‘The plate was broken by itself’

- b. *Die Geige wurde von selbst verstimmt
 the violin was by self put-out-of-tune
 ‘*The violin was put out of tune by itself’

To conclude this section, neither marked nor unmarked anticausatives in German show any reflex of the presence of an implicit external argument. This result seems to hold crosslinguistically, as the study by Alexiadou et al. (2006a, b) suggests which will be discussed in detail in chapter 4.

Notice, that we are facing a mismatch now: a number of tests diagnose that marked anticausatives do not involve any implicit external argument. But the lack of the unintentional causer reading seems to argue for it. One way out of this mismatch is to give up the hypothesis developed above in (25). In the next section, I first discuss a slightly different version of this hypothesis.

2.3.2 Causer vs. causing event

I will discuss the event decomposition of causatives and anticausatives in more detail in chapter 4. However, the standard assumptions are already briefly introduced here. Causatives are typically assumed to be built up by the combination of two event predicates, CAUSE and BECOME, while anticausatives are built up by only one event predicate, BECOME. Under such a view, causative verbs are derived by the addition of a predicate which adds a causer argument to the semantics of an inchoative verb (causativization). This is illustrated for the verb ‘*break*’ below.

- (40) a. λx [BECOME *broken* (x)] (anticausative)
 b. $\lambda y \lambda x$ [(x) CAUSE [BECOME *broken* (y)]] (causative)

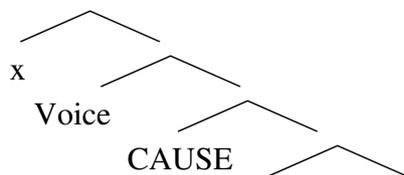
Pylkkänen (2002), however, argues against the view that causativization per se introduces an external argument (causer). Instead, she argues for the view that the CAUSE predicate itself does not introduce the external argument of a causative event. It is the defining function of causativization to just introduce an implicit argument ranging over causing events and to relate it to a non-causative (change-of-state) event (e.g.

Dowty (1979), Parson (1990)). External arguments (causer, agent, ...) are introduced by a further head on top of CAUSE, the Voice head proposed in the work by Kratzer (1996). The semantics of these two heads are given below.

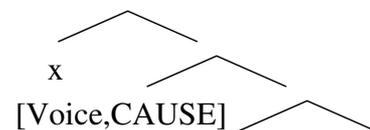
- (41) CAUSE: $\lambda P.\lambda e.[(\exists e') P(e')] \ \& \ \text{CAUSE}(e, e')$ (cf. e.g. Pylkkänen 2002:79)
 VOICE: $\lambda P.\lambda x.\lambda e. (\text{agent}(x,e) \ \& \ P(e))$ (cf. Kratzer 1996)

As Pylkkänen observes, severing syntactically the head introducing the external argument from the head introducing the causative event makes the prediction that, in principle, the latter should be able show up in the absence of the former, i.e. that there should exist causative predicates without an external argument. Pylkkänen argues that we can indeed find such construction, but only in some languages. The relevant parameter is whether a language necessarily “bundles” the two heads together or not. Semantically, Voice and CAUSE are always separate; syntactically, they can either project their own syntactic heads or they can be "bundled" together into a semantically complex head. The two types of languages are illustrated below.

- (42) a. Non-Voice-bundling causative

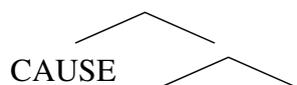


- b. Voice-bundling causative



This hypothesis predicts that a non-bundling language should, in principle, be able to realize the CAUSE head in the absence of Voice, i.e. it should have causative predicates without an external argument, that is, an unaccusative causative as in (43) below. Pylkkänen argues that English is a Voice-bundling language while, for example, Finnish and Japanese are non-Voice-bundling languages which can realize the structure in (43).

- (43) Causative unaccusative



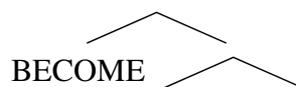
I will immediately turn to this last claim and discuss the specific properties of the structure in (43). Before that, however, let me shortly turn back to German and to the lack of the unintentional causer reading in the context of marked anticausatives. In the last section, we had to give up the idea that this reading of a free dative is blocked because marked anticausatives already have some (implicit) external argument of their own; neither unmarked nor marked anticausatives show any semantic reflex of such an external argument under a number of tests. We might now modify the hypothesis about semantic blocking and hypothesize that marked and unmarked anticausatives do not differ with respect to the presence of an external argument but with respect to the presence of a causative event; while unmarked anticausatives are pure inchoative structures as in (44b), marked anticausatives might be causative unaccusatives as in (44a).

(44) Hypothesis: (to be rejected)

a. marked anticausatives



b. unmarked anticausative



We might hypothesize then that the presence of the CAUSE head in (44a) blocks the interpretation of a dative as an unintentional causer. Of course, we would have to say something more about the nature of the blocking between an event and a dative DP interpreted as a causer and also about how the reflexive pronoun could be morpho-syntactically integrated into this structure. But before we try to answer such questions, we should first look at the empirical tests which, according to Pylkkänen (2002), characterize causative unaccusatives of the type in (43). We should then apply these tests to marked and unmarked anticausatives and see whether they differ on these tests in order to see whether the hypothesis in (44) can be maintained.

2.3.2.1 Causative constructions without an external argument

In this section, I will shortly discuss two constructions which are claimed by Pylkkänen (2002) to have the structure in (43): adversity causatives in Japanese and the desiderative construction in Finnish.

2.3.2.1.1 The adversity causative in Japanese

Lexical causatives in Japanese as in (45) have, besides their ordinary causative interpretation, a so-called adversity interpretation (cf. the references in Pylkkänen (2002)). The first reading is expected and in accordance with the causative morphology on the verb. However, if we consider the second interpretation where the nominative argument is interpreted as affected by the change-of-state event, i.e. where Taro is affected by the death of his son, it is not clear how to make sense out of the causative morphology.

- (45) Taroo-ga musuko-o sin-ase-ta.
 Taro.NOM son.ACC die-CAUSE-PAST
 (i) ‘Taro caused his son to die’ (lexical causative)
 (ii) ‘Taro’s son died on him’ (adversity causative)

Pylkkänen shows that the nominative is an external argument in the lexical causative but not in the adversity causative. This simply follows from the fact that the passive counterpart of the string in (45) has only the causative but not the adversity reading.

- (46) Musuko-ga sin-ase-rare-ta.
 son.NOM die-CAUSE-PASS-PAST
 (i) ‘The son was caused to die’
 (ii) *‘Somebody’s son died on them’ (implicit affected argument)

Pylkkänen argues that the adversity causative is nevertheless semantically really causative. This can be shown if the adversity causative is compared to a further construction, the so-called adversity passive in (47), which has a quite similar interpretation in the absence of causative morphology.

- (47) Taroo-ga musuko-ni sin-are-ta.
 Taroo.NOM son.DAT die-PASS-PAST
 ‘Taro’s son died on him’ (adversity passive)

The morphological difference between the two structures is paralleled by the behavior of the prepositional phrase ‘*ni-yotte*’ in the two constructions. First notice, that this prepositional phrase can be used to further specify an implicit event as in the transitive sentence below where the movement activity is further specified.

- (48) Taroo-wa Kawa-wo oyogu koto ni-yotte mukougisi-ni watatta.
 Taro.TOP river.ACC swim COMP by the-other-side.DAT got
 ‘Taro got to the other side by swimming across the river’

The next data show that only the adversity causative in (49) but not the adversity passive in (50) can be modified by this prepositional phrase which now introduces some specification of a causative event; from this Pylkkänen concludes that only the adversity causative has a causative event which is absent in the adversity passive.¹²

¹² If causation can be excluded then the adversity causative is not possible. Only the adversity passive can be used (cf. (i) and (ii) from Pylkkänen (2002)):

- (i) Taroo-ga titioya-ni sin-are-ta.
 Taro.NOM father.DAT die-PASS-PAST
 ‘Taro was affected by his father dying’ Context: Taro’s father dies of natural causes.
- (ii) #Taroo-ga titioya-o sin-ase-ta.
 Taro.NOM father.ACC die-CAUSE-PAST
 ‘Taro was affected by his father dying’ Context: Taro’s father dies of natural causes.

- (49) Adversity causative + by-phrase naming a causing event

Taroo-ga sensoo-ni-yotte musuko-o sin-ase-ta
 Taroo.NOM war-by son.ACC die-CAUSE-PAST
 ‘Taro’s son was caused to die on him by the war’

- (50) Adversity passive + by-phrase naming a causing event

*Taroo-ga sensoo-ni-yotte musuko-ni sin-are-ta
 Taroo.NOM war-by son.DAT die-PASS-PAST
 ‘Taro’s son died on him by the war’

In order to let this argument go through, one has to show finally that it is really an event that is modified by ‘*ni yotte*’ in (49) and not an implicit argument. This final piece of evidence is given below where it is shown that the prepositional phrase cannot introduce real agents into the adversity causative construction. The data in (49) therefore shows that the structure has a causative event and the data in (51) shows that it does not involve a passive-like Voice head.¹³

- (51) Adversity causative + by-phrase naming an agent

*Taroo-ga Hanako-ni-yotte musuko-o sin-ase-ta
 Taroo.NOM Hanako-by son.ACC die-CAUSE-PAST
 ‘Taro’s son was caused to die on him by Hanako’

A final piece of evidence is given by the data below where it is shown that the phrase ‘*katteni*’ meaning ‘*by itself*’ or ‘*without a cause*’ cannot modify adversity causatives but

¹³ Anticipating much of the discussion in chapter 4 and 7, this last conclusion is not necessarily correct. It could still be the case that the adversity causative involves a Voice head which projects a covert external argument in its specifier. As argued in chapter 7, such a structure exists in Icelandic (the ‘stray accusative construction’) and it behaves quite like the Japanese adversity causative in licensing causing events but neither agents in a prepositional phrase nor the ‘*by-itself*’ phrase. That subjects in SpecVoice are compatible in Japanese with a PP modifying the verbal event was shown already in (48). I will not further explore this analysis of the adversity causative in this thesis.

it can modify adversity passives as well as unaccusatives. Pykkänen argues that this once again shows that the former construction involves some causative semantics.

(52) Adversity causative + ‘by itself’

??Taroo-ga musuko-o katteni korob-ase-ta

Taro.NOM son.ACC by.self fall.down-CAUSE-PAST

‘Something caused Taro’s son to fall down on him all by himself’

(53) Adversity passive + ‘by itself’

Taroo-ga musuko-ni katteni korob-are-ta

Taro.NOM son.DAT by.self fall.down-PASS-PAST

‘Taro’s son fell down on him all by himself’

(54) Unaccusative + ‘by itself’

Taroo-ga katteni koronda.

Taro.NOM by.self fell.down

‘Taro fell down all by himself’

In the next section we turn to Finnish which, according to Pykkänen, has a causative unaccusative structure, too.

2.3.2.1.2 The desiderative construction in Finnish

In Finnish it is possible to add a causative morpheme to an unergative verb. The result is a causative construction with a pre-verbal partitive argument and a desiderative meaning.¹⁴ Once again, it is not obvious that this construction involves some causative

¹⁴ Pykkänen (2002:fn.20) makes only the following statement about the origin of the desiderative meaning: “... similar constructions with overt desiderative morphology exist in other languages such as Tohono O’odham ... we can make the plausible assumption that in the Finnish construction the same desiderative morphology is present although unpronounced.”

semantics, but Pylkkänen argues that it does. It involves a causative head without an external argument, she claims.

- (55) Maija-a laula-tta-a
 Maija.PART sing-CAUSE.SG
 ‘Maija feels like singing (at present/*habitually)’

In order to establish this view she first shows that the partitive DP is not an external argument. Partitive case typically shows up on the object of atelic constructions. And indeed, the desiderative construction is stative, i.e. atelic, as can be seen from its present tense interpretation which is necessarily non-habitual (cf. (55)). Such a present tense interpretation holds only for stative predicates (in English, too). This suggests that the partitive DP in (55) is the derived subject of a stative verb (Partitive case marking remains on derived subjects in Finnish, cf. Pylkkänen (2002:88)). This is further supported by the fact that real subjects (i.e. external arguments) in Finnish that can have partitive case are plural MASS-Nouns as below in (56) and, as shown above in (55), the partitive in the desiderative construction can be singular.

- (56) Miehi-ä / *Miest-ä lauloi kato-lla
 men.PART / man.PART sang roof.ADE
 ‘Some men /*a (part of a) man were/was singing on the roof’

The next observation about the desiderative construction is that it has a causative meaning component. This can be shown by a comparison with the canonical desiderative construction in (57) which simply asserts the existence of a desire.

- (57) Halua-isi-n naura-a
 want.COND-1.SG laugh.INF
 ‘I would like to laugh’

The difference between these constructions is that it is possible to question the causing event in the former (58a) but not in the latter (58b).

- (58) a. Minu-a naura-tta-a mutt-en tiedä mikä
 I.PART laugh-CAUSE-3SG but-not.1.SG know what.NOM
 ‘Something makes me feel like laughing but I don’t know what (makes me feel like laughing)’
- b. *Halua-isi-n nauraa mutt-en tiedä mikä
 want.COND-1.SG laugh but-not-1.SG know what.NOM
 ‘I would like to laugh but I don’t know what (makes me want to laugh)’

This indicates that the desiderative causative has some implicit argument that is absent in the purely desiderative sentence. That this implicit argument is an event and not an external argument is finally shown in (59). If the WH-word is changed to ‘*kuka*’ (who) which would question an event participant rather than an event, the construction becomes ungrammatical.

- (59) *Minu-a naura-tta-a mutt-en tiedä kuka
 I.PART laugh-CAUSE-3.SG but-not-1.SG know who.NOM
 ‘Something makes me feel like laughing but I don’t know who (makes me feel like laughing)’

This concludes our review of Pylkkänen’s claim that there exist languages that have a causative construction without an external argument. In the next section we return to German anticausatives.

2.3.2.2 Is the dative causer blocked by a causative event?

Recall that we identified a semantic difference between German marked and unmarked anticausatives. Both constructions allow the addition of a so-called free dative; this dative can get two interpretations in the context of unmarked anticausatives, the affectedness reading and the unintentional causer reading; in the context of marked anticausatives only the affectedness reading is licensed, the unintentional causer reading is not possible.

In section 2.3.1, I hypothesized that the unintentional causer reading is blocked in the context of marked anticausatives because these involve some external argument, either implicitly, similar to the passive, or in the form of the reflexive pronoun. The unintentional causer reading would then be blocked for thematic reasons because one event cannot have two causer arguments. It turned out that this hypothesis is not tenable. Marked and unmarked anticausative give exactly the same negative result with respect to a number of tests for external argument semantics.

After having established the proposal by Pylkkänen (2002) that some languages have causative constructions in the absence of any external argument, I formulated the alternative hypothesis that, while neither unmarked nor marked anticausatives have an external argument, perhaps the latter have some causative event. The presence of such a causative event might then block the unintentional causer reading.

However, it seems that we have to give up this modified theory of semantic blocking, too. If we apply the tests which identified the causative event in the Japanese adversity causative and the Finnish desiderative constructions, it turns out that, once again, marked and unmarked anticausatives do not differ.

The first test is modification with *'by-itself'* which was not licensed in the Japanese adversity causative construction (cf. (52) above). As discussed already in section 2.3.1, both types of anticausatives give grammatical results under modification with *'von selbst'* (by itself). (As an alternative to *'von selbst'* German uses *'von allein'* (by alone)).

- (60) a. Der Teller zerbrach von selbst/ von allein
 the plate broke by (it)self/ by alone
- b. Die Geige verstimmte sich von selbst/ von allein
 the violin got-out-of-tune REFL by (it)self/ by alone

The second test which was used to identify the causative event in the Finnish desiderative construction in (58) was to question the causative event. In German, the questioning of a causative event is unacceptable in both marked and unmarked anticausatives.

- (61) a. #Die Vase zerbrach aber ich weiß nicht was (die Vase zerbrach)
 the vase broke but I know not what (the vase broke)
- b. #Die Tür öffnete sich aber ich weiß nicht was (die Tür öffnete)
 the door opened REFL But I know not what (the door opened)
- c. #Das Eis schmolz aber ich weiß nicht was (das Eis schmolz)
 the ice melted but I know not what (the ice melted)
- d. #Das Benzin entzündete sich
 the petrol caught-fire REFL
 aber ich weiß nicht was (das Benzin entzündete)
 but I know not what (the petrol ignited)

The third test is modification with a by-phrase expressing a causative event which was possible in the Japanese adversity causative construction (cf. (49)). If we use the standard by-phrase ‘*von*’ known from the discussion of German passives, then the result is ungrammatical for both types of anticausatives, as was already discussed in section 2.3.1.

- (62) a. Die Vase zerbrach *vom Erdbeben
 the vase broke by-the earthquake
- b. Die Tür öffnete sich *vom Windstoss
 the door opened REFL by-the gust of wind

However, one has to be careful because even in the passive the preposition ‘*von*’ is best used with human agents and leads often to very marked results with causers or causing events (cf. (63)). Instead, causers and causing events are best introduced by the preposition ‘*durch*’ (through) in German passives (cf. (64)).

- (63) a. Die Vase wurde von Peter/ (?)vom Erdbeben zerbrochen
 the vase was by Peter/ by-the earthquake broken
- b. Die Tür wurde von Peter/ (?)vom Windstoss geöffnet
 the door was by Peter/ by-the gust of wind opened

- (64) a. Die Vase wurde ??durch Peter/ durch das Erdbeben zerbrochen
 the vase was through Peter/ through the earthquake broken
- b. Die Tür wurde ??durch Peter/ durch den Windstoss geöffnet
 the door was through Peter/ through the gust of wind opened

If we turn back to anticausatives, we suddenly see that the preposition ‘*durch*’ introducing causers/causing events is licensed; but importantly, it is licensed in both marked (65) and unmarked anticausatives (66).^{15/16}

- (65) a. Die Tür öffnete sich durch einem Windstoß
 the door opened REFL through a gust of wind
 ‘The door opened from a gust of wind’
- b. Die Säure verdünnte sich durch den Regen
 the acid diluted REFL through the rain
 ‘The acid diluted from the rain’
- c. Das Stroh entzündete sich durch einen Blitzschlag
 the straw caught-fire REFL through a lightning
 ‘The straw caught fire from a lightning’

¹⁵ As discussed in chapter 4, English uses the preposition ‘*from*’ in such circumstances.

¹⁶ Kaufmann (2000:fn 18) argues with the help of the minimal pairs in (i) that marked anticausatives (but not unmarked anticausatives) have a semantic representation in which a causer and a causing event are present and both are existentially bound. In my opinion, there are no significant contrasts in (i). (The judgements are Kaufmann’s.)

- (i) a. Der Stahlträger senkte sich durch das Gewicht
 the steel girder subsided REFL through the load
- b. ?Der Stahlträger sank durch das Gewicht
 the steel girder subsided through the load
- c. Die Tür öffnete sich durch den Wind
 the door opened REFL through the wind
- d. ?Die Tür ging durch den Wind auf
 the door went through the wind open

- (66) a. Die Vase zerbrach durch ein Erdbeben
 the vase broke through an earthquake
 ‘The vase broke from an earthquake’
- b. Das Segel zerriss durch den Sturm
 the sail tore(apart) through the storm
 ‘The sail tore from the storm’
- c. Die Gletscher schmolzen durch die Klimaerwärmung
 the glacier melted through the warming up of the climate
 ‘The glacier melted from the global warming’

It follows, therefore, that we have to give up even the modified version of the hypothesis that the unintentional causer reading is blocked in the context of marked anticausatives for semantic reasons. Once again, marked and unmarked anticausatives behave the same way. While they gave the same negative results with tests which detect external argument semantics they now give the same results for tests which were argued by Pylkkänen to detect a causative event. Interestingly, the first two tests suggest that marked and unmarked anticausatives both have no causative event while the last test suggests that both have such a causative event. We will return to these tests in chapter 4 where the presence of a causative event in anticausatives will be discussed again.

2.3.3 Interim conclusion

We arrive at the following conclusion: The interpretation of a free dative is the only semantic difference between marked and unmarked anticausatives in German that we could identify. Such a dative can always get the affectedness interpretation; the interpretation as an unintentional causer is licensed in the context of unmarked anticausatives but not in the context of marked anticausatives. Since transitive and passive causative verbs also do not license the unintentional causer reading we suggested that it might be blocked for semantic reasons. However, this hypothesis, as it stands, is untenable. We identified a number of tests that were argued in the literature to be sensitive either to the presence vs. absence of an (implicit) external argument or to the presence vs. absence of a causative event. Importantly, marked and unmarked

anticausatives did not differ on any of these tests. Therefore, the lack of the unintentional causer reading with marked anticausatives cannot be explained in terms of semantic blocking; instead, the lack of the unintentional causer reading for the dative in the context of German marked anticausatives must be due to a more formal, i.e. syntactic reason.

That this is the right conclusion is further corroborated in the next section where we look at the interpretation of free datives in other languages. It turns out that many languages license the affectedness and the unintentional causer reading for datives in change-of-state contexts.

The following table recapitulates how a free dative can be interpreted in the various change-of-state contexts in German.

TABLE I: *Free datives in the context of German change-of-state predicates*

| | unintentional causer reading | affectedness reading |
|----------------------------------|------------------------------|----------------------|
| transitive causative | * | √ |
| passive causative | * | √ |
| marked anticausative | * | √ |
| unmarked anticausative | √ | √ |
| pure ¹⁷ unaccusatives | √ | √ |

2.4 Language comparison: Datives in anticausative structures

2.4.1 Introduction

In this section, I will look at the interpretation of datives in the context of anticausative and unaccusative verbs in a number of Romance and Balkan languages.

Both the affected dative construction as well as the unintentional dative causer construction exist in many Indo-Germanic languages, for example in Spanish (Cuervo

¹⁷ i.e. non-alternating.

(2003)), the Balkan languages (Rivero (2004), Kallulli (2005, 2006a, b, c, d, e)) or in Russian (Rivero & Savchenko (2005)).¹⁸

Below, I will go through examples of the two constructions in all these languages. Two things to be illustrated here are of importance. At least for Spanish, Italian and some of the Balkan languages, both alternating anticausative verbs as well as non-alternating/pure unaccusative verbs are documented to take part in both constructions. (For some languages, I was not able to provide the relevant data but I also did not come across any counterexamples). This is important because it is sometimes claimed that the unintentional causer reading is only possible with anticausative verbs and not with pure unaccusatives (I will return to this point later). The second important observation in the following language survey is the following: all the cited languages are similar to German in that they have two types of anticausative verbs that differ in their morphological make up (marked vs. unmarked). One group of verbs uses the same form in causative and in anticausative contexts, i.e. they undergo the unmarked alternation. The second group uses some special morphological device to mark the anticausative use. Some languages use a reflexive clitic, others use passive/non-active morphology for this purpose. Further, a dative DP in unaccusative change-of-state contexts is ambiguous in all these languages. It can be interpreted either as affected by the event of change or as the unintentional causer of the event of change. (In some of the languages, the dative has a third reading as the possessor of the theme). Importantly, unlike the situation in German, both interpretations are possible irrespective of the morphology, i.e. we find it in the context of non-alternating unaccusatives, unmarked anticausatives as well as marked anticausatives. It is with this latter class of verbs that all these languages differ from German.

As would be expected, in the active and passive of causative verbs, only the affectedness reading is possible in all these languages. For reasons of space, I will not illustrate this with examples. The following table illustrates how a free dative can be interpreted in the various change-of-state contexts in all these Romance and Balkan languages to be discussed below in the next sub-section.

¹⁸ A comparable construction can be found in the Caucasian languages as discussed in chapter 3.

TABLE II: *Free datives in the context of change-of-state predicates in all other languages*

| | unintentional causer reading | affectedness reading |
|-------------------------------|------------------------------|----------------------|
| transitive causative | * | √ |
| passive causative | * | √ |
| marked anticausative | √ | √ |
| unmarked anticausative | √ | √ |
| non-alternating unaccusatives | √ | √ |

2.4.2 The language survey^{19/20}

The sentences below show the situation in Spanish. Spanish has anticausatives marked by a reflexive clitic (67a) and unmarked anticausatives (67b). Both types of anticausatives license the *affectedness* dative and the *unintentional causer* dative. Non-alternating unaccusatives as in (67c) also license both types of datives. The Spanish data is taken from Rivero (2004); cf. also Cuervo (2003).

¹⁹ Rivero (2004:fn. 2) notes that the unintentional causer reading is also possible in Polish, Slovenian and Serbo-Croatian but that it is difficult to obtain in Rumanian and absent for one informant in Bulgarian.

²⁰ I will not discuss the so-called ‘*feel like*’ construction that is possible with the non-active or reflexively marked versions of non-telic activity verbs as well as change-of-state verbs in the imperfective aspect in Albanian, Bulgarian, Serbo-Croatian and Slovenian but not in Greek, Rumanian. This construction is discussed in Rivero (2004) and in various works by Kallulli. (cf. the Albanian example below from Rivero (2004)).

(i) Anës i lexo-het një libër

Ann.DAT 3SG.DAT read-NACT.Pres.3.SG a book.NOM

A: (Preferred interpretation): ‘Ann feels like reading a book.’

B: (Alternatively): ‘A book is read for Ann (‘s benefit by someone).’

(67) *Spanish*

- a. A Juan **se** le rompieron las gafas
 to Juan.DAT REFL he.DAT broke.3.PL the glasses
 ‘John was affected by the glasses breaking’
 ‘John unintentionally broke the glasses’
- b. A Juan le hirvió la leche.
 John.Dat he.Dat boiled.3.SG the milk
 ‘John was affected by the milk boiling over’
 ‘John involuntary caused the milk to boil over’
- c. A Juan le florecen los árboles
 to John.DAT he.DAT bloom.3.PL the trees
 ‘John benefits from the trees blooming’
 ‘John causes the trees to somehow bloom (i.e. he is a good gardener).’

The same situation can be found in the Italian examples below (p.c. Roberta D’Alessandro and Chiara Frigeni). Anticausatives marked by the reflexive clitic ‘*si*’ (68a) as well as unmarked anticausatives (68b) as well as non-alternating unaccusatives (68c) allow the dative to be interpreted in both ways.

(68) *Italian*

- a. A Francesca **si** ruppe il vaso di cristallo (per errore)
 to Francesca REFL broke.3SG the vase of crystal (by mistake)
 ‘The crystal vase broke on Francesca’
 ‘Francesca accidentally broke the crystal vase’
- b. A Francesca è bollito fuori il latte (per errore)
 to Francesca is boiled.SG over the milk (by mistake)
 ‘The milk boiled over on Francesca’
 ‘Francesca accidentally caused the milk to boil over’
- c. A Franco sono appassite tutte le piante in giardino (per errore)
 to Franco are.3.PL wilted.PL all the plants in.the garden (by mistake)
 ‘All the plants in the garden wilted on Franco’
 ‘Franco accidentally caused all the plants in the garden to wilt’

The examples in (69), taken from Rivero (2004), illustrate the situation in Romanian. The first example shows that marked anticausatives allow both interpretations for the (clitic-doubled) dative.²¹ The second example shows the same for an unmarked, non-alternating unaccusative verb. Although I could not provide an example of an unmarked anticausative with a dative DP, I would predict that such a verb would allow both interpretations in Bulgarian, too.

(69) *Romanian*

- a. Lui Jon i se sparse ferestrea
 John.Dat he.Dat REFL broke.3.SG window.the
 ‘John was affected {pos./ neg.} by the glasses/window/soup breaking’
 ‘John involuntarily caused the window to break’
- b. Lui Jon i infloresc pomii
 John.Dat him.Dat bloom.3.PL trees.the
 ‘John benefits from the trees blooming’
 ‘John causes the trees to somehow bloom (i.e. he is a good gardener)’

The Bulgarian examples below (from Rivero 2004) show, once again, the same ambiguity; the a-example is a reflexively marked anticausative, the b-example an unmarked anticausative, the c-example an unmarked, non-alternating unaccusative verb. All three license both interpretations for the dative.

(70) *Bulgarian*

- a. Na Ivan mu se ščupixa očilata
 to Ivan he.Dat REFL broke.3.PL glasses.the
 ‘Ivan was affected {pos./ neg.} by the glasses breaking’
 ‘Ivan involuntarily caused the glasses to break’

²¹ Some though not all Balkan languages allow for further interpretations of datives in the context of non-active morphology where the dative is interpreted as the possessor of the theme.

- b. Na Ivan mu izgorja kăštata
 to Ivan he.Dat burned.3.SG house.the
 ‘John was affected by his house burning’
 ‘John involuntary caused his house to burn’
- c. Na Ivan mu izkipja mljakoto
 to Ivan he.Dat boiled.3.SG milk.the
 ‘The milk boiled and Ivan was affected by this’
 ‘Ivan unintentionally caused the milk to boil’

The last two languages, Albanian and Greek, form their marked anticausatives not with reflexive but with non-active morphology. For Albanian, the literature known to me provides only examples where a dative DP combines with marked anticausatives; I could not find any data concerning datives in the context of unmarked anticausatives or pure unaccusatives. The example in (71) (from Rivero 2004) shows that marked anticausatives in Albanian license the affectedness reading and the unintentional causer reading.

(71) *Albanian*

- Anës i- u thye dritarja.
 Ann.Dat 3.SG.Dat- NACT.AOR break.3.SG window.NOM.the
 ‘Ann was affected {pos./ neg.} by the window breaking’
 ‘Ann involuntarily caused the window to break’

Greek differs from all other languages in that it does not have dative case but uses genitive instead. This formal difference is of no relevance here; the Greek genitive patterns in all relevant properties with the datives in the other languages under discussion. The data below show, once again, that the morphological marking on the anticausative has no influence on the readings of the freely added DP which is marked with genitive in Greek. ((72a,b)are once again from Rivero (2004). (72c) was provided by Artemis Alexiadou (p.c.)).

(72) *Greek*

- a. Tu Ben tu kaike i supa.
 the.GEN Ben he.GEN burnt.NACT the soup.NOM
 ‘Ben was somehow affected {pos./ neg.} by the soup burning’
 ‘Ben involuntarily caused the soup to burn’
- b. Tu Ben tu espase to parathiro.
 the.GEN Ben he.GEN broke.ACT the window.NOM
 ‘Ben was affected {pos./ neg.} by the window breaking’
 ‘Ben involuntarily caused the window to break’
- c. Tu Ben tu anthisan ta triadasila
 the.GEN Ben he.GEN wilted the roses.NOM
 ‘Ben was affected by the roses wilting’
 ‘Ben involuntarily caused the roses to wilt’

To resume this survey, I identified a number of languages which license datives (or corresponding genitives) in the context of change-of-state verbs. Here, I only looked at datives in the context of pure unaccusative and anticausative verbs. In all these languages, these datives can get the same readings that we had already identified in German, the affectedness reading and the unintentional causer reading. There exists, however, one big difference between German and all the other languages. Similar to German, all these languages have marked and unmarked anticausatives. However, in contrast to German, in these languages the unintentional causer reading is not blocked in the context of marked anticausatives. This leads to a number of conclusions and questions. First, the behavior of the dative in these languages corroborates the conclusion that we should give up the idea that marked and unmarked anticausatives differ semantically; while it is certainly not necessarily the case that marked anticausatives in German are semantically identical to their counterparts in the other languages, it is at least the null hypothesis given the fact that German and many Romance languages use such close morphological devices (reflexive pronoun the former and reflexive clitic the latter). This further suggests that we need to look for a formal explanation for the loss of the reading in German marked anticausatives. What could be such an explanation? Obviously, we need to find some formal difference

between German marked anticausatives and marked anticausatives in all the other languages. As I will discuss in chapter 5, there is one clear difference in the phrase-structural status of the reflexive elements under consideration (full pronoun vs. clitic). Next, the fact that free datives in change-of-state contexts crosslinguistically get the same two interpretations suggests that these interpretations are certainly not idiosyncratic but are, to the contrary, deeply anchored in the change-of-state nature of these predicates. The question that follows from this chapter is then, of course, why we get exactly these two interpretations in change-of-state contexts, i.e. how they are derived. This will be the topic of chapter 3. In chapter 7, I will investigate why the syntax of the unintentional dative causer and the German reflexive pronoun '*sich*' are not compatible, i.e. why the unintentional causer reading is blocked in the context of German marked anticausatives.

Chapter 3

Datives and changes of state

In this chapter, I will discuss the syntax of free datives in the context of change-of-state predicates. Specifically, I will discuss how the affectedness reading as well as the unintentional causer reading of free datives can be derived.

3.1 Datives as specifiers of applicative heads

As mentioned, I assume as a framework a configurational theta theory where (verbal) arguments are interpreted depending on their merging position within the (decomposed) syntactic structure (of the verb). I follow recent proposals in the literature that indirect objects are not directly arguments of the verb (in a lexical sense) but are introduced in the specifier of light-verb like heads, the so-called applicative heads, intervened in the decomposed verbal syntax (cf. e.g. Marantz (1993), Pesetsky (1995), Pylkkänen (2001, 2002), Harley (1995, 1998, 2002), McGinnis (2001, 2002), Anagnostopoulou (2003), Cuervo (2003), McFadden (2004), McIntyre (2006)). These applicative heads either assign inherent case to the DP in their specifier (dative or genitive in Greek) or the DP undergoes structural case checking with some further head outside of the applicative projection. I assume that in German the dative is inherently assigned by the applicative head (cf. Anagnostopoulou (2003), McFadden (2004), McIntyre (2006)).

Crosslinguistically, datives introduced by applicative heads can get a number of different interpretations (e.g. goal, possessor, source, experiencer, affected object, causer, location, benefactive, malefactive, ethical dative).¹ There are, in principle, two possible sources for this semantic variation; different semantic types of applicative

¹ Further interpretations of applied arguments are discussed in the literature on Bantu languages from where the term ‘applicative’ was taken over into the generative literature.

low applicatives which are applied to a DP-object, affected applicatives which are applied to a resultant state and high applicatives which are applied to a change-of-state event. The discussion is largely built on Cuervo (2003) although it must be stressed that some of her assumptions about the verbal decomposition are changed for the moment in order to make the discussion easier.

Besides assuming that applicative heads express a *have*-relation, I assume the following decomposition of change-of-state verbs (cf. Dowty (1979), Levin (1999)):⁴ Causative verbs are decomposed into a Voice projection introducing the external argument and expressing agentivity, followed by three event heads – one (CAUSE) expressing a causative event, the next (BECOME) expressing an inchoative event and one (STATE) introducing the theme DP and expressing a resultant state (of the theme DP). Inchoatives (anticausatives and some unaccusatives) are built just by the head expressing the inchoative event (BECOME) followed by the head introducing the resultant state of the theme (STATE). The resultant state typically names the change-of-state event. I assume that it is this STATE predicate that is often associated with the verbal Root.

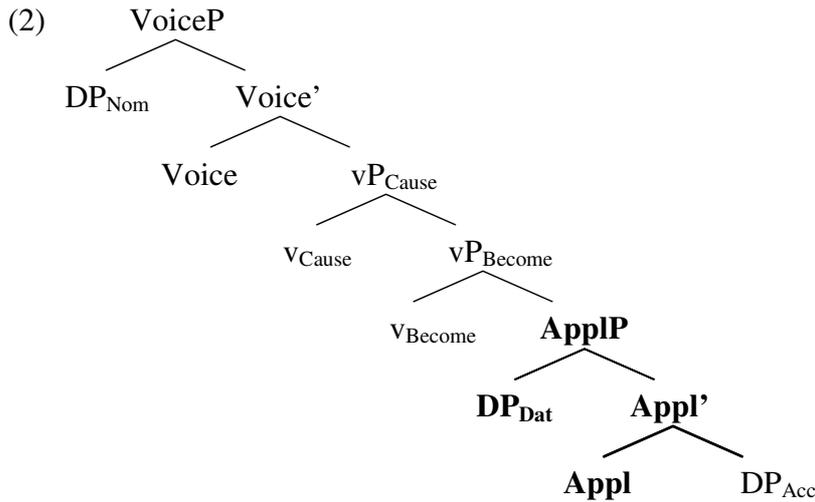
- (1) event decomposition of causatives and inchoatives (*preliminary*)
- a. [[(x) Voice] [CAUSE [BECOME [(y) <STATE>]]]]
- b. [BECOME [(y) <STATE>]]

3.1.1 Low applicatives

The structure of low applicatives in the context of a transitive change-of-state event is given in (2); the applicative head appears below the verbal heads v_{Cause} and v_{Become} and takes a DP as its complement. This is a typical double object structure as we find it with ditransitive verbs such as ‘give’. Low applicatives establish a *have*-relation between two individuals; the DP in the specifier of the applicative head is interpreted as the possessor of the DP in the complement position. Due to the fact that the whole applicative phrase is embedded below a change-of-state event (CAUSE + BECOME), the *have*-relation is

⁴ I will revise these assumptions in chapter 4.

interpreted as a kind of transfer so that the dative DP is interpreted as either the recipient or the source of the DP in the complement position of the applicative head. This second DP is interpreted as the direct theme argument of the verb; syntactically, however, the whole ApplP is the direct object of the verb. This ApplP also realizes the resultant state in the verbal decomposition of the change-of-state predicate.



In (3), we find a German and an English example for each of the recipient and source interpretations. Both types of examples involve a *have*-relation in that they imply that Maria/Mary possesses or does not possess the book after the event expressed by the verb has taken place. Notice that the source reading cannot be expressed as a double object construction in English.

- (3) a. Hans gab Maria das Buch (recipient)⁵
 Hans.NOM gave Maria.DAT the book.ACC
 a'. John gave Mary the book
 b. Hans stahl Maria das Buch (source)
 Hans.NOM stole Maria.DAT the book.ACC
 b'. *John stole Mary a book
 (intended meaning: John stole a book from Mary)

⁵ That 'give' is the causative of 'have' has also been argued for in e.g. Beck & Johnson (2004), Harley (1995, 2002) or Krifka (2004).

In order to derive these two interpretations Cuervo (2003) adopts Pylkkänen's (2002:22) proposal that two applicative heads with the semantics in (4a, b) exist.⁶ One way to derive the ungrammaticality of the source-reading in the English example (3b') would be to say that the English lexicon does not provide the head in (4b) while e.g. German does.⁷

(4) a. Low-APPL-TO (Recipient applicative):

$\lambda x.\lambda y.\lambda f\langle e\langle s,t\rangle\rangle.\lambda e. f(e,x) \ \& \ \text{theme}(e,x) \ \& \ \text{to-the-possession}(x,y)$

b. Low-APPL-FROM (Source applicative):

$\lambda x.\lambda y.\lambda f\langle e\langle s,t\rangle\rangle.\lambda e. f(e,x) \ \& \ \text{theme}(e,x) \ \& \ \text{from-the-possession}(x,y)$

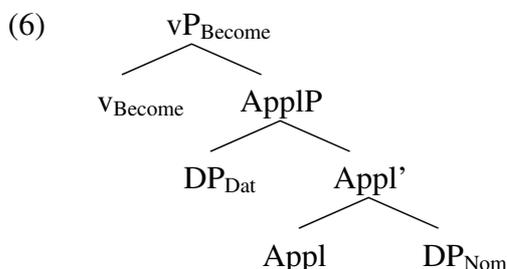
Cuervo (2003) shows that low applicatives are licensed in the context of some pure unaccusative verbs, so-called simple verbs of change.⁸ She gives the following Spanish example in (5) with the structure in (6).

⁶ Cuervo (2003: chapter 3) argues that there exists a pure/non-dynamic possessor interpretation for datives in the context of activity and stative verbs (possessor datives) which is, however, different from the interpretation a DP-internal possessor would get. Both Cuervo (2003) and Pylkkänen (2002) argue against an analysis of so-called possessor datives as involving possessor raising (e.g. Landau 1999) or possessor control (Borer & Grodzinsky (1986)). McIntyre (2006) argues against an analysis of German so-called *pertinence datives* ("Pertinenzdative") as involving possessor raising because an overt possessor in the theme DP can be licensed at the same time.

⁷ There are alternatives to the view that we need two semantic types of applicative heads. Either one assumes one applicative head with underspecified directionality which is evaluated with respect to the semantics of the verb it appears with. The English version of this head would then only be compatible with verbs expressing a transfer to some possessor (cf. Cuervo (2003: chapter 2) for discussion). Alternatively, McIntyre (2006) proposes that only one applicative head expressing "positive" *have* exists and that cases where the dative is interpreted as source (i.e. not-have) are not entity related but event related as is the experiencer subject of '*have*' in "I had someone steal a book". The ungrammaticality of (3b') would then follow if English does not have event-related applicatives. For more discussion of event-related applicatives, see the next section.

⁸ Following Cuervo, these simple verbs of change differ from verbs of change of state in that they do not project a result state by themselves.

- (5) a. A Gabi le llegaron dos cartas
 Gabi.DAT CL.DAT arrived.PL two letters
 ‘Gabi got two letters’



The German counterpart of (5) in (7a) is ungrammatical. However, it seems that German has some instances of the structure in (6). The grammatical sentences in (7b, c) both involve a pure unaccusative verb and express that, after the inchoative event expressed by the verb has taken place, the dative is in possession of the theme DP (i.e. Mary has an idea, Mary has grey hair).⁹

- (7) a. *Dem Peter kam ein Brief an
 the.DAT Peter arrived a letter PRTL
 ‘Peter got two letters’
 b. Der Maria kam eine Idee/ein Einfall
 the.DAT Maria came an idea
 ‘Mary got an idea’

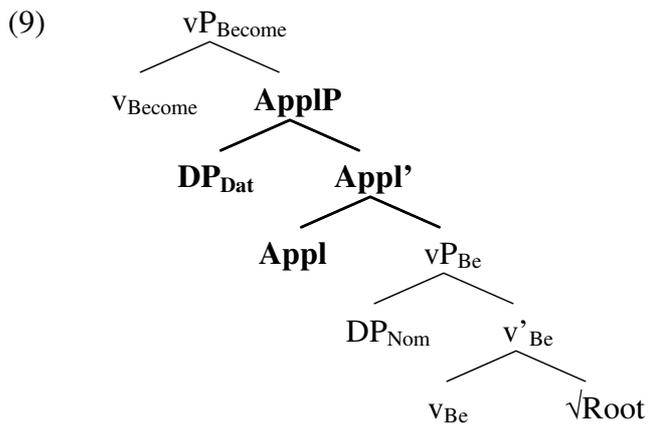
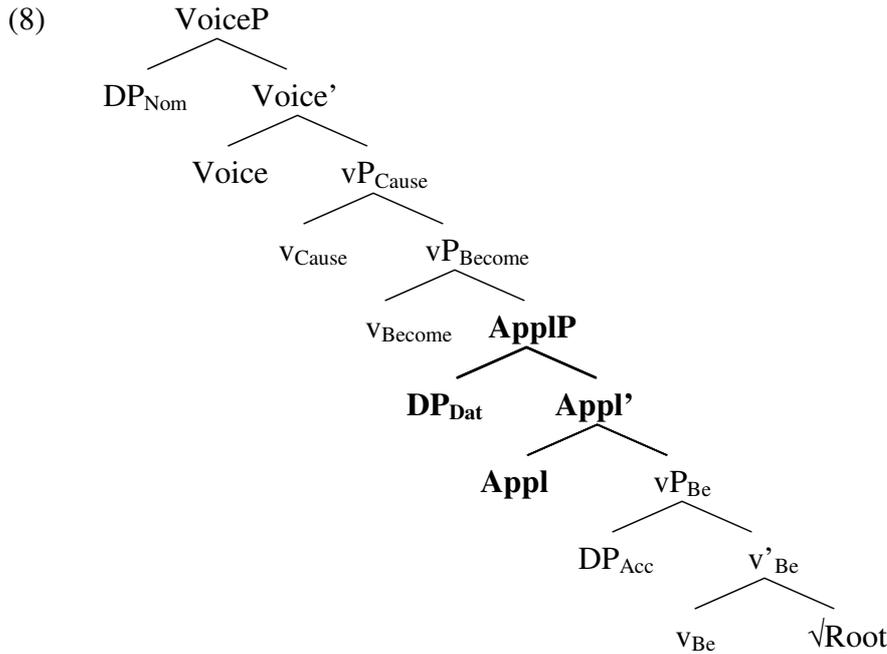
⁹ Of course, we would like to know why the example (7a) is not valid while the other two sentences are grammatical. One possible line of explanation would try to relate this to the fact that only the first example involves a verb with a prefix. This prefix is semantically locative, i.e. it implies a location. It could be that the prefix spans a small-clause-like structure expressing that the theme is at the location. The theme then would be the subject of this small clause. It has been observed that low applicatives never apply to subjects but only to complements (Pylkkänen (2002), Cuervo (2003)). The themes in (b) and (c) should then be complement DPs as suggested by the structure in (6). This analysis, however, shifts the problem because, then, we would expect that the structure in (7a) licenses an affectedness reading (cf. the next section) where the dative is applied to the whole small clause. As low applicatives are not of special importance for the arguments made in this thesis, I will not pursue these questions further.

- c. Ihm wuchsen graue Haare
 him.DAT grew grey hairs
 ‘He got grey hair’

3.1.2 Affected datives

Next, I turn to *affectedness* datives, i.e. datives interpreted as the beneficiary or maleficiary of an event. The German literature also uses the term *Dativus (in)commodi*. As mentioned in the earlier discussion, this reading is possible both in transitive and intransitive structures expressing a change of state. Following Cuervo (2003), I assume that, in the case of an *affectedness* dative, the applicative head realizes a *have*-relation between the dative DP and a resultant state predicated of the theme DP. Structurally, the applicative phrase is embedded between two events. It is the complement of a dynamic inchoative event and it takes as a complement the theme’s stative resultant state. (Notice that these two events are part of the decomposition of both transitive and intransitive change-of-state verbs (compare (1) above)).

The structures for affected datives in transitive and inchoative change-of-state contexts are given below in (8) and (9) respectively. The structures differ (in a way that will be modified in the next chapter) in that only causatives have a Voice as well as a CAUSE projection. Both causatives and inchoatives have a BECOME projection and, below that, a projection expressing a resulting state – a verbal BE-projection. The latter spans a small-clause like structure which relates the theme DP to a property expressed by a category-neutral Root (cf. e.g. Marantz (1997)). The applicative phrase is sandwiched between the BECOME projection and the stative BE-projection. The matter of whether we need the stative $v_{be}P$ projection to relate the theme DP to the predicative Root will not be discussed here. Cuervo (2003) argues quite extensively that this is needed in the case of change-of-state events in order to derive the difference between core and non-core transitive verbs in the sense of Levin (1999) (cf. also Nash (2002)). It is represented here in this manner for expository reasons – in order to make clear that, in the case of the *affectedness* dative, the dative is applied to a state which is predicated of the theme DP.



Cuervo (2003) argues that the affectedness interpretation results from the dative's being sandwiched between the two events; the structure expresses that, due to the dynamic event, the dative DP "gets/has the theme in a specific state". The specific type of affectedness (maleficiary vs. beneficiary) is not fixed but is derived from contextual or world knowledge. Further, this structure predicts that a possessive relation between the dative DP and the theme DP is not obligatory. The dative DP is "the possessor" of an end state of the theme, not of the theme itself. If the affected dative is, in addition, also

interpreted as the possessor of the theme DP, then this happens for purely pragmatic reasons (cf. Cuervo (2003), McIntyre (2006)).^{10/11}

Below, a number of further German examples are listed. In (10), you find *affectedness* datives with transitive verbs, and in (11a-c) with an unmarked anticausative, a marked anticausative and a pure unaccusative verb.

- (10) a. Hans hat der Maria die Tür geöffnet
 Hans has the.DAT Maria the door opened
 ‘Hans opened the door for Mary’
- b. Hans hat der Maria den Abend versaut
 Hans has the.DAT Maria the evening messed-up
 ‘Hans messed the evening up for Mary’
- c. Hans zerbrach der Maria eine Vase
 Hans broke the.DAT Maria a vase
 ‘Hans broke a vase and Mary was affected by this’
- (11) a. Der Maria ist die Vase zerbrochen
 the.DAT Maria is the vase broken
 ‘The vase broke and Mary was affected by this’
- b. Der Maria öffnen sich alle Türen
 the.DAT Maria open REFL all doors
 ‘Every door opened for Mary’
- c. Der Mutter ist das Kind gestorben
 the.DAT mother is the child died
 ‘The child died and the mother is affected by this’

¹⁰ “... possession is a way of (pragmatically) accounting for the affectedness of the dative as a result of the change of state of the theme object” (Cuervo (2003:126)).

¹¹ Recall that, in chapter 2, we cited data from Rivero who claims that, in some languages, datives in change-of-state contexts can have an unintentional causer reading, an affectedness reading or a possessor reading. If the possessor reading really exists in the absence of the affectedness reading, then it has to be derived from a different syntax, probably via possessor-raising. I do not explore the possessor reading further.

Notice that, in all the examples, the dative DP is not interpreted as the possessor of the theme DP but as the (abstract) “possessor of the theme’s resultant state”. The sentences above do not convey the meaning that ‘Mary gets or has a/all door(s)’, ‘Mary does not/no longer have a vase’, ‘Mary does not have an evening’ or ‘The mother does not have a child’. Instead, they convey the meaning that ‘Mary has a/all door(s) open’, ‘Mary has a broken vase’, ‘Mary has a messed-up evening’ and ‘The mother has a dead child’.

Further, possession is not necessarily implied by *affectedness* datives as can be seen in the German and Spanish examples (from Cuervo (2003)) below where an *affectedness* dative appears together with an overt, disjoint possessor inside the theme DP.

- (12) a. Der Freund zerbrach dem Sohn Mutters schönste Vase
 the friend broke the.DAT son mother.GEN nicest vase
 ‘The friend broke the mother’s nicest vase on the son’
- b. Pablo le rompió la radio de la vecina a Valeria
 Pablo CL.DAT broke the radio of the neighbour Valeria.DAT
 ‘Pablo broke the neighbour’s radio on Valeria’

3.1.3 Unintentional causer datives as high applicatives

We saw that datives in the context of intransitive change-of-state contexts can be interpreted as the unintentional causer of the change-of-state event crosslinguistically. Further, we saw that the only change-of-state context where this reading is not licensed is with German marked anticausatives. In order to find the reason for this fact, and, in the long turn, to learn more about the difference between marked and unmarked anticausatives, we first need a theory about how the unintentional causer reading comes about in the first place. A Spanish and a German example with an unintentional dative causer is given below.

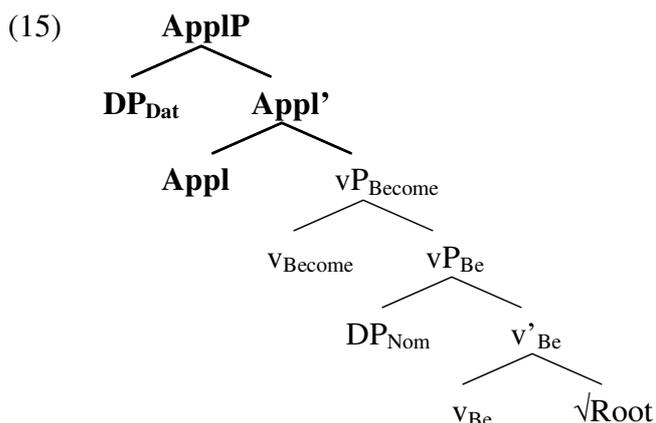
- (13) A Daniela siempre se le rompen copas
 Daniela.DAT always se CL.DAT break.PL wine-glasses
 ‘Daniela is always accidentally breaking wine glasses’

- (14) Dem Peter zerbrach versehentlich die Vase
 the.DAT Peter broke accidentally the.NOM vase
 ‘Peter accidentally broke the vase’

So far, we have seen datives applied to entities and datives applied to stative situations. Both datives were introduced in applicative phrases that themselves occurred as the complement of an eventive head. There are now two options, in principle, how a further reading, the unintentional causer reading, could be derived within the theory of applicative heads introduced above. Either we assume that there exists a special type of applicative head with some specific “unintentional causer” semantics written into its lexical entry, or we assume that only one applicative head exists which expresses an abstract *have*-relation and for which we can derive the unintentional causer reading from the specific syntactic constellation in which this applicative head is merged. Cuervo (2003) opts for the latter solution. This second solution is, of course, preferable as long as we can derive the unintentional causer interpretation with all its contained properties in a convincing way.

One structural relation, which so far has not been discussed but which fits well within a theory that combines applicative heads with a decomposed syntax of verbal events, is that a dative is applied to an event. Cuervo (2003) argues that such a constellation is the source of the unintentional causer reading. More precisely, in the case of the *unintentional causer* dative the dative is applied to an inchoative event, i.e. an intransitive change-of-state event as in (15) below.¹²

¹² Note again, that Cuervo’s (2003) assumption about the details of the verbal decomposition of inchoative events differs from those used here. This does not change her general argumentation. I will change the assumptions about the decomposition of change-of-state verbs in chapter 4.



The applicative head relates an individual with a change-of-state event. Under the assumption that an applicative head establishes a *have*-relation the structure expresses that the dative DP “possesses” the change-of-state event. This means that the sentence in (14) above literally expresses that “the dative DP has/got that the vase becomes broken”. Following Cuervo (2003) this possessive relation is evaluated as a relation of causation or responsibility; the dative is responsible for the coming about of the change-of-state event.

In this section, I discussed the proposal that a dative can be applied to an inchoative event and, as a result, is interpreted as the unintentional causer of this event.¹³ In the next section, I will critically review this proposal. While I think that it is on the right track, a number of questions remain open. I will also consider an alternative theory.

3.2 Interim summary and some open questions

In the last three sections, we looked at three interpretations that dative DPs can crosslinguistically have in change-of-state contexts and we discussed how Cuervo (2003) associated them with three structural positions that an applicative head can take within a syntactically decomposed event structure of change-of-state verbs.

¹³ In order to round off the discussion, I would like to mention that Cuervo (2003) assumes that datives can also be applied to transitive and unergative predicates, i.e. that they can be applied to events which have an external argument. In this case she argues the dative is interpreted as an ethical dative. I refer the interested reader to Cuervo (2003).

Besides its elegance, the success of such a theory of course depends on how convincingly it can derive all the properties of the relevant interpretations. Intuitively, the theory nicely captures datives interpreted as recipients or sources (low applicatives) where the gain or loss of possession of an entity is clearly part of the interpretation.¹⁴

Affectedness datives are either interpreted as benefactives or as malefactives, notions that were not directly encoded within the proposal. Instead, the analysis claims that *affectedness* datives are interpreted as “getting the resultant state of the theme”, or “getting that the theme is in the resultant state”. This coming-into-the-possession-of-a-state has to be evaluated and, depending on the context, it is interpreted as being either positively or negatively affected. Such an analysis seems to be on the right track; first, it correctly derives the fact that the *affectedness* dative is licensed only in the contexts of predicates expressing a change of state. Second, the question whether an *affectedness* dative is positively or negatively evaluated is indeed highly context-dependent and not related, for example, to the lexical information of the verb. In the examples below, for instance, it is the information connoted by the theme DP that sets the interpretation. Of course, in a suitable context, these interpretations could also be shifted, e.g. a context where you want to cut your trousers but you do not manage to do so and get some help. Finally, it is correctly predicted that the dative does not have to stay in any possessor relation to the theme itself as the data below show where the theme is modified by a possessive pronoun in addition to the *affectedness* dative. Finally, the ‘possession of a resultant state’ seems to be the correct semantic description for *affectedness* datives: for example, in (16a) below, it is not the case that the dative DP loses an entity but that it loses the integrity of the entity – the dative DP ‘has cut trousers’ as a result of the event.

- (16) a. Hans zerschnitt mir die/ihre Hose
 Hans cut me.DAT a/her trousers
 ‘Hans cut the/her trousers and I was (negatively) affected by this’
- b. Hans zerschnitt mir die/ihre Fesseln
 John cut me.DAT the/her bonds
 ‘Hans cut the/her bonds and I was (positively) affected by this’

¹⁴ The assumption that we need two versions of low applicatives, one expressing the source relation and one expressing the recipient relation might be seen as a flaw. See fn. 7 for an interesting alternative.

The analysis of the unintentional causer reading leaves, however, a number of open questions. It is clear that from a structural perspective an applicative head on top of an inchoative predicate is the only structural option available that has not so far been identified to be the source of another reading. So Cuervo's proposal to associate the *unintentional causer* dative with the third and last structure available certainly has some big appeal from a theory internal point of view; there is one reading left to be analysed and there is one further structural option; so of course we would like to map the two.

Nevertheless, a number of issues still need to be resolved within such an account. For instance, it is not clear without further comment how the exact semantics follow from the structure in (15). More concretely:

- (i) Why is a dative which is applied to an inchoative event interpreted as responsible for the coming about of the event; what is the relation between “having an inchoative event” and “causing or bringing about an inchoative event” ?
- (ii) Where does the intentionality restriction come from? (17) shows again that the dative DP is necessarily interpreted as having caused the event without intention; this is why adverbs like ‘*absichtlich*’ (intentionally) lead to deviance.

(17) Dem Hans zerbrach versehentlich / *absichtlich die Vase
 the.DAT Hans boke unintentionally / *on purpose the vase
 ‘John broke the vase unintentionally/*on purpose’

- (iii) Where does the human restriction come from? While natural forces are licensed as causer subjects of lexical causatives, they are not licensed as dative causers. This holds for all the languages under discussion and is exemplified below by the Albanian example from Kallulli (2004) and a German example.

(18) a. Tërmeti / era theu vazon
 earthquake.NOM / wind.NOM broke.ACT.AOR.3.SG vase.ACC
 b. *Tërmetit / erës i-u thye vazoja.
 earthquake.DAT / wind.DAT it.DAT.NACT.AOR break vase.NOM
 ‘The earthquake / the wind broke the vase.’

- (19) a. Das Erdbeben /der Wind hat die Vase zerbrochen
 the.NOM earthquake /the.NOM wind has the.ACC vase broken
- b. *Dem Erdbeben /dem Wind ist die Vase zerbrochen.
 the.DAT earthquake / the.DAT wind is the.NOM vase broken
 ‘The earthquake/the wind broke the vase’

(iv) What is the relation between the intentionality restriction and the human restriction? If the dative causer construction does not license intentionality, why then are non-human causers which are not capable of intentions in the first place not licensed in this construction?

One way to solve this puzzle in (iv) is to assume that ‘non-intentionality’ is a key defining feature of the dative causer construction. That is, the construction expresses explicitly that the dative DP acts without intention, perhaps with a feature [-intentional] on the head introducing the dative DP. If this were the case, then the dative causer construction would presuppose the dative’s capacity for intentionality. It would follow that non-human datives are not licensed as unintentional causers because they are not capable of intentions in the first place and the negation of intention therefore would be senseless. Such an effect can already be observed with canonical transitive constructions as in the example below from Cuervo (2003). It simply does not make sense to stress that a non-human causer acted without intention.

- (20) La nueva máquina quemó los pantalones (*sin querer)
 the new machine burnt the trousers without to-want
 ‘The new machine burnt the trousers without intention’

In this view, then, the human restriction derives from the intentionality-restriction. Such a view is in accordance with the claim originating from the typological literature that non-canonical subject-marking is a sign to mark the distance from a default, in this case, to highlight the low degree of agency of highly agent-worthy entities. As a result, entities whose agency is inherently low do not readily appear with non-canonical marking. Human agents with reduced control receive non-canonical morphological marking in order to show that they diverge from the default of humans as intentional

agents. Non-human causers do not show variance in control and they cannot, therefore, diverge from their default.

But such a view still leaves a number of problems. Why is it that human agents with canonical subject-marking are also able to have low control, expressed for example by adverbs like ‘*unintentionally*’. If low agency would lead to non-canonical case, the following sentence with canonical NOM-ACC marking should be bad.

- (21) Der Hans zerbrach versehentlich die Vase
 the.NOM Hans broke unintentionally the.ACC vase
 ‘John broke the vase unintentionally’

Further, why do natural forces like “the earthquake” show up in the canonical marking and not with the marking expressing low control? That is, why is the nominative the default case for both intentional agents and natural forces that are not capable of intentions while the dative is reserved for non-intentional humans that approach the behavior of natural forces? Finally, we saw that the dative causer construction is also possible with unaccusative verbs; since these verbs do not license canonical subjects it cannot be the function of the dative case morphology to mark deviance from a default. In the case of unaccusatives, the default is simply not possible.

These are just some unresolved issues but we will see further arguments against such an account later. For the time being, let me just mention that such an account states that interpretative features such as [\pm control / \pm intention] drive the syntactic computation; if a subject has the feature [- control] or [- intention], it will be marked by non-canonical case. An implementation of such a view will be presented and criticised in the next section.

As an alternative, it could be the case, however, that the intentionality restriction is not a key feature of the construction but merely a side effect that falls out of other properties of the construction (most economically from the *have*-semantics). As I will argue later, the assertion of intentionality presumes syntactic *agentivity* and this is, crucially, a feature which is not expressed by an applicative projection. As a result, the default assumption that humans causing an event act intentionally cannot be expressed in the syntax when a human causer is introduced by an applicative head. The null

hypothesis, then, is that the human caused the event without wanting to. Under this view, there is no deductive relation between the human restriction and the intentionality restriction. This question will be discussed in the next section where I will explicitly explore whether the intentionality restriction is a key feature of the construction (i.e. whether it is explicitly part of the computation) or whether it is just a side effect. If the former is true, it would be hard to reconcile it with an analysis that uses an ordinary applicative head to introduce the dative. In the latter case, we would derive it from the default semantics of applicative heads.

It is sometimes argued that applicative constructions have a human restriction in principle. This is, however, not true as has been discussed in the literature. Both low applicatives and affected applicatives can be found with non-human datives. For low applicatives this is illustrated by the examples in (22) (from McIntyre (2006) and Cuervo (2003)). In both examples, the meaning conveyed is that the non-human dative has/possesses the entity expressed by the accusative after the event expressed by the verb has taken place.

- (22) a. Sie gaben dem Haus {einen Namen/einen Preis/eine neue Fassade}
 they gave the.DAT house {a name/a prize/a new façade}
 ‘They gave the house a price/a name/a new façade’
- b. Pablo le puso azúcar al mate
 Pablo CL.DAT put sugar mate.DAT
 ‘Pablo put sugar in the tee’

For affected applicatives, this is illustrated by the examples in (23) (the b-example is again from Cuervo (2003)). The sentences express that the non-human dative has/possesses the accusative theme in a new resultant state. As discussed in McIntyre (2006), such a reading is possible with non-human datives only if there exists a relation of inalienable possession between the dative and the theme.

- (23) a. Dem Stuhl brachen zwei Beine ab
 the.DAT chair broke two legs off

- b. A la mesa se le rompieron dos patas
 the table.DAT se CL.DAT broke two legs
 ‘Two legs of the table broke’

It is not clear to me whether we find similar exceptions to the human restriction in the case of the dative causer, too?¹⁵ Sabine Iatridou (p.c.) proposes an example of a computer which has to carry out a very difficult computational task and which, in the process, uses so much electricity that it blows a fuse. The question, then, is whether, in such a situation, the computer could be realized as a dative causer as in (24) below.

- (24) Dem Computer ist die Sicherung durchgebrannt
 the.DAT computer is the fuse burnt-through
 ‘The computer caused the fuse to blow’

While this sentence is okay for me under an affectedness reading as well as under a causer reading of the dative, there is, of course, the big danger that in such cases the computer is interpreted as anthropomorphized. So, it is not clear what this example can show us.

We identified three interpretations which a dative can have in the context of (inchoative) change-of-state predicates, the possessor reading, the affectedness reading and the unintentional causer reading. An important question is whether these interpretations are a case of a real syntactic ambiguity or just one of vagueness. I will restrict my discussion here to the affectedness reading and the unintentional causer reading.¹⁶

¹⁵ Harley (1998) claims that only animate subjects of the lexical verb ‘*have*’ can be interpreted as causers. This does not seem to be correct as the following examples show.

- i) The sun had the ice melting in no time (p.c. Enyd Michel)
 ii) The film got them laughing (McIntyre (2006))

¹⁶ As mentioned above, in German, possession seems to be a pragmatic side-effect of the affectedness reading (cf. McIntyre (2006)), because one can imagine someone to be most easily affected by a change-of-state event if he owns the thing that changes the state. In other languages, however, (e.g. Albanian, Greek, Romanian, ...) it seems that the possession reading is stronger and more general (cf. Rivero (2004)). One explanation for this latter fact might be that DP-internal possessors are also marked with the

We can, of course, find contexts where one of the two readings is blocked (cf. also Kallulli (2006c)). For example, with the active or the passive of causative verbs, only the affectedness reading but not the unintentional causer reading is possible (cf. (25a)). The same is the case if an anticausative verb is modified by an adjunct sentence which gives the reason for the coming about of the change-of-state event as in (25b).

- (25) a. Die Vase wurde der Maria zerbrochen (von ihrem Mann)
 the.NOM vase was the.DAT Maria broken (by her husband)
 ‘The vase was broken and Mary was affected by this’
 *‘The vase was broken and Mary (unintentionally) caused this’
- b. Der Maria zerbrach die Vase weil der Wind
 the.DAT Maria broke the.NOM vase because the wind
 das Fenster aufdrückte
 the window open.pressed
 ‘The vase broke and Mary was affected by this’
 *‘The vase broke and Mary (unintentionally) caused this’

On the other hand, the causer reading is forced and the affectedness reading is not possible if an adverb like *‘versehentlich’* (by mistake) is added.

- (26) Dem Peter zerbrach versehentlich die Vase
 the.DAT broke unintentionally the.NOM vase
 ‘The vase broke and Peter caused this’
 *‘The vase broke and Peter is affected by this’

Such examples show that the readings need not necessarily co-occur; but it is not clear by far that these phenomena are evidence in favour of the ambiguity view and against the vagueness view because not only ambiguity but also vagueness can be resolved by a more specifying context. The strongest argument for ambiguity comes from German

same case as the affected argument or the unintentional causer argument. A possessor raising analysis might be the right analysis if, in these languages, a DP-external dative/genitive is interpreted as the possessor of this DP.

data. We saw in chapter two that the unintentional causer reading is blocked in the context of reflexive anticausatives. However, the affectedness reading is not restricted in this way. This phenomenon is shown again below with an anticausative verb that comes optionally with or without a reflexive pronoun. Since the reflexive pronoun does not introduce any thematic information (as was shown in section 2.3), the two versions of the anticausative verb in (27) form a minimal pair which differs only morpho-syntactically but not semantically. The fact that the affectedness reading is possible in both syntactic constructions while the unintentional causer reading is possible only in the syntactic construction without the reflexive pronoun suggests that the two readings are a case of real syntactic ambiguity. Further arguments should be provided but the contrast in (27) seems pretty convincing.¹⁷

- (27) a. Das Badewasser ist ihm (versehentlich) abgekühlt
 b. Das Badewasser hat sich ihm (*versehentlich) abgekühlt
 The bathwater is/has (REFL) him.DAT (by mistake) cooled down

3.3 An alternative view on the unintentional dative causer

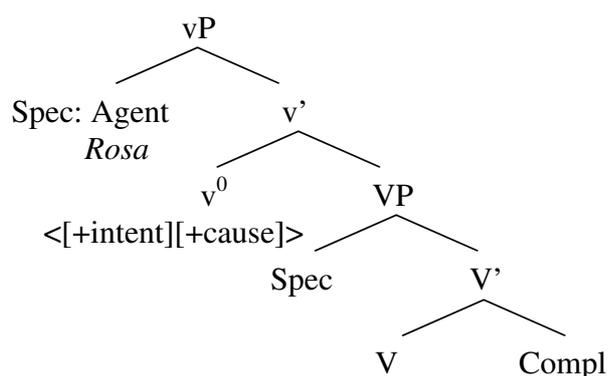
Kalulli (2004, 2005, 2006a, b, c, d, e) argues that the thematic role of verbal subjects is defined by the feature content of Voice (or little *v* in her terminology) which is built up by selection from a small set of syntactically active feature primitives. The first two features she introduces, [+act] and [+cause], reflect the ontological event type of a verb; [+act] encodes activities like ‘*build*’ and [+cause] encodes causatives like ‘*break*’. These features have to be checked by an argument in SpecVoice, i.e. they drive the syntactic computation by forcing external argument realization. The specifier of a Voice

¹⁷ Sandhya Sundaresan informed me (p.c.) that in Tamil, which has marked and unmarked anticausatives as well, a dative can get only the affectedness reading but not the unintentional causer reading irrespective of the morphological marking of the anticausative verb. This also suggests that the two readings are the result of different structures and that, in Tamil, the structure of the unintentional dative causer (i.e. an applicative phrase on top of the anticausative verb) is for some reason not well formed. (Cf. also fn. 19 of chapter 2).

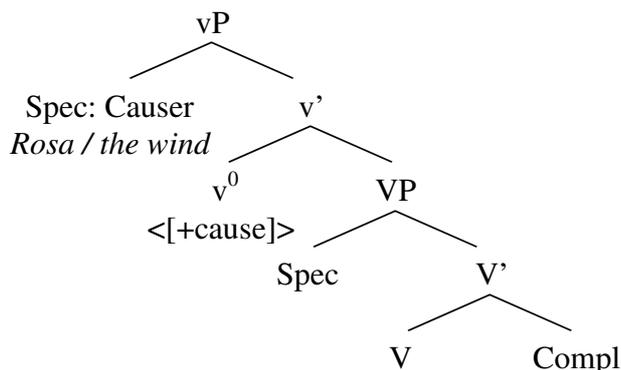
with [+cause] is a Causer, the specifier of Voice with [+act] is an Actor. The third feature which can optionally accompany the first two is [+intent], expressing intentionality or agency. It's presence marks that the subject of an activity or a causative predicate acts with intention; if it is missing, then the subject acts without intention. Both activities and causatives are, in principle, compatible with intentional and unintentional subjects. I restrict my discussion here to causatives. A sentence such as (28a) below is crosslinguistically principally ambiguous. It could be that Rosa melted the ice with or without intention. Rosa is an agent if she intentionally performs some action which causes the ice to melt. In this case, Voice heads the feature-tuple <[+intent][+cause]> and the sentence has the structure in (29). (It will become of importance later that [+intent] is the first feature in this ordered tuple.) If no intentionality is involved and Rosa accidentally causes the ice to melt, then Rosa is not different from a non-human causer such as the natural force in (28b). In those cases then, the external argument is a Causer and Voice heads only the feature <[+cause]> as in the structure (30).

- (28) a. Rosa melted the ice (intentionally/unintentionally)
 b. The sun melted the ice

- (29) The structure of agentive causatives: (cf. Kallulli 2005, 2006a, b, c)



- (30) The structure of non-agentive causatives: (Kallulli 2005, 2006a, b, c)



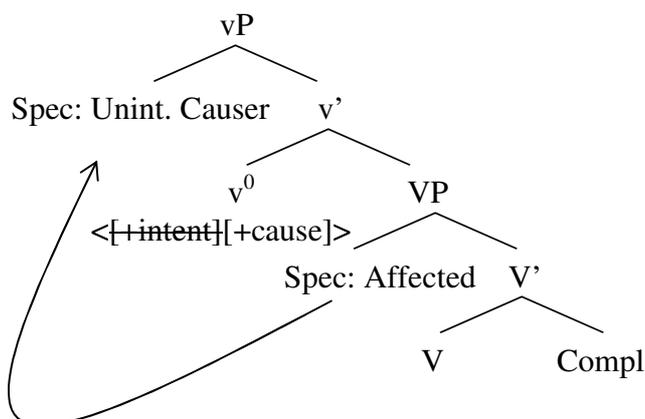
Next, we turn to Kallulli's proposal for how the unintentional dative causer construction is derived. The main idea (which is also used to derive ordinary anticausatives (see below)) is the assumption that non-active (and/or other unaccusative) morphology is a syntactic operation that suppresses a feature in Voice.

- (31) Definition of non-active/unaccusative morphology: (Kallulli 2006c: 289)¹⁸
 Non-active (and/or other unaccusative) morphology suppresses the *first* feature in a predicate structure.

Next, she claims that the unintentional dative causer construction is derived from (dyadic) agentive causative predications, i.e. the structure in (29) above where Voice heads the features <[+intent][+cause]>. If non-active morphology is added to such a structure, the feature suppression operation defined in (31) is applied and we get the following representation where the first feature of Voice is crossed out, i.e. suppressed. Crucially, the first feature is the [+intent] feature by stipulation.

¹⁸ cf. also Kallulli (2005, 2006a, b, d e)

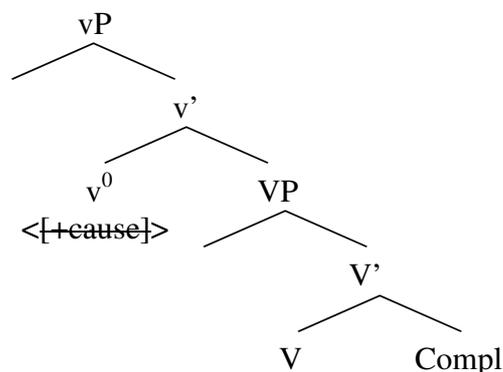
(32) The structure of the unintentional causer construction: (Kallulli 2005, 2006a, b, c)



That non-active morphology suppresses the feature [+intent] on Voice has a number of consequences, Kallulli claims. First of all, an intentional agent is not licensed in the specifier of Voice. Second, it is not possible to project a causer in the specifier of Voice “because the integrity of the tuple has been destroyed” (Kallulli 2006b:216). But for the derivation to converge, the feature [+cause] has to be saturated somehow. While this cannot be done by external merge of a DP, it can by stipulation be done by moving a DP into the specifier of Voice which has already been merged elsewhere (internal merge). In the case of the unintentional causer construction, a dative DP meets this criterion. This DP is first merged in the specifier of the lower V-projection where it receives the affectedness interpretation by virtue of a [+affected] feature on the V-head. Afterwards, this dative can move from the specifier of the lower VP to the specifier of VoiceP, checking thereby the [+cause] feature. Because of this checking, the dative is, in addition to its affectedness semantics, also interpreted as a causer; the dative is in Kallulli’s terms an “affected causer” which, as she claims, is the correct description for the unintentional dative causer.

Intransitive anticausatives, finally, are derived by adding non-active morphology, i.e. by applying the feature suppression operation in (31) to the non-agentive causative structure in (30). Since, in this structure, Voice has only one feature [+cause], this feature is the first feature and gets suppressed; as a result, we get the structure below where no feature is left on Voice; therefore, no external theta-role can be assigned and no external argument can be realized.

(33) The structure of non-agentive causatives (Kallulli 2005, 2006b,c, d,e)



This account has a number of clear shortcomings. First, the status of the principle in (31) within the overall architecture of grammar is unclear; what does it mean for morphology to suppress a semantico-syntactic feature? To define morphological marking as an operation yielding semantic effects looks like a morphology-semantics interface. Such an architecture is neither in accordance with standard minimalism where lexical items come from the lexicon with full morphological specification nor with Distributed Morphology (as Kallulli mentions herself) where morphology interprets syntactic structure. Second, while Kallulli is aware of the fact that many languages have morphologically marked and unmarked anticausatives, she does not assume that this difference is significant. Instead, she takes it that, in the case of unmarked anticausatives, covert or zero morphology is present that is subject to the principle in (31) in the same way as overt morphology. This means that the marked-unmarked contrast is simply a case of allomorphy. This view cannot explain why semantic effects go along with this distinction as in German where only unmarked but not marked anticausatives allow the unintentional causer construction. Finally, the account builds on the assumption that features are ordered in tuples. But it is not clear what derives the right order of the features.¹⁹

So far, we looked at technical questions, but we should also look at the empirical predictions of the theory. Let's turn to the syntax proposed. Case assignment and auxiliary selection are not explicitly handled but I think that both can follow from

¹⁹ It could be argued that [+intent] must be the first feature because <[+cause], [+intent]> is not interpretable.

relatively standard assumptions. If the dative is base-generated in the specifier of V and gets inherent case there, then it is quite clear that it will retain this inherent case even after movement, even if this movement is into a theta-position. Further, the theme should get nominative under standard assumptions about case assignment. The dative in SpecVoice is not accessible for feature checking by Tense due to its inherent case. Tense, thus, has to check its features with the next DP below the dative; this is the theme which then gets nominative. The fact that the dative causer construction in German selects the auxiliary ‘*sein*’ (be) and not ‘*haben*’ (have) in the perfect although it is syntactically transitive under Kallulli’s analysis finds some support from another area of German syntax where, surprisingly, ‘*sein*’ occurs. While, in German, some intransitive verbs of manner of motion select ‘*haben*’, they select ‘*sein*’ if they are telic due to a PP expressing a locational goal (cf. e.g. Grewendorf (1989), Hoekstra (1988)). This is shown in (34).

- (34) a. Peter hat getanzt
 Peter has danced
 ‘Peter has danced’
- b. Peter ist ins Zimmer getanzt
 Peter is into-the room danced
 ‘Peter has danced into the room’

One way to analyse this phenomenon is to assume that, in the b-sentence, movement into a theta-position is involved. The telic PP might span a small clause which is predicated of the DP ‘*Peter*’, as proposed in Hoekstra (1988). Afterwards, the DP has to move into the subject position of the verb, i.e. the specifier of Voice. This movement could be motivated by the fact that, in both (34a) and (34b), the subject is agentive and therefore the specifier of Voice should be involved. It seems then that, if the specifier of Voice is targeted by movement, the auxiliary ‘*sein*’ is selected in languages such as German or Dutch.²⁰ Kallulli’s analysis of the dative causer constructions fits with this generalization.

²⁰ Something similar is known from Italian. If the subject binds an object clitic in Italian, the auxiliary ‘*essere*’ (be) is selected even with verbs which otherwise select ‘*avere*’ (have) (e.g. Burzio (1986), Haider

However, Kallulli ignores the fact that, crosslinguistically, the dative causer construction is not only possible with verbs undergoing the causative alternation (externally caused verbs in the terminology of Levin & Rappaport Hovav 1995) but also with a subclass of pure unaccusative verbs such as ‘*welt*’ or ‘*blossom*’ (internally caused verbs in the terminology of Levin and Rappaport Hovav 1995). This has been shown for German by Härtl (2003), for Romanian and Spanish by Rivero (2004:262) and was also discussed for Greek and Italian here in chapter 2. A German and an Italian example illustrate this again below. Both German ‘*zerfallen*’ (to fall apart) and Italian ‘*appassire*’ (to wilt) do not form transitive causatives with a NOM/ACC frame.

- (35) a. Das Kartenhaus zerfiel ihm
 the house of cards fell (apart) him.DAT
 ‘He unintentionally caused the house of cards to fall apart’
- b. A Franco sono appassite tutte le piante in giardino
 to Franco are.3.PL wilted.PL all the plants in.the garden
 ‘Franco accidentally caused all the plants in the garden to wilt’

Kallulli explicitly builds her analysis on the assumption that the dative causer occurs in the external argument position, the specifier of a causative little *v*. But purely intransitive verbs of change of state do not project such a *v*-head in the first place. Since these verbs license the *unintentional causer* dative, such a projection cannot be involved in this construction (cf. also the more semantic argumentation along this line in Härtl (2003)).

Finally, we should check whether the analysis derives the semantic peculiarities of the construction. First, the account of course derives within its assumptions that the

& Rindler-Schjerve (1987)). This is illustrated in (i) and (ii) below. It seems, then, that in German the relevant condition is movement from and into a theta-position while in Italian it is (clitic) binding between two theta-positions. Notice, however, that the Italian cases are restricted to the binding of direct objects. Binding of indirect objects does not trigger a shift in the auxiliary selection. Since Kallulli’s theory assumes movement from an indirect object position to the subject position, it is not clear that we really should expect a switch in the auxiliary selection in her theory.

- i) Gianni_i mi_k ha visto ii) Io_i mi_i sono visto
 Gianni me has seen I me am seen

dative causer is unintentional. What is, however, less clear is whether the claim that dative causers are always also affected by the event holds. Kallulli does not prove this claim but it is also hard to prove the opposite. If her claim is correct then the human restriction on dative causers can be derived in the following way from the interplay of the affectedness condition and world knowledge about causation. We saw above that even non-human entities can get the affectedness interpretation if there exists a relation of inalienable possession between the dative and the theme (“The table has a broken leg”). In principle, such a non-human dative should be able to raise to the specifier of Voice in the structure in (32) above and get the causer interpretation in addition to its affectedness interpretation. However, non-human entities simply do not make good causers if they are non-eventive (cf. Alexiadou & Schäfer (2006)). It is hard to imagine how a table can cause one of its legs to break. Eventive natural forces on the other hand, such as storms, the sun, or an earthquake make good causers but it is hard to imagine that they can be affected by the change of state they cause; this simply follows from the fact that it is hard to identify a relation of inalienable possession between a natural force and a theme. However, Kallulli’s account makes the clear prediction that if such a relation of inalienable possession is possible, natural forces should be available for the dative causer construction. An alternative would be to say that the [+intent] feature is suppressed but that it is still accessible and that the construction, therefore, explicitly expresses non-intentionality. Then, of course, only human causers who are in principle capable of intentions are licensed. This presupposes not only that a feature like [+intent] drives the syntactic computation but also that a construction can implicitly express the information ‘unintentional’ by suppressing the positive feature [+intent].

Under both explanations of the human restriction, the dative causer is handled ontologically as a causer. It is projected in the specifier of Voice/v with a feature [+cause], i.e. in the same position where eventive natural forces and non-intentional human actors are generated in transitive constructions. The only difference between these two types of external arguments and the dative causer is that (i) in the case of the dative causer, the suppressed feature [+intent] is still present and might be of some relevance and (ii) that the dative is also affected due to its movement out of the specifier of the lower V. We will see in the next section that this ontological classification of the dative causer is incompatible with its empirical behavior.

3.4 A typology of external arguments of causative events

In this section, I want to explore the place of the dative causer within a typology of external arguments of causative events. I argue that there are two ontologically different types of external arguments in lexical causatives and that the unintentional dative causer (to some extent) resembles one of them. The division between the two types of external arguments is not based on the human vs. non-human (or animate vs. inanimate) distinction (see also Alexiadou & Schäfer (2006)) and also not directly on the intentional vs. unintentional contrast but is instead oriented on the agentive vs. non-agentive dimension which divides agents of an event from causers of an event.

As already stated above, the dative DP in the dative causer construction (36a) (the DAT-NOM pattern) has to be human and is necessarily interpreted as acting without intention. This part of the interpretation can be further stressed by adverbs like ‘*versehentlich*’ (unintentionally) (cf. (36b)); conversely, adverbs like ‘*absichtlich*’ (intentionally) are not possible (36c).

- (36) a. Dem Peter ist die Vase zerbrochen
 the.DAT Peter is the.NOM vase broken
 ‘Peter broke the vase’
- b. Dem Peter ist die Vase versehentlich zerbrochen
 the.DAT Peter is the.NOM vase unintentionally broken
 ‘Peter unintentionally broke the vase’
- c. *Dem Peter ist die Vase absichtlich zerbrochen
 the.DAT Peter is the.NOM vase intentionally broken
 ‘Peter broke the vase on purpose’

On the other hand, in transitive lexical causative constructions (the NOM-ACC pattern) a human subject can act either with or without intention. Both types of adverbs are possible in (37b, c). (37a) without any adverb probably has the default interpretation that the human DP acted intentionally, but this is not necessarily the case and depends on the context.

- (37) a. Hans hat die Vase zerbrochen
 Hans.NOM has the vase.ACC broken
 ‘Hans broke the vase’
- b. Hans hat die Vase versehentlich zerbrochen
 Hans.NOM has the vase.ACC unintentionally broken
 ‘Hans broke the vase unintentionally’
- c. Hans hat die Vase absichtlich zerbrochen
 Hans.NOM has the vase.ACC intentionally broken
 ‘Hans broke the vase on purpose’

In order to develop a full typology, a third type of external argument has to be considered, namely non-human causers such as natural forces which can occur in the subject position of lexical causatives (the NOM-ACC pattern).²¹ These non-human causers are incompatible with any adverb stating intentionality or non-intentionality. This seems to be trivially true since, first, non-human entities cannot have intentions (deriving the unacceptability of (38b)) and second, it does not make sense to overtly deny a property that could not exist in the first place (which explains the unacceptability of (38c)).

- (38) a. Der Sturm hat das Segel zerrissen
 the.NOM storm has the.ACC sail torn
 ‘The storm tore the sail’
- b. #Der Sturm hat absichtlich das Segel zerrissen
 the.NOM storm has intentionally the.ACC sail torn
 ‘The storm tore the sail on purpose’
- c. #Der Sturm hat versehentlich das Segel zerrissen
 the.NOM storm has unintentionally the.ACC sail torn
 ‘The storm tore the sail unintentionally’

²¹ I do not discuss the case of instruments which can sometimes occur as subjects of lexical causatives. See Alexiadou & Schäfer (2006) for a discussion.

Finally, such non-human causers cannot show up in the dative causer construction (the DAT-NOM pattern).

- (39) *Dem Sturm ist das Segel zerrissen
 the.DAT storm is the sail.DAT torn
 ‘The storm tore the sail’

So, descriptively, four types of external arguments of lexical causatives can be distinguished. These are shown in (40). Within the NOM-ACC pattern we find human causers that act intentionally (TYPE I), human causers that act unintentionally (TYPE II) and non-human causers that are not capable of intentions (TYPE III). Further, in the DAT-NOM pattern we find human causers that act without intention (TYPE IV).

| | | | | |
|------|---------------|----------------|-----------------|----------------|
| (40) | <u>TYPE I</u> | <u>TYPE II</u> | <u>TYPE III</u> | <u>TYPE IV</u> |
| | NOM-ACC | NOM-ACC | NOM-ACC | DAT-NOM |
| | + human | + human | - human | + human |
| | + intentional | - intentional | d.n.a. | - intentional |

We might ask whether some of the four types could be grouped together and what the right criteria are for such a grouping. To begin with, TYPE II and IV look quite the same from a semantic point of view. They are both [+human] and [-intentional]; they differ just formally in their case marking properties. One could even argue that the only ordering factor in (40) is the [\pm intentional] feature if one assumes that non-animate causers of type III act without intention in the same way as the human causers of type II and IV. The only difference would be that, for non-human causers, this is the only option (rendering the use of an adverb like ‘*unintentionally*’ superfluous) while human causers have the option to act with intentions (which explains why an adverb can be used). This would suggest the following division.

| | | | | | | | |
|------|---------------|-----|----------------|--|-----------------|--|----------------|
| (41) | <u>TYPE I</u> | | <u>TYPE II</u> | | <u>TYPE III</u> | | <u>TYPE IV</u> |
| | NOM-ACC | | NOM-ACC | | NOM-ACC | | DAT-NOM |
| | + human | ← → | + human | | - human | | + human |
| | + intentional | | - intentional | | - intentional | | - intentional |

The partition represented in (41) comes close to Kallulli's view introduced in the previous section. In her theory, TYPE I causers occur in the specifier of a v-head with the features <[+intent], [+cause]>, TYPE II and III occur in the specifier of a v-head with the feature <[+cause]> and TYPE IV occurs in the specifier of a v-head where the first feature expressing intentionality is suppressed (<[~~+intent~~], [+cause]>). In the last case, the causer is not directly merged in the specifier of this v-head but it moves there from the specifier of a lower V-head (see the discussion in the last section). This explains the dative case-marking on the causer.

While I think that there is a grammatical prerequisite for intentionality beyond the existence of a human (external) argument, I do not believe that there is something like a syntactic feature [+intent]. Further, I do not think that the causers of TYPE II and TYPE IV can be lumped together ontologically. There is a semantic difference between the two types that cannot be reduced to the fact that TYPE II is directly merged in the subject position while TYPE IV moves there from a lower position as assumed in Kallulli's work. This becomes clear if we investigate the compatibility of the four causer types with instrumental phrases. With respect to this test, TYPE I and TYPE II pattern together on the one side and TYPE III and TYPE IV pattern together on the other side as represented in (42).

| | | | | | | | |
|------|---------------|--|----------------|-----|-----------------|--|----------------|
| (42) | <u>TYPE I</u> | | <u>TYPE II</u> | | <u>TYPE III</u> | | <u>TYPE IV</u> |
| | NOM-ACC | | NOM-ACC | | NOM-ACC | | DAT-NOM |
| | + human | | + human | ← → | - human | | + human |
| | + intentional | | - intentional | | - intentional | | - intentional |

As shown below, human nominative subjects are compatible with an instrumental adjunct phrase regardless of whether they act with or without intention. The data in (43) is not surprising; it is of course easy to come up with naturally occurring contexts where

intentionally acting human beings use an instrument. But (44) shows that intentionality is not necessary in order to license an instrumental adjunct; aside from other readings,²² (44) has a reading where the human causer unintentionally did something with the hammer (e.g. an unplanned movement) which caused the vase to break.²³

(43) Hans hat mit dem Hammer absichtlich die Vase zerbrochen
 Hans has with the hammer intentionally the vase broken
 ‘Hans did something with the hammer intentionally which caused the vase to break’

(44) Hans hat mit dem Hammer versehentlich die Vase zerbrochen
 Hans has with the hammer unintentionally the vase broken
 ‘Hans did something with the hammer unintentionally and thereby caused the vase to break’

(44) shows that intentionality is not a prerequisite for the licensing of an instrumental adjunct. As for non-human causers, it is well known that they do not license instruments. This fact is illustrated below. In (45a, b, c) you find examples with eventive causers, in (45d, e) with so-called instrument causers (cf. Kamp & Rossdeutscher (1994), Alexiadou & Schäfer (2006)). None of them is able to license an instrumental PP. This is not unexpected because we might think that only humans (and higher animals) can intentionally use an instrument; but as we saw before, the special property that makes the use of an instrumental PP possible cannot be intentionality per se.

²² The adverb can either modify the whole action or just the resultant state or just the theme of the predicate. For the latter two readings, imagine that Hans wanted to remove something from the vase with the hammer and thereby broke the vase or that he wanted to break the red vase but mistakenly chose the blue one. Word order is quite free and might favour one of the readings.

²³ Animals, not capable of intentions in the relevant sense, can license such instrument-like adjuncts, too, I think.

(i) Der Hund warf die Vase (mit seiner Schnauze/mit der Leine) um
 the dog knocked the vase (with his snout/with the lead) over

- (45) a. Der Sturm hat die Vase (*mit dem Ast) zerbrochen
 the storm has the vase (*with the branch) broken
 ‘The storm broke the vase (with a branch)’
- b. Der Sturm hat die Hütte (*mit einer Böe) umgeworfen
 the storm has the hut (*with a squall) overthrown
 ‘The storm overthrew the hut (with a squall)’
- c. Das Meer hat die Sandburg (mit *den/?seinen Wellen/
 the sea has the sandcastle (with *the/?its waves/
 *der/?seiner Brandung) zerstört
 *the/?her breakers) destroyed
 ‘The sea destroyed the sandcastle (with the/its waves/the/its surge)’
- d. Der Hammer hat die Scheibe (*mit dem Stiel) zerbrochen
 the hammer has the window (*with the handle) broken
 ‘The hammer broke the window (with the handle)’
- e. Die Kamille hat die Wunde (mit *den/?ihren ätherischen Ölen) geheilt
 the camomile has the wound (with *the/?her essential oils) healed
 ‘The camomile healed the wound (with the/its essential oils)’

One thing worth mentioning in passing is the fact that the examples (45c, e) become better if the instrumental DP is modified by a possessive pronoun bound by the causer subject. In this case, the PP introduces an inalienable sub-part of the causer; waves cannot be dissociated from the sea and the essential oils cannot be dissociated from the camomile. These PPs do not introduce an instrument but give a deeper description of the origin of the causer’s force. This view is corroborated by the fact that the PP can modify the causer overtly as below while this is not possible with humans and real instrumental PPs (cf. (47)).

- (46) Das Meer mit seinen Wellen hat die Sandburg zerstört
 the sea with its waves has the sandcastle destroyed
 ‘The sea with its waves destroyed the sandcastle’

- (47) *Hans mit seinem Hammer hat die Vase zerbrochen
 Hans with his hammer has the vase broken
 ‘Hans with his hammer broke the vase’

Finally I turn to the unintentional dative causer. The important observation is that an instrumental adjunct is strongly ungrammatical in the context of dative causers (cf. (48)). Unintentional dative causers clearly differ in this respect from unintentional human nominative causers in (44).

- (48) Dem Peter ist die Vase (*mit dem Hammer) zerbrochen
 the.Dat Peter is the Vase.NOM (*with the hammer) broken

To summarize, with respect to the licensing of instrumental adjuncts, the unintentional dative causer does not pattern together with the unintentional human nominative causer. Instead, intentional and unintentional nominative causers form one group and non-human nominative causers and human dative causers form another group. This partition is illustrated again in (49).

| | | | | | |
|------|---------------|----------------|---|-----------------|----------------|
| (49) | <u>TYPE I</u> | <u>TYPE II</u> | | <u>TYPE III</u> | <u>TYPE IV</u> |
| | NOM-ACC | NOM-ACC | | NOM-ACC | DAT-NOM |
| | + human | + human | ↔ | - human | + human |
| | + intentional | - intentional | | - intentional | - intentional |
| | (+instrument) | (+instrument) | | (- instrument) | (- instrument) |

I want to argue that the partition in (49) is linguistically important from a syntax-semantics-interface point of view. It shows that unintentional dative causers cannot be lumped together ontologically with unintentional human nominative causers. The reason for this, I want to suggest, has to do with the way in which an external argument is integrated in the event. I assume that the driving force between the partition in (49) is *Agentivity*. TYPE I and TYPE II are [+agentive]; therefore they are called *Agents* (*agentive* causers). Intentionality is not a defining property of agentivity; it is simply deduced from default assumptions or from the context. TYPE III and TYPE IV are

[-agentive]; I will call them *Causers* (*non-agentive* causers).

I propose that the deeper reason for this partition is that there are different ways in which an event of change can be combined with an entity that brings about this event. Following Kratzer (1996), I assume that external arguments are introduced by a special projection, called Voice. It has often been proposed that different types of Voice exist. With respect to causative verbs two types of Voice have to be differentiated. *Voice*_{AGENT} introduces Agents. Causers of TYPE III are not introduced by agentive Voice but by a different type of Voice (*Voice*_{CAUSE}). I leave causers of TYPE IV aside for a moment.

Prototypical agents are intentionally acting humans but under the view developed above this is not necessarily the case for all agents. Agents do not need to be human (cf. Alexiadou & Schäfer (2006)) and, more importantly for the current discussion, they do not need to act with intention. Intention is not a syntactically relevant property but derives from our world knowledge. A number of generalizations follow from this view. Notice that these generalizations are of an ontological or conceptual and not of a syntactic nature; I do not think that, beyond the difference between *Voice*_{AGENT} and *Voice*_{CAUSE} features like [+human] or [+intentional] are syntactically active.

- i) *agentivity* presupposes [+human], but not the other way around²⁴
- ii) *intentionality* presupposes *agentivity*, but not the other way around
- iii) *intentionality* presupposes [+human], but not the other way around
- iv) *instruments* presuppose *agentivity*
- v) *instruments* do not presuppose the *intentionality* of an action
- vi) the explication of *non-intentionality* presupposes no special linguistic licensing but only sortal/encyclopedic licensing ([+human]), i.e. the option to act with intention.

The findings of this section are summarized in the following table. Further definition of *Voice*_{AGENT} and *Voice*_{CAUSE} will be given in the next chapter.

²⁴ This claim needs to be refined if instrument subjects can be agents, as proposed in Alexiadou & Schäfer (2006). For reasons of time and space, I leave this discussion aside here.

| | | | | | |
|------|------------------------|------------------------|-----|------------------------|----------------|
| (50) | <u>TYPE I</u> | <u>TYPE II</u> | | <u>TYPE III</u> | <u>TYPE IV</u> |
| | NOM-ACC | NOM-ACC | | NOM-ACC | DAT-NOM |
| | + human | + human | ← → | - human | + human |
| | + intentional | - intentional | | - intentional | - intentional |
| | (+instrument) | (+instrument) | | (-instrument) | (-instrument) |
| | Voice _{AGENT} | Voice _{AGENT} | | Voice _{CAUSE} | ?? |

What still remains to be determined is whether dative causers of TYPE IV are introduced by a Voice head (Voice_{CAUSE}) or by a different mode (e.g. an applicative head).

Besides the morphological difference in case marking, we should also look at the way in which such a causer combines with the event. We have already noticed that the fact that the dative causer is also licensed with pure unaccusatives argues against the view that Voice is involved. This leaves the option that a different kind of head is involved, for example an applicative head as proposed by Cuervo (2003). In the next section, I will discuss a further argument for this solution. I will also try to derive the human restriction and the unintentionally restriction found with causers of TYPE IV.

3.5 Some crosslinguistic relatives of the dative causer

In this subsection, I take a look at other languages which are historically more distant from German, especially two Caucasian languages. I take this derivation in order to find further arguments to help decide between the two analyses for the dative causer construction discussed above, i.e. whether the causer is a canonical subject in the specifier of v/Voice or whether it is located in the specifier of an applicative projection. The following observations are made. First, the unintentional causer construction is a widespread phenomenon that can be found in genetically quite different languages. Second, its semantic restrictions are always the same in all these languages. These concern the human restriction of the causer argument, the restriction on the verbs that license the construction, as well as the unintentionality restriction. Concerning the latter point, it has been observed that the term ‘unintentional’ does not capture all facets of the

construction; a number of sub-interpretations can be differentiated and, as it turns out, these exist once again crosslinguistically. This interpretational variance suggests that the unintentional causer does not combine with the event in the same way as other external arguments (i.e. not via Voice). This view is also supported by the morphology that goes along with unintentional causers in the Caucasian languages; we find the unintentional causer either marked with locative (prepositional) case which is also reflected in the verb morphology or with a type of possessive marker. Both types of markings are clearly related to the function of applicative heads but not to the function typically associated with Voice.

The typological study by Kittilä (2005) shows that many languages have constructions which express a low degree of intentionality/agency on the part of the external argument of an event. Kittilä distinguishes four morpho-syntactic types in such constructions. The first type involves ordinary transitive constructions which are lexically marked for the low intentionality of their subject; English canonical causatives modified by an adverb like ‘unintentional’ are a case in point. The three other types involve different morpho-syntactic signals of reduced transitivity. In type two, the verb remains morphology unaffected/transitive but the argument-marking distinguishes the construction from canonical transitive constructions. In type three, the arguments are marked as in canonical transitive constructions but the verb is marked as intransitive. Finally, in type four, the verb is marked as intransitive and the argument marking differs from canonical transitive sentences. I will not discuss as to whether all of these four types are really syntactically different or whether some of them should be seen as morphological variants of the same syntax. Instead, I concentrate on constructions from type four with intransitive verbs and two non-canonically marked arguments.

It is clear that dative causers, as we discussed them in previous sections, are also of this latter type. As a starting point the study by Kittilä shows, therefore, that many languages have corresponding constructions which show the same morphological properties (intransitive verb, two non-canonically marked arguments). Further, the semantic restrictions seem to be constant across languages, too. All languages allow the construction only with (the intransitive versions of) verbs expressing the change of state of a theme with the second argument being necessarily human which is, furthermore, interpreted as unintentionally causing this change of state.

Next, I turn to one specific language, Agul, a language from the Lezgian branch of the east Caucasian family. All observations about this language as well as the data are taken from Ganenkov, Maisak & Merdanova (2007). Agul is basically SVO and shows ergative case marking as illustrated in (51). Experiencers on the other hand are marked with dative as in (52).

(51) dad.a guni ʃut'u-ne
 father.ERG bread.ABS eat-PERF
 'The father ate bread'

(52) za-s we ruš agu-ne
 I.DAT your daughter.ABS see-PERF
 'I saw your daughter'

Possession is expressed in Agul with the help of one of the two locative cases, either the adessive (originally referring to location near a landmark) or the postessive (referring to location behind a landmark). These two cases are used to express actual and permanent possession respectively. Notice that the locative cases are doubled with a prefix on the verb.

(53) za-w nis=na guni fa-a.
 I.ADE cheese.ABS=and bread.ABS ADE.be-PRS
 'I have cheese and bread with me. (So, we can take a snack now.)'

(54) za-q ʒu ruš=na sa gada qa-a.
 I.POST two daughter.ABS=and one son.ABS POST.be-PRS
 'I have two daughters and one son'

Two comments are in order. It is well known that there is a strong relation between locative and possessive expressions. Many languages express the meaning "X has Y" with a string corresponding to "Y is at X" and it has also been proposed to decompose

semantically or even syntactically the light verb ‘*have*’ into ‘*be at/to*’ (e.g. Belvin & den Dikken (1997), Déchaine et al. (1994), den Dikken (1997), Freeze (1992), Harley (1998), among others). Second, the fact that the locative case is doubled on the verb is totally in accordance with a theory that assumes that the locative/possessive relation is introduced by a light-verb like projection which combines with the verb via head movement. This is exactly the behavior known from applicative heads in the Bantu languages. This suggests that the syntax of possession in Agul is quite similar to the syntax of possession that we assumed in the previous sections, i.e. some light verb head introducing a possessive relation is involved which one could call an applicative. This head is not pronounced in English but it is pronounced, for example, in some Romance languages by clitic doubling of the dative DP (cf. Anagnostopoulou (2003), Cuervo (2003)) and it seems to be expressed in Agul by the verbal prefix.

I now turn to another locative case in Agul, the adelative which expresses in its pure locative meaning ‘motion from a location near a landmark’, i.e. some kind of locative source.²⁵

- (55) cil.i-f-as hař-u čuwal!
 wall-AD.ELAT take-away-IMP sack.ABS
 ‘Take away the sack from the wall!’

This case is however also used as a marker of the causer in the unintentional causer construction in Agul.²⁶ In (56) we find an ordinary causative construction with an ergative-absolutive marking and, in (57), we find the corresponding unintentional causer construction with the causer argument in the adelative case.²⁷

²⁵ Recall that it was proposed that the loss of possession can be expressed by an applicative head; this was assumed for ditransitive verbs like ‘*steal*’ in languages other than English.

²⁶ Adelative is used in Agul also in a number of other non-locative uses, in the so-called ‘undesirable action construction’, the ‘possibilitive construction’ and a ‘causative construction’. See Ganenkov, Maisak & Merdanova (2007) for further discussion and the claim that these constructions are really different from the unintentional causer construction discussed here.

²⁷ Ganenkov, Maisak & Merdanova (2007) claim that virtually all East Caucasian languages have such an unintentional causer construction.

(56) baw.a neḱ aḱuzu-ne
 mother.ERG milk.ABS pour-out-PERF
 ‘The mother poured out the milk’

(57) baw.a-f-as neḱ aḱuzu-ne.
 mother.AD.ELAT milk.ABS pour-out-PERF
 ‘The mother accidentally spilled the milk’

There are a number of further properties that suggest that the construction in (57) is closely connected to the dative causer construction in the Indo-European languages. The argument marked with adelative is interpreted as the accidental/unintentional causer of the event expressed by the verb. As in the other languages, only humans are licensed in this construction. As in the languages with *unintentional causer* datives, Agul shows strong restrictions on the lexical verb that licenses the construction; the construction is only licensed with verbs expressing a change of state. Importantly, as in the languages with the *unintentional causer* dative, it is licensed with verbs undergoing the causative alternation as in the example above but also with pure unaccusatives expressing a change of state as with the non-alternating verb ‘*gulas*’ (to get lost) below.

(58) a. kitab gulu-ne
 book.ABS get-lost-PERF
 ‘The book got lost’
 b. *gada.ji kitab gulu-ne.
 boy.ERG book.ABS get-lost-PERF
 ‘The boy lost the book’

(59) gada.ji-f-as kitab gulu-ne.
 boy.AD.ELAT book.ABS get-lost-PERF
 ‘The boy lost the book’

Other pure unaccusatives and verbs undergoing the causative alternation that license the construction are given in the following table (cf. Ganenkov, Maisak & Merdanova 2007):

TABLE I: *Agul verbs licensing the unintentional causer construction*

| intransitive change-of-state verbs | verbs undergoing the causative alternation |
|------------------------------------|--|
| ac'as 'fill (intr)' | ar'as 'break (tr, intr)' |
| alaḡas 'boil over (about milk)' | aṭuzas 'spill (tr, intr)' |
| kuras 'get dirty' | at'usas 'stop burning (tr, intr)' |
| ket'as 'awake' | daqas 'open (tr, intr)' |
| q'ešas 'get wet' | čurqas 'explode (tr, intr)' |
| ruqas 'get dry' | č'urXas 'tear apart (tr, intr)' |
| ruRas 'get cold' | č'ut'as 'bend (tr, intr)' |
| rutas 'curdle (about milk)' | k'es 'kill/die' |
| t'aHas 'swell' | uc'as 'melt (tr, intr)' |

Ordinary transitive and non-change-of-state intransitive verbs, on the other hand, cannot appear in the unintentional causer construction (cf. Ganenkov, Maisak & Merdanova (2007)). This means the construction is licensed in Agul with exactly the same class of verbs as its counterpart in the Indo-European languages discussed earlier. It seems, therefore, that the adelative causer in Agul and the dative causer in the Indo-European languages are quite related phenomena both with respect to the interpretation as well as with respect to the syntactic restrictions. They differ only in the type of overt morphological case on the causer DP.

Let us turn to the question about the syntactic properties of the construction, i.e. the syntactic position of the causer argument. While Kallulli argues that it occupies the canonical subject position in the specifier of Voice/little *v*, Cuervo assumes that it is in the specifier of an applicative head above an inchoative event. Inter alia from the fact that the adelative argument can also be added to intransitive verbs that do not transitive, Ganenkov, Maisak & Merdanova (2007:3) conclude “that it is not the case that the adelative encodes a particular participant according to the subcategorization frame of a given verb. Rather, the adelative argument appears in particular

constructions, having their own semantics and their own lexical restrictions”. On page 6 they notice that “the involuntary agent does not just “replace” the canonically marked agent, but instead is introduced in an event as an “external” instigator of the whole event, described by the verb.” This means that these authors arrive at the same conclusion that was already suggested above; the fact that the unintentional causer can appear with unaccusative verbs which do not license an external argument in the first place argues against the assumption that the unintentional causer is projected in the canonical position for external arguments. A further argument that pointed to this conclusion above was the behavior of instrumental PPs which were not licensed in the context of unintentional dative causers. Again, Agul behaves like the European languages. Instrumental PPs are not licensed with causers in the adelative.²⁸

- (60) gada.ji (*gada.ji-f-as) Xew R.an.di-l-di arfu-ne.
 boy.ERG boy.AD.ELAT nut.ABS stone.SUPERLAT break-PERF
 ‘The boy broke the nut with a rock’

Importantly, Ganenkov, Maisak & Merdanova (2007:3) take a closer look at the unintentional causer interpretation in Agul and reveal that, in fact, three different sub-interpretations can be distinguished. They describe these three interpretations as follows:

- Reading A: The participant affects the patient accidentally, without noticing what s/he is doing.
 Reading B: The participant involuntarily lets something happen by overlooking and not making enough efforts to prevent the situation,
 Reading C: The participant finally (due to effort) succeeds in doing something, although it is not quite expected.

These three readings of the unintentional causer construction are further clarified on the basis of the following example:

²⁸ The superlative case is a regular way of introducing an instrument in Agul.

- (61) ruš.a-f-as raḱ daqu-ne.
 girl.AD.ELAT door.ABS open-PERF

Reading A: The girl accidentally opened the door (because she pushed it with her elbow while playing with her toys on the floor).

Reading B: (The father told the girl to hold the door so that the wind could not open it, but her efforts were not enough) The girl accidentally opened the door / let the door open.

Reading C: (All the children tried but no one could open the tightly closed door, however it so happened that) The girl managed to open the door.

The three readings constitute quite a big interpretative variance. But the authors claim that this polysemy found in Agul is widespread crosslinguistically including in languages such as Bagwalal, Finnish and Thompson River Salish.

Interestingly and importantly, the German dative causer construction allows for exactly the same three interpretations, albeit that the first reading is arguably the most prominent. The other two readings can, however, easily be forced by specific contexts or modification. For example, the third reading can be forced by addition of the adverbial modifier ‘*doch noch*’ (‘after all’). The existence of the three readings was confirmed by a number of native German speakers.

- (62) als dem Mädchen die Tür (dann doch noch) aufging
 when the.DAT girl the.NOM door (then after all) open-went

Reading A: The girl accidentally opened the door (because she pushed it with her elbow while playing with her toys on the floor)

Reading B: (The mother told the girl to hold the door so that the wind could not open it, but her efforts were not enough) The girl accidentally opened the door / let the door open.

Reading C: (All the children tried but no one could open the tightly closed door, however it happened so that) The girl managed to open the door.

In addition, I checked the Greek and Italian counterparts of the construction. The existence of the three readings was attested for both languages (p.c. Artemis Alexiadou, Giuseppina Rota for Greek and Italian, respectively). This really suggests that the three readings are connected to unintentional causer constructions crosslinguistically.

While I will continue to use the term unintentional causer for ease of reference, the above examples make it clear that the term is actually not quite accurate. It fits with the reading A but not with the other two readings. Under reading B, it is actually not the dative DP that causes the event but some other causer, e.g. the wind. The dative DP facilitates that this causer can act. This facilitation is against the will of dative DP, i.e. in some sense unintentional or better involuntary. We could call the dative DP under reading B an ‘reluctant indirect facilitator or causer’. In reading C, finally, the dative argument acts with clear intention and effort and unexpectedly brings about the change-of-state event. This third reading is not compatible with adverbs like ‘*unintentional*’. Note however, that adverbs expressing intentionality are also not licensed under the third reading; the same also holds for instrumental PPs.

3.6 Conclusions: The syntax and semantics of the unintentional causer construction

We have to conclude, then, that, in the dative causer construction, the dative argument can be integrated into the event in a number of different ways; as an unintentional causer, an involuntary and indirect facilitator or as an unexpected causer. The actual interpretation depends on contextual factors. This suggests that the dative DP (realized as adative DP in Agul) is integrated in to the change-of-state event in a very underspecified way which sets a relatively broad interpretative frame that is specified by contextual factors.

The polysemy of the unintentional causer strongly argues against the proposal that the unintentional causer DP (marked with dative or adative) is in a canonical subject position. The reason is that canonical transitive causatives can express reading A but not readings B and C, as is illustrated with the example in (63) below. This example is true in the situation expressed by reading A but it is absolutely incompatible with the

situations expressed by the reading B; it cannot express that the girl did not manage to keep the door closed. The reason for this is that, under scenario B, it is actually the wind, not the girl, that is the direct causer of the opening of the door. But in (63), the subject (which is located in the specifier of Voice) must necessarily be interpreted as the direct causer of the event.

- (63) Das Mädchen hat (versehentlich) die Tür aufgemacht
 the.NOM girl has unintentionally the.ACC door opened
 ‘The girl accidentally opened the door’

Reading A: The girl accidentally opened the door (because she pushed it with her elbow while playing with her toys on the floor)

Reading B: *(The mother told the girl to hold the door so that the wind could not open it, but her efforts were not enough) The girl (accidentally) opened the door/let the door open

Turning to reading C, once again the canonical transitive construction cannot express the meaning that the girl unexpectedly managed to open the door after trying hard to do so. Modification by ‘*dann doch noch*’ (then after all) can also not produce this reading but conveys the meaning that it took some time before the girl went to open the door.

- (64) Das Mädchen hat dann doch noch die Tür aufgemacht²⁹
 the.NOM girl has then after all the.ACC door opened
 ‘The girl opened after all the door’

Reading C: *(All the children tried but no one could open the tightly closed door, however it happened so that) The girl managed to open the door.

²⁹ Interestingly, the corresponding NOM-ACC sentence with ‘*auf-kriegen*’ (to open-get) conveys exactly this third meaning. See McIntyre (2005) for the claim that English ‘*get*’ and German ‘*kriegen*’ decompose into *have+become*. This fits perfectly with the analysis of the dative as the holder of a *have*-relation.

The same situation holds for canonical transitive causatives with non-human causer subjects. The example below can only mean that the rain was so strong that it destroyed the crop (direct causer). It cannot mean some counterpart of the reading B above, that is, an interpretation where the external argument fails to prevent a change of state. A conceivable situation would be that the crop dries up due to the holding off of the rain; but such a situation simply cannot be expressed by a canonical transitive sentence.

- (65) Der Regen hat die Ernte vernichtet
 the rain has the crop destroyed
 ‘The rain destroyed the crop’

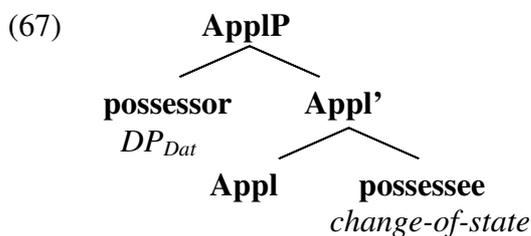
We have to conclude that the relation between the dative causer and the event is much less constrained than the relation between canonical causers or canonical agents and the event. From this, it follows that dative causers cannot be introduced in the same way as canonical causers. Dative causers, therefore, are not introduced by Voice/little *v*. This conclusion is also supported by the fact that the dative causer construction is possible with pure unaccusative verbs which do not license canonical external arguments as well as by the observation that the dative causer construction does not license instruments.

I will assume, therefore, that the alternative proposal by Cuervo (2003) discussed in section 3.1.3 that dative causers are introduced by an applicative head is correct. This gives us the following picture of the syntax of external arguments in change-of-state contexts. Agents are introduced by Voice_{AGENT}. I assume here that agents are always [+human], although this is a simplification (see Alexiadou & Schäfer (2006) for cases of non-human agents). Causers are introduced by Voice_{CAUSE}. (I assume that causers are [-human] although this might once again be a simplification). Dative causers or their counterparts with different case morphology are introduced by an applicative head. This applicative head assigns inherent case to its specifier. Agents and causers in the specifier of Voice receive structural case. Only the specifier of Voice_{AGENT} can but does not have to act with intention. Voice_{CAUSE} and applicative heads do not license intentionality.

| | | | | | |
|------|------------------------|------------------------|-----|------------------------|----------------|
| (66) | <u>TYPE I</u> | <u>TYPE II</u> | | <u>TYPE III</u> | <u>TYPE IV</u> |
| | NOM-ACC | NOM-ACC | | NOM-ACC | DAT-NOM |
| | + human | + human | ← → | - human | + human |
| | + intentional | - intentional | | - intentional | - intentional |
| | (+instrument) | (+instrument) | | (-instrument) | (-instrument) |
| | Voice _{AGENT} | Voice _{AGENT} | | Voice _{CAUSE} | Applicative |

Let us see whether we can derive from this structural implementation of the dative causer all the properties that we have described so far. We identified the following semantic restrictions: (i) the causative interpretation, (ii) the human restriction, (iii) the non-intentionality restriction, (iv) the non-licensing of instrumental phrases, (v) the verb class restriction (change-of-state verbs).

The central assumption about applicative heads is that they express an abstract possessive *have*-relation. This means that dative causers in some sense “*have* the change-of-state event”. The dative DP is the possessor and the change-of-state event is the possessee.



One question to answer is why such a *have*-relation should be evaluated as a relation of causation. This is a relatively hard question to answer. Let us start, therefore, with the question whether we can find some hints that it is indeed a *have*-relation which underlies the unintentional causer construction. Indeed, we can find morphological support for this claim.

Recall that Agul expresses actual possession and permanent possession with the adessive case and the postessive case respectively. We had already mentioned that the expression of possession with the help of a locative relation is a widespread phenomenon. The examples are repeated below. Notice again that the locative cases are doubled by a prefix on the verb. This doubling of the locative case suggests that the

possessor is introduced and case marked by a head that incorporates into the verb. This is, of course, reminiscent of applicative constructions.

- (68) a. za-w nis=na guni fa-a.
 I.ADE cheese.ABS=and bread.ABS ADE.be-Prs
 ‘I have cheese and bread with me. (So, we can take a snack now.)’
- b. za-q ʔu ruš=na sa gada qa-a.
 I.POST two daughter.ABS=and one son.ABS POST.be-Prs
 ‘I have two daughters and one son’

Next, we saw that Agul has a more complex locative case whose literal use is shown again below.

- (69) cil.i-f-as haī-u čuwal!
 wall.AD.ELAT take-away-IMP sack.ABS
 ‘Take away the sack from the wall!’

As mentioned earlier, this adelative literally expresses ‘motion from location near a landmark’; it, therefore, conveys some kind of locative source. This is nothing else than a ‘coming out of a possession’. The wall has the sack (on it) before the event of removing occurs. Recall that it has been proposed that a source can be expressed by an applicative head.

Finally, the same adelative is used in Agul to mark the causer in the unintentional causer construction.

- (70) baw.a-f-as neķ aŋuzu-ne.
 mother.AD.ELAT milk.ABS pour-out-PERF
 ‘Mother accidentally spilled the milk’

It seems, therefore, that in Agul the unintentional causer construction literally means that ‘the change-of-state event comes out of the possession of the causer argument’.

There is at least one further Caucasian language, Tsez, that shows by its overt case morphology that a possessive relation is involved in the unintentional causer construction. This language spoken in western Daghestan is discussed in Kittilä (2005) who cites Comrie (2000) as his source. Again, this language is ergative as the canonical causative construction in (71a) shows. (71b) shows the corresponding anticausative construction. As we can see, the causative alternation is reflected on the verb by the presence and absence of a morpheme named CAUS by Comrie.³⁰

- (71) a. už-ā č'ikay y-exu-r-si
 boy.ERG glass.ABS II-break-CAUS-PAST.WIT
 'The boy broke the glass'
- b. č'ikay y-exu-s
 glass.ABS II-break-PAST.WIT
 'The glass broke'

Finally, (72) shows the unintentional causer construction in Tsez.

- (72) uži-q č'ikay y-exu-s
 boy.POSS glass.ABS II-break-PAST.WIT
 'The boy accidentally broke the glass'

The verb is anticausative as witnessed by the absence of the CAUS-morpheme and, most importantly for the present discussion, the human causer is marked with possessive case.

The discussion of Agul and Tsez, therefore, strongly supports Cuervo's claim that the unintentional causer is related to the change-of-state event by a relation of possession. How can we derive the semantic features from this relation? The first question we would like to answer is why the possession of a change of state event is interpreted as causation or of responsibility for the event. Agul is most telling in this respect: Agul shows that the unintentional causer is not only the possessor of the change-of-state

³⁰ Comrie translates the s(i) morpheme on the verb as WIT(nessed).

event but actually the source. Of course, there is a strong relation between possession and source; possession of something is a precondition for being a source of something. It seems, therefore, that the dative causer is interpreted as the abstract source of the change-of-state event: the event comes out of the possession of the causer. In chapter 4, where I update my assumptions about the decomposition of change-of-state events, I will shortly come back to this point. For the time being, simply note that such an abstract characterisation of the semantics of the unintentional causer construction is in accordance with all three sub-interpretations we discussed above.

The next semantic property to derive is the human restriction. We had seen above that non-human entities can be in a possessive relation with entities as well as with resultant states (the house has a roof (on top of it), the table has a broken leg, ...). However, there was one important precondition for such a relation that non-human possessors had to fulfil; non-human possessors must be in an inalienable part-whole relation either with the possessed entity or with the entity undergoing the possessed change of state. This is not a necessary condition for human possessors which can also alienably possess. I propose that the human restriction of the unintentional causer construction can be derived from this precondition. Generally, it is hard to imagine that a non-human entity (a natural force) is in an inalienable relation to an (abstract) entity and, at the same time, can cause this entity to undergo a change of state. This would mean that a natural force can cause a change of state of its subpart. If we are on the right track with this, then the human restriction would not be explicitly written into the unintentional causer construction but would derive from one of the building blocks of the construction, namely the possessive relation.

Next, we need to derive the non-intentionality restriction, i.e. that the unintentional causer construction is never compatible with adverbs like '*intentionally*' or '*volitionally*' but with adverbs expressing that the causer was acting unintentionally. Further, recall that while the former type of adverbs is never licensed, the latter type of adverbs is licensed under interpretation A and B, but not under interpretation C.

I think, the reason why adverbs expressing intentionality are never licensed is once again located in the nature of the possessive relation, especially in the fact that possessive relations are stative. It is a well known fact that stative predicates across

languages do not license agentive adverbs of any kind. (Note that the c-example involves a causative *have*)

- (73) a. *John knew the answer intentionally/voluntarily/on purpose
 b. *John had the car intentionally/voluntarily/on purpose
 c. *John had Mary clean the floor intentionally/voluntarily/on purpose

The stative nature of possessive relations can, therefore, explain why such adverbs are not allowed in unintentional causer constructions even under reading C which describes contexts where the causer, in fact, acts highly intentionally and with a great deal of effort. It seems, therefore, that besides world knowledge (the entity must be human, i.e. capable of intentions) the linguistic assertion of intentionality is structurally restricted. Only real agents which are introduced by Voice_{AGENT} can be explicitly attributed intentionality. The use of instrumental phrases is restricted in the same way. But instrumental phrases and intentionality are independent of each other as discussed above.

Why then are adverbs expressing non-intentionality allowed? And why are they allowed only under the readings A and B but not under reading C discussed above? I would like to propose that adverbs expressing non-intentionality cannot really be argued to be agentive adverbs in the strict sense. It follows then that adverbs expressing non-intentionality are not structurally restricted (they do not need agentive Voice) but that their use is only restricted by plausibility considerations and world knowledge. Now, the dative arguments are necessarily human and they are interpreted as causers. Humans causing something can act intentionally or unintentionally by world knowledge; by default they are typically assumed to act intentionally. But the dative causer construction cannot convey this default assumption. It cannot assert intention; i.e. it cannot assert that the default holds. Therefore, the first assumption on encountering a human causer in this construction is that the default does not hold. That is, we tend to assume that the human causer acts without intention (reading A above) or that it renders possible the happening of the change-of-state event without wanting to (reading B). But as we saw with the reading C above, the construction itself is not confined to non-intentionality. The non-intentionality of the dative construction, therefore, is just a

pragmatic implication of the fact that the construction cannot actively assert intentionality. And, since this implication is pragmatic, it is not obligatory.

Last but not least, we need to explain why only change-of-state verbs allow the addition of a dative causer. I will postpone the detailed answer to this question to the end of chapter 4 where I will discuss the core theory of the causative alternation assumed in this work. There, we will see that all causers are, in principle, only possible in telic change-of-state contexts.

Chapter 4

The causative alternation

In this chapter, I present the core of a theory of the causative alternation. In the first section, I introduce and elaborate on the theory of the causative alternation as it was developed by Alexiadou et al. (2006 a, b). These authors argue against a strict derivational approach to the causative/anticausative alternation.

4.1 The core theory of (anti-)causatives alternation

This section introduces the theory of the causative alternation developed in Alexiadou et al. (2006a, b). This alternation is characterized by verbs which allow both, a transitive and intransitive use and where the transitive use of a verb V means roughly ‘cause to V-intransitive’ (see Levin 1993). Typically, verbs undergoing the causative alternation express a change of state (as the verb ‘*open*’ in (1)) or a change of degree.

- (1) a. John opened the door
b. The door opened

The external argument of the transitive version disappears in the intransitive use and the internal argument of the transitive version becomes the subject of the intransitive version. For this reason, anticausative verbs are typically taken as the hallmark of unaccusative verbs (cf. e.g. Levin & Rappaport Hovav 1995). Under the assumption that a universal principle of theta-role assignment such as the UTAH (Baker 1988, 1997) holds true, the internal theta-role of the transitive version should be base-generated in the intransitive use internally as well. It is only in the course of the derivation that this internal argument becomes a structural subject.

The discussion of the causative alternation in the literature revolves mainly around two issues. The first one concerns the similarities and differences between passives and anticausatives with respect to the presence or absence of an implicit external argument, respectively. As already discussed in section 3 of chapter 2, passives and anticausatives differ in two well-known aspects (cf. Manzini 1983; Marantz 1984; Jaeggli 1986; Roeper 1987; Baker, Johnson and Roberts 1989; Levin and Rappaport Hovav 1995; Reinhart 2000; Chierchia 1989/2004, among many others) which are illustrated here again with English examples:

(i) *Modification and Control*: Passives but not anticausatives can be modified by agent-introducing *by*-phrases, agent-oriented adverbs, and allow control into purpose clauses, as illustrated in the examples (2)-(4):

(2) a. The boat was sunk by Bill

b. *The boat sank by Bill

(3) a. The boat was sunk on purpose

b. *The boat sank on purpose

(4) a. The boat was sunk to collect the insurance

b. *The boat sank to collect the insurance

(ii) *Verb Restrictions*: Virtually any transitive verb can be passivized, but only a subset of transitive verbs can also form an anticausative. This is exemplified below for three verbs: ‘*break*’ allows both an anticausative as well as a passive use while ‘*cut*’ allows only a passive but not an anticausative. This is so although ‘*cut*’ expresses a change of state, i.e. it fulfils a precondition for undergoing the causative alternation. Verbs like ‘*read*’ which do not express a change of state, never form anticausatives but allow passives.

- (5) a. Bill broke the glass
 b. The glass was broken by Bill
 c. The glass broke
- (6) a. The baker cut the bread
 b. The bread was cut by the baker
 c. *The bread cut
- (7) a. John read the book yesterday
 b. The book was read yesterday by John
 c. *The book read yesterday

As far as the first difference is concerned (modification and control), the consensus has been reached that this is due to the presence vs. absence of an implicit external argument in passives and anticausatives, respectively. While passives contain an implicit external argument which can be accessed by modification (by-phrases, agent-oriented adverbs) and which can control into purpose clauses, anticausatives lack such an argument and, therefore, modification and control are impossible, as shown above.

Despite this consensus, two issues of controversy remain, though: concerning the passive, linguists do not agree about the level of grammar at which the implicit external argument is expressed. I will not discuss this topic here in depth.¹ My assumption of a configurational theta theory predicts that the implicit argument in passives is syntactically represented, for example as a thematic feature on Voice (cf. Embick (2004), see also chapter 5 and 6 of this work for such a proposal) or as a non-overt pronoun in the specifier of passive Voice (cf. Sternefeld (1995), Borer (1998), Ramchand & Svenonius (2004)).

The second controversy concerns the question *why* anticausatives lack an implicit external argument. Two main approaches to this issue are typically distinguished.

¹ Some assume that the implicit argument is present in the lexical syntactic representation of the verb, i.e. its argument structure (e.g. Levin and Rappaport Hovav 1995), some that it is present in the semantic representation of verbs (e.g. Reinhart 2002) and others that the implicit argument is even realized in the syntax (e.g. Baker, Johnson, and Roberts 1989, Kratzer 1996).

Proponents of both approaches agree that it would be conceptually unsatisfactory to assume that each variant of an alternating verb is assigned an independent lexical entry. One reason for this is that it would make it very hard or nearly impossible to state any generalizations about which verbs can and which verbs cannot undergo the causative alternation. But these generalizations obviously exist and they hold across languages, e.g. the restriction that only verbs expressing a change of state undergo the alternation. It is, therefore, typically assumed that the two variants of the alternation have to be derivationally related. The discussion then focuses on the question of which of the two verbs is basic and where this derivation takes place in the grammar.

Both of the two logically possible directions of the derivation have been proposed in the literature. According to one view, anticausatives lack an implicit external argument because they are *basically monadic*. The causative alternant is derived from the anticausative/inchoative alternant via *causativization*, i.e. the addition of a causative predicate (CAUSE) to the semantic decomposition (cf. Lakoff (1968, 1970), Dowty (1979), Williams (1981), Brousseau and Ritter (1991), Pesetsky (1995), among others). This is illustrated in (8) below (cf. Dowty (1979:206f.)):

- (8) a. $break_{incho}$: λx [BECOME *cool* (x)]
 b. $break_{caus}$: $\lambda y \lambda x$ [(y) CAUSE [BECOME *cool* (x)]]

According to the second view, alternating verbs are *inherently dyadic* predicates. Anticausatives lack an implicit external argument due to a lexical process of *detransitivization* that creates an intransitive entry from the transitive one. There are two recent implementations of this general idea:

(i) Levin and Rappaport Hovav (1995: 83, 108) propose a bi-eventive analysis of causative verbs. Their lexical semantic representation (LSR) of such verbs involves the predicate ‘cause’ which takes two arguments: the *causing* subevent and the *central* subevent (specifying the change associated with the verb). The *cause* argument is associated with the causing subevent and the *theme* is associated with the central subevent. In transitive ‘*break*’, the cause and the theme are projected from the LSR into argument structure (AS) (and from AS onto the syntax) as shown in (9):

(9) Transitive ‘*break*’:

| | | |
|---------------|--|-----|
| LSR | [[x do-something] cause [y become <i>BROKEN</i>]] | |
| Linking rules | ↓ | ↓ |
| AS | <x> | <y> |

In intransitive *break* the cause argument is “lexically bound” in the mapping from LSR to AS thereby being prevented from being projected into the syntax (cf. (10)):

(10) Intransitive *break*:

| | | |
|-----------------|--|-----|
| LSR | [[x do-something] cause [y become <i>BROKEN</i>]] | |
| | ↓ | |
| Lexical binding | ∅ | |
| Linking rules | | ↓ |
| AS | | <y> |

(ii) Reinhart (2000, 2002), building on Chierchia (1989/2004), proposes that causation is coded through a lexical feature ‘cause’, formalized as [+c] which is part of the definition of a set of theta-roles that can cause a change, namely *cause*, *agent* and *instrument*. *Agents* are further positively specified for the feature [+m] (*mental state*), i.e. *agents* are defined by the feature combination [+c+m]. *Instruments* are defined by the feature cluster [+c-m]. Its presence implicates the existence of an agent due to a lexical generalization. *Cause* is characterized as [+c], which makes it consistent with the [+c+m] and the [+c-m] specification (thereby capturing the generalization that verbs selecting *cause* arguments can also select *instruments* or *agents*). Themes are defined by the feature cluster [-c-m]. Turning to the causative alternation in Reinhart’s theta system, she assumes that alternating verbs are inherently transitive. They select a [+c] external argument (which can be realized as an agent, a cause or an instrument) and a [-c-m] internal argument (i.e. a *theme*). Anticausatives are derived in the lexicon from the transitive entry by a reduction operation called “expletivization” which reduces the external [+c] role. The output of expletivization is a one place (intransitive) verb entry. This lexical operation is illustrated in (11).

- (11) Expletivization: Reduction of an external [+c] role
- a. $V_{\text{acc}}(\theta_{1[+c]}, \theta_2) \rightarrow R_e(V)(\theta_2)$
 - b. $R_e(V)(\theta_2) = V(\theta_2)$

It should be mentioned that both detransitivization operations proposed, the operation called “lexical binding” by Levin & Rappaport Hovav (1995) as well as the operation called “expletivization” by Reinhart (2000, 2002) have never been defined in a formal way and it is not clear that such an operation which ought to eliminate a theta-role from the theta-grid could be formulated within standard semantic systems of function-argument application (cf. also Koontz-Garboden (2007) for this point). If this is correct, then these theories are a mere description of the facts under the assumption that alternating verbs are basically dyadic.

Alexiadou et al. (2006a, b) question both the causativization view as well as the detransitivization view on the causative alternation, i.e. they argue against any *direct* derivational relationship between anticausative verbs and their causative counterparts. (As discussed later, this does not mean that we should assume two lexical entries for alternating verbs. Instead, the authors assume that both versions of an alternating verb are derived from one source, a category-neutral Root.) Their arguments against both causativization and detransitivization analyses of the causative/anticausative alternation are built on (i) the crosslinguistic variation on the morphology found on verbs undergoing the causative alternation (section 4.1.1.1) (ii) verbal and selectional restrictions on the causative alternation (section 4.1.1.2) (iii) the distribution of PPs related to external arguments (agent, causer, instrument, causing event) in passives and anticausatives of English, German and Greek (section 4.1.1.3) and (iv) on the set of verbs undergoing the causative/anticausative alternation in these languages. These arguments will be discussed in the next section. Their alternative approach to the alternation will be discussed in section 4.1.3.

4.1.1 Problems for derivational analyses

4.1.1.1 Morphological marking

While the causative alternation is crosslinguistically a semantically quite uniform phenomenon, languages show substantial variation in the morphological shape of the alternation (cf. Haspelmath 1993) to which neither of the derivational accounts can do full justice (cf. Piñon (2001) and Doron (2003) for a similar objection). Any derivational approach that derives one version of the causative alternation from the other states that the derived version is more complex since it is formed by an extra operation on some computational level of grammar. But the morphological variation found with the alternation does not support any one direction of derivation in a compelling way; both views discussed above are challenged by languages with special morphological marking on what is assumed to be the basic version of the alternation, i.e. they are challenged by a mismatch between overt morphological and putative derivational complexity. The causativization view faces the problem that it leaves unexplained the fact that, in many languages, the anticausative and not the causative variant of the alternation is marked by special morphology. As discussed in the previous chapters, this extra morphology on anticausatives is often a reflexive or a non-active morpheme. The phenomenon is once again illustrated in (12) below for Russian and Polish: ((12a) is from Haspelmath (1993), (12b) is from Piñon (2001); for further examples and discussion, see for example Haspelmath (1993), Chierchia (1989/2004), Doron (2003), Levin & Rappaport Hovav (1995), Piñon (2001), and Reinhart (2000; 2002)).

(12) anticausative marking:

- | | | |
|-------------|-------------------|----------------|
| a. Russian: | <i>katat'-sja</i> | 'roll (intr)' |
| | <i>katat'</i> | 'roll (tr)' |
| b. Polish: | <i>złamać-się</i> | 'break (intr)' |
| | <i>złamać</i> | 'break (tr)' |

The postulation of a detransitivization process faces the same problem because there exist many languages that specially mark the causative variant of the alternation. The examples in (13) from Georgian and Khalka Mongolian illustrate this.

(13) causative marking:

- | | | |
|----------------------|--------------------|---------------|
| a. Georgian: | <i>duγ-s</i> | ‘cook (intr)’ |
| | <i>a-duγ-eb-s</i> | ‘cook (tr)’ |
| b. Khalka Mongolian: | <i>ongoj-x</i> | ‘open (intr)’ |
| | <i>ongoj-lg-ox</i> | ‘open (tr)’ |

Furthermore, there are also languages with verbs forming *non-directed* alternations which do not easily fit any of the above views that one version of the causative alternation is derived from the other: (14a) is an example of a so-called *equipollent* verb-pair, where both forms are derived from a common stem via addition of extra morphology, (14b) is an example of a so-called *suppletive* alternation, where different Roots are used, and (14c) exemplifies the so-called *labile* alternation where the same form is used (all examples in (13) and (14) as well as the terminology are taken from Haspelmath (1993)).

(14) non-directed alternations:

- | | | |
|--------------|-----------------|-----------------|
| a. Japanese: | <i>atum-aru</i> | ‘gather (intr)’ |
| | <i>atum-eru</i> | ‘gather (tr)’ |
| b. Russian: | <i>goret’</i> | ‘burn (intr)’ |
| | <i>žeč</i> | ‘burn (tr)’ |
| c. English: | <i>open</i> | ‘intr’ |
| | <i>open</i> | ‘tr’ |

Often, languages have more than one type of alternating verb. For example, as discussed in chapter 1, in German, most alternating verbs mark the anticausative version (i.e. they form *marked anticausatives*) and a smaller group undergoes a labile alternation (i.e. they form *unmarked anticausatives*). But there is also a very small number of verbs forming an *equipollent* alternation (via ablaut variation) as e.g. exemplified in (15), and

there is a very small number of *suppletive* forms as, for example, the pair ‘*sterben*’ vs. ‘*töten*’ (to die vs. to kill).

- (15) a. Hans versenkt das Schiff
 Hans sinks the ship
 b. Das Schiff versinkt
 The ship sinks

Such variation is hard to capture under any theory that derives one version of the alternation directly from the other. While such theories are not necessarily incompatible with this morphological variation, they must at least give up the idea that there is any connection between morphological complexity and computational complexity.

4.1.1.2 Verb restrictions and selection restrictions

Both derivational directions discussed above additionally face the logical problem that they sometimes have to derive change-of-state verbs from a corresponding base that simply does not exist in practice (cf. also Piñon (2001) for this argument). The causativization view faces this problem with the derivation of causatives from non-existing anticausatives. This is the case in the context of the *verb restrictions* discussed above, i.e. the difference between, for example, ‘*break*’ and ‘*cut*’ which is recapitulated below. Although both verbs express a change-of-state event, only the former can form an anticausative; the latter lacks an anticausative version.

- (16) a. Bill broke the glass
 b. The glass was broken by Bill
 c. The glass broke
- (17) a. The baker cut the bread
 b. The bread was cut by the baker
 c. *The bread cut

The problem for theories that assume that causatives are derived from anticausatives via the addition of a CAUSE predicate is obvious; under such a view, a transitive verb like ‘*cut*’ should not exist as there is no anticausative base from which it could be derived. The same problem also emerges with change-of-state verbs that show *selection restrictions*. More specifically, some verbs have intransitive uses only for certain choices of internal arguments while the corresponding causatives never impose such selection restrictions. This is illustrated below with an example taken from Levin & Rappaport Hovav (1995, 85-86).

- (18) a. He broke the vase
 b. The vase broke

- (19) a. He broke his promise / the contract / the world record
 b. *His promise / the contract / the world record broke

Once again, there is no way to produce examples such as (19a) under the causativization view, as the expected base of the derivation is ungrammatical, i.e. non-existent.

Levin & Rappaport Hovav (1995:105-106) argue that *verb restrictions* as in (17) and *selection restrictions* as in (19) are related and that both can be handled by the detransitivization view on the basis of the following generalization (cf. also Smith (1970) and Reinhart (2000, 2002)):

- (20) The transitive verbs that cannot form anticausatives restrict their subjects to *agents*, or *agents* and *instruments*, and disallow *causers*.

This generalization can be illustrated with the verbs ‘*cut*’ and ‘*break*’. As shown in (21) and (22), the non-alternating ‘*cut*’ can select agents or instruments as subjects but disallows causers, while the alternating ‘*break*’ is compatible with agents, instruments as well as causer subjects, in accordance with the generalization in (20).

- (21) a. The baker / the knife cut the bread
 b. *The lightning cut the clothesline

c. *The bread cut

(22) a. The vandals / the rock broke the window

b. The storm broke the window

c. The window broke

The same explanation can also account for the selection restrictions in (19) above because, for certain choices of objects, the nature of the external argument is specified. The eventualities described in (19) can only come about with the intervention of an *agent*, they cannot be caused by a non-human causer. The ungrammaticality of (19b) can, therefore, also be captured by the generalization in (20).

The rationale behind (20) in the detransitivization view is that a causative verb can leave its external argument unexpressed if its thematic nature is left underspecified (agent *or* causer *or* instrument). If the verb lexically specifies something about the nature of the external argument, then the external argument position cannot be “lexically bound” or “reduced”.²

² The generalization in (20) is of astonishing crosslinguistic validity. Nevertheless, it is not perfect and it is interesting to see what type the counterexamples are. I restrict my discussion here to German but other languages seem to behave in parallel.

German has change-of-state verbs that allow agents and causers as subject but do not form anticausatives. Two such verbs, ‘*zerstören*’ (to destroy) and ‘*erschlagen*’ (to slay) are discussed in Härtl (2003).

- (i) a. Der Fels erschlug das Reh. a'. *Das Reh erschlug.
 the rock slayed the deer the deer slayed
 b. Die Flut zerstörte das Dorf. b.' *Das Dorf zerstörte.
 the flood destroyed the village the village destroyed

Another class of verbs, pointed out to me by Torgrim Solstad (p.c.), restricts its external argument position to natural forces but does form anticausatives. An example would be ‘*anschwemmen*’ (to wash ashore) ‘*anwehen*’ (to blow).

- (ii) a. Der Fluss/*Der Mann schwemmte den Ast an
 the river/ the man washed the branch ashore
 b. Der Ast schwemmte an
 The branch washed ashore

What we do not find are verbs that necessarily select an agent subject and do form anticausatives; truly and necessarily agentive verbs seem to be excluded from anticausative formation.

But the detransitivization view encounters the same logical problem that, sometimes, it would have to derive something from a non-existing base. This is the case with change-of-state unaccusatives which have no causative counterpart (e.g. ‘*bloom*’, ‘*blossom*’, ‘*decay*’, ‘*flower*’). The examples in (23) are taken from Levin & Rappaport Hovav (1995:97). Under the detransitivization view, it is not clear how the anticausative (23a) could be derived as its expected base is ungrammatical.

- (23) a. The cactus blossomed early
 b. *The gardener blossomed the cactus
 c. *The warm weather blossomed the cactus

The crucial property of verbs like ‘*blossom*’ is that they describe changes of state that cannot be directly caused by any outside force. No human can directly cause a flower to blossom and no natural force can do so, either.³ Instead, it seems that the cause of the change-of-state event is linked to properties inherent to the argument undergoing change, i.e. it is a property of the flower itself that it turns from a state without flowers to a state with flowers. Levin & Rappaport Hovav (1995) call such changes of state “*internally caused*”, in contrast to changes of states that can be brought about by an external cause which they call “*externally caused*”. They generalize that verbs expressing an *internally caused* change of state never have a causative version while verbs expressing an *externally caused* change of state have a causative version.

4.1.1.3 PP-modification in passives and anticausatives

A further problem for detransitivization approaches as well as for causativization approaches which is discussed in Alexiadou et al. (2006a, b) concerns the types of arguments that can be introduced by PPs in anticausatives. It turns out that, while anticausatives differ from passives in not licensing agent *by*-phrases, anticausatives

³ Of course, one can facilitate the blooming of a flower, but crucially this is not a case of direct causation but one of indirect causation. In fact, verbs like ‘*blossom*’ enter periphrastic causative constructions which necessarily express indirect causation (“*John/The warm weather made the flower blossom*”).

crosslinguistically license specific prepositions introducing causer arguments. The languages discussed by Alexiadou et al. are English, German and Greek, but the phenomenon is, by far, not restricted to these languages. For example, Pustejovsky (1995) gives Italian examples of anticausatives with causer PPs. The same is attested at least for Albanian (Kallulli 2006d), Romanian (p.c. Gianina Iordachioaia), and older stages of French (Heidinger & Schäfer, to appear), too. In the next sections, I will discuss the phenomenon in English, German and Greek.

4.1.1.3.1 PP-modification in English

As already mentioned in section 4.1.1.2, English causatives license all types of external arguments, namely agents and causers (24) as well as causing events (25a) and instruments (26a). Note that both instruments and causing events can also be introduced as PPs co-occurring with agent subjects as in (25b) and (26b).

(24) John / The earthquake broke the vase

(25) a. Will's banging shattered the window
 b. I cooled the soup by lowering the temperature

(26) a. A stone broke the window
 b. I broke the window with a stone

In the English passive, PPs bearing all of the above thematic roles are licit, too.

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

(28) The window was shattered by Will's banging

Turning to English anticausatives, the first thing to mention is that they license the phrase *by itself*:

(29) The plate broke by itself

Chierchia (1989/2004) and Levin & Rappaport Hovav (1995) argue that this modifier reflects the presence of a CAUSE component in the LSR of anticausatives, providing evidence for the detransitivization analysis. But as we will see, Alexiadou et. al interpret the licensing of '*by-itself*' differently.

Besides this, the *by*-phrase is not licensed in English anticausatives. As is well known, English anticausatives do not license agents, instruments or causers/causing events introduced by the preposition '*by*' (cf. (30) and (31)):

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

(31) a. *The window broke by the storm
b. *The window shattered by Will's banging

However, English anticausatives do license causers and causing events if these are introduced by the preposition '*from*' (cf. (32a, b)), as has been mentioned from time to time in the literature (DeLancey (1984), Piñon (2001), Levin & Rappaport Hovav (2005), Kallulli (2006d, e), Alexiadou et al. (2006a, b)). Agents and instruments, on the other hand, cannot be introduced in anticausatives, not even by '*from*' (cf. (33)).

(32) a. The window cracked / broke from the pressure⁴
b. The window cracked / broke from the explosion

(33) *The door opened from Mary / from the key

The distribution of PPs in English passives is correctly predicted by the detransitivization approach. As mentioned in the beginning of section 4.1, passives contain a thematically unspecified, implicit external argument (either resulting from

⁴ The causing event can sometimes for some speakers be introduced by '*through*' instead of '*from*':

(i) a. John's smoking ((of) cheap cigars) worsened the air quality in the room
b. ?The air quality worsened through John's smoking

saturation as in Reinhart's system, or because it is present in the verb's argument structure but is bound from the mapping from argument structure into syntax in Levin & Rappaport Hovav's terms). This implicit external argument can be modified by PPs denoting agents, instruments, causers/causing events, i.e. this implicit argument can denote the same three thematic roles that are also licensed as external arguments in the corresponding causatives.

Anticausatives, on the other hand, are taken to lack an implicit external argument. Therefore, PPs denoting agents, instruments, causers/causing events, i.e. the three thematic roles that are licensed as external arguments in the corresponding causatives, are expected not to be licensed. This prediction seems to be borne out if one concentrates on the *by*-phrases in (30) and (31), but not if one takes into consideration the well-formedness of the causer *from*-phrases in (32a, b). On the detransitivization view, these examples are expected to be ungrammatical, contrary to fact. The next two sections will show that the same problem arises with German and Greek anticausatives.

4.1.1.3.2 PP-modification in German

Before discussing the situation in German passives and anticausatives, a note on the prepositions associated with the different thematic roles under discussion is in order. German agents are introduced by the preposition '*von*' (cf. (37)), instruments by the preposition '*mit*' (cf. (36b), (37)), causers/natural forces by the preposition '*durch*' (cf. (37)),⁵ and causing events also by the preposition '*durch*' (cf. (35b), (38)).

⁵ Many German speakers allow both '*von*' and '*durch*' to introduce natural forces in passives. '*Durch*' is also sometimes used to introduce human institutions such as administrating organisations and dignitaries as for example in (i) below. The preposition '*von*' would be okay here, too.

(i) Das Projekt wurde durch die Verwaltung / durch den Minister genehmigt.

The project was through the administration / through the minister approved. There might be a slight meaning differences between the two prepositions which I do not investigate here. For an extensive study of the syntax and semantics of German '*durch*' which goes far beyond the observations made here, see Solstad (2007).

As in English, causatives license all of the above theta-roles as external arguments (cf. (34), (35a), (36a)), and agent-subjects can co-occur with prepositions introducing a causing-event or an instrument (cf. (35b), (36b)).

(34) Hans / Der Erdstoß zerbrach die Vase
 Hans / the earth-tremor broke the vase
 ‘Hans/the earth-tremor broke the vase’

(35) a. Das Rauchen von Zigarren verschlechtert die Luftqualität im Raum
 the smoking of cigars worsens the air-quality in-the room
 ‘Smoking cigars worsens the air quality in the room’

b. Peter verschlechtert die Luftqualität im Raum
 Peter worsens the air-quality in-the room
 durch das Rauchen von Zigarren
 through the smoking of cigars
 ‘Peter worsens the air quality in the room by smoking cigars’

(36) a. Die Medizin heilt den Patienten
 the medicine cures the patient
 ‘The medicine cures the patient’

- b. Der Arzt heilt den Patienten mit der Medizin⁶
 the doctor cures the patient with the medicine
 ‘The doctor cures the patient with the medicine’

German passives also behave like their English counterparts. They permit agents, causers/forces and instruments (cf. (37)) as well as causing events (cf. (38)):

- (37) Die Vase wurde von Peter / durch den Erdstoß /
 the vase was by Peter / through-the earth tremor /
 mit dem Hammer zerbrochen
 with the hammer broken
 ‘The vase was broken by Peter / by the earth tremor / with the Hammer’

- (38) Die Luftqualität im Raum wird durch das Rauchen
 the air-quality in-the room is through the smoking
 von Zigaretten verschlechtert
 of cigarettes worsened
 ‘The air quality in the room is worsened by the smoking of cigarettes’

⁶ German does not allow instruments in subject position but only ‘instrument-causers’ (“Instruments which can be conceived as acting on their own, once the agent has applied or introduced them”, cf. Kamp and Rossdeutscher (1994:144), Alexiadou & Schäfer (2006)):

- (i) a. Der Arzt heilt den Patienten mit der Kamille / dem Skalpell
 the doctor cures the patient with the camomile / the scalpel
 b. Die Kamille / *Das Skalpell heilt den Patienten
 the camomile / *the scalpel cured the patient

In the example (ii) below “the hammer” is ungrammatical unless it is contextually construed as an instrument-causer, which means that it is construed as being involved in some (self-)energetic event (cf. Alexiadou & Schäfer (2006)), for example, if the hammer is flying through the window after some agent has thrown it.

- (ii) (?*) Der Hammer zerbrach das Fenster
 the hammer broke the window

German anticausatives do not license agents and instruments (cf. (39)) but, as already discussed in chapter 2.3, they license causers and causing events if these are introduced by the preposition ‘*durch*’ as illustrated in (40) and (41). Thus, they behave exactly like their English counterparts. Note, once again, that the two morphologically distinct types of anticausatives that we have identified in German (\pm reflexive morphology) pattern the same with respect to the distribution of these PPs.

- (39) a. Die Vase zerbrach *von Peter / *mit dem Hammer
 the vase broke *by Peter / *with the hammer
 ‘*The vase broke by Peter/with the hammer’
- b. Die Tür öffnete sich *von Peter / *mit dem Schlüssel
 the door opened REFL by Peter / with the key
 ‘*The door opened by Peter/with the key’
- (40) a. Die Vase zerbrach durch ein Erdbeben
 the vase broke through an earthquake
 ‘The vase broke from an earthquake’
- b. Die Tür öffnete sich durch einen Windstoß
 the door opened REFL through a blast-of-wind
 ‘The door opened from a blast of wind’
- (41) Die Luftqualität im Raum verschlechtert sich
 the air-quality in-the room worsens REFL
 durch das Rauchen von Zigaretten massiv
 through the smoking of cigarettes severely
 ‘The quality of the air in the room worsens severely from the smoking of cigarettes’

Finally, the German counterpart of the English ‘*by-itself*’ phrase is similarly licensed in anticausatives.

- (42) a. Die Vase zerbrach von selbst
 the vase broke from self
 ‘The vase broke by itself’
- b. Die Tür öffnete sich von selbst
 the door opened REFL from self
 ‘The door opened by itself’

4.1.1.3.3 PP-modification in Greek

Again, before I proceed to the discussion of the Greek data, I introduce the PPs associated with the thematic roles under discussion. In Greek, agents are introduced by ‘*apo*’ (cf. (43a)), instruments by ‘*me*’ (cf. (43a)), causers/natural forces are introduced by either ‘*apo*’ or ‘*me*’ (cf. (46))⁷ and causing events are introduced by *me* (cf. (47)).

Since Greek causatives behave similarly to their English and German counterparts in licensing agents, causers, causing events and, to some extent, instruments in subject position, we do not present the relevant data here (cf. Alexiadou & Schäfer (2006) for examples as well as for a discussion of the general theta-theoretical status of instruments in subject position). Turning to the Greek passive, recall that unlike English and German, the Greek passive is synthetic and is characterized by the presence of *non-active* (NACT) morphology. As the following data show, the Greek passive licenses agents and instruments (cf. (43a)) but not causers (cf. (43b)) and causing events (cf. (43c)), and, therefore, it crucially differs from the English and German passive variants (see also Zombolou (2004), Alexiadou & Schäfer (2006)).

⁷ Choice of ‘*apo*’ vs. ‘*me*’ seems to correlate with “direct” vs. “indirect” causation (cf. Bittner 1999, Kratzer 2005). In contexts where the causal relation between the causer and the change of state is semantically indirect (the causal chain includes intermediate causes) ‘*me*’ is favored and ‘*apo*’ is dispreferred (in the examples in (i) below ‘*apo*’ is licensed only in a temporal interpretation corresponding to *since*).

- (i) a. I times afksithikan me tin krisi tu petreleu / ??apo tin krisi tu petreleu
 the prices increased with the petrol crisis / by the petrol crisis
- b. I dimosia sinkinonia alakse me tus Olimbiakus agones / ??apo tus Olimbiakus agones
 public transportation changed with the Olympic games / by the Olympic games’

- (43) a. Ta mallia mu stegnothikan apo tin komotria /
 the hair my dried.NACT by the hairdresser /
 me to pistolaki
 with the hair-dryer
 ‘My hair was dried by the hairdresser / with the hair dryer’
- b. ?*Ta ruxa stegnothikan apo ton ilio / me ton ilio
 the clothes dried.NACT by the sun / with the sun
 ‘The clothes were dried by the sun’
- c. ?*Ta ruxa stegnothikan me toaploma ston ilio
 the clothes dried.NACT with the-hanging-up under the-sun
 ‘The clothes were dried by hanging them up under the sun’

Greek anticausatives are like their English and German counterparts in that they do not license agents (cf. (44)) but do license causers and causing events (cf. (46)-(47); see also Zombolou (2004)). Unlike English and German, Greek anticausatives license instruments (cf. (45)). I will not discuss this latter point here but refer the reader to the discussion in Alexiadou et al. (2006a) for refinement).⁸

⁸ Not all anticausatives allow instruments, as shown in (i-ii):

- (i) *O tixos asprise me to pinelo
 the wall whitened with the paint-brush
- (ii) *To psigio ksepagose me to maxeri
 the refrigerator defrosted with a knife

It seems that instruments are licensed when they can surface as subjects in the corresponding transitives (compare the well-formed transitive (iiiia) to its well-formed counterpart (45a) and the ill-formed (iiib) to (i)) and they are not licensed when they cannot be subjects of transitives:

- (iii) a. To pistolaki stegnose ta mallia
 the hair-dryer dried the hair
- b. *To pinelo asprise ton tixo
 the paint-brush whitened the wall

The above seems to relate to the distinction between instruments and instrument-causers in German; see fn. 6. If this is the correct view, then Greek anticausatives behave exactly as English or German anticausatives in licensing only (instrument-) causer PPs.

As in German, the two morphologically distinct types of anticausatives in Greek (\pm active morphology) do not differ in the distribution of the PPs (compare (44a) to (44b), (45a) to (45b), (46a) to (46b) and (47a) to (47b)). However, an issue arises concerning the verbs that form both the passive and the anticausative via non-active morphology e.g. ‘*katastrefo*’ (to destroy) (in (46b)) or ‘*skizo*’ (to tear) (in (45b)); these are ambiguous between the two interpretations.⁹ For those verbs, modification by an agent PP yields a passive interpretation (see (44b)).

- (44) a. *Ta mallia mu stegnosan apo tin komotria
 the hair my dried.ACT by the hairdresser
 ‘*My hair dried by the hairdresser’
- b. (*)To hirografo katastrafike apo tin ipalilo
 the manuscript destroyed.NACT by the employee
 ‘*The manuscript destroyed by the employee’
- (45) a. Ta mallia mu stegnosan me to pistolaki
 the hair my dried.ACT with the hair-dryer
 ‘*My hair dried with the hair dryer.’
- b. To pani skistike me to psalidi
 the cloth tore.NACT with the scissors
 ‘*The clothes tore with the scissors’
- (46) a. Ta ruxa stegnosan apo / me ton ilio
 the clothes dried.ACT by / with the sun
 ‘*The clothes dried by the sun’
- b. To hirografo katastrafike apo / me tin pirkagia
 the manuscript destroyed.NACT by / with the fire
 ‘The manuscript got destroyed by the fire’

⁹ Note that ‘*katastrefo*’ (to destroy) forms anticausatives in Greek, unlike English and German. See section 4.1.1.4 for discussion.

- (47) a. Ta ruxa stegnosan me to aploma ston ilio¹⁰
 the clothes dried.ACT with the hanging-up under the sun
 ‘*The clothes dried by hanging them up under the sun’
- b. Me tin afksisi tis igriasias to hirografo katastrafike
 with the rising the humidity.GEN the manuscript destroyed.NACT
 ‘*The manuscript destroyed by the rising of humidity’

Finally, as in the other two languages, the ‘*by-itself*’ phrase is also licensed in Greek anticausatives.

- (48) a. I porta anikse apo moni tis
 the door opened.ACT by alone hers
 ‘The door opened by itself’
- b. To pani skistike apo mono tu
 the cloth tore.NACT by alone its
 ‘The cloth tore by itself’

Summarizing, assuming that the grammaticality of *from*-PPs, *durch*-PPs and *apo/me*-PPs points to the presence of an *implicit causer* in anticausatives, then the difference between passives and anticausatives in English, German and Greek cannot be expressed in terms of the presence (in passives) vs. absence (in anticausatives) of implicit arguments. Moreover, the fact that agents are licensed exclusively in passives and not in anticausatives suggests that the difference between the two constructions has

¹⁰ It seems that sometimes ‘*apo*’ can introduce a causing event when this is understood as a “direct causer”, as in (ia). This is possible only when the causing event is expressed through a *process nominal*, not when it is expressed through a nominalized clause; see (ib):

- (i) a. I porta espase apo to apotomo klisimo
 the door broke by the abrupt closing
- b. Me/*apo to na kliso apotoma tin port tin espasa
 with/ *by the SUBJ-close-1.SG abruptly the door CL.ACC broke-1.SG
 ‘I broke the door by closing it abruptly’

The contrast between (ia) and (ib) as well as the contrast between (ia) and the examples in (47) as well as the distribution of PPs in Greek are discussed in detail in Alexiadou & Anagnostopoulou (2007).

to do with the presence of agentivity only in the former. Furthermore, the observation that the passive in Greek can only be modified by an agent or an instrument (and not by a causer/causing event) leads to the conclusion that the implicit argument in Greek passives is an agent and never an unspecified external argument.

4.1.1.4 Crosslinguistic differences in verb restrictions and selection restrictions

A further problem for derivational accounts of the causative alternation has to do with crosslinguistic differences in verbs licensing the alternation and selectional restrictions on the licensing of the alternation. The discussion is restricted here to data from English and Greek; German behaves in all respects as English does.

The core set of verbs that undergo the causative alternation is stable across languages. There is, however, interesting variation in two domains, namely verb restrictions and selectional restrictions.

With respect to the first domain, there are verbs that are predicted by Levin & Rappaport Hovav (1995) and Reinhart (2000, 2002) to allow the alternation but, in fact, do not in English and German, although they do in Greek. This difference is illustrated with the English examples in (49) and (50) and Greek examples in (51) and (52) which involve the verbs ‘*destroy*’ and ‘*kill*’:¹¹

(49) a. John / the fire / the bomb destroyed the manuscript

b. *The manuscript destroyed

(50) b. John / the fire / the bomb killed Mary

b. *Mary killed

(51) a. O Petros / i fotia / i vomva katestrepse to paketo

Peter / the fire / the bomb destroyed the package

¹¹ As pointed out by Reinhart (2002), ‘*destroy*’ has an unaccusative variant in Hebrew (*neheras*) and French (*se-detruire*).

- b. To paketo katastrafike (apo / me tin fotia / me tin vomva)
the package destroyed.NACT by / with the fire / with the bomb
- (52) a. O Petros / o sismos / i vomva skotose ti Maria
Peter / the earthquake / the bomb killed the Mary
- b. I Maria skotothike (apo / me ton sismo / me tin vomva)
the Mary killed.NACT by / with the earthquake / with the bomb

With respect to the second domain, certain V+Obj combinations predicted by Levin & Rappaport Hovav (1995) and Reinhart (2000, 2002) to not allow the alternation, actually do alternate in Greek. This contrast between English (German behaves as English) and Greek is illustrated in (53) and (54).

- (53) a. He broke his promise / the contract / the world record.
b. *His promise / the contract / the world record broke
- (54) a. O athlitis espase to simvolaio / to pagkosmio record
the athlete broke the contract / the world record
- b. To simvolaio / to pagkosmio record espase
the contract / the world record broke.ACT

Recall that contrasts like the one in (53) have been taken to show that when the subject is necessarily an agent, the anticausativization of verbs normally entering the alternation is impossible (see Levin & Rappaport Hovav (1995: 85–88; 105)). But this does not explain why the Greek examples are grammatical. It seems then that the conditions on the licensing of anticausatives are not totally uniform across languages.¹² This variation is not predicted and cannot be handled by derivational theories as they stand.

¹² I refer the reader to Alexiadou et al. (2006a) for the sketch of an explanation of the Greek data in (54).

4.1.1.5 Interim conclusion

In the previous sections, I replicated a number of drawbacks that Alexiadou et al. (2006a, b) identified for derivational analyses of the causative alternation.

First, the crosslinguistic variation in morphological marking found in the alternation does not provide conclusive evidence for either direction.

Second, both views do not fare satisfactorily with respect to the issue of verb/selectional restrictions within languages and across languages.

Moreover, Alexiadou et al. show that the class of alternating verbs is not stable across languages (see also Bhatt & Embick (in progress)). The verbs that alternate in English and German form a subset of the verbs alternating in Greek, a variation not expected by the detransitivization approach and hard to model in the causativization approach. Even more importantly, the thematic restriction on the Greek passive discussed in section 4.1.1.3.3 (i.e. the fact that the implicit subject is necessarily an agent) is in conflict with the assumption made in Levin & Rappaport Hovav (1995) and Reinhart (2000, 2002) that the implicit external argument of alternating verbs can optionally be an agent or a causer. In turn, this suggests that the class of alternating verbs cannot be defined in terms of the nature of the external theta-role (unspecified external theta-role can be suppressed vs. specified external theta-role cannot) arguing against detransitivization.

Finally, as shown in section 4.1.1.3, the generally accepted view that anticausatives lack an implicit external argument is challenged by PP-modification in the languages under discussion. If we take the grammaticality of *from*-PPs, *durch*-PPs and *apo/me*-PPs to point to the presence of an *implicit causer* in anticausatives, then the difference between passives and anticausatives cannot be expressed in terms of implicit arguments. The fact that agents are licensed only in passives and not in anticausatives suggests that the difference between the two has to do with agentivity. Alexiadou et al. conclude from these considerations that agentivity and causation should be syntactically represented in terms of distinct functional heads (see also Pylkkänen (2002), Kratzer (2005)). In the next sections, I will introduce the theory developed by Alexiadou et al. (2006a, b) in detail and develop on parts of this theory. Further, I will try to look critically at some parts of the theory and try to make clear that these can only be seen as a first step to the direction of a full understanding of the causative alternation and, especially, to its

crosslinguistic variance. Before I turn to the details of the analysis of the causative alternation, I first discuss the event decomposition of causatives and anticausatives.

4.1.2 On the event decomposition of (anti-)causatives

In this section, I will discuss how the assumptions about the event decomposition of causative and anticausative verbs have changed during the last decades. The proposal to decompose (causative and anticausative) verbs goes back at least to the area of Generative Semantics. Since then, there has been a big discussion as to whether this decomposition should happen in the syntax (e.g. McCawley 1968) or only in the semantic representation of the clause (e.g. Dowty (1979)). Leaving this latter question aside for the moment, linguists typically used to assume that causatives decompose into the events CAUSE, BECOME and STATE, while anticausatives decompose only into the latter two events, i.e. BECOME and STATE. An informal decomposition of a causative and an anticausative verb are given below in the examples (55) and (56), where the adjective ‘*open*’ denotes the STATE in the decomposition.

- (55) a. He opens the door
 b. [he [CAUSE [BECOME [the door OPEN]]]]

- (56) a. The door opens
 b. [BECOME [the door OPEN]]

One argument for such a decomposition comes from the ambiguity of adverbs like ‘*again*’. The sentence (57a) is ambiguous between a so-called *restitutive* reading and a so-called *repetitive* reading. The latter reading presupposes the existence of a previous time at which the door changed from being closed to being open while the former reading just presupposes that there is a previous time at which the door was open but not that there was a previous opening event. Assuming an event decomposition of the anticausative verb ‘*open*’ as in (56b), we can understand these two readings as a scope ambiguity. Under the *restitutive* reading, the adverb ‘*again*’ scopes just over the resultant state of the door as illustrated in (57b), while, under the *repetitive* reading, the

adverb scopes over the whole change-of-state event, i.e. over both the BECOME operator as well as the resultant state operator as illustrated in (57c).

- (57) a. The door opens again
 b. [BECOME [*again* (the door OPEN)]]
 c. [*again* [BECOME (the door OPEN)]]

The same ambiguity appears with the transitive version of ‘*open*’ as in (58a). Under the *restitutive* reading, the subject causes the door to return to its previous state of being open; no further opening event is presupposed. This reading is illustrated in (58b). Under the *repetitive* reading, the subject opens the door and it is presupposed that he had done this before. This reading is illustrated in (58c).

- (58) a. He opens the door again
 b. [he [CAUSE [BECOME [*again* (the door OPEN)]]]]
 c. [*again* [he [CAUSE [BECOME (the door OPEN)]]]]

Von Stechow (1995, 1996) argues that the event decomposition of change-of-state verbs must take place in the syntax because word order shows effects on the possible readings adverbs like ‘*again*’ can have. For example, in English, topicalization of the adverb prevents the *restitutive* reading; only the *repetitive* reading is possible in (59).

- (59) Again, John closed the door.

As shown by von Stechow (1995, 1996), in German, too, the position of the adverb ‘*wieder*’ (again) has an influence on the two readings. If ‘*wieder*’ follows the theme as in (60a), both the *restitutive* reading and the *repetitive* reading are possible but if ‘*wieder*’ precedes the theme as in (60b), only the *repetitive* reading is possible.

- (60) a. als die Tür wieder aufging
 when the door again opened

- b. als *wieder* die Tür aufging
 when again the door opened

The same effect can be found with causative verbs. If the adverb follows the theme as in (61a), we get both readings but if it precedes the object as in (61b), only the *repetitive* reading is possible.

- (61) a. als Hans die Tür *wieder* öffnete
 when John the door again opened
 b. als Hans *wieder* die Tür öffnete
 when John again the door opened

These examples show that word order has an effect on the interpretation of adverbs such as English ‘*again*’ or German ‘*wieder*’. This argues in favour of a theory that assumes that the readings these adverbs receive are derived in the syntax. A lexical account for the two readings, for example the assumption that two different adverbs (a repetitive and a restitutive ‘*again*’) exist, cannot derive these effects. Specifically, as von Stechow (1995, 1996) shows in detail, these effects can be derived under the assumption that change-of-state verbs are decomposed in the syntax into different eventive layers and that ‘*again/wieder*’ expresses the repetition of those events of the decomposition it has syntactic scope over. To give just one example, consider the sentences in (60) again. Von Stechow assumes that, in German, the (definite) theme necessarily moves from its argument position to a VP-external case position – call it AgrOP.¹³ It follows, then, that the adverb, if it follows the theme, can either have scope over the STATE operator or over both the BECOME operator and the STATE operator (cf. (62a)). But if the adverb precedes the theme, it necessarily has wide scope over both operators (cf. (62b)).

¹³ The assumption of obligatory case movement in German is not without problem, however. Further, it should be mentioned that focal stress on ‘*again/wieder*’ can have the same semantic disambiguation effect as word order change (cf. Kamp (in preparation)). For reasons of space, I do not discuss this complication and its relevance for syntactic accounts of the *repetitive/restitutive* contrast here.

- (62) a. als [_{AgrOP} die Tür_i [*wieder*_{rep} [BECOME [*wieder*_{res} [STATE t_i open]]]]]]
 b. als [*wieder*_{rep} [_{AgrOP} die Tür_i [BECOME [STATE t_i open]]]]

However, while the behavior of ‘*again/wieder*’ argues in favour of a syntactic decomposition of (anti-)causatives, the proposal that the different readings of these adverbs are the effect of different syntactic scope relations leads to a problem. To see this, recall that it was proposed that causatives and anticausatives differ in the number of events involved (the former have three events, CAUSE, BECOME and a STATE while the latter have two events, BECOME and STATE). A theory that derives the different readings of ‘*again*’ and ‘*wieder*’ via syntactic scope relations makes the strong prediction that there should exist one reading more in the case of causatives than in the case of anticausatives. More specifically, the theory predicts for anticausatives the two readings already discussed and replicated in (63) while it predicts for causatives three readings as illustrated in (64) (see von Stechow (1995), Pytkänen (2002)):

- (63) The door opened again
 (i) The opening event (and also the resultant state) is repeated:
The door again became open
 [*again* [... BECOME ... [... STATE ...]]]
 (ii) Only the resultant state is repeated:
The door returned to a state of openness
 [... BECOME ... [*again* [... STATE ...]]]]
- (64) John opened the door again.
 (i) Agent's action (and also the opening event and the resultant state) is repeated:
John did something again and as a result the door opened.
 [*again* [... CAUSE ... [... BECOME ... [... STATE ...]]]]
 (ii) Opening event (and the resultant state) is repeated:
John did something and as a result the door opened again.
 [... CAUSE ... [*again* [... BECOME ... [... STATE ...]]]]

(iii) Only the resultant state is repeated:

John did something and as a result the door returned to its previous state of being open.

[... CAUSE ... [... BECOME ... [*again* [... STATE ...]]]]

The problem already observed by von Stechow (1995) is that the reading in (64ii) does not seem to exist, neither in English nor in German.¹⁴

One way to interpret the data in (63) and (64) is that causatives and anticausatives do not differ in the number of event predicates involved; causatives cannot be built from three event predicates.

Partly because of these scope facts with ‘*again/wieder*’, Pylkkänen (2002) proposes that only anticausatives but not causatives have a BECOME predicate (this solution to the problem was also discussed in von Stechow (1995:106)). This means that anticausatives have the event decomposition in (65b) and causatives have the decomposition in (66b).¹⁵

- (65) a. The door opens
 b. [BECOME [the door OPEN]]

¹⁴ The same holds for manner adverbs (cf. Fodor (1970), Fordor & Lepore (2000), Pylkkänen (2002)). In (i) the adverb necessarily modifies the subject’s action and not Bill’s awakening.

(i) John awoke Bill grumpily (false if John was not grumpy)

Lexical causatives differ thereby from periphrastic causatives as the examples below from Higginbotham (2000) show; (iii) is ambiguous, (ii) is not.

(ii) John sat his guests down frequently/repeatedly

(iii) John caused his guests to sit down frequently/repeatedly

¹⁵ Therefore, (66) does not mean that ‘John causes the door to become open’ but it means that ‘John causes the door to be open’. Just a small adjustment is necessary to make this conception of the CAUSE operator in lexical causatives compatible with its conception as a counterfactual dependence in Dowty (1979) or Lewis (1973). An informal definition of this causal dependence is as follows (cf. Kratzer 2005:28): “Let *e* and *c* be two distinct actually occurring events in our universe of events *E*. Then *e* depends causally on *c* just in case *e* wouldn’t have occurred if *c* hadn’t.”

All we need to assume is that *e* can either be an event proper or a state.

- (66) a. John opens the door
 b. [John [CAUSE [the door OPEN]]]

Such a decomposition of causatives makes the right prediction that only two readings for ‘*again/wieder*’ exist.

Kratzer (1996), following ideas in Marantz (1984), proposes that the external arguments of a verb is “severed” from the actual verb and is introduced by an extra projection on top of the actual verb, the so-called Voice projection. Semantically, the external argument is connected with the verbal event due to a process called ‘event identification’. To take an example, the sentence (67a) has the structure (67b) under Kratzer’s conception. The verb has just an internal argument as in (68a), the external argument (the agent) is introduced by the (phonetically silent) *Voice* head with the semantics in (68b). The verb combines with the external argument semantically via a compositional principle which identifies the event variables contributed by *Voice* and the verb (Event Identification, Kratzer 1996:122). This yields the semantic representation in (68c).

- (67) a. Sue bought the doll.
 b. [Sue [*Voice* [bought the doll]]]

- (68) a. *buy*: $\lambda x \lambda e$ [buy (x)(e)]
 b. *Voice*: $\lambda x \lambda e$ [Agent (x)(e)]
 c. λe [buy (the-doll)(e) & Agent (Sue)(e)]

As already mentioned in chapter 2.3.2, Pylkkänen (2002) explicitly applies Kratzer’s Voice-Hypothesis to causative verbs. She argues that we find situations where a CAUSE predicate appears without an external argument and she concludes from this that the external argument in causatives should not be an immediate argument of the CAUSE predicate. Instead, she goes on to argue that the external argument in causatives is introduced by a Voice projection above CAUSE. This gives us the following representation of causatives in (69b).

- (69) a. John opens the door
 b. [John [*Voice* [CAUSE [the door OPEN]]]]

Since *Voice* does not introduce any further event but just relates the external argument to the event introduced below by the CAUSE predicate, this decomposition does not predict that there should be more than two readings for the adverb ‘*again/wieder*’.¹⁶

Finally, Kratzer (2005) argues that if CAUSE does not introduce the external argument itself, we can get rid completely of the BECOME predicate. Under this view, causatives and anticausatives have exactly the same event decomposition and they differ only in the presence vs. absence of *Voice*. Anticausatives have the decomposition in (70b), causatives have the decomposition in (71b).¹⁷

¹⁶ This claim needs some qualification, however. Paslawska (1998) claims to have identified the missing reading where German ‘*wieder*’ (again) scopes between CAUSE and BECOME. She tries to illustrate it the following way:

- (i) The bottle is without a cork.
- (ii) John corks the bottle
- (iii) Mary uncorks the bottle
- (iv) Tom corks the bottle again

She argues that the last sentence in this scenario is ambiguous (in German); depending on the specific stress patterns of the sentence it can have a *restitutive* reading and a reading where ‘*again/wieder*’ scopes between CAUSE and BECOME. In my opinion, however, the reading she identifies instantiates a situation where the adverb scopes between *Voice* and CAUSE. What is repeated in sentence (iv) is an event that is necessarily instantiated by some agent, but where it is, however, that the agent entity itself varies with each repetition. This is not the reading where the adverb scopes between CAUSE and BECOME, because there we would expect a reading to be possible where an event is caused by an agent and this event had unfolded before without the interaction of an agent.

¹⁷ Obviously, analyzing anticausatives as causative predicates without an external argument requires a reanalysis of those cases that Pylkkänen (2002) analysed as causatives without external arguments, i.e. the Finnish desiderative construction and the Japanese adversity causatives discussed in section 2.3.2.1, which differ syntactically and semantically from ordinary anticausatives. I suggest that these should find an analysis similar to the one proposed for the Icelandic ‘*stray accusative*-construction’ and the German ‘*es*-construction’ in chapter 7. Especially the behavior of all these constructions with respect to the ‘*by itself*’ test (i.e. they do not tolerate the addition of ‘*by itself*’) suggests this.

- (70) a. The door opens
 b. [CAUSE [the door OPEN]]
- (71) a. John opens the door
 b. [John [CAUSE [the door OPEN]]]

While this view on anticausatives might take getting used to, a look at the formal semantics of CAUSE makes it clear that the decomposition in (70b) brings about the correct result. (70) means that it holds true that there is an event *e* (an opening event) and a state *s* (the door is open), and that the state would not hold true if the event had not occurred (cf. fn. 15).

In the next section, I return to the theory of Alexiadou et al. (2006a, b) who argue that the conception of the causative alternation as in (70)-(71) is essentially correct; that is, the causative alternation should be seen as a Voice alternation and causatives and anticausatives involve the same event decomposition with a causative meaning component present even in anticausatives (see also Levin & Rappaport (1995) for this latter point).

4.1.3 The syntax of (anti-) causatives

Alexiadou et al. (2006) argue that agentivity and causation are represented by different heads in the decomposition of causatives and (following Kratzer (2005)) that the eventive head in causatives and in anticausatives is the same. Their argument runs as follows:

The passive *by*-phrase typically licenses the same types of external arguments that are also licensed in the active. On the other hand, it is well known that anticausatives do not license the *by*-phrase. Below, this is shown once again for English.

- (72) a. John / the explosion / Will's banging broke the window
 b. The window was broken by John / by the explosion / by Will's banging

(73) *The window broke by John / by the explosion / by Will's banging

The contrast between (72) and (73) is typically taken as indication that actives and passives have the potential to assign an external theta-role while anticausatives do not have this potential. One way to express this theoretically, given the recent discussion, is to assume that actives and passives have a Voice projection while anticausatives lack such a Voice projection.

However, Alexiadou et al. draw upon the observation already discussed in section 4.1.1.3, namely that anticausatives crosslinguistically license causers and causing events, but not agents via some preposition. In English, this is the preposition '*from*'. From this, Alexiadou et al. conclude that anticausatives contain some causative semantics which is able to license causer PPs.

(74) a. The window broke from the explosion / Will's banging
 b. *The door opened from Mary

This set of facts leads Alexiadou et al. to the decomposition of (anti-) causatives in (75) and (76) below. Both causatives and anticausatives are built up from a [$\sqrt{\text{Root}} + \text{Theme}$] complex which expresses a resultant state and an eventive verbal head CAUS which takes the resultant state as its complement. CAUS introduces *a causal relation* between a causing event (the implicit argument of CAUS) and the resultant state denoted by the [$\sqrt{\text{Root}} + \text{theme}$] complex. Causatives (in the active as well as in the passive) additionally have a Voice projection on top of CAUS which is responsible for the introduction of the external argument. On this view, there is no directionality to the causative/anticausative alternation, as none of the two constructions is directly derived from the other. Instead, both are derived from the same Root.

(75) The abstract decomposition of *anticausatives*
 [CAUS [$\sqrt{\text{Root}} + \text{DP}_{\text{theme}}$]]

(76) The abstract decomposition of *causatives*
 [$\text{DP}_{\text{ext.arg}}$ VOICE [CAUS [$\sqrt{\text{Root}} + \text{DP}_{\text{theme}}$]]]

In (77) and (78), this decomposition is illustrated in concrete examples.

- (77) a. He opened the door
 b. [He VOICE [CAUS [the door $\sqrt{\text{open}}$]]]

- (78) a. The door opened
 b. [CAUS [the door $\sqrt{\text{open}}$]]

Importantly, Voice does not introduce an event (*DO*) but simply expresses a relation between the element in its specifier and the event in its complement position (CAUS). This is the original conception of Voice as it was introduced by Kratzer (1996).

Turning to the specific relation Voice introduces, Alexiadou et al. (2006) propose that Voice bears features relating to the thematic role of the external argument and features relating to manner. The presence of a [+/-agentive] feature is responsible for the licensing of agent and causer external arguments in active and passive constructions. Specifically, agentive Voice (Voice [+AG]) licenses agents (and instrumental PPs) in the active and in the passive; non-agentive Voice (Voice [-AG]) licenses causers in the active and in the passive. If a Voice head is active, then the argument with the relevant thematic role is realised in its specifier; if it is passive, then the argument with the relevant thematic role is implicit.¹⁸

Turning to the licensing of PPs in passives and anticausatives, Alexiadou et al. assume that adjunct PPs are licensed by structural layers that contain the relevant semantic features. The decomposition in (75)/(76) involves two types of licensing heads, Voice and CAUS, for the PPs under discussion. Passive Voice with the feature [+AG] licenses agents and true instrument PPs, whereas passive Voice with the feature [-AG] licenses causer *by*-PPs in English and causer *von*-PPs (or causer *durch*-PPs) in German. Those causer PPs found in anticausatives such as English *from*, German *durch* and Greek *apo-*, *me-* PPs are thematically licensed by CAUS.

¹⁸ Alexiadou et al. remain agnostic with respect to the specific syntactic implementation of implicit arguments, i.e. whether they are present in the form of a covert pronoun or just in terms of features on Voice.

Recall that the Greek passive differs from its English/German counterpart in that it allows only for agent PPs but not for causer PPs. This suggests that the passive Voice head in Greek necessarily carries the feature [+AG] (for further details on the Greek passive see Alexiadou et al. (2006a) and the references cited there).¹⁹

The last component involved in the structure in (75)/(76) is the category-neutral Root. Alexiadou et al. argue that these Roots, the residue of lexical entries, bear information which (partly) determines whether a verb undergoes the causative alternation or not. They argue that the following four types of verbs and, therefore, four types of Roots need to be differentiated:

Some Roots form verbs that can only be used as transitive causatives. These verbs fall into two classes.

(i) A large class of verbs that restrict their external argument position to agents. The verb ‘*cut*’ in (79) is an example of this class. This restriction on the external theta-role was discussed by Levin & Rappaport & Hovav (1995) and by Reinhart (2000) as the crucial factor in determining whether a verb alternates or not.

(ii) But there also exists a smaller group of verbs that allows agents as well as causers as subjects but, nevertheless, does not form anticausatives. (cf. also Härtl (2003) for discussion of this class). An example would be the verb ‘*destroy*’ in (80).

(iii) Roots that form causatives as well as anticausatives. An example is English ‘*break*’ in (81).

(iv) Roots that only form anticausatives/inchoatives but not causatives. An example is English ‘*blossom*’ in (82).

- | | | |
|---------|--|-------------------|
| (79) a. | The baker cut the bread | (agent subject) |
| b. | *The lightning cut the clothesline ²⁰ | (*causer subject) |
| c. | *The bread cut | (*anticausative) |

¹⁹ The same restriction seems to hold for the Icelandic passive (cf. Jonsson (2003)), and for Jacalteco transitives (cf. Craig (1976), Alexiadou & Schäfer (2006)).

²⁰ Not all speakers of English agree that this example is ungrammatical.

- (80) a. John destroyed the parcel (*agent subject*)
 b. The explosion destroyed the parcel (*causer subject*)
 c. *The parcel destroyed (**anticausative*)
- (81) a. The vandals broke the window (*agent subject*)
 b. The storm broke the window (*causer subject*)
 c. The window broke (*anticausative*)
- (82) a. *The gardener blossomed the flower (**agent subject*)
 b. *The warm weather blossomed the flower (**causer subject*)
 c. The flower blossomed (*anticausative*)

Alexiadou et al. (2006a, b) propose that Roots fall into different classes depending on their encyclopedic semantics (c.f. also Marantz (1997), Harley & Noyer (2000), Bhatt and Embick (in progress)). Following the terminology in Levin & Rappaport (1995), Roots that form verbs that necessarily select for an agent as subject are called ‘*agentive*’, Roots that form verbs that leave the external argument unrestricted but, nevertheless, do not form anticausatives are called ‘*externally caused*’, Roots that form verbs which undergo the causative alternation are called ‘*cause unspecified*’, and Roots that form verbs which can only form inchoatives/anticausatives but not causatives are called ‘*internally caused*’. (83) shows some further English instantiations of these four Roots-classes.

- (83) √agentive (*murder, assassinate, cut*)
 √internally caused (*blossom, wilt, grow*)²¹
 √externally caused (*destroy, kill, slay*)
 √cause unspecified (*break, open, melt*)

²¹ For Alexiadou et al. (2006a, b), unergative predicates are not causatives, and, hence, cannot be classified as internally caused, contra Levin & Rappaport Hovav (1995) and in line with Marantz (1997).

The encyclopedic information associated with Roots is now the factor which decides whether a verb undergoes the causative alternation or not. The idea is that every Root which can be used to form a change-of-state verb can show up in both the anticausative/inchoative frame in (75) as well as in the transitive/causative frame in (76) from a syntactic point of view. None of the examples in (79)-(82) above is ungrammatical but some of them are unintelligible because they are not compatible with the encyclopedic knowledge which speakers associate with the verbal Roots involved. If a Root refers to an event that is conceptualized as necessarily ‘agentive’ or ‘externally caused’, then the intransitive construction with this Root is unacceptable (cf. (79c) and (80c)). If a Root refers to an event that is necessarily conceptualized as ‘internally caused’, then the causative construction is bad (cf. (82 a, b)). And if a Root expresses an event that is unspecified for ‘external’ vs. ‘internal’ causation, then the Root is acceptable in both frames, i.e. it forms a verb undergoing the causative alternation (cf. (81)).²²

This means that all types of Roots combine with CAUS but the encyclopedic class of the Root decides whether a Root can also combine with a specific Voice head on top of CAUS. Predicates like ‘*murder*’ are based on Roots that are externally caused but are also agentive. For this reason, they can only appear in the context of Voice[+AG] and hence cannot form anticausatives in any of the languages under discussion.²³

Roots like ‘*blossom*’ are internally caused and hence combine exclusively with CAUS in all the languages under discussion (i.e. no thematic Voice head can be present), as the events which they express cannot be brought about by an external argument. It is crucial to note that they are, nevertheless, causative. A convincing piece of evidence is provided by PP-modification, illustrated here with an English example (similar observations can be made for German and Greek).

²² Languages differ in how they treat externally caused Roots. In German and English they form only the passive. In Greek (possibly also Hebrew, cf. Doron 2003) they can form anticausatives. Alexiadou et al. (2006a) propose that this depends on the parametric presence or absence of a particular type of Voice head in anticausatives. I do not discuss this point here further.

²³ Evidence for this comes from the fact that agentive Roots are not licensed in derivational processes which cannot include Voice, for example, adjectival passives in German (see Anagnostopoulou 2003b).

(84) The flowers wilted from the heat

In (84), the PP necessarily introduces an *indirect* causer.²⁴ Alexiadou et al. propose that this follows from the encyclopedic meaning of internally caused Roots which tells us that properties of the internal argument are highly involved in the bringing about of the change of state. Therefore, whenever these Roots are combined with causers, these can only be interpreted as indirectly facilitating the change of state of the theme. Note that, while internally caused verbs do not transitivize, they nevertheless can be causativized in the periphrastic causative construction, which expresses an indirect causation (cf. fn. 3). This means that the concept of internal causation does not exclude any type of causativization per se, but only *direct* causation. Crucially, the Voice + CAUS combination necessarily expresses *direct* causation.

Externally caused Roots require an external argument and hence the presence of Voice, just like agentive Roots. Unlike agentive Roots which require Voice [+AG], externally caused Roots can also combine with Voice [-AG] introducing causer subjects.

Finally, Roots like ‘*break*’ and ‘*open*’ are unspecified for the type of causation involved. This allows them to show up both with and without an external argument, i.e. they alternate.

Some comments are in order on the licensing and the meaning of the ‘*by itself*’ phrase. This phrase and its counterparts in other languages assert that there is no external argument that is responsible for the bringing about of the event; hence, this phrase attaches to CAUS in structures that do not have an (implicit) external argument. This explains why the ‘*by-itself*’ phrase is good in anticausatives as in (85a) but not in passives as in (85b); the latter have an implicit external argument and adding ‘*by itself*’ leads to a contradiction. The same holds for the active versions of all verbs that are agentive or are necessarily externally caused. This phrase is most felicitously used with anticausatives of verbal Roots that are unspecified for causation, e.g. ‘*break*’ or ‘*open*’, asserting that their verbal event is brought about without external causation. This assertion makes sense as these verbs could, in principle, also be used with an external

²⁴ This is supported by the fact that in the Greek counterpart of (84) only *me* is acceptable and not *apo* (see fn. 10).

argument. With predicates that are internally caused they are marginal (cf. (86)) because they are pragmatically redundant; as these Roots never occur in a transitive frame, that is with an external argument, stressing the absence of an external argument is uninformative. For further discussion of the semantics of the ‘*by itself*’ phrase in English, German, Greek and Italian, see Schäfer (2007).²⁵

- (85) a. The vase broke by itself
 b. *The vase was broken by itself

(86) ??The flower wilted by itself

To conclude, the approach to the causative alternation developed by Alexiadou et al. (2006a, b) does not derive one version of the alternation directly from the other but derives both versions from a common Root. Specifically, it proposes a syntactic decomposition of verbs undergoing the causative alternation into a Voice, a CAUS and a Root component. The distribution of PPs in passives and anticausatives of different languages provides evidence for the presence of these heads. In order to derive which verbs allow the alternation and which do not, four ontological types of Roots are differentiated. In the next two sections, I will discuss some further aspects of this theory in more detail.

4.2 Comments on the categorization of Roots

A number of comments are in order about the idea that it is not linguistic information per se but encyclopedic knowledge which decides whether a (change-of-state) verb alternates or not.

First, it seems that the relevant information is not necessarily a concept of the Root per se but might result from the Root occurring in a specific context. This can be concluded from the selectional restrictions that were mentioned above in section 4.1.1.2

²⁵ Härtl (2007) makes quite the same proposal for the interpretation of ‘*by itself*’ building on similar observations.

and which were originally discussed in Levin & Rappaport Hovav (1995). While the Root $\sqrt{\text{break}}$, in principle, can form causatives and anticausatives and is, therefore, of the class ‘cause-unspecified’, this categorization can change if the Root combines with specific themes. It is the event of ‘breaking a world record’ or ‘breaking a contract’ which is conceptualized as necessarily being caused by some human agent. As discussed in Alexiadou et al. (2006a, b), the phenomenon of selectional restrictions shows that the information about the licensing of the causative alternation is not necessarily encoded on a Root but can be derived compositionally by the [Root + theme] combination (i.e. a VP). The phenomenon of selectional restrictions, therefore, proves that the relevant information cannot be strictly linguistic and, more specifically, that it cannot be stored in the lexical entries (of verbs). Instead, the phenomenon suggests that the relevant information is connected to our world knowledge, i.e. conceptual information about Roots when these are construed in specific events.

How (and when) exactly this information is determined and assessed is a huge research question. Pointing to its status as an open research question would also be my reaction to some possible criticism of the proposal above. One could argue that the distinction between ‘cause-unspecified’ and ‘externally caused’ is only a description of the facts. Both verb classes take agents or causers as subjects, but only the former class of verbs allows anticausative formation. To call those verbs that do not form anticausatives ‘externally caused’ sounds circular. That is, it could be argued that while we started to derive the syntactic behavior of verbs from the encyclopedic semantics of the Root involved we end at a semantic categorisation of the Roots which seems to be driven by the syntactic behavior of the verbs. In other words, the criticism could be that we have not found any further differences between the two Root classes besides the descriptive generalization that one forms anticausatives and the other does not. My answer to this criticism would be that the research has actually been able to go beyond mere descriptive fact to an identification of the semantic reason that derives the syntactic behavior of necessarily agentive verbs and that further research has to be done in order to identify the concrete semantic triggers which are relevant for the syntactic behavior of those Roots that we labelled ‘externally caused’. This label, therefore, does not pose an explanation but describes a well-motivated research program. For some concrete suggestions about what the conceptual-semantic properties are that derive the

syntactic difference between verbs of the ‘cause unspecified’ class and the ‘externally caused’ class, I refer the reader to Härtl (2003, 2007). So, the hope here is that fine-grained conceptual-semantic ingredients can be identified which derive the syntactic behavior of these verbs.²⁶

Identifying the relevant semantic components might demand some abstract level of decomposition. For example, Alexiadou (2003) and Marantz (2003) propose that English ‘*destroy*’ should be decomposed into the resultative particle ‘*de*’ and a verbal Root $\sqrt{\text{stroy}}$. The fact that the complex verb ‘*destroy*’ does not form anticausatives is claimed to derive from the properties of the Root $\sqrt{\text{stroy}}$; this Root carries manner information and/or is associated with activity events and therefore necessarily needs to show up in the context of Voice.^{27/28}

Finally, verbs in different languages which seem to express the same concepts sometimes behave differently. An example within the class of ‘externally caused’ verbs would be again ‘*destroy*’. While English ‘*destroy*’ and its German counterpart do not alternate, the French, Greek and Hebrew counterparts of ‘*destroy*’ do form anticausatives (cf. Alexiadou et al. and the references there). A careful study of each language is necessary here. First, we have to figure out whether only one lexical item behaves differently or whether a language treats a whole class of verbs differently. For example, Alexiadou et al. argue that, in Greek, all Roots which are ‘externally caused’ can form anticausatives. If this is true, then a broader difference between the languages needs to be identified (cf. Alexiadou et al. (2006a) for a proposal).

If, however, only some individual verbs differ in their behavior across languages, it might be better to look for slight meaning differences between the verbs under

²⁶ See also the following quote from Haspelmath (1993: 94): “A verb meaning ... may appear in an inchoative/causative alternation unless the verb contains agent-oriented meaning components or other highly specific meaning components that make the spontaneous occurrence of the event extremely unlikely.”

²⁷ In this view ‘*destroy*’ therefore is syntactically close to resultatives such as ‘*hammer the metal flat*’ which also do not form anticausatives, probably because of properties associated with the Root $\sqrt{\text{hammer}}$. The difference between the verbs ‘*hammer*’ and ‘*destroy*’ is that the former needs agent as subject while the latter does not.

²⁸ For the claim that manner information on a lexical item needs the support of Voice and, therefore, prohibits anticausative formation, see also Erteschik-Shir & Rapoport (2004).

consideration; that is, English ‘*destroy*’ might mean something slightly different than French ‘*destruire*’ and it could be this difference that leads to a conceptual categorisation of English ‘*destroy*’ as ‘externally caused’ and French ‘*destruire*’ as ‘cause unspecified’ (cf. Haspelmath (1993) for similar suggestions.).

4.3 Comments on the decomposition of (anti-)causatives

In this section, I will further discuss the decomposition of (anti-) causatives proposed in Alexiadou et al. (2006a, b) which is replicated below.

(87) The abstract decomposition of *anticausatives*

[CAUS [$\sqrt{\text{Root}}$ + DP_{theme}]]

(88) The abstract decomposition of *causatives*

[DP_{ext.arg} VOICE [CAUS [$\sqrt{\text{Root}}$ + DP_{theme}]]]

Specifically, I will discuss the source of the causative semantics in (anti-)causatives. Recall that one main argument for assuming a CAUS head even in anticausatives was that these constructions license causer PPs across languages. Two English examples are given as a reminder.

(89) a. The window cracked from the pressure

b. The ice melted from the heat

Of course, there might be the alternative explanation that the prepositions themselves introduce the causative semantics into anticausatives. Under this view, prepositions introducing external arguments in the passive would differ from prepositions introducing external arguments in anticausatives. The former would take up an implicit argument already provided by the passive predicate while the latter would introduce an external argument. This view would be compatible with the observation that passives as in (90a) which are not modified by a PP nevertheless provide the feeling that an implicit

external argument is present while no such feeling is provided by anticausatives which are not modified by a preposition, as in (90b).

- (90) a. The window was suddenly broken
 b. The window suddenly broke

I would like to present a number of arguments that this view – namely, that the prepositions in anticausatives take up an implicit argument already present in the predicate just as the preposition in the passive do – is actually correct. This does not mean that the prepositions in anticausatives do not need to have specific “lexical” properties in order to take up an implicit causer. Which kind of prepositions can do this job and how this taking-up exactly works is of course a valid research question.

If the prepositions modifying anticausatives are to introduce the causative semantics themselves, then it is not clear why they necessarily and across languages only introduce non-human causers but never human agents. Further, it also remains mysterious why these prepositions should have this potential to introduce causers only in anticausatives; crucially, in all other contexts, these prepositions have a necessarily different use. That is, English ‘*from*’, German ‘*durch*’ and Greek ‘*apo/me*’ are interpreted causatively only in anticausative/inchoative constructions. In all other constructions (e.g. noun phrases), the prepositions have a different meaning (e.g. temporal, locative, source etc).

It is interesting to notice that all kinds of causer arguments, regardless of whether they occur in subject position of transitive clauses or whether they are introduced via some preposition in anticausative/inchoative constructions, seem to be subject to the same semantic restriction: causers are only licensed in telic contexts. This is illustrated for German below.

The German verb ‘*rollen*’ (to roll) is atelic as shown by the standard PP-modification test in (91a). We can, however, add a telic PP as in (91b). Crucially, the examples in (91) involve an agent as subject. In (92a, b), this agent is replaced by a non-human causer subject. As the examples show, this causer is only acceptable in the b-example where the telic PP is present; if the predicate is atelic, the non-human causer is unacceptable.

- (91) a. Hans rollte den Ball (*in fünf Minuten / fünf Minuten lang)
 Hans rolled the ball (in five minutes / five minutes for)
- b. Hans rollte den Ball (in fünf Sekunden / *fünf Sekunden lang)
 Hans rolled the ball (in five seconds / five seconds long)
 über die Torlinie
 across the goal-line
- (92) a. *Der Wind rollte den Ball
 the wind rolled the ball
- b. Der Wind rollte den Ball über die Torlinie
 the wind rolled the ball across the goal-line

The verb *rollen* allows a transitive and an intransitive use, i.e. it undergoes the causative alternation. The intransitive use is exemplified in (93). Crucially, if we add a causer PP to this anticausative use, the result is once again bad (cf. (93b)). Importantly, however, the causer PP becomes acceptable if we add, once again, a telic PP as in (93c).

- (93) a. Der Ball rollte
 the ball rolled
- b. *Der Ball rollte durch den Wind
 the ball rolled through the wind
- c. Der Ball rollte durch den Wind über die Torlinie
 the ball rolled through the wind across the goal-line

What these data suggest, then, is that causers are only licensed in telic contexts.²⁹ Importantly, the fact that causers in subject position and causers introduced into anticausatives by prepositions underlie the same telicity restriction suggests that it is the telic predicate and not the preposition that thematically licenses causers.

²⁹ Periphrastic causatives are arguably different and do not underlie this generalization.

The same licensing restriction on causers can be seen to hold in English, too. Folli & Harley (2007) give the following examples.³⁰

- (94) a. John ate the apple.
 b. John ate up the apple.
- (95) a. *The sea ate the beach.
 b. The sea ate away the beach.

Folli & Harley (2007) discuss similar data for Italian. Travis (2005) gives a detailed argumentation that the same telicity restriction on the licensing of causers holds in Malagasy.

If only telic predicates license causers, this could suggest that CAUS necessarily selects for a telos/resultant state. In turn, this could suggest that the atelic verb ‘*rollen*’ (to roll), albeit alternating, does not involve a CAUS projection but probably some different verbal layer such as ACT (for activity)³¹. It could, further, suggest that, if the atelic verb ‘*rollen*’ (to roll) is modified with a telic PP, the ACT head is necessarily replaced by CAUS because, then, causers are licensed.

As the reader might have observed, the discussion in the last paragraph suggests that we are missing some deeper generalization. I would like to suggest that the right answer is not to say that CAUS necessarily selects for a telos. Instead, in fact, the converse view looks much more promising and has been proposed in the literature by a number of people in some way or the other. That is: Telicity is a *defining* property of causation (at least of the type of causation we are concerned with in lexical causatives.) What I would like to suggest, therefore, is that there exists no ontologically special verbal head CAUS which forms (anti-)causatives. Instead, causation is read off from the syntactic structure. CAUS is just a descriptive label for a more general, eventive V-head which has as its complement a stative projection.

³⁰ Heidi Harley (p.c.) informed me that she can replicate the contrast that we saw in German (93b, c) in English, too. As mentioned, in English one would use the preposition ‘*from*’ to introduce the causer.

³¹ Or a Process head in the sense of Ramchand (2006).

The structure of (anti-)causatives is then the following (cf. (96) below). There is a generalized little-*v* head which introduces an event. This is probably the same eventive head that introduces the event in activities. If this *v*-head takes a stative projection as its complement, the result is interpreted as a causative relation between the event introduced by *v* and the state introduced by the stative projection. Only if such a constellation exists (a telic pair in the terminology of Higginbotham (2000)), can causer arguments be licensed, either via a PP adjoining to the eventive *v* head in anticausatives or via Voice in the case of transitive causatives.

(96) [(VOICE) [*v* [$\sqrt{\text{Root}} + \text{DP}_{\text{theme}}$]]]

A similar view on the source of the causative semantics in lexical causatives as being read off the syntactic constellation has been proposed in Hale & Keyser (1993), Marantz (2006), Cuervo (2003), Nash (2006), Ramchand (2006) and Higginbotham (2000). What was added to these by Alexiadou et al (2006a, b) was the claim that anticausatives have the same syntactic constellation as lexical causatives and, therefore, the same causative semantics as witnessed by the licensing potential of causer PPs in anticausatives.

Two further types of predicates should be mentioned briefly. First, consider eventive copulas such as German ‘*werden*’ (to become) which typically combine with adjectives predicating a state over a DP. This constellation looks like a telic pair, i.e. it should trigger causative semantics. This prediction is indeed borne out. These predicates license causer PPs.³²

³² Note that eventive copulas combining with an adjective also license both the *affectedness* dative and the *unintentional causer* dative (cf. (i) and (ii)).

(i) Mir ist die Kleidung (versehentlich) nass geworden
me.DAT is the clothes.SG (unintentionally) wet become

‘The clothes became wet on me’

‘I unintentionally caused the clothes to become wet’

(ii) Dem Koch ist die Suppe (aus Versehen) kalt geworden
the.DAT cook is the soup (out mistake) cold become

‘The soup became too salty on the cook’

‘The cook by mistake caused the soup to become too salty’

- (97) a. Das Essen wurde kalt
 the food became cold
- b. Das Essen wurde durch den Luftzug kalt
 the food became through the air-draft cold
- (98) a. Die Lebensmittel wurden teuer
 the groceries became expensive
- b. Die Lebensmittel wurden durch die Inflation teuer
 the groceries became through the inflation expensive

Further, a short note on degree achievements is in order. I cannot do justice to the huge bulk of literature on this topic here but just want to mention that the theory developed above suggests that degree achievements are syntactically basically like ordinary change-of-state verbs (as already suggested in chapter 1). More specifically, although they license both ‘*in an hour*’ as well as ‘*for an hour*’ adverbs, they are syntactically telic. The reason for this conclusion is that they license causers even when modified by ‘*for an hour*’ adverbs, be it as subjects in the causative use or via PPs as in the anticausative use in (99c) and (100c). This suggests then that these verbs have a resultant state projection which can be accessed by ‘*in an hour*’ adverbs. What is special about these verbs is that they allow an iteration of the achievement of a resultant state; they can be understood as expressing a series of successive changes. That is, ‘*for an hour*’ adverbs modifying degree achievements do not modify an activity process but they express the iteration of small change-of-state steps (see Erteschik-Shir & Rappaport (2004) for such a proposal).³³

- (99) a. Das Essen kühlte in wenigen Minuten ab
 the food cooled in few minutes down
 ‘The food cooled down within a few minutes’

³³ Recall from chapter 2 that degree achievements license the *affectedness* dative and the *unintentional causer* dative.

- b. Das Essen kühlte mehrere Minuten lang ab
 the food cooled several minutes long down
 ‘The food cooled down for a number of minutes’
- c. Das Essen kühlte mehrere Minuten lang durch den Luftzug ab
 the food cooled several minutes long through the whiff down
 ‘The food cooled down for a number of minutes from the whiff’

- (100) a. Die Preise erhöhten sich in wenigen Tagen
 The prices raised REFL in few days
 ‘The prices rose in a few days’
- b. Die Preise erhöhten sich mehrere Monate lang
 The prices rose REFL several moths long
 ‘The prices rose for several months’
- c. Die Preise erhöhten sich mehrere Monate lang durch die Inflation
 The prices rose REFL several moths long through the inflation
 ‘The prices rose for several months from the inflation’

Finally, I would like to address the role of *Voice* if it introduces causers. There seems to be some redundancy in the system proposed. It was argued that, in anticausatives, it is the eventive *v* head (CAUS) which thematically licenses causer PPs. In the case of transitives, it was argued that causer subjects are thematically licensed by *Voice* [-AG]. That is, we have two assigners of the same theta-role, a situation that looks suspicious.

The thematic properties of *Voice* in the context of change-of-state events are further discussed and elaborated on in Alexiadou & Schäfer (2006).³⁴ There, it is also argued that two types of *Voice* heads must be differentiated in change-of-state contexts, one introducing a CAUSER-relation, the other introducing an AGENT-relation between the DP in the specifier of *Voice* and the event in complement position of *Voice*. The definitions of these two relations differ from what is often assumed. Further, the

³⁴ The authors built on a bulk of earlier literature. I refer the reader to the article for references.

definition of the CAUSER-relation expressed by non-agentive Voice is at least a step towards removing the redundancy mentioned above.

Agentive Voice works as proposed by Kratzer (1996); the entity expressed by the specifier of Voice is the agent of the event expressed in the complement of Voice. However, Alexiadou & Schäfer (2006) argue that the notion ‘Agent’ has to be understood more broadly than is often assumed, in that agents should not necessarily be seen as acting with intentions,³⁵ and nor should the term be restricted to humans. Specifically, they propose to subsume instruments in subject position as in (101) under the notion ‘Agent’.

(101) *This key* opened the door.

Typical instances for the CAUSER-relation are natural forces like *earthquake* or *storm*. These nouns are understood as being (self-)eventive. Other instances for the CAUSER-relation are phrases which overtly express an *event* via some overt verbal predication as in (102).

(102) *The falling stone* broke the window

Alexiadou & Schäfer (2006) therefore propose that Voice simply denotes a relation (R) between the DP in its specifier and the event expressed in its complement as proposed in Kratzer (1996). This abstract conception of Voice is formalized in (103a). Further, two types of relations, CAUS and AGENT with the informal semantics in (103b) and (103c), should be differentiated.

- (103) a. Voice: $\lambda P.\lambda x.\lambda e. (R(x,e) \ \& \ P(e))$
 b. R (Agent): (A property of) the NP *grounds* the coming about of the event
 c. R (Caus): The NP *names* the causing event

³⁵ Recall from section 3.1.4 that non-intentionally acting humans in subject position can still license instrumental phrases.

(i) John unintentionally broke the vase with a hammer.

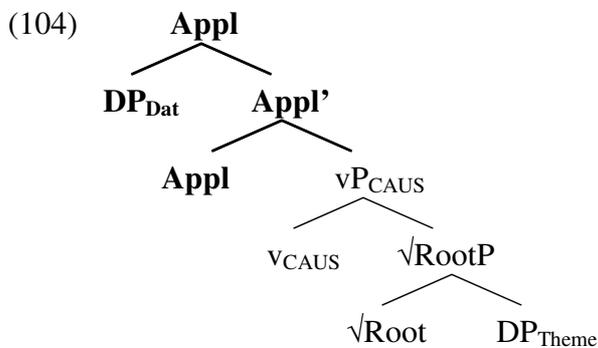
For the details of the motivation of this definition of the notion ‘Agent’ see Alexiadou & Schäfer (2006). Notice that, under this conception of the agent relation, we now have a way not only to analyse instrument subjects (of the right kind, cf. Alexiadou & Schäfer (2006)) but also humans as in ‘Caesar destroyed Carthago’ or ‘Cheops bought a pyramid’ as agents. Concerning the definition of Voice introducing causer subjects, it allows us to keep the thematic potential of the Causer relation in CAUS; Voice is just a mediator which allows integrating the causer into a transitive syntax.

This concludes the discussion of the core theory of the causative alternation proposed by Alexiadou et al. (2006a, b). To quickly recapitulate, in the beginning of the chapter, we discussed some criticism concerning derivational theories of the causative alternation. There, it was mentioned that the cross-linguistic variation that we find in the area of the causative alternation could not be done justice to if one version of the alternation was directly derived from the other. The question, of course, remains how the theory proposed here can handle this morphological variation. Concerning languages that mark the causative version of the alternation, the hope would be that it can be shown that these languages have a specific morphological spell-out of the Voice projection if this projection appears on top of a causative event (on top of CAUS in a descriptive sense). The theory discussed in this chapter has nothing to say so far about languages that mark the anticausative variant with special morphology. It will be the topic of the following chapters to explore what can be said about those languages within a theory such as the one developed in this chapter.

4.3.1 The dative causer revisited

At the end of this chapter, I want to come back to one question about the *unintentional causer* dative the answer to which remained a bit vague in chapter 3. There we arrived at the conclusion that such a dative is introduced in the specifier of an applicative head which takes a change-of-state event as its complement. The applicative head expresses an abstract *have*-relation between the dative and the change-of-state event. From this we derived the human restriction and the unintentionality restriction found with the dative causer construction. Finally, we wanted to derive that the dative is interpreted as the *causer* of the change-of-state event. The central idea was that the applicative head

expresses that the change-of-state event comes “from the possession” of the dative DP. We are now in the position to better understand why the dative is interpreted as the causer of the change-of-state event. The reason for this is that a change-of-state event is inherently causative. As mentioned above, an event leading to a resultant state comprehends causative semantics. This was expressed by labelling the event head with the subscript CAUS. The updated structure of the *unintentional causer* dative looks therefore as in (104) below (this is the updated version of the structure in (15) in chapter 3). This structure expresses that the dative “has a causative event”, or that the causative event has the dative as its source.



It is important to understand that the interpretation of the dative in (104) as a causer (or as the entity responsible for the coming about of the event) crucially depends on the causative (i.e. telic) nature of the verbal structure. This is proven by the fact that the *unintentional causer* dative is only licensed in telic contexts, i.e. with telic anticausatives, pure telic unaccusative and with telic copula+adjective combinations (cf. fn. 32).

Chapter 5

The syntax of marked anticausatives: Part I

In the previous chapter, I introduced and discussed the theory of the causative alternation as it was developed by Alexiadou et al. (2006a, b). As it stands, this theory is intended to cover the “core” of the causative alternation, that is, the alternation between causatives and unmarked anticausatives. The theory has, so far, not much to say about morphological marking, especially about the marking found on anticausatives.¹ In this chapter, I investigate the source of anticausative morphology within the theory of the causative alternation introduced in the previous chapter.

In chapter 2, I identified a semantic difference between German unmarked and marked anticausatives. If a free dative is added to unmarked anticausatives, it can receive either the affectedness reading or the unintentional causer reading, but if such a dative is added to marked anticausatives only the affectedness reading is possible; the unintentional causer reading is blocked. This difference between marked and unmarked anticausatives is obviously related to the presence vs. absence of the extra morphology on these anticausatives. Therefore, we need to understand the nature of the extra morphology in marked anticausatives better. This will be the topic of the first part of this chapter. I will argue that anticausative morphology is Voice related. More concretely, I will argue that we need a special type of Voice, an “anticausative” Voice, which hosts the extra morphology. Since Voice normally introduces the external theta-role and since (marked) anticausatives do not involve an external theta-role bearer, the Voice projection in marked anticausatives must be of a purely formal nature; in other words, it must be an expletive Voice projection.

¹ As mentioned before, causative morphology, as it is found in the lexical causatives of some languages, should be the Spell Out of Voice under this theory. More specifically, such morphology should be triggered by the co-occurrence of Voice + V_{CAUS}.

However, we saw that only German marked anticausatives block the causer reading of datives; marked anticausatives in all other languages under discussion do not block the reading, even if these languages, like German, use reflexive morphology to form marked anticausatives. The difference between German and other languages will be further investigated in section 5.2. I will show that, although German marked anticausatives are semantically intransitive/unaccusative exactly as the marked anticausatives in other languages, German marked anticausatives differ from the marked anticausatives in other languages in that they are clearly syntactically transitive. Specifically, I will propose that the reflexive pronoun in German marked anticausatives is a maximal projection located in the specifier of expletive Voice while, in other languages, the extra morphology is associated with the head position of expletive Voice. In chapter 7, I will come back to this phrase-structural difference and I will show how the difference concerning the causer interpretation of the dative can be derived from it.²

For German, the above proposal says that the reflexive pronoun is the (expletive) external argument while the theme is the internal argument. This poses a number of questions which will also be further discussed in chapter 7, namely how the reflexive pronoun can fulfil principle A of the binding theory (if it is, as I claim, at the top of the structure in the specifier of Voice) and how accusative on the reflexive pronoun and nominative on the VP-internal theme comes about. Until then, I will leave these questions aside, and instead, test, in the third part of this chapter, the empirical predictions of the proposal by testing marked anticausatives with the standard unaccusativity diagnostics. Specifically, I will investigate whether these diagnostics argue in favour of or against the assumption that the theme in marked anticausatives is an internal argument.

² In chapter 7, I will propose that, while non-active morphology is always associated with the head of (expletive or passive) Voice, reflexive morphology on anticausatives always originates in the specifier of expletive Voice. Only later in the derivation might the reflexive element associate with a head if it is a clitic as, for example, in the Romance languages.

5.1 The origin of anticausative morphology

The fact that many languages have a class of unmarked anticausatives and a class of marked anticausatives poses a number of questions. The first question is of course:

Q1: Why are there so often two (instead of, for example, three or five) morphological classes of anticausatives?

Below, I will discuss shortly the work by Haspelmath (1993) which sheds at least some light on this question.

A further question to be asked is:

Q2: Why do we find the type of morphology that we actually do?

That is, why do we find non-active morphology and reflexive morphology as a marker on anticausatives and not some other idiosyncratic marking? In chapter 7, I will make a proposal about why it makes independent sense to use reflexive morphology as a marker on anticausatives. I will not have much to say about why non-active morphology is used in some languages as a marker on anticausatives.

An important question about the morphological bipartition within the class of anticausatives is:

Q3: Do the two classes of anticausatives differ semantically?

This question was already discussed in chapter 2. While subtle meaning differences between marked and unmarked anticausatives have been found within some languages, these differences have so far not been generalized within these languages, let alone across languages. On the other hand, there are also strong semantic generalizations about anticausatives that hold crosslinguistically. First, the semantic class of verbs undergoing the causative alternation seems to be relatively stable (i.e. they express a change of state or a change of degree). Second, anticausatives in all languages are

semantically unaccusative and lack any reflex of an external argument. They differ in this respect from passives as well as from generic middles which have some implicit external argument (the implicit agent in middles albeit of a different nature than in passives; see chapter 6).

The next question to be asked is:

Q4: (How) do the two types of anticausatives differ syntactically?

Related to the last question is the following:

Q5: What is the phrase-structural position of the extra morphology (or of the element with which the extra morphology is associated) ?

In this chapter, I will concentrate on the last two questions; it will turn out, however, that these are connected to the first question, Q1, above. As a starting point, I will return to lexical theories of the causative alternation and see what these theories say about the special morphology in anticausatives.

5.1.1 Lexicalist accounts of the causative alternation revisited

As discussed in chapter 4, lexical theories assume that verbs undergoing the causative alternation are basically dyadic (i.e. take two arguments). Anticausatives are derived from causative entries by a detransitivizing operation in the lexicon which affects the external argument. This operation is called '*lexical binding*' by Levin & Rappaport Hovav (1995) or '*expletivization*' (also called: external argument reduction) by Reinhart (1996, 2000, 2002). Under these theories, the special morphology that we find on anticausatives appears as a signal that a detransitivizing operation has taken place.

In chapter 4, I already replicated the criticism by Piñón (2001), Doron (2003) and Alexiadou et al. (2006a, b) against the proposal that causatives and anticausatives are in a direct derivational relationship. A further weak point of these strictly derivational theories is that neither the operation of '*lexical binding*' nor the operation of

'*expletivization*' has ever been formally defined; in general, it seems that the elimination of an argument from the theta-grid is not formally definable. In addition, it turns out that the account that these theories provide for the morphological marking on anticausatives is also not sufficient. As these theories assume that all anticausatives are derived in the same way from a transitive lexical entry, they have nothing to say about the morphological variation found crosslinguistically; that is, they do not (try to) give an answer to Q1 above. Further, the accounts have no answer as to why a reduction operation should be marked by non-active morphology or reflexive morphology instead of any other device. They therefore provide no answer to Q2 above.³

Finally, these accounts make no comment about the level of grammar where the anticausative morphology originates; specifically, they say nothing about the phrase-structural position that the morphology is associated with. That is, they do not give an answer to Q4 and Q5 above. To conclude then, the assumption that anticausative morphology is a diacritic sign which indicates that a detransitivization operation has taken place is not tenable as it does not answer the relevant questions.

On the other hand, I think that the pre-theoretical idea that underlies these lexical theories (especially Reinhart's theta system) is intuitively appealing and on the right track. Verbs undergoing the causative alternation can occur with or without the external argument and we find special morphology only if the external argument is missing. That is, the two are in complementary distribution. If an external argument is present, the special morphology does not show up. If the external argument is missing, the morphology *can* show up.

The question to be explored in the rest of this chapter, then, is how this complementary distribution can be accounted for within the theory of the causative alternation that was introduced in chapter 4. The theory developed there crucially built

³ Reinhart builds on the argumentation by Chierchia (1989/2004) for the source of the reflexive morphology. However, her '*expletivization*' operation is totally different from what Chierchia argues for. Chierchia is the only one I know of who gives an answer for why we find reflexive morphology with anticausatives (cf. also Koontz-Garboden (2007)), namely that the external argument binds the internal argument. However, I argue that his account is semantically not correct. His main argument, the interpretation of the Italian phrase '*da sé*' (*by itself*) is not empirically borne out; see Schäfer (2007) for further discussion.

on the assumption that there exists no direct derivational relationship between causatives and anticausatives; instead, a framework of syntactic event decomposition was proposed where both versions of the causative alternation are derived from a common Root. Based on the arguments developed in the next sections, I will propose and defend the following answers to the questions formulated above:

Answer to Q1: The two morphological classes of marked and unmarked anticausatives reflect a (to some extent) transitive syntax, on the one hand, and an unaccusative syntax, on the other hand, i.e. they reflect the causative alternation itself.

Answer to Q4: Marked anticausatives are syntactically transitive (in the case of reflexive morphology, as in German) or passive (in the case of non-active morphology, as in Greek).

Answer to Q5: Anticausative morphology is related to the presence of Voice. Due to the answer to Q3 (i.e. that marked anticausatives crosslinguistically do not show any reflex of an external argument), the Voice projection that we find with marked anticausatives must be semantically exempt. I will propose that it is an expletive Voice projection. Why such an expletive Voice projection should exist will be connected to the answer to Q2.

Answer to Q2: In order to develop an answer to this question, I think that we need to ask why and how the morphology under discussion can bring about an expletive Voice. The answer to this question should follow from the general principles that derive the prototypical uses of the morphology involved in anticausative formation. In this thesis, I do not deal with the rationale behind the use of non-active morphology with anticausatives. Instead, I will restrict my discussion to reflexive morphology. Here, I think the use of reflexive morphology with anticausatives should be derived within the general assumptions about Binding Theory, i.e. the theory that handles the prototypical uses of those reflexive pronouns that we find as markers on anticausative verbs. In chapter 7, I will derive an answer to the question of why and how reflexive morphology

can derive an expletive Voice projection from the inherent property of reflexive pronouns that they are referentially defective.

In the next section, I will turn to the typological study in Haspelmath (1993). This study tries to give an answer to the question of which anticausatives come with morphological marking and which anticausatives come without morphological marking. This, in turn, should help us to come closer to an answer to Q1 above.

5.1.2 The marked / unmarked contrast from a typological perspective

As a starting point, the data below from German, Italian and Greek illustrate once again the morphological partition between marked and unmarked anticausatives that can be found in so many languages.

- | | | |
|--|--|-----------|
| (1) a. Die Tür öffnet sich the door opens REFL 'The door opens' | b. Die Vase zerbricht the vase breaks 'The vase breaks' | (German) |
| (2) a. La finestra si è chiusa the window REFL are closed 'The window closed' | b. I prezzi sono aumentati the prices are increased 'The prices increased' | (Italian) |
| (3) a. I supa kegete the soup.NOM burns.NACT 'The soup burns' | b. I sakula adiase the bag.NOM emptied.ACT 'The bag emptied' | (Greek) |

As mentioned, languages with marked and unmarked anticausatives often categorize individual verbs differently. For example, while Greek realizes the verb 'anigo' (to open) with active morphology, the German counterpart 'öffnen' and the Italian counterpart 'aprire' are reflexively marked. On the other hand, while Italian 'rompere' (to break) comes with the reflexive clitic, the German counterpart 'brechen' does not take the reflexive. Searching for a pattern by comparing only two or three

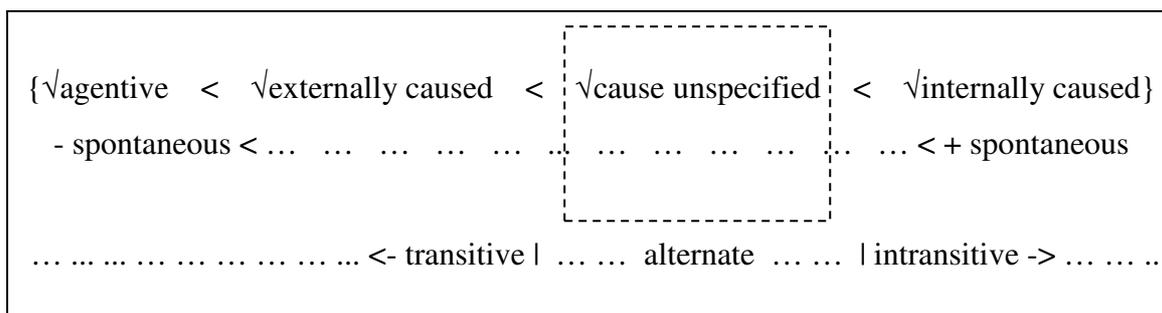
languages leaves us already with a puzzle. However, Haspelmath (1993) claims that the variation between languages is not totally random but that, in all languages that have two morphological classes of anticausatives, some conceptual principle drives this bipartition but that this can only be discovered if a large number of languages is examined.⁴ Specifically, he claims that this partition reflects the conceptualization of change-of-state events. Interestingly, this idea of conceptualization is quite compatible with the theory about the causative alternation by Alexiadou et al. (2006a, b) where it is also claimed that the conceptualization of change-of-state events determines whether a verb undergoes the causative alternation or not. The central idea that Haspelmath puts forth is expressed by the following quote:

“Events can be arranged on a scale in the order of decreasing likelihood of spontaneous occurrence (as conceptualized by the speaker)”. Haspelmath (2005:7)⁵

Concentrating on change-of-state verbs here, this idea is illustrated in TABLE I. I use the typology of Roots introduced by Alexiadou et al. (2006a, b) to categorise events. The likelihood of the spontaneous occurrence of an event described by a Root is directly reflected by the syntactic frame a Root can enter. Roots of the type \surd *agentive* and \surd *externally caused* are connected to events of low spontaneity and need a transitive syntax. Roots of the type \surd *internally caused* express events of high spontaneity and need an intransitive syntax. Roots of the type \surd *cause unspecified* are in-between and allow both syntactic frames; this means that they alternate.

⁴ Haspelmath (1993) takes into account also languages that mark the causative variant of the alternation; I do not discuss this side of the phenomenon here.

⁵ Cf. also Haspelmath (1993:105): “We can think of various verb meanings as being located on a scale of increasing likelihood of spontaneous occurrence”.

TABLE I: *spontaneity scale (all types of Roots)*

Turning to the two morphological classes of anticausatives, Haspelmath concludes from his crosslinguistic survey that:

“a factor favoring the anticausative expression type [i.e. the morphologically marked one as in (1a), (2a) and (3a)] is the probability of an outside force bringing about the event.” Haspelmath (1993:103)

This idea is illustrated in TABLE II which zooms into the dotted area of TABLE I. In TABLE II, we see the different Roots of the class $\sqrt{\text{cause-unspecified}}$ as they are ordered on the spontaneity scale. All these Roots express events which can be conceptualized as unfolding with or without a force bringing about the event. That’s why they undergo the causative alternation in the first place. However, not all these Roots are conceptualized identically. Those on the right side of the scale describe events which are conceptualized as unfolding easily without an external force, although they are compatible with such an external force. Those on the left side of the scale describe events which are conceptualized as occurring most probably with an external force, although they can also occur without. That is, the conceptualization of these events is not absolute but only a tendency.⁶

Turning to the morphological marking, the idea is that each language divides the class of Roots of the class $\sqrt{\text{cause-unspecified}}$ in two halves. Those on the right side of the divide are spontaneous enough to behave morphologically as Roots of the class $\sqrt{\text{internally caused}}$; they form unmarked anticausatives. Those on the left side of the divide are less spontaneous and need an extra mark if they form anticausatives.

⁶ Or “only typical, not necessary”, as Haspelmath (1993:103) puts it.

TABLE II: *spontaneity scale* ($\sqrt{\text{cause-unspecified}}$) (idealisation)

| | |
|----------|--|
| | { $\sqrt{\text{unsp.}(x)}$, $\sqrt{\text{unsp.}(x+1)}$, $\sqrt{\text{unsp.}(x+2)}$, $\sqrt{\text{unsp.}(y-2)}$, $\sqrt{\text{unsp.}(y-1)}$, $\sqrt{\text{unsp.}(y)}$ } |
| | - spontaneous < < + spontaneous |
| German: | <- sich \emptyset -> |
| Italian: | <- si \emptyset -> |
| Greek: | <- non-active \emptyset -> |

Languages differ in terms of where on the scale in TABLE II they make the cut between marked and unmarked anticausative formation. Some make it more on the left side of the scale, some more on the right side. (Note that TABLE II is an idealisation for the purpose of illustration; I do not want to claim that Italian has more marked anticausatives than Greek or German).

I would like to add that it is not necessarily the case that the conceptualization of events on the spontaneity scale is the only force that drives the morphological division depicted in TABLE II. Within individual languages, there might be further (language-specific) parameters involved. For example, as mentioned in chapter 1, Greek forms unmarked anticausatives with all de-adjectival verbs. This poses the question whether de-adjectival change-of-state verbs have the (strong) tendency to be conceptualized as occurring spontaneously or whether there are further syntactic or morphological parameters which influence the selection of anticausative morphology in Greek (as well as in other languages) (Cf. Alexiadou (2006) and references there for some discussion).

Further, a close comparison of more than two languages might probably reveal mismatches between the morphological marking and the ordering of events on the spontaneity scale based on this marking. That is, the morphological marking of anticausatives in these languages might suggest that the same verb/Root meanings are differently ordered on the spontaneity scale in these languages. A number of possible reasons might be responsible for such mismatches; either the meanings associated with individual Roots are not totally identical across languages; or there are intervening (morpho-)syntactic parameters which hold in some but not all languages under consideration; or there are idiosyncrasies involved in some of the languages. A close

investigation and comparison of different languages is necessary in order to shed more light on these questions and in order to see whether Haspelmath's proposal is indeed feasible.⁷

To conclude, the crosslinguistic study by Haspelmath (1993) suggests a correlation between the morphological marking on anticausative verbs and the conceptualization of these verbs as expressing events which occur with higher or lower probability with a causing force (i.e. an external argument). Translated into the view developed by Alexiadou et al. (2006a, b) on the causative alternation, this means that languages can divide the class of Roots $\surd_{\text{cause-unspecified}}$ (i.e. Roots undergoing the causative alternation) into two subclasses, Roots forming marked anticausatives ($\surd_{\text{unspecified-marked}}$) and Roots forming unmarked anticausatives ($\surd_{\text{unspecified-unmarked}}$). This partition is semantically motivated but the cut-off point is highly idiosyncratic within a given language.

5.2 The phrase-structural representation of anticausative morphology

In this section, I will introduce my view about the phrase-structural representation of anticausative morphology. Recall that I earlier rejected, for various reasons explicated in chapter 4 and section 5.1.1, the assumption made by lexical theories that the morphology on anticausatives marks the lexical reduction of the external theta-role. Nevertheless, I agreed on a pre-theoretic level with the view that there is a connection between the presence of the anticausative morphology and the absence of an external argument. This is suggested by the fact that the external argument and anticausative morphology are in complementary distribution. The study by Haspelmath confirmed this pre-theoretic view; it supported the generalization that, if an event is conceptualized as occurring with a high probability with an external force, then the absence of the external force is accompanied by special morphology. So this study also suggests that there is some correlation between anticausative morphology and the external arguments of events (mediated by some form of probability).

⁷ A further interesting question not further pursued here, is how the morphological marking is handled during language acquisition.

But this still leaves us without an answer to the questions regarding where to anchor this relation in the grammatical system and where to anchor the anticausative morphology in the grammatical computation.

Within the theoretical framework that I adopt in this thesis, there is exactly one position where information about external arguments can be morpho-syntactically encoded, namely Voice. The general claim that I want to put forth, therefore, is that, crosslinguistically, the special morphology found with anticausatives is Voice-related. That is, I propose that the morphology found with anticausatives is syntactically anchored.

There are logically two syntactic positions associated with Voice that could be the bearers of the anticausative morphology, either the Voice head itself or its specifier, i.e. the structural subject position. I propose that, crosslinguistically, both options are realized.

For languages like Greek that use non-active morphology as a marker on anticausatives, the claim that this morphology is Voice-related obviously makes sense because the same non-active morphology is also used to mark eventive passives which arguably involve a specialized Voice projection. In fact, it has already been argued, e.g. by Embick (2004) or Alexiadou & Anagnostopoulou (2004), that the morphology in Greek anticausatives is located in or associated with the Voice head (or the little *v* head, depending on terminology). Turning to Romance languages, it has been argued, for example by Folli (2002), that Italian anticausative ‘*si*’, a reflexive clitic, is located in the highest verbal head of the construction; this should be Voice under my view. The same analysis is conceivable for all those languages that use reflexive clitics (i.e. heads) to mark anticausatives.⁸

There is some specific evidence that German marked anticausatives must involve Voice too, at least under the theoretical pre-settings assumed here. It turns out, however, that German also clearly differs from Greek and Romance languages. German marked anticausatives, although they lack any external theta-role as shown earlier in chapter 2, are syntactically transitive as I will show immediately. I will propose, therefore, that while the other languages involve a Voice head which does not project a specifier, the

⁸ But see chapter 7 for a refinement.

Voice head involved in German anticausatives projects a specifier. Further, I will argue that the reflexive element, which is a full pronoun in German, is merged in the specifier of anticausative Voice.

This morpho-syntactic difference between German and all the other languages discussed in this thesis will be elaborated on in the next section. There, I will also start to connect this morpho-syntactic difference to the semantic difference between German marked anticausatives and marked anticausatives in the other languages, namely the blocking vs. licensing of the unintentional causer interpretation of the dative in the context of marked anticausatives. The detailed deduction of this semantic difference from the morpho-syntactic difference will be presented in chapter 7.

5.2.1 The morpho-syntactic properties of German marked anticausatives

5.2.1.1 Semantic intransitivity

Recall that German marked anticausatives turned out to be special in that they do not license the unintentional causer reading of the dative; in contrast, marked anticausatives in all other languages discussed here do license the dative causer reading.

In chapter 2, I investigated the hypothesis that this blocking might be triggered by the presence of some external argument semantics involved in German marked, but not in unmarked, anticausatives. The unavailability of the dative causer reading in marked anticausatives would then find a similar explanation as the unavailability of the dative causer reading in the context of passives. Arguably, passives do not allow a free dative to be interpreted as a(n) (unintentional) causer, because passives already involve an implicit external argument. That is, although this external argument is not overtly realized as a canonical argument, it is nevertheless semantically present. Passives are in this sense “semantically transitive”⁹ and the semantic transitivity of a predicate (or more

⁹ I mean the passive of verbs undergoing the causative alternation. Since German allows impersonal passives of unergative verbs, the passive in German is either semantically transitive or semantically unergative; what is relevant here is that the passive necessarily involves an implicit external argument while anticausatives never do.

precisely, a semantically present external argument) prohibits that a free dative can be interpreted as a causer.

However, this hypothesis of semantic blocking turned out to be untenable. Besides the dative causer construction, German marked anticausatives do not show any semantic reflex of an external argument. They behave exactly the same as their unmarked counterparts with respect to all other tests which are sensitive to the presence or absence of external argument semantics. It follows that marked anticausatives, exactly as unmarked anticausatives, involve only one thematic argument, i.e. a theme. In the terminology introduced above, unmarked anticausatives as well as marked anticausatives are both “semantically intransitive” (or more precisely, semantically unaccusative).

A further observation that argued against the hypothesis of semantic blocking is that marked anticausatives in all other languages than German do allow the dative causer construction. This holds for both languages that have anticausatives marked by non-active morphology as well as languages (other than German) that have reflexively marked anticausatives. The semantic blocking hypothesis would thus have to assume that (reflexively) marked anticausatives in German differ substantially in their semantics from reflexively marked anticausatives in the other languages. While this would not be logically impossible per se, it is certainly not the null hypothesis in the face of the morphological parallel.

If marked anticausatives are semantically intransitive, it follows that the reflexive pronoun in marked anticausatives does not carry a thematic role, i.e. it is a non-thematic reflexive pronoun (cf. also Abraham (1995) for German). This should hold for German marked anticausatives as well as for the marked anticausatives in Romance or Slavic languages.

5.2.1.2 Syntactic transitivity

Nevertheless, German reflexive anticausatives do block the unintentional causer reading while reflexive anticausatives in e.g. the Romance languages do not. Since the difference between the languages cannot have a lexical semantic/thematic explanation, I propose that this effect has to be the result of a more formal contrast. More concretely, I

propose that the difference is grounded in the phrase-structural status of the anticausative marker which is, in German, a reflexive element. In this section, I will motivate the claim that such a difference exists and discuss what this means for the syntax of German anticausatives.

It is well established that the reflexive elements found with Romance anticausatives are clitics, i.e. syntactically, they are heads. The reflexive element in German, on the other hand, is a full pronoun, i.e. a maximal projection. This will be illustrated below. In chapter 7, I will derive the difference between German and Romance anticausatives regarding the licensing of the dative causer from this phrase-structural difference. Notice that, in languages such as Albanian and Greek, anticausatives are marked by non-active morphology which is attached to the verb and which arguably has the phrase-structural status of a head, too. If I am right, then German is the only language under discussion which uses a phrasal marker in anticausatives.

It has been observed that, in German, ordinary thematic reflexive pronouns and non-thematic reflexive pronouns, as they are found with anticausatives, middles or inherent reflexives, differ with respect to a number of distributional properties. Only thematic reflexives can (i) be coordinated with other DPs, (ii) be modified with an intensifier (iii) be (contrastively) negated, (iv) be focused or questioned, (v) appear in sentence-initial position (cf. Haider (1985), Fagan (1992), Steinbach (2002)). Everaert (1986) derives (some of) these distributional facts which also hold for the Dutch weak reflexive pronoun ‘*zich*’ from the assumption that ‘*zich*’ is a clitic in a non-argument position since clitics are known to show the restrictions mentioned above (cf. Kayne (1975)). However, in German, thematic and non-thematic reflexives have the same morphological shape and only the latter show the restrictions above.¹⁰

¹⁰ The addition of the intensifier ‘*selbst*’ (self) to a thematic reflexive is seldom obligatory in German, while it is very often obligatory in Dutch. This is probably due to the fact that German ‘*sich*’ can be stressed and focused without modification with ‘*selbst*’ while the Dutch weak pronoun ‘*zich*’ cannot be focused without modification (cf. Geurts (2004)). While this might be taken as an indication that Dutch ‘*zich*’ and German ‘*sich*’ differ in their phrase-structural make-up, there is no reason to assume that in German thematic and non-thematic ‘*sich*’ differ in their phrase-structural status since the differences between the two can be derived from their thematic status, as discussed below.

In contrast, Haider & Rindler-Schjerve (1987) and Vikner & Sprouse (1988) claim that German is not a cliticizing language which means that no such phrase-structural difference between thematic and non-thematic reflexive pronouns can be assumed. Fagan (1992) likewise claims that both non-thematic reflexives and thematic reflexives in German are independent words, not clitics. Further, she argues that the distributional differences mentioned above are explained by the different semantics of the two types of reflexives:

“... closer investigation of the differences between referential and non-referential reflexives reveals that the distributional restrictions on non-referential reflexives are a consequence of their semantic status rather than their syntactic status.” Fagan (1992:28)¹¹

The decisive point is that reflexive pronouns in marked anticausatives do not have a thematic role. From this non-thematic status, all the above mentioned restrictions can be derived. For example, modification, contrastive negation, focus, questioning and fronting to sentence-initial position are all operations with information-structural effects and, consequently, can only apply to elements with semantic content; therefore, they are not licensed with non-thematic reflexive pronouns. For a detailed argumentation on this, see Fagan (1992) and especially Steinbach (2002: Chapter 4) who convincingly derives all the restrictions on non-thematic reflexive pronouns from their semantic nature within independently motivated theories on coordination, focus, questions and fronting.

There are further distributional observations that show that the German reflexive pronoun (both in its thematic and non-thematic use) behaves like an independent word and differs, thereby, from prototypical clitics like for example Romance ‘*se*’ or ‘*si*’ (cf. also Abraham (1995:5) for the claim that the non-thematic reflexive pronoun in German is “a free lexical morpheme” in contrast to its Romance and Slavic counterparts).

Romance clitics have a different distribution than full DPs. While the word order with DP objects is SVO in these languages, object clitics obligatorily occur in front of the finite verb and cliticize onto it so that nothing besides further clitics may intervene.

¹¹ The same conclusion is reached in Reis (1982:26) who argues that, therefore, the assumption of a further syntactic difference between the two types of reflexives is not warranted.

Further, sentences with reflexive clitics behave like unaccusative constructions with respect to auxiliary selection (cf. e.g. Kayne (1975), Burzio (1986), (1991)). This is illustrated below for Italian. In (4a), the reflexive clitic is used to express real semantic reflexivity involving two argument positions, while in (4b) the reflexive clitic marks an anticausative. Both constructions select ‘*essere*’ (be) exactly as unmarked anticausatives in (4c) or pure unaccusatives. Transitive sentences with unbound objects, on the other hand, select ‘*avere*’ (have) (cf. (5a)) even if the object is realized as a pronominal clitic as in (5b).

- (4) a. Gianni_i si_i è visto
 Gianni REFL is seen
 ‘Gianni saw himself’
- b. La finestra si è chiusa
 the window REFL is closed
 ‘The window closed’
- c. La temperatura è cambiata
 the temperature is changed
 ‘The temperature changed’
- (5) a. Gianni ha visto Maria
 Gianni has seen Maria
 ‘Gianni saw Maria’
- b. Gianni mi ha visto
 Gianni me has seen
 ‘Gianni saw me’

The situation in German is different; both thematic and non-thematic reflexive pronouns in German behave like independent words.

While transitive and unergative verbs select ‘*haben*’ (have) in German (cf. (6a, b)), unaccusative and unmarked anticausative verbs select ‘*sein*’ (be) (cf. (7a, b)). Marked

anticausatives as well as transitive structures with a thematic reflexive in object position select ‘haben’ (have) as shown in (8).¹²

- (6) a. Hans hat die Tür geöffnet
 Hans has the door opened
 ‘Hans opened the door’
 b. Hans hat geschlafen
 Hans has slept
 ‘Hans slept’
- (7) a. Der Zug ist angekommen
 the train is arrived
 ‘The train arrived’
 b. Die Vase ist zerbrochen
 the vase is broken
 ‘The vase broke’
- (8) a. Die Tür hat sich geöffnet
 the door has REFL opened
 ‘The door opened’
 b. Hans hat sich (im Spiegel) gesehen
 Hans has REFL (in-the mirror) seen
 ‘Hans saw himself (in the mirror)’

A further point mentioned by Fagan (1992) that differentiates German reflexive pronouns from clitics in the Romance languages is that the latter never occur as complements of prepositions while the former do.¹³ This cannot be illustrated for the non-thematic reflexive in anticausatives, but it can be shown with a non-thematic reflexive in an inherent reflexive construction in (9a) (note that only ‘*sich*’ but not a

¹² Reflexively-marked middle constructions and inherent reflexive verbs select ‘haben’ (have), too.

¹³ This holds at least for Romance clitics; see Abels (2003) for a discussion about when a language allows clitics as complements of P.

lexical DP can occur in the complement position of the preposition) and with a thematic reflexive in (9b).

- (9) a. Er war außer *(sich) / (*dem Chef) vor Wut
 he was beside (REFL) / (the.DAT boss) before anger
 ‘He was beside himself/*the boss with anger’
- b. Er sah eine Schlange neben sich
 he saw a snake besides REFL
 ‘He saw a snake next to him’

A further piece of evidence that the marker in German anticausatives behaves like an ordinary DP is the fact that it is clearly case marked. While this cannot be seen in the case of the reflexive pronoun itself, it is revealed in the context of first and second person themes as these trigger, instead of the reflexive, a first or second person pronoun which is overtly marked for accusative. This is shown below in (10a) with an anticausative example. The same can be seen in the case of middles for which I assume exactly the same syntax as marked anticausatives.¹⁴ (10b) is from Reis (1982).¹⁵

- (10) a. Du hast **dich** verändert
 you.NOM have you.ACC changed
 ‘You changed’
- b. Du verkaufst **dich** gut; ...
 you.NOM sell you.ACC well; ...
 ... ich meine, dein Buch verkauft **sich** gut
 ... I mean your book.NOM sells REFL.ACC well
 ‘You sell yourself well, ... I mean, your book sells well.’

¹⁴ Generic middles will be discussed in the next chapter.

¹⁵ This property holds, of course, also for clitics in the Romance languages. I mention this point just in order to show that the marker in German anticausatives is not just an idiosyncratic device but behaves just as ordinary pronouns do.

Finally, the reflexive pronoun in German shows much more word order freedom than we would expect if it were a clitic (cf. Fagan (1992), Steinbach (2002)). This holds again for both thematic and non-thematic reflexives. While German pronouns typically appear in the so-called Wackernagel position, i.e. immediately to the right of the complementizer in embedded sentences and immediately to the right of the finite verb in verb second constructions, this is by far not obligatorily the case. This is shown in (11) for a thematic reflexive, in (12)¹⁶ for the non-thematic reflexive of an inherent reflexive verb, in (13) for the non-thematic reflexive of a marked anticausative, and in (14)¹⁷ it is shown for the reflexive pronoun in the generic middle constructions.

- (11) a. dass **sich** Hans im Spiegel gesehen hat
 that REFL Hans in.the mirror seen has
 b. dass Hans **sich** im Spiegel gesehen hat
 c. dass Hans im Spiegel **sich** gesehen hat
 ‘... that Hans saw himself in the mirror’
- (12) a. dass **sich** die jungen Menschen darüber beklagt haben
 that REFL the young people about-it complained have
 b. dass die jungen Menschen **sich** darüber beklagt haben
 c. dass die jungen Menschen darüber **sich** beklagt haben
 ‘... that the young people complained about it’
- (13) a. dass **sich** die Rolle der Mutter langsam geändert hat
 that REFL the role of the mother slowly changed has
 b. dass die Rolle der Mutter **sich** langsam geändert hat
 c. dass die Rolle der Mutter langsam **sich** geändert hat
 ‘... that a mother’s role has changed’

¹⁶ This and the next example are built upon examples from Fagan (1992).

¹⁷ This example is taken from Steinbach (2002).

- (14) a. dass **sich** einer Nonne ein Gesangbuch schnell verkauft
 that REFL a nun.DAT a hymnbook.NOM quickly sells
- b. dass einer Nonne **sich** ein Gesangbuch schnell verkauft
- c. dass **sich** ein Gesangbuch einer Nonne schnell verkauft
- d. dass ein Gesangbuch **sich** einer Nonne schnell verkauft
 ‘... that a hymnbook sells quickly to a nun.’

These examples then, again, show that the thematic and the non-thematic reflexive pronoun in German behave the same and that they are neither necessarily located in the Wackernagel position nor necessarily adjacent to the finite or lexical verb. They thereby differ from verb-object combinations that form a strong semantic unit (incorporation) such as ‘*Ball spielen*’ (ball-playing) in the examples in (15) and prefixes that are separable in verb-second constructions but have to be adjacent to the verb in embedded sentences (16).¹⁸

- (15) a. weil Peter gestern Ball gespielt hat
 because Peter yesterday ball played has
- b. *weil Peter Ball gestern gespielt hat
 because Peter ball yesterday played has
 ‘... because Peter played ball yesterday’
- (16) a. weil Heidi sich gestern Morgen davongeschlichen hat
 because Heidi REFL yesterday morning sneaked.off has
- b. *weil Heidi sich davon gestern Morgen geschlichen hat
 because Heidi REFL off yesterday morning sneaked has
 ‘... because Heidi sneaked off yesterday morning’

The above discussion showed that the reflexive pronoun in German is not a clitic but an independent word and, therefore, projects a maximal projection. To strengthen this conclusion, notice that a number of people argued that German does not have any

¹⁸ The following examples are again from Steinbach (2002).

syntactic clitics at all and that even (phonologically) reduced pronouns are not syntactic but only phonological clitics (cf. Booij (1996), Lenerz (1993), Gärtner & Steinbach (1997, 2000)). Interestingly, as Steinbach (2002:133) observes, while pronouns in German have phonologically reduced forms (cf. (17a)), the reflexive pronoun in Standard German and most German dialects doesn't even have such a phonologically reduced form (cf.(17b)).

- (17) a. Sie hat ihn/'n gestern erst gewaschen
 she has him yesterday just washed
 'She only washed him yesterday'
- b. Er hat sich/*'s/*'ch/*'si/... gestern erst gewaschen
 he has REFL yesterday just washed
 'He only washed himself yesterday'

Turning back to the formation of marked anticausatives, we have then identified a clear formal difference between German and all other languages discussed in the earlier sections. German marks its anticausatives with a full reflexive pronoun which has the phrase-structural status of a maximal projection. All other languages either use a reflexive clitic or non-active morphology, the latter a bound morpheme which necessarily attaches to the verb; these elements all have the phrase-structural status of a head. In chapter 7, I will derive from this phrase-structural difference the difference concerning the licensing of the unintentional causer reading of a free dative in the context of marked anticausatives.

In the next section, I will return to the main topic of this chapter, the development of a proposal about where the anticausative morphology is anchored in the phrase structure of the sentence. I had already proposed that anticausative morphology is Voice-related. Specifically, I proposed that non-active morphology as we find it in Greek or Albanian anticausatives is located in the Voice head. The same solution was proposed to be at least conceivable for Romance clitics. German anticausatives still require an analysis. Therefore, let me recapitulate the findings so far. In the last section, I re-addressed the fact that marked anticausatives are semantically intransitive/unaccusative. In this section, I have discussed the claim by Fagan (1992) and Steinbach

(2002) that the reflexive pronoun in German anticausatives is a full DP. If we take the discussion in the two sections together, this means that marked anticausatives involve one thematic role but two DPs. This in turn means that, at least in German, marked anticausatives are syntactically transitive; this is exactly the conclusion which Fagan (1992) and Steinbach (2002) argue for and which has also been tacitly assumed by a number of German linguists, e.g. Haider & Bierwisch (1989), von Stechow (1995), Abraham (1995), Bierwisch (1996), Wunderlich (1997) and Haider (2000).

5.2.1.3 Reflexive anticausatives: Resolving the contradiction

The gist of the past two sections with respect to German marked anticausatives can be expressed as follows: German marked anticausatives are semantically intransitive but syntactically transitive. There are two case marked DPs but only one theta-role (*theme*) is involved. The reflexive pronoun is a syntactic but not a semantic argument of the verb (cf. Haider & Bierwisch (1989), Bierwisch (1996), Wunderlich (1997) for exactly this conclusion about German marked anticausatives).¹⁹

This conclusion immediately leads to the following question. If marked anticausatives involve two syntactic arguments, the theme and the reflexive pronoun, which of the two is merged internally and which is merged externally? At first view, different modules of the grammar suggest different solutions:

Case theory: The theme is marked nominative and the reflexive accusative. German is an accusative language. Therefore, the nominative should be on the external argument and the accusative on the internal argument. It follows that the theme should be the external argument and the reflexive the internal argument.

¹⁹ The only alternative to this view would be to assume that the reflexive is an adjunct (cf. Schachtel (1991)) and/or located in an A'-position (cf. Everaert (1986)); such a solution would not derive any of the generalizations about marked anticausatives mentioned in this thesis and, further on, it would demand a number of stipulations about the subcategorization and the case marking of the reflexive pronoun in marked anticausatives.

Binding Principle A: An Anaphor needs an antecedent. This suggests that the theme is merged externally and the reflexive internally.

Configurational theta theory I: Themes are always merged internally. This leaves the external argument position for the reflexive pronoun.

Configurational theta theory II: Both merging as an internal argument and merging as an external argument should lead to a thematic role. But '*sich*' does not have a theta-role.

The predictions of these modules, as they stand, are diametrically opposed. They cannot be all fulfilled, though each has its own points of validity. As mentioned earlier, I adopt in this thesis a framework of configurational theta theory; thematic roles are determined by the specific merging position of an argument in the syntactically decomposed event. I will, therefore, stick with the configuration theta theory and assume that themes of change-of-state events are always merged as internal arguments. This leaves the external argument position vacant for the reflexive pronoun. In the theoretical framework assumed here, the external argument position is the specifier of Voice.

Three problems need be solved then:

- (i) We need an explanation of how case marking comes about, i.e. why the external argument gets accusative case and the internal argument gets nominative case.
- (ii) We need to explain why and how the reflexive pronoun can survive without a commanding antecedent in contradiction to Principle A of the classical binding theory.

In chapter 7, I will solve these two problems by rethinking the predictions of case and binding theory. Actually, the answers will follow within quite standard assumptions about case theory and binding theory from the fact that a reflexive pronoun does not have ϕ -features of its own.

Turning back to theta theory, we further face the following problem:

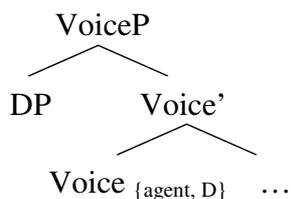
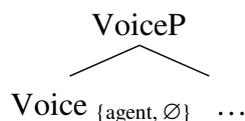
(iii) We need to explain why the reflexive pronoun in the specifier of Voice does not get a theta-role.

There is only one possible answer to this question within the theoretical setting assumed so far; it must be the case that Voice does not necessarily introduce a theta-role. That is, we need to differentiate different types of Voice heads; *thematic Voice* which assigns a theta-role and *non-thematic Voice* (expletive Voice) which does not. Below, I explore such a typology in detail.

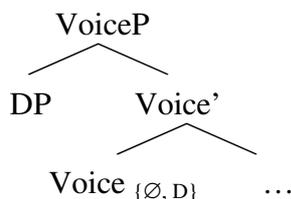
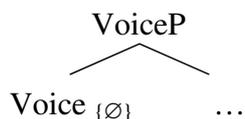
5.2.2 A typology of Voice

This is not necessarily a stipulation; if we assume that different external theta-roles have to be differentiated (agent, causer, experiencer, ...), then we need different types of Voice heads, each of them determining a specific theta-role for the argument in its specifier (cf. Folli & Harley (2005), Alexiadou et al. (2006a, b), Alexiadou & Schäfer (2006), Arad (2002), Kratzer (1996)). One way to implement this is to assume that Voice carries a thematic feature which defines the theta-role of the external argument.

A further variation that is typically associated with Voice is the active vs. passive opposition, i.e. whether the external argument is overtly realized or implicitly present. I assume, following Embick (2004), that both active and passive Voice involve a thematic feature, but that only the active Voice projects a specifier. This difference can, once again, be coded by a feature on Voice (cf. for example Adger (2003), Sternefeld (2006), Svenonius (1994)). Active Voice has a categorical D-feature which must be checked by a nominal element which is externally merged in SpecVoice; passive Voice does not have such a feature. This gives us the following two types of Voice heads (note that I use the feature <agent> as a representative for all types of thematic features possible for external arguments).

(18) a. thematic active Voice:b. thematic passive Voice:

Note that the features on passive Voice are a subset of the features on active Voice. But note further that, within such a feature system, exactly two further subsets are predicted to be possible. The first involves a D-feature but no thematic feature, the second involves no feature at all.

(19) a. non-thematic active Voice:b. non-thematic passive Voice:

Morphologically, the Voice head in (19a) gets a transitive spell-out and the Voice head in (19b) gets a passive spell-out. Semantically, none of the two Voice heads introduces a thematic role. Therefore, none of the Voice heads can introduce a thematic argument, neither an implicit one nor an overt one. The Voice heads are thematically inert; they are expletive Voice projections. However, the Voice head in (19a) has a D-feature to be checked, that is, a DP has to be merged in its specifier. Referential DPs could not be merged there because they would need to get a theta-role and could not pass the theta criterion. What has to be merged there then is an element that is nominal so that it can check the D-feature on Voice but which, on the other hand, can remain without interpretation so that it does not need a theta-role. That is, only an expletive DP can be merged there. For the moment, I simply stipulate that a reflexive pronoun is the only element that fits these properties. In chapter 7, I will modify my assumptions about the coming about of expletive Voice. There, I will then derive a deeper relationship between the status of Voice as non-thematic/expletive and the occurrence of a reflexive in the specifier of such a Voice.

Below in (20), I bring together the different syntactic construals that we find crosslinguistically with verbs undergoing the causative alternation. As proposed by the theory developed by Alexiadou et al. (2006a, b) introduced in chapter 4, these are all built up by the combination of a Root + theme complex and an eventive V-head (V_{CAUS}) on top of it. The constructions differ in that different types of Voice can be present or absent. Thematic Voice carries a feature (e.g. agent) determining the thematic role of the external argument. If Voice carries, in addition, a categorial D-feature, the external argument is projected in SpecVoice (*active*). In the absence of the categorial D-feature we derive a *passive* with an implicit argument. The active and passive syntax is given in the first two lines in (20).

A further option illustrated here is a Voice head with a categorial D-feature but no thematic feature. This Voice head selects an expletive without a theta-role in its specifier. I assume that German ‘*sich*’ is an expletive of the relevant kind; it projects a maximal projection (DP) and, due to its referential defectiveness, it does not need a thematic role. This derives the syntax of German marked anticausatives labelled ‘anticausative-I’ below in (20).

If Voice is without any feature, no specifier is projected and no implicit external argument is realized; the head might be spelled out as non-active or as a reflexive clitic. This is the structure of marked anticausatives in Albanian and Greek and potentially also in languages which mark anticausatives by a reflexive clitic (see chapter 7 for further discussion). The structure is labelled ‘anticausative-II’ below.

Finally, Voice itself might be totally absent; this derives unmarked anticausatives. The structure is labelled ‘anticausative-III’ below.²⁰

²⁰ The question whether a language selects marked anticausatives of type I or type II is probably determined by a number of ‘lexical’ parameters. In order to be able to realize anticausatives of type I, the language needs to have an expletive of the right type to merge it in the specifier of expletive Voice (see also fn. 7 in chapter 7 for discussion). It seems further that, in order to form anticausatives of type II, the language needs to have an analytic passive which makes available its non-active morphology. Further investigation on the difference between analytic and periphrastic passive is necessary in order to understand this point. Albanian seems actually to be a mixed language which, depending on aspectual factors, uses either non-active morphology or a reflexive clitic to form marked anticausatives (p.c. Artemis Alexiadou). I must leave this highly interesting variation within one language for future research.

| (20) Interpretation: | Syntax: | Spell-out: |
|----------------------|---|----------------------------------|
| active: | [Agent [Voice _{D, agent} [V [Root]]]] | (<i>active</i>) |
| passive: | [Voice _{agent} [V [Root]]] | (<i>non-active</i>) |
| anticausative-I: | [Expl. [Voice _{D, ∅} [V [Root]]]] | (<i>sich</i>) |
| anticausative-II: | [Voice _{∅} [V [Root]]] | (<i>non-active, clitic-si</i>) |
| anticausative-III: | [V [Root]] | (<i>unmarked</i>) |

Finally, we need to turn back to the question of the distribution of the structures in (20). Recall that an anticausative syntax which does not involve an external theta-role is only possible with Roots which relate to events that can be conceptualized as unfolding without an outside force. If the verb (-al Root) is not compatible with such a scenario, the anticausative structure is filtered out as incomprehensible at the C-I interface. The Roots that pass the C-I interface even if no external theta-role is assigned are the Roots of the class \surd *cause-unspecified*.

The study by Haspelmath (1993) suggested that languages can split this class of Roots into two subclasses, one which receives morphological marking and one which does not when involved in an anticausative interpretation. I descriptively labelled these two classes of Roots \surd *unspecified-unmarked* and \surd *unspecified-marked*. We are now in the situation to give more substance to these labels.

Haspelmath (1993:103) suggested that the factor which decides the morphological realization “is the probability of an outside force bringing about the event.” If an event is conceptualized as occurring with a high probability caused by an outside force, then the anticausative use is marked by extra morphology. That is, despite this high probability of an outside force, the verb can, nevertheless, form an anticausative; but if it forms an anticausative, some compensation is necessary.

If we combine this view with the phrase-structural assumptions developed in this chapter, we can formulate the following conclusion:

Roots that form marked anticausatives have a formal requirement: they always want to be in the context of Voice, that is, they want to be at least syntactically transitive (or passive), although, semantically, they are compatible with an intransitive/unaccusative use.

An expletive Voice projection therefore allows Roots which are relatively low on the spontaneity scale to be at least syntactically transitive (or passive), although they do not have a thematic external argument.

I claimed that the information which demands a transitive syntax is located on the Root. But this assumption is perhaps not without its problems – its details, at least, are not well understood. The reason is that the requirement that a Root has to occur in the context of Voice holds only if the Root is used to build a verb, i.e. if the Root occurs in the context of a verbal syntax. But Roots, as they are understood in Distributed Morphology (Halle & Marantz (1993), Marantz (1997) among others), are category-neutral; they combine with category determining heads (v, a, n,) to form real syntactic words of different categories. As an example, take the Root that probably underlies the German verb ‘*öffnen*’ (to open) which forms a marked anticausative. This Root is close to the adjective ‘*offen*’ (open). The Root $\sqrt{\text{offen}}$ can appear in a number of syntactic contexts; it can form a change-of-state verb, it can form an adjective and it can occur in different forms of nominalization (‘*die Öffnung*’ (result noun: hole; event noun: opening), ‘*das (sich)Öffnen*’ (event noun: opening)). The requirement to occur in the context of Voice does not hold for all these contexts; that is, it clearly holds for the verbal context but not for the adjectival context. It holds for some deverbal nominalizations but not for all.²¹ It seems, therefore, that the requirement that the Root must occur in the context of Voice needs further refinement. Descriptively speaking, the Root needs to occur in the context of Voice if it is used with a verbal or eventive meaning. But this comes then close to the assumption that there exist a lexical entry for the Root $\sqrt{\text{offen}}$ used as a verb which is nothing else than a lexical entry for the verb ‘*öffnen*’ (to open). Further research is needed in order to figure out where and how the information about formal transitivity should be stored exactly.

Ramchand (2006) develops a system where lexical entries for different categories still exist. The different syntactic frames that a verb can enter are encoded on the lexical entry of the verb by c-selectional features. If a verb undergoes the causative alternation, then the c-selectional feature demanding for Voice is optional. Within this framework, it

²¹ Cf. Alexiadou & Schäfer (2006b) for an investigation of different types of German event nominalizations (*ung*-nominalisations vs. *en*-nominalizations) of change-of-state verbs with respect to the question whether (expletive) Voice is involved or not.

would be easy to encode that a verb forms a marked anticausative. The c-selectional feature would be obligatory but the semantic type of Voice would be underspecified.

I have proposed that Roots which form marked anticausatives have the diacritic device to combine with Voice. This poses the question of why morphologically unmarked anticausatives cannot optionally come in the marked form. I assume that an economy condition gives us this: ‘Use the minimally possible structure required for a given interpretation.’ Marked anticausatives are forced to add ‘*sich*’/expletive Voice by a(n) (idiosyncratic) requirement associated with the Root which is connected to the +/-spontaneous hierarchy (cf. section 5.1.2). If such a requirement is not given, the addition of semantically empty structure is prohibited by economy considerations.

This concludes my discussion of the syntactic properties of marked anticausatives for the moment. I will come back to this topic in chapter 7. In the next section, I will investigate with the help of German marked anticausatives a prediction made by my proposal. Specifically, I will investigate to what extent the assumption that the reflexive pronoun is the external argument and the theme is the internal argument is compatible with the results that marked anticausatives bring about under application of the unaccusativity diagnostics.

5.3 German marked anticausatives meet the unaccusativity diagnostics

In this section, I will investigate the behavior of German marked anticausatives with respect to the unaccusativity diagnostics developed in the past years. This enterprise might sound a bit controversial at first. Unaccusatives are a sub-class of intransitive verbs and in the sections before, I have argued that German marked anticausatives are syntactically transitive. There are two DPs involved, a theme and the non-thematic reflexive. So does it make sense to apply the anticausative diagnostics to marked anticausatives? The answer is yes and no. It makes sense as long as we make sure what a specific diagnostic is able to detect. As the discussion below will show, some diagnostics can only detect whether a structural subject (a specifier of Voice in the terminology used in this work) is present in a given structure or not. But there are also

diagnostics that can indicate whether an internal argument is present. Importantly, while the former class of tests is of a purely structural nature, the latter class of tests builds on interpretative properties. Therefore, the latter class of tests can help to decide whether the thematic DP or the non-thematic reflexive is the internal argument of the anticausative verb. One further comment is in order before I start with the discussion. I will, in passing, apply all these tests not only to German marked anticausatives but also to German generic middles (of the type ‘This book reads easily’). The reason is that German middles also involve a reflexive pronoun and I will argue in the next chapter that they have exactly the same syntax as marked anticausatives.

In the recent literature, some authors (e.g. Cabredo Hofherr (2000), Lekakou (2005), cf. also Zwart (2005)) concluded from a number of tests, that German reflexive anticausatives and generic middles are not unaccusative but unergative. This means that the theme is merged externally which, in turn, leaves the internal position for the reflexive pronoun. In the following sections, I will argue that this conclusion is not warranted. My argumentation builds on three strategies:

- (i) I will show that a number of their tests give the seemingly “unergative” result for theoretically understandable reasons which are not connected to the merging position of the theme but either to formal properties of Voice or to the genericity of middles.
- (ii) I will cite literature that has shown that some alleged tests cannot differentiate between internal and external arguments; I will further show that, contrary to what the authors claim, these tests do not generally yield bad results with marked anticausatives and middles.
- (iii) I will provide a number of tests that argue for the syntactic object status of the theme in German reflexive unaccusatives and middles.

5.3.1 Auxiliary selection

Auxiliary selection is one of the most standard tests for unaccusativity. Languages that have the two auxiliaries ‘*have*’ and ‘*be*’ typically use ‘*have*’ to form the perfect of transitive and unergative verbs and ‘*be*’ to form the perfect of unaccusative verbs. This is illustrated for German in (21).

- (21) a. Hans **hat** die Tür geöffnet (transitive)
 Hans has the door opened
- b. Hans **hat** geschlafen (unergative)
 Hans has slept
- c. Die Vase **ist** umgefallen (unaccusative)
 The vase is toppled-down

The standard view on these three verb classes is that transitives have both an external and an internal argument, unergatives have one external argument and unaccusatives have one internal argument. In the syntactic theories assumed in this work, internal arguments are base-generated inside of the VP while external arguments are base-generated in the specifier of a light verb on top of VP; I have used Kratzer's (1996) term VoiceP for this projection. In this framework, the selection of 'have', then, arguably reflects that the structure involves a specifier of VoiceP (note that the passive selects 'be' in German).

German reflexive anticausatives as well as generic middles select 'have', not 'be'. This is again shown below.

- (22) a. Die Tür **hat** sich geöffnet (anticausative)
 The door has REFL opened
- b. Der Wagen **hat** sich schon immer gut gefahren (middle)
 The car has REFL already ever good driven

Auxiliary selection tells us that marked anticausatives are either unergative or transitive. Which of the two alternatives is the right one? As mentioned in section 5.2.1.2, many linguists have proposed that (German) marked anticausatives are transitive. We saw that anticausatives select for two case-marked DPs, the theme which is marked nominative and the reflexive pronoun which is marked accusative.²² The selection of 'have' then reflects that marked anticausatives are transitive, not that they are unergative.

²² Nearly all German verbs that assign accusative select 'haben' (have) in the perfect. The only exception to this rule is manner of motion verbs such as 'gehen' (walk) in (i) below.

Should we take this as an argument against the status of these constructions as unaccusative predicates? The question depends on how we want to understand the term ‘unaccusativity’. If we reserve it for predicates that do not assign accusative case, then marked anticausatives are clearly not unaccusatives. If we reserve it for syntactically intransitive verbs with an internal argument, they also cannot be unaccusatives. But if we understand the term as describing semantically intransitive verbs which project their only semantic argument internally, then they could perhaps be called unaccusatives (whereby the canonical meaning of the term ‘unaccusative’ is arguably carried ad absurdum).

We had already seen that marked anticausatives involve only one theta-role (theme). The reflexive pronoun is a syntactic and not a semantic argument of the verb. This means that reflexive anticausatives are semantically intransitive. The question that decides then about the unaccusativity status of marked anticausatives is whether the theme is merged internally or externally.

I will argue later that there are tests that can show that the theme in German marked anticausatives is merged internally. But up to now, the question is still open. And, indeed, a number of problems argue against this view. As mentioned, these problems are connected to the fact that the reflexive must be merged externally if the theme is merged internally; this poses the question of how the reflexive could fulfil principle A of the binding theory and why the nominative should occur on the internal argument and the accusative on the external argument.

What is important to notice, however, is that auxiliary selection simply cannot determine the answer to this question. The selection of the auxiliary ‘*haben*’ (have) is arguably connected to the question of whether SpecVoice is projected or not. If the reflexive pronoun could be merged in SpecVoice, then selection of ‘*haben*’ (have) would be expected.

I propose, therefore, that not only is syntactic transitivity dealt with in Voice but that the German rule of auxiliary selection is also connected to properties of Voice. Verbal construction without a SpecVoice (passive) or without a Voice head (pure unaccusatives) select ‘*sein*’ (be). The two relevant structures are given in (23a, b).

-
- (i) Er **ist** einen schweren Weg gegangen
 He is a heavy way went

Verbal constructions with a SpecVoice select ‘haben’ (have).²³ Auxiliary selection is oblivious to what is merged in SpecVoice. We expect ‘haben’ in the case of unergatives that just project an agent in SpecVoice (cf. (24a)); we expect it with transitive verbs that project an agent in SpecVoice and a theme in the VP (cf. (24b)); but we also expect it with marked anticausatives if the reflexive pronoun is merged in SpecVoice (cf. (24c)). The case of the element in SpecVoice and how this element can fulfil the principle A of the binding theory (both problems will be discussed in chapter 7) should themselves not be relevant for the purposes of auxiliary selection.

(23) **no SpecVoice -> ‘sein’ (be):**

a. no Voice:

[Tense ... [VP V Theme]] *(pure unaccusatives & unmarked anticausatives)*

b. (agentive) Voice without a Spec:

[Tense ... [VoiceP Voice_{Agent} [VP V Theme]]] *(passives)*

(24) **Spec-Voice -> ‘haben’ (have):**

a. (agentive) Voice with a thematic Spec:

[Tense ... [VoiceP Agent [_v Voice_{D, Agent} [VP V]]]] *(unergatives)*

b. [Tense ... [VoiceP Agent [_v Voice_{D, Agent} [VP V Theme]]]] *(transitives)*

c. (non-thematic) Voice with non-thematic Spec:

[Tense ... [VoiceP *sich* [_v Voice_{D, ∅} [VP V Theme]]]] *(middles & marked anticausatives)*

²³ With the possible exception of telic movement verbs which select ‘sein’ although they might involve Voice.

(i) Er ist absichtlich ins Wasser gesprungen
he is intentionally in-the water jumped

What could be going on in such cases is that there exists a (movement or control) chain between the element in SpecVoice and an empty element in the subject position of a resultative small clause which triggers a shift in auxiliary selection in a similar way as binding between subject and object in Italian triggers a shift in auxiliary selection (cf. chapter 3, fn.20).

I conclude, therefore, that auxiliary selection is a test of the properties of Voice. It makes no decisions or predictions regarding the merging position of the theme in middles and reflexive anticausatives.

5.3.2 Prenominal past participle

A further alleged test for unaccusativity is the attributive past participle which can be predicated over internal but not over external arguments. More concretely, it gives good results if predicated over the object of transitive verbs or the subject of unaccusative verbs, but it gives bad results when predicated over subjects of transitive or unergative verbs.

- (25) a. der gegessene Kuchen (*trans. object*)
 the eaten cake
- b. der verblühte Blumenstrauß (*unacc. subject*)
 the withered bunch of flowers
- (26) a. das gegessene Kind ≠ the child that ate the cake (*trans. subject*)
 the eaten child
- b. *das gesungene Kind (*unerg. subject*)
 the sung child

Applying the test to marked anticausatives and middles gives infelicitous results, as is illustrated below.²⁴

- (27) a. *die sich geöffnete Tür (*anticausative*)
 the REFL opened door

²⁴Cabredo Hofherr (2000) considers this test to be less conclusive, since passive structures which pass all other unaccusativity tests also do not pass this test.

- (i) a. Der Junge wurde gesehen b. *der gesehen wordene Junge
 the boy was seen the seen was boy

- (29) a. der angekommene Mann (unaccusative, cf. (23a))
 the arrived man
- b. der (von dem Jungen) gegessene Kuchen (passive, cf. (23b))
 the by the boy eaten cake
- c. die (von Peter) geöffnete Tür (passive, cf. (23b))
 the by Peter opened door
- (30) a. *der geschlafene Junge (unergative, cf. (24a))
 the slept boy
- b. *der (den Kuchen) gegessene Junge (transitive, cf. (24b))
 the the cake eaten boy
- c. *die sich geöffnete Tür (refl. anticausative, cf. (24c))
 the REFL opened door

The addition of ‘*habend*’ (having) to the participle licenses SpecVoice as well as accusative. Now, we can predicate over the external argument of unergatives as in (31) or over the internal argument of marked anticausatives (cf. (32)).

- (31) a. der geschlafen **habende** Junge (unergative)
 the slept having boy
- b. das gesungen **habende** Kind
 the sung having child
- (32) a. die sich geöffnet **habende** Tür (refl. anticausative)
 the REFL opened having door
- b. das sich gut verkauft **habende** Buch (refl. middle)
 the REFL good sold having book

What remains to be explained is why, with these bigger structures, the argument marked with accusative always remains in the participle and the nominative always becomes the modified noun. Notice that in (31), the element merged externally is predicated over while in (32), under my theory, the element merged internally is predicated over. What

unifies these two types of arguments is not their merging position but their case marking. In the case of really transitive verbs, the externally merged argument is necessarily predicated over if *'habend'* (having) is added to the pronominal past participle (cf. (33)).

- (33) a. *die [der Peter [e geöffnet habende]] Tür
 the the Peter-NOM opened having door
 b. der [e [die Tür geöffnet habende]] Peter
 the the door-ACC opened having Peter

While I cannot fully explain this last phenomenon, I conclude from the fact that auxiliary selection and licensing of the past participle are closely connected, that the test is not decisive about the merging position of the theme in middles and reflexive anticausatives. The test is about properties of Voice and Case licensing (which will be derived from Agree in chapter 7) in different types of participles.²⁶

5.3.3 'Was-für' split

In German (as in Dutch), a complex WH-phrase built by *'was für + NP'* (what for + NP, meaning "*what kind of NP*") can either be fronted as a whole to the left of the finite verb or can have only the actually WH-word be fronted leaving the rest of the phrase behind. (34a) gives an example where the whole unsplit phrase is fronted, (34b) gives the split counterpart. It has often been claimed in the literature that the grammaticality of this kind of split depends on the base position of the whole WH-phrase.

Cabredo-Hofherr (2000) claims that the *'was für'*-split distinguishes transitive verbs from intransitive verbs in German. Intransitive subjects allow it, transitive subjects don't. She gives the example in (34b) and (35b) for split subjects of unaccusative verbs, the example in (36b) for the split subject of an unergative verb and

²⁶ A possible solution to the above mentioned problem could be that the participle has to undergo Agree with the DP it predicates over; as will be discussed in chapter 7, the reflexive pronoun in marked anticausatives cannot value the ϕ -features of a probe.

also the examples in (37b) for the split subject of an inherent reflexive verb. All these verb classes allow the subject split; sometimes the sentences need further material after the finite verb to improve.

(34) a. Was für Leute sind gestern gekommen? (unaccusative)
 what for people are yesterday come

b. Was sind gestern für Leute gekommen?
 what are yesterday for people come

(35) a. ?Was sind für Sachen passiert? (unaccusative)
 what are for things happened

b. Was sind da für Sachen passiert?
 what are PRTL for things happened

(36) a. ??Was haben für Leute gearbeitet? (unergative)
 what have for people worked

b. Was haben hier früher für Leute gearbeitet?
 what have here in-the-past for people worked

(37) a. ?Was haben sich für Leute gemeldet? (reflexive)
 what have themselves for people registered

b. Was haben sich damals für Leute gemeldet?
 what have themselves at-that-time for people registered

Citing Vikner (1995), she claims that subjects of transitive verbs are bad in the ‘*was-für*’ split construction. She does not, however, give an example for this claim. Next, she observes that the nominative argument in generic middles does not allow the split (cf. (38));²⁷ this, in turn, leads her to the conclusion that the nominative in middles is the external argument of a transitive construction.

²⁷ Cardinaletti (1998) claims that middles allow the ‘*was-für*’ split (cf. (i)). For me, the sentence is degraded. See below for further evaluation of the quality of the split with generic middles.

- (38) *Was haben sich für Wagen gut gefahren (middle)
 what have REFL for cars well sold

In order to be able to evaluate this argumentation, a look at the “history” of the split is in order. The original claim which can be found, for example, in den Besten (1985) or Müller (1993) was that the split is restricted to direct objects of transitives and subjects of unaccusatives. At that time, it was argued that other subjects do not allow the split and, further, that also datives cannot be split. This view is illustrated with the data in (39).

- (39) a. Was hast du für einen Jungen gesehen? (object)
 what have you.NOM for a.ACC boy seen
- b. Was sind denn da heute für Gäste gekommen? (unaccusative)
 what are then PRTL today for guests come/arrived
- c. *Was haben für Leute (subject of a ditransitive)
 what have for people.NOM
 dem Fritz Briefe geschickt
 the.DAT Fritz letters.ACC sent
- d. *Was hat der Fritz für Leuten Briefe geschickt (dative)
 what has the.NOM Fritz for people.DAT letters.ACC sent

This view was, however, modified during the years. For example, Meinunger (1995) observed that extraction is generally possible from the base position of the WH-phrase. Scrambling (i.e. topic movement) blocks extraction. This means then that subjects of transitives or ditransitives also allow the split (as already observed by Diesing (1992) or Kratzer (1995)) if they are not topic moved or scrambled (cf. (40a, b)). It also means that dative as well as accusative objects allow the split just in case they remain in their unscrambled base position (cf. (41a, b), (42a, b)).

-
- (i) Was lesen sich denn für Bücher einfach
 what read REFL PRTL for books easily

- (40) a. Was haben dieses Buch denn für Leute gelesen
 what have this.ACC book PRTL for people.NOM read (*subject in base position*)
- b. Was haben dem Fritz für Leute Briefe geschrieben
 what have the.DAT Fritz for people.NOM letters.ACC sent
- (41) a. Was hat sie's denn empfohlen
 what has she.NOM it.ACC PRTL for people.DAT recommended (*dative in base position*)
- b. *Was haben für Leuten gestern Verlagsangestellte Bücher geschickt?
 what have for people.DAT yesterday edition-employees.NOM books.ACC sent (*Topic dative*)
- (42) a. Was hast du damals für Bücher gelesen?
 what have you that-time for books.ACC read (*object in base position*)
- b. ??Was hast du für Bücher damals gelesen
 what have you for books.ACC that-time read (*moved object*)

Further modification to this argument comes from Haider & Rosengren (1998:33f). These authors show that scrambling does not restrict extraction per se but that there exists a more superficial restriction, namely that the second part of the split constituent should not be the first element after C^0 . This is illustrated below for objects. In (43a), the object is unscrambled but is also not adjacent to the finite verb in C. In (43b), the object is scrambled and adjacent to C. In (43c), the object is scrambled but not adjacent to C.

- (43) a. Was hat denn jeder von euch [e für Witze] erzählt?
 what has PRTL each.NOM of you for jokes.ACC told
- b. *Was hat [e für Witze] denn jeder von euch erzählt?
 what has for jokes.ACC PRTL each.NOM of you told
- c. Was hat denn damals [e für Witze] jeder von euch e erzählt?
 what has PRTL that-time for jokes.ACC each of you told
 ‘What kind of jokes did each of you tell at that time?’

This discussion shows that the test result above in (38) is not conclusive regarding the merging position of the theme in middles. The test does not distinguish between subjects of transitives and subjects of intransitives and objects.

5.3.3.1 A further problem with the ‘was-für’ split

Recall that I want to claim that reflexively marked middles have exactly the same syntax as reflexive anticausatives. This claim is challenged by the following contrast.

- (44) a. *Was haben sich für Wagen gut gefahren? (middle)
 what have REFL for cars good driven
 ‘What kind of cars drove nicely?’
- b. Was haben sich für Termine verschoben? (refl. anticausative)
 what have REFL for appointments rescheduled
 ‘What kind of appointments is rescheduled?’

I will argue that this contrast is not a counterexample to my claim.

As a first observation, notice that the ‘was-für’ split is possible with stage level predicates but not with individual level predicates (Diesing (1992), Kratzer (1995)). Individual level predicates have been argued to be inherently generic (Chierchia (1995)). I will not discuss this claim here any further.

- (45) a. Was für Feuerwehrmänner sind verfügbar (stage level)
 what for firemen are available
- b. Was für Feuerwehrmänner sind intelligent (individual level)
 what for firemen are intelligent
- (46) a. Was sind für Feuerwehrmänner verfügbar (stage level)
 what are for firemen available
- b. *Was sind für Feuerwehrmänner intelligent (individual level)
 what are for firemen intelligent

The next thing to recognize is that generic middles arguably involve some generic operator applying either at the sentence level or at the vP level (cf. Lekakou (2005) for this latter option).

Further, it is important to take a closer look at the semantics of the ‘*was für*’ phrase in its split and unsplit versions (see, for example, Meinunger (1995), Vikner (1995)).

Questions with the unsplit ‘*was-für*’ phrase allow the following two readings:

- (i) a specific, discourse linked individual reading (asking for a listed answer)
 “Which books have you read?” – “This, this and that one”
- (ii) a property reading (asking for a kind answer)
 “What kind of book have you read?” – “Linguistic books”

In the split construction, the individual reading disappears.

- (47) a. Was für Bücher hast du gelesen [(i) and (ii)]
 what for books have you read
- b. Was hast du für Bücher gelesen [only (ii)]
 what have you for books read

Next, in a weak island such as a sentence level negation, weak NPs are blocked. For the ‘*was-für*’ phrase, this means that the property reading in (ii) above is blocked. In the case where the ‘*was für*’ phrase is unsplit, as in (48a), the individual reading remains.

But in the case of the split ‘*was für*’ phrase, the individual reading is not possible in the first place; therefore the splitted ‘*was für*’ phrase leads to ungrammaticality in the context of weak islands (cf. (48b)).

- (48) a. Was für Bücher hast du nicht gelesen
 what for books have not you read
- b. *Was hast du nicht für Bücher gelesen
 what have you not for books read

We have now all information that we need in order to explain the difference in grammaticality observed (44). We expect the generic operator in middles to show the same effects that other operators show. Operators are weak islands (Rizzi (1990), Cinque (1990)); they block weak NP readings. The difference between middles and reflexive anticausatives is not a difference of argument structure but one of semantics; only generic middles, and not reflexive anticausatives, involve an operator which blocks the only reading a split ‘*was für*’ phrase could have.

This explanation of the contrast above predicts that the ‘*was-für*’ split should be blocked in other generic contexts that involve no ‘*sich*’. It turns out that this prediction is indeed correct. In order to test this prediction, I developed a small questionnaire study where I contrasted unsplit ‘*was für*’ phrases with split ‘*was für*’ phrases in the context of four types of predicates listed below in (a-d).

- i) unsplit ‘*was für*’ vs.
 - ii) split ‘*was für*’ phrases
- a) generic reflexive middles
 - b) generic unmarked anticausatives
 - c) eventive unmarked anticausatives
 - d) eventive marked anticausatives

The prediction was that unsplit ‘*was für*’ phrases should be acceptable in all contexts. Split ‘*was für*’ phrases should be acceptable if no sentence level genericity is involved and unacceptable if sentence level genericity is involved.

The material and the results of the questionnaire study are given in (49). I asked 8 speakers of German to judge the sentences on a scale from 1 (very good) to 5 (very bad). The mean results are shown in the column on the right. Within the sentence material, I used some sentences in the perfect tense and some in the present tense in order to see whether it is of relevance whether the second position of the sentence is filled by a lexical verb or an auxiliary.

Notice that the sentences with the unsplit ‘*was für*’ phrase (those coded with (i) in the table below always get very good results while the sentences with the split ‘*was für*’ phrase (those coded with (ii)) always get much worse results. This is expected as the ‘*was für*’ split is certainly a marked and colloquial construction.²⁸ What is important for the current purposes is that the split in the context of generic sentences a(ii) and b(ii) is worse than the split in eventive contexts c(ii) and d(ii).²⁹

²⁸ Cf. Melchior (2007) for similar contrasts in an empirical study using magnitude estimation.

²⁹ Note that in (bii), the second part of the ‘*was für*’ phrase is adjacent to C. This could explain why b(ii) is worse than a(ii). Note further that in non-generic c(ii) we find the same adjacency, but now with better results. Non-generic d(ii), where this adjacency does not hold, is again in turn slightly better. It should be noted that this questionnaire study was undertaken only in order to roughly see whether the theoretical predictions hold.

(49) Questionnaire study

| | | | | | | | | | | |
|-------|---|---|-----|---|---|-----|---|-----|---|------------|
| a(i) | Was für Aufsätze lesen sich angenehm? <i>what for articles read REFL comfortably</i> | 1 | 1 | 4 | 1 | 1 | 1 | 2 | 2 | 1.6 |
| a(ii) | Was lesen sich für Aufsätze angenehm? <i>what read REFL for articles comfortably</i> | 3 | 4 | 5 | 5 | 5 | 4 | 4 | 5 | 4.4 |
| a(i) | Was für Wagen haben sich gut gefahren? <i>what for cars have REFL well driven</i> | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1.3 |
| a(ii) | Was fahren sich für Wagen gut? <i>what drive REFL for cars well</i> | 4 | 2.5 | 5 | 5 | 5 | 4 | 5 | 5 | 4.4 |
| b(i) | Was für Vasen zerbrechen leicht? <i>what for vases break easily</i> | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1.3 |
| b(ii) | Was zerbrechen für Vasen leicht? <i>what break for vases easily</i> | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| b(i) | Was für Vasen sind leicht zerbrochen? <i>what for vases are easily broken</i> | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 1.4 |
| b(ii) | Was sind für Vasen leicht zerbrochen? <i>what are for vases easily broken</i> | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| c(i) | Was für eine Vase ist zerbrochen? <i>what for a vase is broken</i> | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 1.4 |
| c(ii) | Was ist für eine Vase zerbrochen? <i>what is for a vase broken</i> | 3 | 5 | 1 | 5 | 1 | 5 | 3 | 5 | 3.5 |
| d(i) | Was für Werte haben sich verändert? <i>what for values have REFL changed</i> | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 1.4 |
| d(ii) | Was haben sich für Werte verändert? <i>what have REFL for values changed</i> | 3 | 1.5 | 4 | 5 | 3.5 | 4 | 2.5 | 3 | 3.3 |

To conclude, the contrast in (44) does not force us to assume different argument structures for middles and reflexive anticausatives. The two constructions differ in their semantics and this difference explains the different acceptability of the ‘*was für*’ split.

5.3.4 Split-NPs

The licensing of split NPs is also often cited as a test for unaccusativity (e.g. Grewendorf (1989)). Once again, the claim is that the objects of transitives and the subjects of unaccusatives and passives can be split, while the subjects of unergative and transitive verbs do not allow the split.

- (50) a. Kleider hat er immer so komische an (object)
 clothes has he always so strange on
 ‘With respect to clothes, he always wears such strange ones’
 b. Bücher liest er am liebsten französische
 books reads he at best French
 ‘With respect to books, he prefers to read French ones’
- (51) a. Fehler sind dem Hans vermeidbare unterlaufen (unaccusative)
 mistakes are the Hans avoidable occurred
 ‘With respect to mistakes, only those which were avoidable occurred to Hans’
 b. Widersprüche sind dem Richter mehrere aufgefallen
 contradictions ate the judge many struck
 ‘With respect to contradictions, many of them struck the judge’
 c. Gewinner wurden nur weibliche mit einer Urkunde geehrt (passive)
 winners were only female with a certificate honoured
 ‘Concerning winners, only female ones were honoured with a certificate’
- (52) *Studenten haben fleißige das Seminar besucht (subject)
 students have hard-working the class visited
 ‘Concerning students, hard working ones visited the class’

Turning to middles, Cabredo Hofherr (2000) claims that their nominatives cannot be split; this, in turn, is meant to indicate their status as external arguments.

- (53) a. *Autos fahren sich am besten neue
cars drive REFL at best new
'New cars drive best'
- b. *Autos haben sich schon immer am besten neue gefahren
cars have REFL already ever at best new driven
'New cars always have driven best'

I agree that the sentences in (53) are bad. On the other hand, I find the split nominatives in the marked anticausatives below totally acceptable.

- (54) a. Nägel haben sich heute schon viele verbogen
nails have REFL today already many bent
'Many nails have already bent today'
- b. Türen haben sich mir leider nur blaue geöffnet
doors have REFL me unfortunately only blue opened
'Unfortunately only blue doors opened for me today'

Two questions need to be answered therefore: Whether we should conclude from (53) that the themes in middles are external arguments, and whether we have to conclude that middles and reflexive anticausatives have a different syntax.

To start with the first question, it has been argued that discontinuous subject NPs are in fact possible (for example Fanselow (1988), (1993), Fanselow & Cavar (2002)). Examples are given below.

- (55) a. Briefe an Maria haben mich keine erschreckt
letters to Mary have me none frightened
'As for letters to Mary, they have not frightened me'

- b. (?)Friseur:en arbeiten nur blonde in dem Salon
 hairdressers work only blond in the saloon
 ‘As for hairdressers, only blond ones work in the salon’
- c. Stahlarbeiter haben nur entlassene demonstriert
 steel workers have only released demonstrated
 ‘Concerning steel workers, only the released ones demonstrated’
- d. Arbeiter haben viele die SPD gewählt
 workers have many the SPD voted
 ‘As for workers, many voted for the SPD’

Again, what seems to be relevant is not the status of an external or internal argument but whether the second part of the split phrase shows up directly after C^0 or not. This is shown by the following examples from Meinunger (1995).

- (56) a. Frauen haben da immer nur wenige gearbeitet (subject)
 women have there always only few worked
 ‘As for women, there always worked only a few at this place’
- b. *Frauen haben wenige immer gearbeitet
 women have few always worked
 ‘As for women, only a few always worked’
- (57) a. Frauen hat er schon vielen das Gesicht geliftet (dative)
 women.DAT has he already many the.ACC face lifted (object)
- b. *Frauen hat er vielen schon oft das Gesicht geliftet
 ‘As for women, he already lifted the face of many’

This means that the test cannot make a difference between internal and external arguments and, therefore, the data in (53) are not an argument against my claim that the theme of middles is an internal argument. However, the contrast in acceptability between (53) and (54) is a problem for my second claim, namely that the syntax of reflexive anticausatives and the syntax of reflexively marked generic middles is actually the same.

Once again, we might try to derive the difference from the different semantics of the two constructions. For example, it was claimed that only stage-level predicates but not individual-level predicates allow the fronting of the head noun of a subject NP (Diesing 1992:40f):

- (58) a. *Wildschweine sind viele intelligent
 wild boars are many intelligent
 ‘As for wild boars, many are intelligent’
 b. Wildschweine sind viele verfügbar
 wild boars are many available
 ‘As for wild boars, many are available’

However, this time this solution does not work. Fanselow & Cavar (2002) show that this general claim is wrong. We find individual level predicates with split subjects.

- (59) a. Ärzte dürften schon ein paar altruistisch sein
 doctors may really a few altruistic be
 ‘As for doctors, a few will be altruistic’
 b. Skorpione sind ziemlich viele giftig
 scorpions are rather many poisonous
 ‘As for scorpions, rather many of them are poisonous’

What we can learn from the last data is that the well-formedness of a split-NP construction is dependant on a number of factors, most of them probably related to information structure. We should, therefore, check whether the ban on split NPs in middles is absolute. It turns out that it is not. For me, the following examples all sound okay. Of course, those constructions are marked and non-standard, but they do not differ in this respect from the examples with marked anticausatives in (54).

- (60) a. ?Bücher verkaufen sich am besten kleine/rote/kurze
 books sell REFL at best small/red/short
 ‘Small/red/short books sell best’

- b. Bücher haben sich viele verkauft, aber ...
 books have REFL many sold but ...
 ‘Books sold well, ... but comics did not sell at all’
- c. Autos verkaufen sich am besten grüne
 cars sell REFL at best green
 ‘Green cars sell best’
- d. Autos verkaufen sich grüne am besten
 cars sell REFL green at best
 ‘Green cars sell best’

To conclude, the test cannot differentiate between external and internal arguments. Further, it seems that the test does not give significant differences between marked anticausatives and middles.

5.3.5 Topicalization of Subject + Participle II

The topicalization of the participle perfect together with the nominative subject is a further construction which is claimed to be an unaccusativity diagnostic (Grewendorf (1989)). One again, the standard claim is that the subjects of unaccusatives and passives pattern with objects of transitive verbs in allowing topicalization together with the participle, while subjects of unergative and transitive verbs do not allow the topicalization together with the participle. This is illustrated below.

- (61) a. [Einen Fehler gemacht] hat er noch nie (trans. object)
 a mistake made has he yet never
 ‘He has never made a mistake yet’
- b. [Ein Fehler unterlaufen] ist ihm noch nie (unaccusative)
 a mistake occurred has him yet never
 ‘No mistake ever happened to him yet’
- c. ?[Eine Rezension geschrieben] wurde darüber noch nie (passive)
 a review written was about-this yet never
 ‘No review has been written about this so far’

- (62) *[Ein Mann gemacht] hat diesen Fehler noch nie (subject)
 a man made has this mistake yet never
 ‘No male has ever made this mistake’

Cabredo Hofherr (2000) gives the following examples with middles and concludes that the nominatives in middles behave like the subjects of transitive verbs.

- (63) a. ??Sich schnell gelesen hat eine Kurzgeschichte schon immer
 REFL fast read has a short-story already ever
 b. ??Eine Kurzgeschichte gelesen hat sich schon immer schnell
 a short-story read has REFL already ever fast
 ‘A short-stories has always read fast’

She goes on to show that the examples in (63) cannot be degraded due to the presence of a reflexive pronoun as the following sentences with inherent reflexive predicates are okay.

- (64) a. Sich geschämt hat Hans schon immer leicht
 REFL shamed has Hans already ever easily
 ‘He has always easily been ashamed’
 b. Sich gewaschen hat Hans schon immer ungerne
 REFL washed has Hans already always reluctantly
 ‘John has always washed reluctantly’

One immediate comment is in order: By the logic of the test, one of the middle sentences above should be good. If the nominative in middles is an external argument, then it should not be possible to topicalize it with the participle. This would explain that the sentence (63b) is bad. But at the same time we would then expect the sentence (63a) to be good.

If we turn to anticausatives, we can make the following observation. Starting with unmarked anticausatives, topicalization of the nominative with the participle gives sometimes good and sometimes bad results.

- (65) a. Eine Vase zerbrochen ist mir auch schon öfters
 a vase broken is me.DAT also already often
 ‘A vase has broken on me already a number of times’³⁰
- b. *Eine Vase zerbrochen ist während der Mittagspause
 a vase broken is during the lunch-break
 ‘A vase broke during the lunch-break
- c. *Ein Stuhl umgekippt ist mir gestern
 a chair overbalanced is me yesterday
 ‘A chair overbalanced on me yesterday
- d. Platten zer/verkratzt sind mir schon öfter
 records scratched are me already often
 ‘Records have scratched on me already a number of times’

Haider (1985) observes that the topicalization of the VP becomes marginal if the Mittelfeld (middle field) does not contain a further argument. This explains the contrast between (65a, d), on the one hand, where a dative and an adverb fill the Mittelfeld and (65b, c), on the other hand, where the Mittelfeld is empty or less occupied.

If we turn to marked anticausatives, we find the same variance. The first sentence in (66) is quite bad, but all others are much better. For me, the other sentences are all acceptable. (It is not clear to me why the a-example differs in acceptability from the examples in (e) and (f)).

- (66) a. *Ein Stock gebogen hat sich während des Sturms
 a stick bent has REFL during the.GEN storm
 ‘A stick bent during the storm’
- b. Türen geöffnet haben sich mir noch nie
 doors opened have REFL me yet never
 ‘Doors never have opened on me’³¹

³⁰ The datives in these examples can get both the affectedness as well as the unintentional causer interpretation.

³¹ The datives in these examples can only get the affectedness reading.

- c. Wäsche verfärbt hat sich mir noch nie
clothes discoloured has REFL me yet never
'Clothes never have discoloured on me'
- d. Eine Abfahrt verzögert hat sich bei mir noch nie
a departure delayed has REFL at him yet never
'A departure never has delayed on me'
- e. So peinliche Fehler wiederholt haben sich selten
such embarrassing mistakes reiterated have REFL seldom
'Such embarrassing mistakes have happened to me seldom'
- f. Widerstand formiert hat sich erst Jahre später
resistance formed-up has REFL only years later
'Resistance formed-up only a number of years later'

In the light of this variance, we should ask whether there exists a real difference between middles and marked anticausatives. The answer is once again negative. The following middle sentences with topicalized VPs are quite acceptable.

- (67) a. Bücher verkauft haben sich hier schon immer gut
books sold have REFL here already ever well
'Books have always sold well here'
- b. Politiker bestochen haben sich in der Provinz schon immer leicht
politicians bribed have REFL in the province already ever easily
'Politicians have always bribed easily in the province'
- c. Villen verkauft haben sich schon immer gut in Grünwald
villas sold have REFL already ever well in Grünwald
'Villas have always sold well in Grünwald'
- d. Beweise gefunden haben sich noch keine mit links
proofs found have REFL yet none with left
'It was never easy to find proofs'

- b. *Das Buch wurde sich leicht verkauft
 the book becomes REFL easily sold

(70) Es wurde sich geschämt/gefürchtet (inherent reflexive)
 it became REFL ashamed/feared

We can derive the fact that middles and marked anticausatives cannot passivize, although they are syntactically transitive, the following way. I proposed that ‘*sich*’ in marked anticausatives and middles is in the specifier position of a special Voice head, expletive Voice. Passive, on the other hand, is realized by a different Voice head that does not project a specifier. If it is agreed that different Voice heads cannot be stacked one atop the other, we derive the result that marked anticausatives cannot be passivized.

(71) *[Voice [Voice]]

Under the suppression view of the passive we could also argue that since the external argument in marked anticausatives is expletive/non-thematic, there is no argument to be absorbed by the passive morphology.

I conclude that the incompatibility of marked anticausatives and middles with passive formation can be derived within the analysis of these constructions proposed here. Notice that if the theme of marked anticausatives were to be the external argument, the ban of passivization on marked anticausatives could not be derived easily as inherent reflexives in German allow passivization as we saw above. The latter fact, in turn, suggests that with inherent reflexives the nominative argument is indeed an external argument (see the appendix for further discussion).

5.3.7 Datives

As discussed at length in earlier chapters, the *affectedness* dative is possible crosslinguistically in structures that project an internal argument. These datives are possible in the context of (telic) transitive verbs and telic unaccusatives but not in the context of unergatives (cf. e.g. Cuervo (2003)).

- (72) a. Hans hat der Maria die Tür geöffnet (transitive)
 John has the.DAT Maria the door opened
 ‘John opened the door for Mary’
- b. Der Maria ist eine Vase zerbrochen (unmarked anticausative)
 the.DAT Mary is a vase broken
 ‘A vase broke on Mary’
- c. Der Mutter starb das Kind (pure unaccusative)
 the.DAT mother died the child
 ‘The child died and the mother is affected by this’
- (73) a. *Das Kind hat der Mutter geträumt / gegessen (unergative)
 the child has the.DAT mother dreamt / eaten
 ‘The child dreamt/ate and the mother is affected by this’
- b. *Der Mutter tanzt das Kind
 the.DAT Mother dances the child
 ‘The child dances and the mother is affected by this’

We have already seen that marked anticausatives license the *affectedness* dative. This, in turn, fits with our analysis of this dative. It is applied to a resultant state predicated over an internal argument. It is not clear how the availability of the affectedness reading could be derived if the theme in marked anticausatives were an external argument. An example with an *affectedness* dative in the context of a marked anticausative is given in the first sentence below. All other sentences involve generic middles and, as can be seen, generic middles license the *affectedness* dative, too.

- (74) a. Der Menschheit hat sich das Klima verändert (refl. anticausative)
 the.DAT human kind has REFL the climate changed
 ‘The climate changed and the human kind is affected by this’
- b. Dir haben sich schon immer leicht die Leviten gelesen (middles)
 you.DAT have REFL yet always easily the levites read
 Intended meaning: ‘You have always gotten off easy in a laking-to’

- c. Blinden reinigt sich die Wohnung am leichtesten
 blinds.DAT cleans REFL the flat at easiest
 ‘It is very easy to clean the flat of blind persons’
- d. So einem Publikum spielt sich ein Bach nicht so leicht vor³⁴
 such a.DAT audience plays REFL a Bach not so easily for
 ‘A Bach piece doesn’t play/isn’t played very easily to an audience like this’

The test shows then that the theme in marked anticausatives and middles behaves like other unquestionable internal arguments and not like external arguments.

5.3.8 NOM-DAT order

A further argument that the theme in marked anticausatives is an internal argument was developed by Schachtel (1991). This test builds on the normal, unmarked word order as is discussed for German in Lenerz (1977). In transitive sentences, a rhematic dative follows the nominative.³⁵ The opposite word order is ungrammatical. This is shown in (75). In the passive in (76) this restriction does not hold; both orders are possible if the dative is rhematic. Such data is typically taken as evidence that, in German, nominative case can be assigned to the theme in its VP-internal theta-position. It does not have to move to a structural case position in front of the dative.³⁶

(75) transitive:

- Q: Wem vertraut heutzutage schon noch der erfahrene Kunde?
 whom.DAT trust nowadays yet still the.NOM practiced customer
 ‘Whom does the practiced customer still trust nowadays?’
- a. Heutzutage vertraut der erfahrene Kunde nur noch dem Fachhändler
 nowadays trusts the practiced customer only still the specialist dealer

³⁴ This example is from Schachtel (1991).

³⁵ A DP is forced to be rhematic if it is used in an answer to a WH-question as in the examples below.

³⁶ This property of German was recently discussed by Wurmbrand (2006).

- b. *Heutzutage vertraut nur noch dem Fachhändler der erfahrene Kunde
 nowadays trusts only still the specialist dealer the practiced customer
 ‘Nowadays, the practiced customer only trusts the specialist dealer.’

(76) passive:

Q: Wem können heutzutage schon noch die schwarzen Scheiben
 whom.DAT can nowadays yet still the.NOM black discs
 verkauft werden?

sold be

‘To whom can records still be sold nowadays?’

- a. Heutzutage können die schwarzen Scheiben nur noch
 nowadays can the black discs only still
 dem Ewiggestrigen verkauft werden
 the.DAT always-yesterday sold be

- b. Heutzutage können nur noch dem Ewiggestrigen
 nowadays can only still the.DAT always-yesterday
 die schwarzen Scheiben verkauft werden
 the black discs sold be

‘Nowadays, records can only still be sold to those who are stick-in-the-mud.’

Unmarked unaccusatives show the same behavior as passives. The nominative can follow the rhematic dative.³⁷

(77) unaccusative:

Q: Wem gefällt heutzutage schon noch
 whom.DAT pleases nowadays yet still
 der Klang der schwarzen Scheibe?

the.NOM sound of-the black disc

‘Who still likes the sound of records nowadays?’

³⁷ See Fanselow (1992) for the claim that verbs like ‘*gefallen*’ (please) which have a nominative and a dative argument are unaccusative in German.

- a. Heutzutage gefällt der Klang der schwarzen Scheibe
 nowadays pleases the sound of-the black disc
 nur noch dem Ewiggestrigen
 only yet the always-yesterday
- b. Heutzutage gefällt nur noch dem Ewiggestrigen
 nowadays pleases only yet the always-yesterday
 Klang der schwarzen Scheibe
 sound of-the black disc
 ‘Nowadays, only the stuck-in-the-mud likes the sound of records.’

This test suggests that the theme in reflexive middles is an internal argument as it, once again, can follow the rhematic dative. If the theme were an external argument in the case of middles, we would not expect (78b) to be grammatical.

(78) middle:³⁸

- Q: Wem verkauft sich heutzutage schon noch die schwarze Scheibe?
 whom sells REFL nowadays still yet the black disc?
 ‘To whom sell records still (easily) nowadays?’
- a. Heutzutage verkauft sich die schwarze Scheibe
 nowadays sells REFL the black disc
 nur noch dem Ewiggestrigen
 only yet the.DAT always-yesterday
- b. Heutzutage verkauft sich nur noch
 nowadays sells REFL only yet
 dem Ewiggestrigen die schwarze Scheibe
 the.DAT always-yesterday the black disc
 ‘Nowadays, records only sell (easily) to someone who is stuck-in-the-mud.’

To conclude then, the word order freedom between a rhematic dative and the nominative theme suggests that the theme in middles is an internal argument. It behaves

³⁸ Marked anticausatives show the same behavior.

exactly as the theme in passives and unmarked unaccusatives. It behaves differently from nominatives in transitive NOM-DAT structures.

5.3.9 Resultatives

The examples below suggest that PP-resultatives are licensed by unaccusative but not by unergative predicates.³⁹

- (79) a. *Das Defizit hat zu einer Belastung zugenommen (unergative)
 the deficiency has to a burden up - ratchet
 ‘The deficiency ratchet up so that it became a burden.’
- b. Das Defizit ist zu einer Belastung angewachsen (unaccusative)
 the deficiency has to a burden grown
 ‘The deficiency grew so that it became a burden.’

Zwart (2005) argues that the theme in Dutch middles cannot be an internal argument as Dutch middles do not license resultatives. He gives the following examples.

- (80) a. *Deze borden zetten lekker op tafel
 these plates place good on table
 ‘*These plates put nicely on the table’
- b. *Bureacraten kopen gemakkelijk om
 bureaucrats buy easy off
 ‘Bureaucrats bribe easily’
- c. Deze schoenen lopen lekker (*scheef)
 these shoes walk good lopsided
 ‘These shoes walk nicely lopsided’

³⁹ There is a huge literature on resultatives to which I cannot do justice here (cf. Levin & Rappaport (1998) Kratzer (2005) for recent discussion) and not all authors agree that a direct object condition holds for resultative formation. I cannot add to this debate and I just mention this test here in order to show that there might be a difference between German and Dutch middles.

Contrary to what Zwart claims, German middles do license resultatives. Thus, they behave like the unaccusative in (79b) above.

- (81) a. Eine Schildkröte verwandelt sich leicht in einen Stein
 a turtle bewitch REFL easily into a stone
 ‘A turtle bewitches/transforms easily into a stone’
- b. Der Tisch schiebt sich ganz leicht in die Ecke
 the table pushes REFL very easily into the corner
 ‘The table pushes very easily into the corner’

5.3.10 The weak/strong reading of indefinites and bare plurals

The first VP-border is the domain of existential closure (among many, DeHoop (1992), Diesing (1992), Kratzer (1989)). This means that an NP which is scrambled out of the VP loses its existentially bound, weak reading. This is illustrated below with examples from Haider & Rosengren (1998). Whereas the indefinite NP in (82a) can get either a specific reading or an existential reading, the scrambled indefinite in (82b) loses its indefinite and unspecific reading.

- (82) a. dass Hans einen Fisch bestellte (*specific, existential*)
 that Hans a fish ordered
- b. dass einen Fisch Hans bestellte (*specific*)
 that a fish Hans ordered
 ‘that Hans ordered a fish’

The same effect can be observed with bare plurals. If a bare plural is scrambled out of the VP, it is semantically disambiguated. Since it is no longer in the domain of existential closure, it cannot be interpreted as existentially bound but only as generic.

- (83) a. dass ja Max Primaballerinas bewundert (*generic, existential*)
 that PRTL Max prima ballerinas admires
- b. dass ja Primaballerinas Max bewundert (*generic*)
 ‘that Max admires prima ballerinas’
- (84) a. weil ja niemand Fledermausgeräusche hören kann (*generic,*
 because PRTL no-one bat-noises hear can *existential*)
- b. weil ja Fledermausgeräusche niemand hören kann (*generic*)
 ‘because no one can hear bat sounds.’

Negative indefinites are lexically restricted to an existential reading. They do not allow a specific interpretation and, therefore, they cannot leave the domain of existential closure. The following two sentence pairs illustrate this. (If the negative is part of a phrase which can get a distributive reading, scrambling is licit because, in this case, the domain of existential closure is the DP.)

- (85) a. dass ja jemand/Hans nichts hören kann
 that PRTL someone/Hans nothing hear can
- b. dass ja nichts *(von dem) jemand/Hans hören kann
 that PRTL nothing of this someone/Hans hear can
 ‘because no one/Hans could hear anything (of this).’
- (86) a. weil ihm nichts gelingen wird
 because him nothing succeed will
- b. weil nichts *(von dem) ihm gelingen wird
 because nothing of this him succeed will
 ‘because nothing (of this) will work out for him’

Recall that I adopted the assumption that marked anticausatives in German are transitives; they involve an internal and an external argument. Further, recall that the word order between the theme and the reflexive pronoun is not fixed (cf. (87)).

- (87) a. als eine Tür sich öffnete
 b. als sich eine Tür öffnete
 when REFL a door REFL opened

Depending on which of the two orders in (87) is basic, we make different predictions about which order in (87) allows weak readings and which word order does not allow weak readings.

Assume that the theme is base-generated as the internal argument. Then (87a) is the base and (87b) is derived via scrambling of the theme out of the vP (expletive VoiceP under my proposal). The prediction, then, is that the order {sich < theme} licenses weak readings of the theme, while the opposite order {theme < sich} does not allow weak readings of the theme. This is illustrated below in (88).

- (88) The ‘theme-is-internal’ hypothesis: prediction:
 a. [vP sich [vP a door open] (*weak reading*)
 b. [XP a door_i [vP sich [vP t_i open] (*no weak reading*)

If, however, the theme is merged as the external argument, the prediction changes. Since now the order {theme < sich} is base-generated, we predict weak readings of the theme to be possible under this order. Scrambling the reflexive pronoun in front of the theme in order to derive the order {sich < theme} should not change the situation as the theme does not leave the domain of existential closure (cf. (89b)). Only further scrambling of the theme over the already scrambled reflexive pronoun brings the theme out of the domain of existential closure (cf. (89c)).

- (89) The ‘theme-is-external’ hypothesis: prediction:
 a. [vP a door [vP sich open] (*weak reading*)
 b. [XP sich_i [vP a door [vP t_i open] (*weak reading*)
 c. [XP a door_k [xp sich_i [vP t_k [vP t_i open] (*no weak reading*)

- (93) a. weil sich Türen öffnen und schließen sollten (*generic, existential*)
 because REFL doors open and close should
- b. weil Türen sich öffnen und schließen sollten (*generic*)
 because doors REFL open and close should
 ‘because doors should open and close’
- (94) a. weil sich nichts verändern wird
 because REFL nothing change will
- b. weil nichts *(von dem) sich verändern wird
 because nothing of this REFL change will
 ‘because nothing (of this) will change.’

Turning to generic middles, these show exactly the same behavior.

- (95) a. weil sich hier Bücher gut verkaufen (*generic, existential*)
 because REFL here books good sell
- b. weil Bücher sich hier gut verkaufen (*generic*)
 because books REFL here well sell
 ‘because books sell well here’
- (96) a. weil sich hier Politiker leicht bestechen (*generic, existential*)
 because REFL here politicians easily bribe
- b. weil Politiker sich hier leicht bestechen (*generic*)
 because politicians REFL here easily bribe
 ‘because politicians are bribed easily here’
- (97) a. weil sich nichts leicht verkauft
 because REFL nothing easily sells
- b. weil nichts *(von dem) sich leicht ändert
 because nothing of this REFL easily sells
 ‘because nothing sells easily.’

Note that in the case of semantically transitive structures, the situation is different.⁴⁰ When a nominative agent thematically binds an accusative theme, then a weak reading is possible for the agent under both word orders as the examples below show. This is not surprising as, in such cases, the reflexive pronoun is the internal argument.

- (98) a. als eine Frau sich anmeldete (specific, existential)
 when a woman REFL registered
- b. als sich eine Frau anmeldete (specific, existential)
 when REFL a woman registered
 ‘when a woman registered herself’
- (97) a. weil Kinder sich mit Schnee bewarfen (generic, existential)
 because children REFL with snow on-threw
- b. weil sich Kinder mit Schnee bewarfen (generic, existential)
 because REFL children with snow on-threw
 ‘because children snowballed each other’
- (99) a. weil niemand sich anmeldete
 because no-one REFL registered
- b. weil sich niemand anmeldete
 because REFL no-one registered
 ‘because no one registered’

The interpretational behavior of weak NP themes in middles and anticausatives suggests therefore that these themes are base-generated below the reflexive pronoun.

There are at least two further comments necessary. Zwart (1995) shows that focus can have effects on the availability of weak readings. Concretely, he shows that NPs which have left the domain of existential closure can get weak readings in Dutch and German when they carry pitch accent. (I agree with at least some of his German data). From this, he derives the general claim that intonation determines the interpretation of

⁴⁰ Thanks to Heidi Harley for pointing out to me the importance of such data.

- (101) a. weil sich keine Tür öffnete *(specific, existential)*
 because REFL no door opened
- b. weil keine Tür sich öffnete *(specific)*
 because no door REFL opened
 ‘because no door opened.’
- (102) a. weil sich keine Türen öffneten *(specific, existential)*
 because REFL no doors opened
- b. weil keine Türen sich öffneten *(specific)*
 because no doors REFL opened
 ‘because no doors opened.’

5.3.11 Unaccusativity tests: Conclusion

This ends my investigation of German marked anticausatives (and generic middles) with respect to the unaccusativity diagnostics. As I have discussed, we have to make sure for each individual test what it is, in fact, able to diagnose. As it turned out, some of the tests are compatible with the assumption that the theme in marked anticausatives is an internal argument because these tests diagnose whether an external argument (a specifier of Voice) is present; as soon as we understand that marked anticausatives are syntactically transitive and consider it possible that the reflexive pronoun is merged in the specifier of Voice, such tests no longer contradict the assumption that the theme is an internal argument. A second class of tests turned out to be simply not decisive on the unaccusativity status of marked anticausatives, either because the data are not clear-cut (we find positive as well as negative test results) or because the constructions under consideration turned out to be simply no good as tests for the question of whether a DP is an internal or an external argument. Finally, I have identified a number of tests which strongly suggest that the theme in marked anticausatives is an internal argument; these are tests that do not deal with properties of Voice but which are really sensitive to the syntactic object status of a DP, either by predicting word order regularities or by predicting interpretational properties.

Chapter 6

Generic middles

In this chapter, I discuss generic middles. I will defend the claim already made in the previous chapter that generic middles have the same syntax as marked anticausatives, i.e. that they involve an expletive Voice projection. This claim is driven by the observation that generic middles are typically marked by the same device also used for marked anticausatives of a language. The previous chapter also showed that German middles behave like marked anticausatives with respect to the unaccusativity diagnostics (modulo some differences which were ascribed to the presence of a generic operator in middles). There is, however, also a great difference between generic middles and (marked) anticausatives; middles involve an implicit agent which is not present in anticausatives. This implicit agent is, however, also quite different from the implicit agent in passives. It is the main goal of this chapter to reconcile the presence of an implicit agent in middles with the assumption that middles involve just an *expletive* Voice projection. Specifically, I will derive the presence of the implicit agent in middles within a non-lexicalist theory of argument structure. I will do this by investigating under which circumstances verbs undergoing the causative alternation can have a middle reading, i.e. can imply such an implicit agent. With respect to the semantics of middles, I built on earlier work, especially by Condoravdi (1989), Ackema & Schoorlemmer (2005) and Lekakou (2005).

6.1 Introduction: The core characteristics of middles

The examples in (1)-(3) give a crosslinguistic sample of the so-called middle construction. This sample shows some morphological variation. Some languages, such as English or Dutch, form their middles without morphological marking, while other languages have a morphological middle marker. Importantly, if a language uses some

morphological device to mark middles, then it is typically the same device that is used to form marked anticausatives in this language.¹ So, while English and Dutch form unmarked middles (the verb in the middle construction has the same morphological shape as an ordinary (in-)transitive verb in these languages), German and the Romance languages mark their middles with the same reflexive morphology as their marked anticausatives, and Greek marks its middles with the same non-active morphology that is also used for marked anticausatives in Greek.

- (1) a. This book reads easily *(English)*
 b. Dit boek leest makkelijk *(Dutch)*
- (2) a. Das Buch liest **sich** leicht *(German)*
 b. Ce livre **se** lit facilement *(French)*
- (3) Afto to vivlio diavazete efkola *(Greek)*
 this the book read.NACT.3SG easily

Despite this morphological variation, middles, crosslinguistically, share the following characteristics (from Ackema & Schoorlemmer (2005)):

- A: The subject of the sentence corresponds to the internal argument (the understood or notional object)
- B: The agent is demoted and receives an arbitrary interpretation
- C: The interpretation of the sentence is non-episodic. Middles do not make reference to an actual event having taken place; rather, they report a property of the grammatical subject. The otherwise eventive verb becomes a derived stative and, more precisely, receives a generic modal interpretation.

¹ As far as I know, if a language does not have marked anticausatives, the middle in this language is unmarked, too. If a language has marked anticausatives, the middle is usually marked. Dutch is an exception to the second part of this generalization. I will come back to this property of Dutch at the end of this chapter.

These are the properties of middles that I will be concerned with in this chapter. Two further properties that figure prominently in the literature about middles will not be discussed here: this is, on the one hand, the topic of modification of the modality in middles, i.e. the fact that middle sentences typically either need to be modified by some adverb (such as ‘*easily*’ above) or need to appear with a modal auxiliary or negation. On the other hand, there are restrictions on the types of verbs which allow middle formation (*Aktionsart*) and restrictions on the logical object + verb combination (*affectedness condition*). Both properties do not hold the same way across languages and will not be discussed here (see Ackema & Schoorlemmer (2005) for an overview).

The properties in A-C evoke two theoretical questions:

- Q1: How does the understood or notional object become a subject?
 Q2: What does it mean, technically, to be demoted (and to receive an arbitrary interpretation)?

In the next two subsections, I will shortly discuss how earlier theories have tried to answer these questions.

6.2 Syntactic accounts

Syntactic accounts of middles connect middle formation to passive formation in that they assume that the theme is A-moved from the object position to the derived subject position. For the demoted agent, they assume that it is syntactically present and realized as a zero category. To mention just two prominent analyses, Stroik (1992) assumes that the demoted agent is a *PRO* attached to the VP-level, while Hoekstra & Roberts (1993) assume that it is a *pro* in the specifier of VP. (4a, b) show the structures which these authors assign to the middle sentence ‘*Bureaucrats bribe easily*’.

- (4) a. [_{IP} bureaucrats_i [_I I [_{VP} [_{VP} [_{V'} bribe t_i easily]] PRO]]] (Stroik 1992)
 b. [_{IP} bureaucrats_i [_I I [_{VP} pro [_{V'} bribe t_i easily]]]] (Hoekstra&Roberts 1993)

Both the assumption of A-movement in middles as well as the specific representations of the demoted agent have met with criticism.

To start with the former, it has been argued that the movement proposed for middles does not behave like ordinary A-movement as we know it from the English passive (e.g. Ackema & Schoorlemmer (1994), Marelj (2004), Lekakou (2005) among others). In English, exceptionally case-marked subjects can become the grammatical subject of the matrix verb under passivization but not under middle formation, as is illustrated in (5a) vs. (5b). Such data is typically taken as indication that the theme in middles must be an argument of the verb undergoing middle formation, while such a restriction does not hold for passives. This, in turn, is taken as evidence that middle formation is a lexical process while passive formation involves A-movement within the syntax.

- (5) a. John was believed [to be a fool]
 b. *John believes [to be a fool] easily

I think that the conclusion that is drawn from the above contrast is wrong; such data cannot be taken as an argument against A-movement being involved in middle formation. The ungrammaticality of (5b) is not connected to the base position of the middle subject but to properties of the matrix verb involved. It is well known that middle formation is lexically restricted and works only with some verb classes (cf. Ackema & Schoorlemmer (2005)); the exact restrictions are still under debate.

In (6), we find a collection of ECM-verbs that do not allow the embedded subject to rise under middle formation. Recall that under passive formation, all the examples would be acceptable.

- (6) a. * John believes [to be a fool] easily
 b. * John sees [singing] easily
 c. *John considers (to be) a fool easily
 d. *John expects easily to win
 e. *This light causes to turn on easily
 f. *John makes (to) blush easily

Importantly, all the matrix verbs in (6) can take DPs instead of propositions as their objects (i.e. they allow a non-ECM configuration). But even with DP complements, these verbs allow passivization (not shown here) but not middle formation.²

- (7) a. He believed the news
 a'. *Good news believe easily
 b. He saw the man
 b'. *This man sees easily
 c. John considered this way out
 c'. *Such a way-out considers easily
 d. John expected the result
 d'. *Such a result expects easily
 e. He caused an accident
 e'. *Accidents cause easily
 f. John made an effort
 f'. *Small efforts make easily

In all the ungrammatical middles in (7), the middle subject originates as the direct object of the middle verb. I conclude, therefore, that the class of (optional) ECM-verbs has some lexical-semantic properties which are incompatible with middle formation/semantics. The examples in (6), therefore, do not prove that A-movement cannot be involved in middle formation.

In contrast to ECM-constructions, resultative constructions license middles (cf. (8a)). The question whether these constructions involve raising or not is still under debate; be it as it may, note that the same verb that can form a resultative middle also allows middle formation with a plain DP object (cf. (8b)).

- (8) a. Such metal hammers flat easily.
 b. This metal hammers nicely

To conclude then, the argument from raising is not valid.

² Data due to Tom McFadden (p.c.).

As a second argument against A-movement in middle formation, it is often claimed that (German and Dutch) middles do not pass the unaccusativity diagnostics. I showed already in the last chapter that German middles, in fact, do pass the unaccusativity diagnostics as soon as it is understood that these middles are syntactically transitive. Further, some of these tests suggested that the theme in German middles is an internal argument. In the end of this chapter, I will try to motivate that Dutch and English middles are transitive, too, although they do not involve an overt middle marker. This then will undermine the argument stemming from unaccusativity diagnostics.

A further interesting argument against middles as unaccusatives (i.e. involving syntactic A-movement of the theme) comes from English verbs undergoing the causative alternation. As observed by Fellbaum (1986) (cf. also Lekakou (2005)), there are at least two English verbs that show some morphological reflex if they undergo the causative alternation (cf. (9a) vs. (9b)). If these verbs form a middle, they take the transitive morphology, not the unaccusative morphology (cf. (9c), (10)).³

- (9) a. John raises his kids very strictly.
 b. The sun rises from the East.
 c. Obedient daughters raise/*rises more easily than disobedient sons.

- (10) This vinyl floor lays/*lies in a few hours.

This is indeed a strong argument that middles cannot be pure unaccusatives. The opposite conclusion, taken for example in Lekakou (2005) that therefore middles must be unergative, is, however, not the only conclusion possible. What this test seems to prove is that middles involve an external argument of some kind, i.e. they project a SpecVoice. But from this, it does not follow necessarily that the theme in middles cannot be an internal argument. Indeed, the simplest conclusion from the data in (9) would be that English middles are transitive, exactly as German middles are. I will return to these data and this latter conclusion at the end of the chapter.

³ It would be interesting to see whether similar verbs exist in Dutch.

I conclude that the arguments put forward against the assumption that the theme in middles is an internal argument which is A-moved to the derived subject position do not hold.

The second claim made by syntactic theories of middle formation is, however, indeed problematic. As mentioned above, these theories assume that the implicit external argument in middles is syntactically represented either as *pro* or as *PRO*. Both proposals are problematic for a number of reasons.

First, *pro* in Germanic middles would have a rather exceptional character.

Second, as mentioned by Dobrovie-Sorin (2003), projecting two theta-roles presents us with locality problems; it is not clear why the theme should get nominative if the external argument is a *pro/PRO*.⁴

Third, the implicit agent in (at least Germanic) middles is not “visible” in the syntax. As Ackema & Schorlemmer (1994:176) put it, the authors “introduce a syntactic element that does not syntactically manifest itself.”⁵ A number of tests have been put forward to show this. While some of these tests have to be handled with care, the overall picture looks the following: On the one hand, a comparison of middles with unaccusatives/anticausatives shows that middles, indeed, have an implicit external argument. On the other hand, this implicit argument differs from the implicit argument in passives in that the latter is much more active. This can be taken as indication that only the implicit argument of passives is syntactically represented.

If a middle sentence such as (11a) is compared to its unaccusative or passive counterparts in (11b) and (11c), pure introspection suggests that middles, like passives but in contrast to unaccusatives, involve an implicit agent. Middles are more like passives in that an external argument is felt to be present; they imply an agent.

⁴ Arguably, the same problem occurs with my analysis of German marked anticausatives. In chapter 7, I will propose a solution to this problem which works exactly for reflexive pronouns in the external argument position but which would not work for covert pronouns. The decisive difference is that *pro/PRO* has a ϕ -feature content while a reflexive pronoun does not.

⁵ Stroik (1992, 1999) gives a number of arguments in favour of a syntactically active agent in English middles. See Zribi-Hertz (1993) and Ackema & Schoorlemmer (1995, 2002) for discussion and convincing refutation.

- (11) a. The clothes hang easily (*middle*)
 b. The clothes are hanging on the line (*unaccusative*)
 c. The clothes were hung on the line (*passive*)

However, the standard tests known from the passive/anticausative contrast suggest that the implicit agent in middles is different from the one in passives. Only passives license *by*-phrases, are compatible with agentive adverbs and license control into purpose clauses.

- (12) a. Bureaucrats were bribed by managers
 b. *Bureaucrats bribe easily by managers
- (13) a. This bureaucrat was bribed deliberately
 b. *This bureaucrat bribes deliberately
- (14) a. This bureaucrat was bribed [PRO to avoid the draft]
 b. *This bureaucrat bribes easily [PRO to avoid the draft]

The latter two tests are not without problem, however. As mentioned at the beginning of the chapter, middle sentences are argued to be “derived statives”; they are generic sentences which describe a property of the theme. But stative verbs do not license agentive adverbs and control (cf. Roberts’ (1987)).⁶

- (15) a. He loves her (*deliberately)
 b. He hates her (*intentionally)
 c. He knew the answer (*intentionally)

⁶ It is known that control is sometimes possible under the right pragmatic circumstances even if arguably no implicit controller is syntactically present (cf. Williams (1985)). This is sometimes also the case in middles. The following examples are from Fellbaum & Zribi-Hertz (1989). (i) is a copula construction, (ii) a generic middle.

- (i) The window is bullet-proof (in order) to protect the president
 (ii) This dog food cuts and chews like meat in order to make your pet happy

- (16) a. John believed that the earth was flat (*in order to annoy the teacher)
 b. John knew the answer (*in order to impress the girl next to him)

This leaves us with the *by*-phrase test as the main difference between passives and middles.⁷

On the other hand, there are two tests which really substantiate the feeling that middles do involve some implicit argument. In contrast to unaccusatives, but like passives, middles do not license the ‘*by itself*’ phrase (Keyser & Roeper (1984)).⁸ This suggests that an external argument is semantically present (cf. Schäfer (2007) for a discussion of this test).

- (17) a. *This kind of bread cuts easily all by itself.
 b. *This wood carves easily all by itself.
 c. *This ice crushes easily all by itself.

Further, like passives, but in contrast to anticausatives, middles license instrumental phrases (cf. Hale & Keyser (1987)).

- (18) This glass breaks easily with a hammer

These latter two tests show that some implicit argument is present in middles. However, they do not argue necessarily for a syntactically present, implicit agent; we expect the same results if the implicit agent is present only conceptually.

To conclude then, it is generally accepted that middles convey a “‘feeling’ or ‘intuition’ on part of the observers that agency is present in some sense” (Hale &

⁷ I do not discuss the claim by Stroik (1992, 1999) that English ‘*for*’-phrases in middles are the counterpart of the passive ‘*by*’-phrase. See Ackema & Schoorlemmer (1995, 2002) for a refutation of this claim. Also note that although other languages such as German or Dutch have a passive ‘*by*’-phrase, they do not have a counterpart of the English middle ‘*for*’-phrase. (But see also the discussion in fn. 9).

⁸ Rappoport (1999) claims that some middles do license the ‘*by itself*’ phrases. It turns out however, that in these cases we are not concerned with middles but with generic unaccusatives (cf. Lekakou (2005) for the same conclusion). All her examples involve verbs which undergo the causative alternation. I will come back to the difference between middles and generic unaccusatives in the course of this chapter.

Keyser 1987:16). Further, it is generally accepted that this agency differs from the agency in the passive. I agree, therefore, with other authors (e.g. Ackema & Schoorlemmer (2005)) that syntactic accounts of middles which assume a syntactically active zero category agent are on the wrong track.⁹

However, the other half of syntactic accounts to middles seems to me to be on the right track. As discussed in this section and also in the last chapter, there are no reasons to assume that the theme in middles is not an internal argument. In fact, some unaccusativity tests suggested just this for German middles. This, in turn, means that middles are not a counterexample to the validity of a configurational theta theory.

In the next section, I shortly turn to a discussion of pre-syntactic or lexicalist theories of middle formation which actually do assume that the theme in middles is projected in a different way than in other constructions.

6.3 Pre-syntactic/lexicalist accounts

Pre-syntactic or lexicalist theories of middle formation assume that the theme is projected in a different way in middles than in active and passive clauses; in active and passive sentences, it is projected as an internal argument, while in middles it is projected as an external argument. As an example for such an account, Ackema & Schoorlemmer (1994) assume that arguments of a verb are ordered on the level of L(exical) C(onceptual) S(tructure) along a thematic hierarchy as in (19). This order is

⁹ This conclusion holds for those languages that form passives and middles with different morphology. Lekakou (2005) suggests that, in Greek or French middles, there might be a syntactically active, implicit argument (Type II middles in the terminology of Ackema & Schoorlemmer (2005)). Crucially, Greek uses the same non-active morphology in passives and middles, while French is argued to have a reflexive passive besides reflexive middles (for example (Dobrovrie-Sorin (1998)). What seems to be going on in these languages, then, is that a generic sentence operator applies to an ordinary passive structure. If the above generalization were correct, it would make an interesting prediction for Hebrew (thanks to Artemis Alexiadou for pointing this out to me). Hebrew has three verbal templates (simple, intensive, causative; cf. Doron (2003)). In the intensive template, middles and passives use different morphology while in the simple template, they use the same morphology. The above generalization would predict that generic middles in the intensive template do not license 'by'-phrases while generic middles in the simple template do license the 'by'-phrase.

projected to syntax so that an element which is higher on the hierarchy is projected to a higher syntactic position than an argument which is lower on the hierarchy.¹⁰

(19) {Actor-Patient-Agent-Theme-Goal}

The central facet of middle formation, for these authors, is that the external argument (an actor in (19)) gets an arbitrary interpretation which, in turn, means that it is not projected to syntax. The external argument of middles is present at LCS which leads to the “feeling” that an agent is present in middles, but it is not projected to syntax which derives that the external argument is not syntactically active in middles. Since the highest argument on the scale in (19) is deprived from being syntactically projected, the next argument on the scale is projected to the highest syntactic position; this means, the patient is projected to the external argument position in middles.

Besides some theory-internal problems identified and discussed by Lekakou (2005), this proposal also has empirical flaws. As mentioned, the main argument that English middles cannot be unaccusative does not hold. Further, it was argued that, in German, middles indeed project the theme internally. While the arguments which proved this for German have not been replicated for Dutch (and probably cannot be replicated for Dutch for independent reasons) it was also shown that many arguments that argue against an unaccusative status of middles in Dutch and German can be discarded if middles are syntactically transitive. In the end of this section, I will claim that this holds also for English and Dutch middles.

So, for German, the claim that the theme is an external argument cannot be upheld. For English and Dutch, we have not found counterarguments against this claim so far but it should be clear that a uniform analysis of middles across languages is clearly to be preferred if arguments against it cannot be found. I, therefore, will develop a theory that assumes basically the same syntax for middles in German, Dutch and English.

Turning to the source of the implicit argument in middles, lexicalist theories have a way to derive that this implicit argument is not syntactically active. But these theories heavily build on the assumption that verbs have structured lexical entries (LCS) where all arguments of a verb are listed in a hierarchical thematic order. But as mentioned in

¹⁰ For details on this hierarchy see Ackema & Schoorlemmer (1994).

the discussion of the causative alternation in chapter 4, I am pursuing a grammatical system without structured lexical entries (cf. e.g. Marantz (1997), Hale & Keyser (2002), Borer (2005)). In the following sections, I will therefore search for an alternative solution. It should be mentioned, however, that this solution is not so far away from what lexicalist theories assume; as these theories, I will propose that the implicit external argument of middles originates on a conceptual level. In contrast to these theories, however, I assume that this level is not a linguistic level in the strict sense. Further, I will identify very specific conditions under which information from this conceptual level can “enter” or “enrich” the linguistically derived semantic representation.

6.4 The source of the middle agent in a non-lexicalist framework

As discussed in the previous section, I follow syntactic theories of middle formation in the assumption that the theme in middles is base-generated as an internal argument. On the other hand, I agree with lexicalist theories of middle formation that the implicit agent in middles cannot be syntactically represented. But since I am working in a framework that does not assume lexical entries in the traditional sense, I cannot derive the middle’s implicit agent on such a level of grammar. This poses the following research question:

Q: If there is no syntactically active agent in middles, and if there are no structured lexical entries, where does the agency intuition come from?

I will defend the following claims in this chapter:¹¹

¹¹ Some of these views can already be found in Hale & Keyser (1987), Condoravdi (1989) and Rapoport (1999). See also Marantz (1997), Harley & Noyer (2000) and Alexiadou et al. (2006a, b) for the role of Root semantics.

- Claim 1: Middles of transitives are *generic unaccusatives*. The theme is merged as an object as in transitive structures. They have no syntactically represented implicit agent. (Impersonal middles have no thematic argument at all.)
- Claim 2: If the first claim is true, a syntactically driven/configurational theta theory is maintainable.
- Claim 3: Middles involve an implicit agent if the *encyclopedic knowledge* about the Root or the verb+Theme combination in the construction implies this.¹²
- Claim 4: Only *generic unaccusatives* allow the implication of an agent but not *eventive unaccusatives*. This means: *Genericity* helps us to interpret structures at the C-I interface that are otherwise uninterpretable.
- Claim 5: Middles with an implicit agent necessarily have a semantically empty Voice component; this component makes them often look morphologically like the most marked anticausative in a language (German – *sich*; Greek – *non-active*; Italian – *si*). It makes the construction formally transitive. Transitive constructions do not pass all the unaccusativity diagnostics (cf. the discussion in chapter 5).

In what follows, I will defend these claims by carefully investigating the circumstances under which verbs undergoing the causative alternations can form middles. Two observations suggest that these verbs are inherently suited for an investigation of middles. First, as observed by Hale & Keyser (1987), verbs undergoing the causative alternation form the core of the verbs forming middles; that is, while not all verb classes allow middle formation and the class of verbs allowing middle formation is not completely stable across languages, all languages allow middle

¹² This is the translation of the view in Condoravdi (1989:19), that “the implicit agent can be had as an entailment of the lexical meaning of the verb”.

It follows from claims 1+3: “...the relation of a verb in the middle to an unaccusative verb is in its *form* and argument structure, not in its *lexical meaning* as well ...” Condoravdi (1989:27).

It further follows: “The question one must address is this: which verbs, and under what conditions, allow their intransitive form to express a meaning which includes an agent? That is, transitivity alternations are not simply coextensive with ergativity alternations.” Condoravdi (1989:27).

- (25) a. John broke the vase
 b. The vase was broken
 c. The vase broke

This means that (22c), (23c) and (24a, b) are syntactically well-formed but filtered out as uninterpretable at the *Conceptual-Intentional interface* (C-I interface).

It is important for the following discussion of middles to understand that the C-I interface does not only see the Root semantics but can evaluate the whole VP. The examples below from Levin & Rappaport Hovav (1995) illustrate this. Although the verb ‘break’ can, in principle, undergo the causative alternation, (26c) is not acceptable. The reason is that our world knowledge tells us that events of ‘breaking a promise’ or ‘breaking a world record’ necessarily involve an agent.¹⁴ Such examples show that the relevant information cannot be encoded in a lexical entry and is not strictly linguistic in nature.

- (26) a. He broke the vase / his promise / the contract / the world record
 b. The vase broke
 c. *His promise / the contract / the world record broke

Turning to the difference between marked and unmarked anticausatives, I discussed in chapter 5 the work by Haspelmath (1993, 2005) who argues that this partition reflects different conceptualizations of change-of-state events. He proposes that “events can be arranged on a scale in the order of decreasing likelihood of spontaneous occurrence (as conceptualized by the speaker)” (Haspelmath 2005:7). This is again illustrated in TABLE I which was already depicted in chapter 5. The likelihood of the spontaneous occurrence of an event described by a Root is directly reflected by the syntactic frame a Root can enter. Roots of the type $\sqrt{\text{agentive}}$ and $\sqrt{\text{externally caused}}$ are connected to events of low spontaneity and need a transitive syntax. Roots of the type $\sqrt{\text{internally caused}}$ express events of high spontaneity and need an intransitive syntax. Roots of the type

¹⁴ Encyclopedic knowledge about a Root is therefore nothing else than world knowledge associated with a Root.

$\sqrt{\text{cause unspecified}}$ are in-between and allow both syntactic frames; this means that they alternate.

TABLE I: *spontaneity scale (all types of Roots)*

| |
|---|
| $\{\sqrt{\text{agentive}} < \sqrt{\text{externally caused}} < \sqrt{\text{cause unspecified}} < \sqrt{\text{internally caused}}\}$ - spontaneous < < + spontaneous <- transitive alternate intransitive -> |
|---|

Turning to the two morphological classes of anticausatives, Haspelmath (1993:103) argues that “a factor favoring the anticausative expression type [i.e. the morphologically marked one] is the probability of an outside force bringing about the event.” This was illustrated in chapter 5 with TABLE II below. The idea was that a language can cut the class of Roots of the type $\sqrt{\text{cause-unspecified}}$ in two halves. Those on the right side of the cut are spontaneous enough to behave morphologically as Roots of the class $\sqrt{\text{internally caused}}$; they form unmarked anticausatives. Those on the left side of the cut are less spontaneous and need an extra mark if they form anticausatives.

TABLE II: *spontaneity scale ($\sqrt{\text{cause-unspecified}}$) (idealisation)*

| |
|--|
| $\{\sqrt{\text{unsp.}(x)}, \sqrt{\text{unsp.}(x+1)}, \sqrt{\text{unsp.}(x+2)}, \dots \dots \dots \sqrt{\text{unsp.}(y-2)}, \sqrt{\text{unsp.}(y-1)}, \sqrt{\text{unsp.}(y)}\}$ - spontaneous < < + spontaneous German: <- sich \emptyset -> Italian: <- si \emptyset -> Greek: <- non-active \emptyset -> |
|--|

One of my main concerns in the discussion of anticausative morphology was to stress the necessity to identify the phrase-structural position where this morphology originates. My general claim, introduced in chapter 5, was that anticausative morphology is Voice-related. Combining this claim with Haspelmath’s observation leads to the following

conclusion: Roots that form marked anticausatives have a formal requirement; they always want to be in the context of Voice (i.e. be syntactically transitive or passive). Nevertheless, even these Roots can form anticausatives, albeit marked anticausatives; since anticausatives are semantically unaccusative, we arrive at a mismatch between syntactic transitivity and semantic intransitivity/unaccusativity. As a way out of this contradiction, I proposed that Voice can be expletive or non-thematic.

This lead to the typology of Voice heads in (27); depending on the feature content of these Voice heads, we can derive transitive Voice, passive Voice, expletive Voice projecting a specifier (anticausative-I) and expletive Voice without a specifier (anticausative-II). The last line finally shows the structure of unmarked anticausatives which have no Voice projection (anticausative-III).

| (27) Interpretation: | Syntax: | Spell-Out: |
|----------------------|---|----------------------------------|
| active: | [Agent [Voice _{D, agent} [V [Root]]]] | (<i>active</i>) |
| passive: | [Voice _{agent} [V [Root]]] | (<i>non-active</i>) |
| anticausative-I: | [Expl. [Voice _{D, ∅} [V [Root]]]] | (<i>sich</i>) |
| anticausative-II: | [Voice _{∅} [V [Root]]] | (<i>non-active, clitic-si</i>) |
| anticausative-III: | [V [Root]] | (<i>unmarked</i>) |

6.4.2 Middles at the C-I interface

Prototypical middle sentences like “*This book reads easily*” are formed with agentive Roots which do not form anticausatives. Recall why they do not allow anticausative formation: Under the theory of anticausative formation recapitulated in the last section, we explained this by building on the encyclopedic meaning associated with such Roots: Our encyclopedic knowledge associates the Root $\sqrt{\text{READ}}$ with an event of very low spontaneity; we know that such an event necessarily involves a driving force/a second entity (what we call an agent). Since anticausatives do not involve a thematic Voice, this element is not realized syntactically in anticausatives. As a consequence of this mismatch between syntactic structure and encyclopedic expectation, the anticausative sentence “*The book reads*” is filtered out at the C-I interface.

Imagine that even Roots like $\sqrt{\text{READ}}$ could form anticausatives, either because there is no semantic restriction on anticausative formation or because it could be circumvented. Which morphology would we expect to show up? The answer (building on TABLE II in the last section) would be that such a Root should form a marked anticausative with ‘*sich*’ in German, ‘*si*’ in Italian, and non-active morphology in Greek. The reason for this is simple; these languages mark those anticausatives with extra morphology that are relatively low on the spontaneity scale and a Root like $\sqrt{\text{READ}}$ is extremely low on this scale.

6.4.2.1 Agentive Roots and V+Theme combinations

Recall that, at the C-I interface, eventive anticausatives are filtered out if the verbal Root is agentive, as in (28), or if the V+Object combination implies agentivity, as in (29b).

(28) *The book read (*agentive Root*)

(29) a. He broke his promise / the contract / the world record
 b. *His promise / the contract / the world record broke (*agentive V+Object*)

However, both agentive Roots and agentive V+Object combinations do allow the formation of non-eventive/generic middles. (30) is an English middle with an agentive Root. (31) and (32) are German examples of agentive V+Object combinations which do not form anticausatives (cf. (31a) and (32a)) but which do form middles (cf. (31b) and (32b)). Note that the German middle is always marked with extra morphology, the reflexive pronoun ‘*sich*’.

(30) This book reads easily

- (31) a. *Der Weltrekord brach am 2.10.2005 (anticausative)
 the world-record broke at-the 2.10.2005
 ‘*The world record broke at the 2.10.2005’
- b. Der Weltrekord bricht sich nicht so leicht (middle)
 the world-record breaks REFL not so easily
 ‘The world record does not break so easily’
 Meaning: ‘It is not so easy to break the world record’
- (32) a. *Der Rotweinleck entfernt sich (anticausative)
 the red-wine-spot removes REFL
 ‘*The red wine spot removes’
- b. Mit diesem Mittel entfernen sich Rotweinlecken ganz leicht (middle)
 with this detergent removes REFL red-wine-spots very easily
 ‘The red wine spot removes very easily with this detergent’
 Meaning: ‘It is easy to remove the red wine spot’

6.4.2.2 Verbs forming unmarked anticausatives

In this section, I look at the behavior of Roots that form unmarked anticausatives such as ‘*schmelzen*’ (to melt) below.

- (33) a. Hans schmilzt das Eis (causative)
 Hans melts the ice
- b. Das Eis schmilzt (*sich) (unmarked anticausative)
 the ice melts (REFL)

If we put such anticausatives into the context of a generic sentence operator (GEN), we can make two observations: First, both the unmarked but also the marked version is grammatical. Second, there is a strong interpretational difference between the marked and the unmarked version in that the unmarked version never implies an implicit agent but the marked version necessarily implies an implicit agent. Below, a number of

examples are given. Sometimes I change the examples with the marked version a little bit in order to provide a context which is more compatible with an agent.

- (34) a. Zinn schmilzt leicht *(no agent involved)*
 b. Zinn schmilzt sich leicht *(agent involved)*
 solder melts (REFL) easily
- (35) a. Schalplatten zerkratzen leicht *(no agent involved)*
 b. Schalplatten zerkratzen sich leicht *(agent involved)*
 records scratch (REFL) easily
- (36) a. Dünnes Papier zerreißt leicht *(no agent involved)*
 thin paper tears easily
 b. Briefe Verfloßener zerreißen sich leicht *(agent involved)*
 letters of-ex-lovers tear REFL easily
- (37) a. Holzhütten brennen leicht nieder *(no agent involved)*
 cabins burn easily down
 b. Holzhütten brennen sich leicht nieder, aber Paläste ...! *(agent involved)*
 cabins burn REFL easily down, but palaces

Sometimes an implicit agent is conceptually hard to get. In (38), the V+theme complex is internally caused as can be seen from the ungrammaticality of the transitive sentence in (38b). This property of being internally caused is driven by the adverb ‘*sauber*’ (cleanly). It is an inherent property of gas that it burns relatively cleanly (in contrast to, for example, coal). In (39), the Root ‘*vertrocknen*’ (to wither) is internally caused (cf. (39b)). Under such circumstances, the addition of the reflexive pronoun to the generic sentences in (38a) and (39a) leads to unacceptability as shown in (38c) and (39c); only the unmarked sentences which do not imply an agent are well-formed.

- (38) a. Erdgas verbrennt relativ sauber (*internally caused V+Theme*)
 gas burns relatively cleanly
- b. *Hans verbrennt das Erdgas sauber
 John burns the gas cleanly
- c. *Erdgas verbrennt sich relativ sauber
 gas burns REFL relatively cleanly
- (39) a. Blumen vertrocknen leicht (*√internally caused*)
 flowers wither easily
- b. *Hans vertrocknet die Blumen
 John withers the flowers
- c. *Blumen vertrocknen sich leicht
 flowers wilt REFL easily

This shows that (with this class of verbs) the addition of the reflexive pronoun forces the implication of an agent. If this is not in accordance with our world knowledge about the events expressed, this leads to an uninterpretable result.

6.4.2.3 Verbs forming marked anticausatives

Next, I look at the behavior of verbs that form marked anticausatives as, for example, the verb ‘*verändern*’ (to change) below.

- (40) a. Die Menschheit verändert das Klima (*causative*)
 the mankind changes the climate
- b. Das Klima verändert *(sich) (*marked anticausative*)
 the climate changes REFL

If we put verbs forming marked anticausatives into the context of a generic sentence operator GEN, the structures are in principle ambiguous. They optionally imply the

presence of an implicit agent. However, the implication of an agent is highly dependent on the context and the specific Verb+Theme combination.

This is illustrated by a number of examples below. The a-examples and the b-examples are built by the same verbs and both involve the marker ‘*sich*’. Without this marker all examples would be ungrammatical. The a-examples and b-examples, however, involve different themes. These themes (in combination with the verb) determine whether the generic sentences imply an agent or not. More concretely, the generic sentences ascribe properties to these themes; in the a-examples, these properties tend to be conceived as purely internal to the themes and as hard to influence from outside. Therefore, these examples do not lead to the implication of an agent.¹⁵ The b-examples, on the other hand, ascribe properties to their themes which typically depend on or involve the interaction of a human agent. Therefore, these examples lead to the implication of an agent. (Note that these judgments are tendencies (~) which can be challenged in a specific context.)

- (41) a. Billige Schuhsohlen lösen sich leicht ab (~ *no agent involved*)
 cheap soles detach REFL easily PRTL
 ‘Cheap soles detach easily’
- b. Diese Aufkleber lösen sich leicht ab (~ *agent involved*)
 these stickers detach REFL easily PRTL
 ‘These stickers detach easily’
- (42) a. Manche Schadstoffe bauen sich leicht/rasch ab (~ *no agent involved*)
 some toxic-matters decompose REFL easily/fast PRTL
 ‘Some toxic matters decompose easily/fast’
- b. Deutsche Steinkohle baut sich leicht ab (~ *agent involved*)
 German coal produces REFL easily PRTL
 ‘German coal produces easily/is produced easily’

¹⁵ Note that an eventive transitive version of (41a) would need a very special context (someone detaches the cheap soles in order to affix one made from leather), a transitive version of (42a) is quite impossible.

- (43) a. Uran spaltet sich leicht (~ *no agent involved*)
 uranium decomposes REFL easily
 ‘Uranium decomposes easily’
- b. Die Opposition spaltet sich leicht (~ *agent involved*)
 the opposition splits REFL easily
 ‘The opposition splits easily’
- (44) a. Weiße Oberflächen färben sich leicht (~ *no agent involved*)
 white surfaces dye/discolor REFL easily
 ‘White surfaces discolor easily’
- b. Blonde Haare färben sich leicht (~ *agent involved*)
 blond hair dyes REFL easily
 ‘Blond hair dyes easily’

As a summary of this and the previous section, we can examine two nearly synonymous verbs, ‘*entflammen*’ and ‘*entzünden*’ (roughly: to inflame/to ignite) which form unmarked and marked anticausatives, respectively.¹⁶

- | | |
|--|--|
| (45) a. Hans entflammt das Papier Hans inflames the paper | b. Das Papier entflammt the paper inflames |
| (46) a. Hans entzündet das Papier Hans ignites the paper | b. Das Papier entzündet sich the paper ignites REFL |

If we put these anticausatives into the context of a generic sentence operator GEN, we see the following result. The verb which forms an unmarked anticausative can now appear with or without the reflexive pronoun whereby the unmarked version never

¹⁶ Not all speakers of German allow a transitive version of ‘*entflammen*’ as in (45a). My German allows it and one can find many transitive uses of the verb with a Google search. Interestingly, and as a confirmation of my thesis about the source of the middle agent developed here, those speakers that do not allow an eventive transitive use also cannot form a middle with agent implicature as in (47b) below. This structure is ungrammatical for those speakers as they have no reason to add the reflexive pronoun.

implies an implicit agent and the marked version necessarily implies one (cf. (47)). The verb forming a marked anticausative needs to combine with the reflexive and is ambiguous (cf. (48)).

- (47) a. Trockenes Holz entflammt leicht (no agent involved)
 b. Trockenes Holz entflammt sich leicht (agent involved)
 dry wood inflames (REFL) easily

- (48) Trockenes Holz entzündet sich leicht (ambiguous)
 dry wood ignites REFL easily

6.4.3 The source of the agent implicature

The investigation in the previous two sections leads to the following observations and conclusions:

- (i) If we put an anticausative in the context of a generic sentence operator, then the question of whether an agent is involved or not is highly dependent on the encyclopedic semantics associated with (i.e. the world knowledge about) the verbal Root or the V+Theme complex. This information is computed at the C-I interface. I conclude that the agent implicature is *established* at the C-I interface.
- (ii) The implication of an agent is formally dependent on the presence of ‘*sich*’. Since middles behave exactly as marked anticausatives with respect to the unaccusativity diagnostics (see chapter 5), I assume that ‘*sich*’ in middles is also located in the specifier of expletive Voice.
- (iii) Accepting the last assumption that marked anticausatives and middles are syntactically identical, the implication of an agent is further dependent on the specific middle (i.e. generic) semantics.

Note that by ‘syntactically identical’ I mean that middles like marked anticausatives involve an expletive Voice projection and that the remaining argument is an internal argument. Middles can, of course, differ from anticausatives in their exact VP-internal decomposition; for example, verbs allowing the middle formation are not necessarily telic and also not necessarily causative which means that they do not necessarily involve a V_{CAUS} but can involve some other type of verbal event.

The above findings in (i)-(iii) are resumed in (49); on the left side, you see the different syntactic frames (presence vs. absence of Voice, thematic vs. expletive Voice, presence vs. absence of the generic operator GEN). In the middle row, you see whether the frame allows an agent implication or not. On the right side, you see whether an agentive Root can “survive” in this syntactic frame.

| (49) | syntactic frame | agent implicature at CI possible ? | encyclopaedia satisfied ? |
|------|-----------------------------|------------------------------------|-------------------------------|
| A) | [V ...] | -> no | * <- $\sqrt{\text{agentive}}$ |
| A') | GEN + [V ...] | -> no | * <- $\sqrt{\text{agentive}}$ |
| B) | [Voice-expl. [V ...]] | -> no | * <- $\sqrt{\text{agentive}}$ |
| B') | GEN + [Voice-expl. [V ...]] | -> yes | ✓ <- $\sqrt{\text{agentive}}$ |
| C) | [Voice-agent [V ...]] | -> n.a. ¹⁷ | ✓ <- $\sqrt{\text{agentive}}$ |

On this view, then, the two readings of example (48) are not the result of a structural ambiguity (in the sense that if an agent is implied, a covert agent is merged) but the result of the fact that the encyclopedic knowledge about the verbal Root as well as the verb+theme combination are compatible with both scenarios, namely that the event evolves spontaneously or that it evolves under the input of an agent. This view is supported by the observation that we cannot find any syntactic reflex of such an implicit

¹⁷ Agent implication at the C-I interface is not necessary as the agent is already introduced in the syntax via a thematic Voice.

agent (cf. e.g. the discussion in section 6.2 and the discussion of the unaccusativity diagnostics in section 5.3); the two readings behave syntactically alike.

On the other hand, the syntax seems, indeed, to be highly relevant for the implication of an agent in middles. (Optional) encyclopedic agentivity is never enough to implicate a middle agent as the examples in (47) showed. We have to conclude that the C-I interface can give the agent-implicature only if ‘*sich*’/Voice-expletive is present. If a structure does not even have an expletive Voice, the interface cannot implicate an agent.¹⁸

Finally, the generic semantics must be involved in order to make an agent implicature possible. Below, I consider the syntactic structures in (49) in detail from the perspective of the C-I interface:

Structure A is the syntax of an unmarked anticausative/unaccusative under an eventive reading. In this case, the C-I interface cannot imply an agent, i.e. it cannot imply information that is normally encoded in a syntactic projection, i.e. Voice. This follows simply from the principle of Inclusiveness (Chomsky (1995)); we normally cannot insert information later which wasn’t already there at earlier steps in the derivation. If Voice is not part of the syntactic structure, you cannot add semantic information normally encoded on Voice. If an agentive or an externally-caused Root shows up in this structure, it is filtered out as unintelligible.

Structure B is the syntax of a marked anticausative in an eventive reading. It involves an expletive Voice projection. Once again, the C-I interface cannot imply an agent. The presence of an expletive Voice does not help. Once again, this follows from Inclusiveness. The C-I interface cannot imply information which is normally encoded with a feature on a syntactic projection, i.e. [+agent] on Voice. If an agentive or an externally-caused Root shows up in this structure, it is filtered out as unintelligible.

¹⁸ Why must (47b) imply an agent? This is the result of the economy condition on empty Voice discussed at the end of section 5.2. Note that the semantic representation necessary for the computation of the reference set, therefore, must contain the implied agent although it is missing at LF and does not come earlier than at the C-I interface.

Structure A' is the syntax of an unmarked anticausative in the context of a generic sentence operator GEN. Once again, the C-I interface cannot imply information which is normally encoded in a syntactic projection, i.e. Voice (Inclusiveness). If an agentive or an externally-caused Root shows up in this structure, it is filtered out as unintelligible.

Structure B', however, leads to a different result. This structure is the syntax of a marked anticausative in the context of a generic sentence operator. In this case, the C-I interface can add information which is normally encoded with a feature on a syntactic projection, i.e. [+agent] on Voice. An agent implicature becomes possible in the context of both *genericity* **and** an *expletive Voice*. Somehow, this structure circumvents a violation of Inclusiveness. An agentive or an externally-caused Root which shows up in this structure can pass the C-I interface.

Finally, for completeness, *structure C* involves a thematic Voice head. An agentive or an externally-caused Root is allowed in this structure as the external argument is introduced already in the syntax by the thematic Voice head.

It turned out that the presence of the generic operator is an important precondition for the agent implicature at the C-I interface. Marked anticausatives can imply an agent only if the generic operator is present. How can genericity have this effect? The answer to this question should follow from what we know about generic semantics. Specifically, I think that it can be derived within a modal theory of genericity (e.g. Krifka et al. (1995) and references there).

On such an approach, generic sentences involve a silent generic operator GEN which (like quantificational adverbs) divides the sentence into a restrictor and a nuclear scope. Elements which occur in the restrictor of GEN are bound by GEN, elements in the nuclear scope undergo existential closure.

The generic operator GEN has modal semantics. The truth of a generic sentence is, thus, evaluated with respect to possible worlds including the actual world. Modal statements contain three ingredients (following the terminology in Kratzer (1981)): (i) a *modal relation*, (ii) a *modal base* and (iii) an *ordering source* (a stereotypical conversational

background). The *modal relation* is that of ‘necessity’ or ‘possibility’. The *modal base* is a set of facts which gives the background for the modal relation to hold; it defines a set of worlds, the set of worlds where the facts/the modal base holds true. Not all worlds which are given by the modal base are taken into consideration when an utterance containing a modal is interpreted. Instead, the *ordering source* makes a selection. It specifies an ideal world (which is typically our actual world) and orders all other worlds given by the modal base on the basis of how close they come to this ideal world. Then, it specifies the maximal degree of deviation from normality a world may show. If a world is too far removed from the ideal or actual world, it is not easily accessible and is not taken into account for the evaluation.

To give an example of how the evaluation of modality works in such a framework, look at the following sentence (50a) with its LF in (50b)

- (50) a. Hunde haben vier Beine (*Dogs have four legs*)
 b. GEN [x is a dog] [x has four legs]

Under the modal theory of genericity, (50b) means that everything which is a dog in the worlds of the modal base is such that, in every world which is closest to normal according to the ordering source, it will have four legs. On its preferred reading, (50b) requires a realistic modal base and is interpreted according to the set of facts which hold in our actual world.

It is mentioned in the literature on modality that both the modal base as well as the ordering source are influenced by pragmatic and contextual factors. As the case of middles will show immediately, I propose that the ordering source is also influenced by our conceptual knowledge about our actual world. More specifically, the ordering source selects those worlds which are in accordance with our encyclopedic knowledge about the lexical items used in the utterance containing the modal operator. I propose that this restriction on the ordering source gives us the implication of an implicit agent in middles.

To see this, let us turn to a specific example and look at how the modality of generic middles is evaluated. The *modal relation* in middles is something close to ‘necessity’. I follow Lekakou (2005) who argues that the *modal base* in middles is a

property of the theme. Specifically, Lekakou argues that middles ascribe a dispositional property to the theme; they express a so-called ‘*in virtue of*’ generalization which expresses that, ‘*in virtue of*’ the property ascribed to the theme, the middle sentence holds true. Lekakou further claims that middles employ a generic VP-level operator which is subject-oriented. While I do not completely agree with the technical details of her view,¹⁹ it is worth mentioning that her assumption explains why the agent cannot be syntactically present in middles; if the agent were syntactically present, the generic operator would apply to this agent and no longer to the theme. Under my view, the generic operator is located on top of the verbal domain (on top of expletive VoiceP, if present) and applies to the first argument in its c-command domain. The syntactic projection of the agent is prohibited for minimality reasons in order to allow the dispositional property to be predicated of the internal argument. If the external argument were present, the generic operator would apply to this external argument and ascribe to it the dispositional property. The reflexive pronoun ‘*sich*’ in the specifier of expletive Voice, on the other hand, does not prohibit that the operator applies to the theme; it does not count as an intervener as it is semantically empty.²⁰

We are now in the position to see where in the course of the evaluation of the middle’s modality the implicit agent comes in. Therefore, I turn to the middle sentence in (51a) which has the LF in (51b).²¹

- (51) a. Das Buch liest sich leicht
 this book reads REFL easily
 ‘This book reads easily’
 b. GEN [e: book(y), read(e), Theme (e,y)] [easy(e)]

¹⁹ For example, the interpretation of weak indefinites suggests that the theme in German middles can stay in its VP-internal base position and does not have to move to a structural subject position (cf. chapter 5).

²⁰ In the next chapter, I will argue that the reflexive pronoun does not have (interpretable) ϕ -features which makes it also invisible for verbal agreement and nominative assignment. This formal defectiveness might be a better explanation for why the reflexive does not intervene between the generic operator and the theme.

²¹ For the semantic proportioning of middles with everything but the adverb in the restrictor and only the adverb in the nucleus, see Condoravdi (1989).

If we apply the modal theory of genericity to this LF, we arrive at the following interpretation: Everything in the worlds of the modal base which is a reading event of which this book (with all the properties it has in the actual world) is the theme is such that, in every world which is closest to normal according to the ordering source, the reading of the book will be easy. But since in the normal, actual world reading events necessarily involve a human person (agent) we are free to conclude that this is involved in the statement (51a), too. More formally, we are required to restrict the evaluation of the modal to stereotypical worlds where reading events have agents in accordance with our encyclopedic knowledge about $\sqrt{\text{READ}}$.²²

But this is only the semantic part of the story: We saw before that genericity and encyclopedic knowledge are not the only ingredients necessary to make an agent implicature possible. The examples in (47) showed that an expletive Voice projection must be present in the structure, too. I would like to interpret this as a requirement that the syntax, although it does not introduce the agent, must be compatible with the implicature of an agent at the C-I interface. The syntax is compatible if it has an expletive Voice, i.e. a syntactic slot where the implicated information can be anchored into the linguistic structure. The idea is that our encyclopedic knowledge tells us that reading events involve some “human reader”, but “human reader” is, so to speak, ‘conceptual language’ which cannot be read directly by the linguistic system. The conceptual information “human reader involved” is nothing that can, by itself, combine with a linguistic structure as it is expressed for example by the LF in (51b) below. That is, the integration of the agent needs some guidance; it needs guidance by the module that is responsible for the thematic integration of arguments into the event, i.e. theta theory. Under a configurational theta theory, it makes sense to assume that this guidance is given by an expletive syntactic slot.

To conclude, only the combination of genericity and an expletive Voice projection allows the C-I interface to switch from (51b) to (51b’), the latter now comprising a variable for the agent. Following Lekakou (2005), I assume that this variable is interpreted as generic indefinite ONE.

²² See Papafragou (1996) for a further instance of where encyclopedic knowledge can restrict the worlds that are selected by the ordering source.

(51) b'. GEN [e, X: book(y), read(e), Theme (e,y), AGENT (e,X)] [easy(e)]

Finally, this theory allows us to answer a question that has been around in the literature for some time (cf. e.g. Condoravdi (1989), Rapoport (1999), Lekakou (2005)). Is there a suggestive difference between generic middles and generic unaccusatives? The answer proposed here is that middles are those generic unaccusatives that have an expletive Voice which (in the context of agentive encyclopedic semantics) allows the implicature of an agent. Generic unaccusatives without an expletive Voice can never imply an implicit agent and, therefore, they are not middles in this strict sense. Also generic unaccusatives with an expletive Voice but without an agentive Root (or agentive [V+Theme] semantics) involved do not imply an agent and are not middles in the strict sense. This partition fits with the observation that generic unaccusatives license ‘*by itself*’ and generic middles with an agent implication do not (cf. the data in Rapoport (1999)).

6.5 Unmarked middles in English and Dutch

Both English and Dutch form unmarked middles. Clearly, the theory about the implicit agent in middles developed above can only be on the right track if it works crosslinguistically. This section argues that middles in English and Dutch can indeed be subsumed under the theory developed above. The main observation that points into this direction is that middles in these languages show Voice symptoms, too. Especially for English, there is an argument that this Voice is different from ordinary thematic Voice.

It is often argued that English and Dutch middles cannot be unaccusative. As a consequence, people argue that they must be unergative. But this is not the only possible option; an alternative view would assume that they are transitive, similar to German middles. I had already discussed that one argument against the unaccusativity of English middles, the fact that ECM-verbs do not allow middle formation, does not hold under closer scrutiny. The same verbs also do not form middles if they take a DP object instead of a propositional object. The main arguments against Dutch middles being unaccusative are auxiliary selection (Dutch middles select the auxiliary ‘*have*’)

and the non-licensing of the pre-nominal past participles. This is illustrated with the examples involving generic middle below.

(52) Dit soort boeken heeft/*is altijd goed verkocht
 this sort books has /is always well sold

(53) het makkelijk snijdende/ *gesneden vlees
 the easily cutting cut meat

Recall that German middles show exactly the same behavior. In chapter 5, I discussed that this is exactly the behavior expected if the reflexive pronoun '*sich*' is located in the specifier of Voice. If SpecVoice is projected, the auxiliary '*have*' is chosen. Further, if the past participle excludes the presence of Voice but middles involve the presence of expletive Voice, then the two are incompatible.

Of course, there is a difference between Dutch and German middles; Dutch middles do not involve a reflexive pronoun (a point to which I will come back immediately). But, so far, the data in (52) and (53) suggest only that Voice is involved in Dutch middles; they do not tell us what kind of Voice this should be.

As mentioned in the beginning of this chapter, there is strong morphological evidence that English middles involve Voice, too. English has a few verbs that show some morphological reflex when they undergo the causative alternation. Crucially, middles of these verbs come with the transitive morphology. This is exemplified again below (cf. Fellbaum (1986), the first example is from Lekakou (2005)).

(54) a. John raises his kids very strictly
 b. The sun rises from the East
 c. Obedient daughters raise more easily than disobedient sons

(55) This vinyl floor lays/*lies in a few hours

Once again, it is relatively clear that Voice is involved in these middles; but, once again, it is by far not clear what kind of Voice this should be.

Recall that for German middles we found arguments that the theme is indeed an internal argument. As long as the opposite has not been shown for the theme in Dutch and English middles, the null hypothesis is that they are internal arguments, too. On the other hand, I need to integrate the suggestion that Voice is involved in English middles, too. I propose, therefore, that English and Dutch are quite close to German in projecting a SpecVoice in middles but differ in that they do not have an expletive that could be merged in SpecVoice. In the absence of an adequate expletive, the categorical D-feature on the expletive Voice head has to be checked by movement of the closest DP which is the theme. This is illustrated below. While, in German, the specifier of Voice in middles is filled by external merge of the expletive ‘*sich*’, in English and Dutch middles it is filled by internal merge of the theme. The two strategies to check the D-feature of expletive Voice are given below.²³

- (56) a. [VoiceP **Expl.** [Voice' Voice_{D, ∅} [VP V Theme]]] (German)
 b. [VoiceP **Theme_i** [Voice' Voice_{D, ∅} [VP V t_i]]] (Dutch, English)

The claim that English does not have the right kind of expletive is not very adventurous as it is well known that English does not have a light reflexive pronoun of the type of German ‘*sich*’.²⁴ For Dutch, however, it might evoke some argument as it is well known that Dutch has the light reflexive pronoun ‘*zich*’ which, exactly as its German counterpart, is even used to form marked anticausatives. However, there are arguments that German ‘*sich*’ and Dutch ‘*zich*’ differ in their productivity with respect to their role as expletives, as was already discussed in chapter 1. First, while in German the majority of anticausatives is marked with ‘*sich*’, in Dutch only a minority of anticausatives is marked (cf. Everaert (1986)). Second, newly coined anticausatives in Dutch never

²³ If expletive Voice does not have a D-feature, then we predict that we will get non-active middles as in Greek. The agent implicature should then be parasitic on such a passive-like syntax of Voice. However, there are arguments to assume that in Greek middles the implicit agent is syntactically represented and that Greek middles are in fact generic passives (cf. fn. 9 and Lekakou (2005)).

A further option would be that such an expletive Voice head without specifier is spelled out as a reflexive clitic as Italian ‘*si*’. In the next chapter, I propose, however, that Italian ‘*si*’ originates in the specifier of expletive Voice so that Italian marked anticausatives and middles are close to their German counterparts.

²⁴ A SE-reflexive in the terminology of Reinhart & Reuland (1993); see the discussion in the next chapter.

appear with the reflexive pronoun, but in German they always do (cf. Lekakou (2005)). In Dutch, therefore, reflexive marking of anticausatives is a frozen phenomenon while, in German, reflexive marking of anticausatives is a productive strategy. The fact that German marks its middles with the reflexive while Dutch does not, fits quite well with my view, developed above, that middles are anticausatives of verbs that normally do not form anticausatives, i.e. that they are in some sense newly coined anticausatives.²⁵

While this analysis is just a hypothesis compatible with the facts known about Dutch middles, there is further evidence that it is indeed the correct analysis for English middles. This evidence comes from a difference in possible adverb positions in English anticausatives and middles discussed in Fellbaum (1986). She observes that generic unaccusatives can have the adverb in front or after the verb while, in generic middles, the adverb necessarily appears after the verb (cf. (57a, b)).²⁶ The same effect is found with verbs undergoing the causative alternation such as ‘*break*’ in (58). If the adverb follows the verb, the sentence is ambiguous between a reading as a generic unaccusative without agent implicature and a reading as a generic middle with an agent implicature. If the adverb precedes the verb, only the generic unaccusative reading without agent implicature is possible (p.c. Beth Levin and Alec Marantz).

- (57) a. Delicate plants [easily] die [easily] when left alone
 b. Silk dresses [*easily] wash [easily]

²⁵ However, this view opens the possibility that two classes of unmarked anticausatives might exist which differ in their syntax the following way: One class would involve real unaccusatives without a Voice head. The other class would involve an expletive Voice with the theme raised to its specifier, exactly as proposed for Dutch and English middles. I suggest that these two types of unmarked anticausatives cannot exist within one language for a longer time as they cannot be differentiated and could not be learned. However, it might be that a language has only the first or the second type of unmarked anticausatives. I proposed that German has the first type. It could be that French unmarked anticausatives are of the second type, as unmarked anticausatives in French select ‘*have*’ not ‘*be*’ and show further unergative behavior as discussed in Labelle (1992) (cf. also the discussion of French in chapter 1). This suggestion deserves further research, of course.

²⁶ As Alec Marantz (p.c.) mentioned to me, there is evidence that English ‘*die*’ is not unaccusative but unergative. For example, it allows cognate objects.

- (58) a. This kind of vases breaks easily (*anticausative reading/middle reading*)
 b. This kind of vases easily breaks (*anticausative reading/*middle reading*)

We can explain these data if V to Voice movement is obligatory in English and if adverbs can only attach to verbal projections with semantic content. That is, adverbs like ‘*easily*’ or ‘*slowly*’ can attach to VP or to a thematic VoiceP but not to a semantically empty/expletive VoiceP. The contrast between (59a) which involves an expletive Voice under my analysis and (59b) which involves thematic Voice supports this assumption.

- (59) a. This book [**slowly*] reads [*slowly*]
 b. John [*slowly*] read [*slowly*] the book

Note that the contrast in (58) and in (59) is hard to explain within lexicalist theories that assume that the theme in middles is simply projected to the external argument position, exactly as an ordinary external argument.²⁷

6.6 A short discussion of impersonal middles

In this section, I will shortly discuss impersonal middles in German. My discussion will be concerned with the function and the position of the expletive pronoun ‘*es*’ that shows up in this construction in addition to the expletive reflexive pronoun. It is the main goal of this section to mention some properties of this construction which deserve further research and to suggest some only tentative solutions.

²⁷ The contrast can also not be explained away by claiming that middle verbs obligatorily select for an adverb and that selection in English is to the right of the selecting head (e.g. Haider (2004)). Both, generic unaccusatives as well as generic middles come with an adverb. This adverb is not selected by the verb but its presence is forced by the generic operator; both constructions have a semantic representation as in (51b) above with a generic operator, a restrictor and the nuclear scope. In *both* cases the nuclear scope must be filled (typically but not necessarily by an adverb, cf. Marelj (2004)) in order to avoid empty quantification.

German (as Dutch) allows impersonal passives (i.e. passives of unergative verbs) and impersonal middles (i.e. middles of unergative verbs) (cf. Abraham (1994)). There is one important difference between the two constructions in German. The impersonal passive does not allow the insertion of the expletive ‘*es*’ (it), while the impersonal middles requires the expletive ‘*es*’ in addition to the reflexive middle marker ‘*sich*’.

- (60) a. Hier wird (**es*) getanzt *(impersonal passive)*
 here is it danced
 ‘People dance here’
- b. Hier schläft *(*es*) sich angenehm *(impersonal middle)*
 here sleeps it REFL comfortable
 ‘It is comfortable to sleep here’

In Dutch, both constructions require expletives, albeit different ones. The passive takes ‘*er*’, the middle takes ‘*het*’, as is shown in (61) (cf. for example Bennis (1987), Abraham (1994)). The same expletive as in the middle is also used in Dutch “weather verbs”. This suggests that the passive expletive in Dutch is required for EPP-reasons (which do not hold in German), while the middle expletive has some quasi-argumental status.²⁸

- (61) a. Er wordt gedanst
 it becomes danced
 ‘There is dancing.’
- b. Het loopt goed op dit paadje
 it runs nicely on this course
 ‘On this course one can nicely run.’
- c. Het regent
 it rains

²⁸ “Weather expletives” will be discussed further in chapter 7.

If the expletive in German impersonal middles as in (60b) is really a quasi argument, then it must occupy the object position as the subject position is already occupied by the expletive reflexive pronoun.

This is, in fact, the analysis of the expletive ‘*es*’ in middles proposed by Dobrovie-Sorin (1998). Following Hale & Keyser (1993), she assumes that unergatives are underlyingly transitive; they incorporate a cognate object into a light verb. While, for Hale & Keyser, the cognate object is incorporated already on a lexical level (their I-syntax), Dobrovie-Sorin assumes that unergatives can select a cognate object even in the overt syntax. In the active, the projection is in principle optional, happening either in the overt syntax or already at a lexical level. However, such a cognate object must be projected syntactically in middles of unergative verbs because the reflexive needs an associate.^{29/30}

On the one hand, the idea that the expletive in impersonal middles occupies the internal argument position is attractive. In chapter 7, I will argue that, although the reflexive in marked anticausatives and middles does not need a c-commanding antecedent, it, nevertheless, needs a second nominative NP as a formal associate. This is clearly the theme as can be seen by the fact that the reflexive pronoun agrees with the theme in its ϕ -features. Clearly, some kind of associate for the reflexive is necessary in the case of impersonal middles, too. Further, the expletive is the only NP available in the construction that can fulfil this job. Moreover, it would be attractive to assume that the formal associate in personal and impersonal middles occupies the same syntactic position. Since, in personal middles, the theme is in object position, it would be reasonable to suggest that the expletive in impersonal middles sits in this position, too.

However, there are three arguments that cast doubt on the idea that the expletive in impersonal middles is indeed an internal argument. While these problems might not be

²⁹ For Dobrovie-Sorin the reflexive is not in the external argument position but base-generated as a clitic in non-argument position; nevertheless, it needs a formal associate.

³⁰ Dobrovie-Sorin (1998) assumes that the cognate object must also be projected in impersonal passives because the passive wants to promote an argument. It seems that she is not aware that the expletive in German impersonal passives is not licensed. Impersonal passives in German only license an expletive in sentence initial position in order to fulfil the verb-second requirement in matrix clauses. In embedded clauses the expletive is out. In Dutch impersonal passives the expletive shows up also in embedded clauses.

fatal for the above proposal, they should be looked at. I will not be able to deal with most of these problems here and, hence, will leave them for future research.

The first problem has to do with a small class of German verbs which show some kind of stem alternation when undergoing the causative alternation. Two of these verbs are illustrated below.

- (62) a. Hans weckt das Kind auf
 John awakes the child PRTL
 b. Das Kind wacht auf
 the child awakes PRTL

- (63) a. Hans versenkt das Schiff
 Hans sinks the ship
 b. Das Schiff versinkt
 the ship sinks

One question which I cannot answer conclusively here is whether these verbs are really derived from the same Root or whether they are derived from two independent Roots which are only historically related, one forming a transitive verb and the other forming an unaccusative verb. I do not have conclusive evidence and hence a decision in favor of the one or the other derivation cannot be reached at this stage.

As expected, these verbs form middles with the transitive morphology; with the unaccusative morphology, middles are impossible (cf. (64), (65)).³¹

- (64) a. Der Hans weckt sich problemlos auf
 b. *Der Hans wacht sich problemlos auf
 the Hans wakes REFL unproblematically PRTL
 ‘It is unproblematic to wake up Hans.’

³¹ Of course, the unaccusative variants can form generic unaccusatives; but these are formed without a reflexive pronoun.

- (65) a. Steine versenken sich leicht
 b. *Steine versinken sich leicht
 stones sink REFL easily
 ‘It is easy to sink stones.’

These data seem to support the claim that middles in German are transitive; they trigger transitive morphology in the examples above (cf. the English data in the last section). There is, however, one complication. The unaccusative version of the verbs above can form impersonal middles where the reflexive pronoun co-occurs with the expletive ‘*it*’.

- (66) Hier wacht es sich angenehm auf
 here wakes it REFL comfortable PRTL
 ‘Here one wakes up comfortably’

- (67) Im Moor versinkt es sich leicht
 in-the swamp sinks it REFL easily
 ‘In the swamp one can easily sink.’

This distribution raises two questions. First, these examples clearly involve an implicit, unexpressed argument, namely the person who wakes up and the person who sinks in the swamp, respectively. Now, these implicit arguments should be themes as the verbs are unaccusatives. But the presence of an expletive Voice (‘*sich*’) should not trigger the implication of an internal argument.

In order to deal with this problem, I propose that the implicit argument in the middles in (66) and (67) is not internal but external. If this is true it could be implicated via explicit Voice under the theory developed in the previous sections of this chapter. It is a well known fact that unaccusative verbs can often be reanalysed as unergatives if their sole argument is human (i.e. a potential situation controller). If such a reanalysis has taken place, unaccusatives can even form impersonal passives. As an example, take the verb ‘*wachsen*’ (to grow) which behaves as an unaccusative verb under all relevant

tests. Nevertheless, this verb can be found in the impersonal passive construction as in (68).³² Further, this verb allows the formation of an impersonal middle as in (69).

(68) Gewachsen wird nachts
 grown is at-night
 ‘People grow during the night’

(69) Nachts wächst es sich tatsächlich am besten
 at night grows it REFL indeed at best
 ‘One grows indeed best at night’

The impersonal passive data as well as the impersonal middle data suggest that these basically unaccusative verbs can be reanalyzed as unergatives or be coerced into unergatives. This is also suggested by the fact that such data are only acceptable if the only argument of these verbs is human, i.e. possible to control the event (cf. Abraham (1994)). This, then, answers the first problem that we met with the examples in (66) and (67); the implicit argument is arguable an external argument because these verbs are reanalyzed as unergatives. External arguments can be implicated via expletive Voice.³³

But the data in (66) and (67) pose further questions concerning the unaccusative morphology. If these verbs are reanalyzed as unergatives and involve an expletive middle Voice head, why does the verbal morphology remain unaccusative? One way to encounter this question is to rethink the morphological variance that we saw in (62) and (63). Perhaps we should think of the two morphological variants not in terms of a distinction between transitive and unaccusative morphology but in terms of a distinction between transitive morphology and intransitive morphology (the latter not reflecting the difference between unaccusative or unergative). This is suggested by the fact that the

³² This is an attested example from a newspaper article which reports a scientific study which showed that children grow during night time (Spiegel online, 06.03.05).

³³ The term ‘external argument’ is probably not the right one to describe arguments or “Mitspieler” on a conceptual level. ‘Controller of an event’ might be a better term. The theme argument of unaccusatives (or ‘undergoer’ in more conceptual terms) can (if it shows the right sortal properties, i.e. [+human]) be reinterpreted as the controller of the event on a conceptual level and can then be implicated via expletive Voice in generic middles.

verbs with the seemingly unaccusative morphology can also form impersonal passives.³⁴

- (70) a. Morgens wird aufgewacht *aufgeweckt
 in-the morning becomes awoken waked up
 ‘In the morning one awakes’
- b. Jetzt wird versunken *versenkt
 now becomes sunk sunk
 ‘Now one sinks’

Since passives can only be formed from verbs involving an external argument, the verbs in (70) have been reanalyzed as unergatives. This, in turn, suggests that the verbal morphology with these verbs is not sensitive to the syntactic property ‘unaccusative’ but to the property ‘intransitive’. I cannot provide an implementation of this idea here.

But this explanation then provides problems for the analysis of the expletive in impersonal middles as it was proposed by Dobrovie-Sorin. Impersonal middles use the same verbal stem morphology as impersonal passives; i.e. intransitive morphology. But impersonal middles involve the expletive. If the expletive originated in the object position we would expect the transitive morphology to show up.

There is an interesting variant of German impersonal middles that might be problematic for the assumption that the ‘*es*’ in impersonal middles is an internal object. As mentioned by Abraham (1986, 1987), transitive verbs can form either ordinary middles where the theme is marked for nominative (cf. (71a), (72a)) or they can form impersonal middles with the theme remaining in the accusative (cf. (71b), (72b)) and the verb showing singular-agreement. Note that these examples involve, besides the expletive pronoun ‘*es*’, two morphological accusatives, the reflexive pronoun and the accusative theme.

- (71) a. Diese Bücher lesen sich leicht
 these books.NOM read.PL REFL easily

³⁴ Thanks to Alec Marantz for suggesting this test.

- b. Es liest sich diese Bücher leicht
 it reads.SG REFL these books.ACC easily
 ‘These books read easily’

- (72) a. weil der Löwe sich nicht leicht aus der Ruhe bringt
 because the.NOM lion REFL not easily out-of the calm takes
 b. weil es sich den Löwen nicht leicht aus der Ruhe bringt
 because it REFL the.ACC lion not easily out-of the calm takes
 ‘because the lion does not disconcert easily’

A similar stranding of an accusative theme can be found in passives, too, as also discussed by Abraham (1986, 1987). (Note again that no expletive ‘*es*’ is present in the impersonal-passive-like structure in the b-example.)

- (73) a. Hier werden keine Teppiche geklopft
 here become.PL no carpets.NOM beaten
 b. Hier wird keine Teppiche geklopft
 here become.SG no carpets.ACC beaten

Abraham (1986) proposes that, in both cases, the accusative theme is incorporated into the verb. But this means that, at some level, the accusative was the object of the verb. This, in turn, raises questions for a theory that assumes that the expletive ‘*es*’ should be the structural object of the middle verbs in (71b) and (72b). (Arguably, the question whether ‘*es*’ could be an object besides the incorporated object crucially depends on the analysis of the type of incorporation found in these examples.)

Finally, there are semantic questions. First, while cognate objects are in some clear thematic relationship to their verb, it is not clear that such a relationship exists between the expletive ‘*es*’ and the middle verb. This relates to the question of how the expletive should be integrated into the middle semantics. Recall the proposal by Lekakou (2005) that middles express a dispositional property of their theme argument. This poses the question about what the impersonal middle expresses. The b-examples in (71) and (72) clearly express exactly the same as their counterparts in the a-examples. Both clearly

ascribe a dispositional property to their accusative theme, the book and the lion respectively. This is perhaps compatible with the assumption that the expletive ‘*es*’ is in the object position. The generic operator applies to this expletive which, in turn, transforms the dispositional ascription to the incorporated theme. However, in the case of real impersonal middles (derived from unergative verbs), the situation is different. As observed by Abraham (1994) and Lekakou (2005), these middles necessarily involve some further adjunct which is ascribed the dispositional property. This is typically a locational adverb or a PP. An example is given in (74). Lekakou (2005) proposes that the expletive in impersonal middles is associated with the PP (or the adverb) which denotes the entity the dispositional property is ascribed to. The relation between the two is similar to the one between an expletive and extraposed material. But, if the expletive is the cognate object of the verb, why should it associate with the PP or the adverb?

- (74) Es läuft sich *(hier) / *(auf diesem Weg) angenehm
 it runs REFL here on this path pleasantly
 ‘One can run well here/on this path’

A final observation concerns impersonal middles of verbs forming marked anticausatives. Recall that verbs forming marked anticausatives are ambiguous in a generic context between a generic unaccusative reading which does not involve an implicit agent and a real middle reading which implies an agent.

- (75) Trockenes Holz entzündet sich leicht (ambiguous)
 dry wood.NOM ignites REFL easily

If we transform these sentences into the impersonal-middle frame, they necessarily involve an agent.

- (76) Trockenes Holz entzündet es sich leicht (agent involved)
 dry wood.ACC ignites it REFL easily

Under the analysis that the expletive '*es*' sits in the object position, there is no reason why this disambiguation should take place.

To conclude this section, I agree with Dobrovie-Sorin (1998) in the assumption that the expletive '*es*' is necessary in impersonal middles as an associate for the reflexive pronoun; without the expletive, the derivation would crash as the reflexive could not get its uninterpretable features checked. In the next chapter, I will discuss in detail how this association formally works in the case of marked anticausatives (which, in turn, work exactly as middles). I doubt, however, that the expletive '*es*' can be syntactically analyzed as the cognate object of the middle verb. Lekakou (2005) suggests that the expletive is the formal associate of the generic operator which needs an argument (a subject in her theory) to assign a dispositional property to. The expletive, fulfilling the formal requirements the operator is looking for, transfers this property assignment to an adjunct which is necessarily present in impersonal middles. I cannot see that this semantic transfer-function of the expletive is compatible with the expletive being the verb's cognate object. The correct analysis of the expletive pronoun in impersonal middles as well as its disambiguation property in examples such as (76) remains unclear and should be the topic for future research.

Chapter 7

The syntax of marked anticausatives: Part II

7.1 Introduction

In chapter 5, I raised a number of questions about marked anticausatives repeated below:

- Q1: Why are there so often two (instead of, for example, three or five) morphological classes of anticausatives?
- Q2: Why do we find the type of morphology that we actually do?
- Q3: Do the two classes of anticausatives differ semantically?
- Q4: (How) do the two types of anticausatives differ syntactically?
- Q5: What is the phrase-structural position of the extra morphology or that with which the extra morphology is associated?

Answers to most of these questions were already proposed in the previous chapters.

I showed in my discussion of German anticausatives in chapter 2 that there is no difference between marked and unmarked anticausatives with respect to external argument semantics; neither unmarked nor unmarked anticausatives ever involve any external argument semantics. This result seems to hold crosslinguistically (Q3).

I claimed that the extra morphology of marked anticausatives is crosslinguistically associated with Voice. Marked anticausatives are semantically intransitive, but syntactically they are transitive to the extent that they involve a Voice projection. Languages differ in terms of whether this Voice projection projects a specifier, leading to active syntax and morphology, or whether this Voice projection does not project a specifier, leading to a passive syntax and morphology. In both cases, Voice is present for purely formal reasons; in contrast to ordinary Voice, the Voice head in marked

anticausatives does not introduce a thematic external argument; it is semantically inert or expletive (Q4/Q5).

Further, I claimed that the morphological partition that we find with anticausatives in so many languages formally reflects the causative alternation itself. Following the typological work by Haspelmath (1993), I proposed that some of the verbs (or Roots forming verbs) that undergo the causative alternation have the formal requirement to always occur in the context of Voice even if this Voice projection does not introduce a thematic external argument. This requirement is partly idiosyncratic within individual languages but, as the study by Haspelmath showed, it is generally driven by the way in which we conceptualize change-of-state events; marked anticausatives express events which are conceptualized as occurring with a relatively high probability due to an external force (Q1).

Q2 has remained unanswered so far. I simply stipulated that the reflexive pronoun in German marked anticausatives is the right kind of element to be merged in the specifier of an expletive Voice, i.e. a Voice projection which does not have a thematic feature but only a categorial D-feature ($\text{Voice}_{\langle D, \emptyset \rangle}$). I also stipulated that, in Greek, the expletive Voice head without a specifier and without a thematic feature ($\text{Voice}_{\langle \emptyset \rangle}$) leads to non-active morphology. In a similar vein, I stipulated that the reflexive clitic in the Romance languages is the spell out of such an expletive Voice head.

In this final chapter, I will eliminate half of these stipulations. Specifically, I will concentrate on reflexively marked anticausatives and derive an answer to the question of why we find reflexive morphology as a marker on anticausatives. I will not further discuss the question of why non-active morphology can be used as a marker on anticausatives in languages such as Albanian or Greek.

My general working hypothesis is that anticausative morphology is a trigger that deactivates the capacity of Voice to introduce a theta-role, i.e. it is a way to *derive* an expletive Voice. In order to develop this theory, a shift in the perspective on theta-role assignment is necessary. In earlier chapters, I more or less tacitly assumed that anticausative morphology is a *reflection* of expletive Voice (without giving any explanation for why exactly this kind of morphology should show up as a reflex). If, however, the anticausative morphology is a way to *derive* an expletive Voice (instead of

reflecting it), then my assumptions about theta-roles being coded by syntactic features need to be changed.

Recall that I proposed in chapter 5 that the properties of Voice are defined by a set of features. Thematic Voice selects a thematic feature (agent, causer, ...) and optionally a D-feature. Expletive Voice selects no thematic feature but optionally a D-feature only. In this chapter, I give up the assumption that the thematic impact of Voice is based on a thematic feature on Voice. Instead, I assume that Voice generally carries thematic potential and the only variance in the feature set of Voice concerns the presence vs. absence of a categorial D-feature, i.e. whether Voice does or does not project a specifier. In the rest of this introductory section, I will motivate this step.

Under a strict configurational theta theory, the syntactic structure in which an argument is merged should determine how the argument relates to the (verbal) event and, in turn, what theta-role the argument expresses. That is, ideally each theta-role should be defined by a unique merging position (whereby uniqueness might be determined by some bigger syntactic context of this position). If such a theory which provides us with a one-to-one mapping between syntactic positions and theta-roles is feasible, then thematic features are superfluous and should not exist.

In this thesis, I am concerned with external theta-roles and, more specifically, with agents and causers. So far, I have assumed that the difference between agents and causers is reflected by thematic features on Voice. While this works descriptively (and would also work for the derivation of expletive Voice as I develop it in this chapter), I think a theory which does not built on thematic features is preferable not only from general considerations about configurational theta theory but also from the perspective of the main topic of this thesis, i.e. anticausative morphology. Specifically, I think that such a conception which assumes thematic features prevents us from understanding the mechanisms behind anticausative morphology. If we assume that Voice can select a set of thematic and categorial features, then we predict that each subset of these features should, in principle, exist, too. As discussed in chapter 5, this gives us the following four feature sets for Voice:

- (1) a. {thematic, categorial} (*active Voice*)
 b. {thematic} (*passive Voice*)
 c. {categorial} (*expletive, active Voice*)
 d. { } (*expletive, passive Voice*)

(1a) is the feature set defining thematic Voice projecting a specifier, (1b) is the set defining thematic passive Voice without a specifier, and (1c) and (1d) are the sets of expletive Voice with and without a specifier, respectively. But it seems to me that this perspective on expletive Voice is not fruitful. If expletive Voice is defined by the absence of a thematic feature, then anticausative morphology cannot *derive* an expletive Voice but, at best, *reflect* it. But then, it seems to me, that we cannot find any illuminating answer as to why we find the kind of anticausative morphology we actually do. This holds especially for the reflexive pronoun found with German marked anticausatives which is clearly a maximal projection and not a head.¹ As mentioned, I will propose an analysis where the reflexive pronoun *derives* an expletive Voice.

The conclusion, then, is that the feature sets in (1c) and (1d) should not exist. But in order to force this conclusion, we have to get rid of thematic features in the first place; this is so because we cannot motivate that, on the one hand, the feature sets in (1a) and (1b) can be selected but, on the other hand, the subsets in (1c) and (1d) should not be possible. This would be mere stipulation.

This, in turn, means that Voice does not get its thematic potential from a thematic feature. Where then should it come from? The easiest assumption would be that the thematic potential is simply innate to Voice as it combines an argument with a verbal event. If Voice is merged with a verbal structure, then the argument associated with Voice (the explicit or implicit external argument) gets assigned its theta-role.

¹ This point does not necessarily hold for anticausatives marked with non-active morphology. It could arguably be the case that this morphology simply *reflects* (spells out) a Voice head which does not project a specifier, irrespective of whether this Voice head has a thematic feature (passive) or not (marked anticausative). This is the analysis proposed for non-active morphology in Embick (1998, 2004). However, such an analysis is not applicable to marked anticausatives in e.g. German where the reflexive pronoun is clearly a maximal projection and where, importantly, the presence of anticausative morphology has the semantic effect of prohibiting the dative causer reading as discussed at several occasions in this thesis.

Anticausative morphology then must be defined as a way to prohibit this assignment. In this chapter, I will discuss how reflexive morphology prohibits external theta-role assignment.

There are, however, two problems which I should at least address, even if I cannot completely solve them here. The first has to do with the different types of external theta-roles. I restrict the discussion to agents and causers, the two types of external arguments found in the context of change-of-state verbs. How can we differentiate between the two types of external arguments if we give up the idea that Voice can select different thematic features? One way would be to follow proposals in the literature which deny that the difference between agents and causers is of any syntactic relevance and which, instead, assume that the thematic role of external arguments is underspecified. Such proposals can be found, for example, in Van Valin & Wilkins (1996) who propose a generalized external theta-role called *effector* or in Ramchand (2006) who assumes an *abstract causer* or *initiator*. We have, however, already seen syntactic contexts where the difference between agents and causers is relevant. Recall, for example, that anticausatives crosslinguistically license only causer-PPs but never agent-PPs. Further, recall that the Greek passive licenses only agent-PPs but not causer-PPs. For such reasons, Alexiadou & Schäfer (2006) argue that a complete underspecification of the external theta-role is not feasible and that the two thematic roles agent and causer indeed need to be differentiated syntactically. Further phenomena which suggest the same conclusion are discussed in Travis (2005) and Folli & Harley (2007).

As mentioned in earlier chapters and also in the literature just cited, we find causers only in the context of telic predicates.² This suggests that it is the telic event itself which licenses the causer theta-role. That Voice is not necessarily involved in the licensing of causers can already be deduced from the fact that causers are licensed in (marked as well as unmarked) anticausatives which do not involve a (thematic) Voice projection. Alexiadou et al. (2006a, b) propose that, in these constructions, the causers are thematically licensed by the verbal head V_{CAUS} (which actually reflects the telic predicate; see the discussion in section 4.3.2). But if causers are licensed in anticausatives by V_{CAUS} , then they should also be licensed in transitives by V_{CAUS} (recall that the telicity restriction on causers holds for both anticausative and transitive

² This holds for nominative causers, human dative causers as well as causers introduced by PPs.

causative predicates in the same way). Conceptually, this is an absolutely desired result if we follow a strong configurational theta theory: agents and causers are two different thematic roles; thematic roles are computed from the syntactic configuration that a DP occurs in; therefore different thematic roles should originate in different configurations. I would like to propose, therefore, that agents are always introduced by Voice, while causers are always introduced by V_{CAUS} .^{3/4}

But there are obviously some parts missing in this theory. Causers in anticausative structures and causers in transitive structures differ morpho-syntactically; the former are introduced by a preposition, while the latter are ordinary nominative subjects in an ordinary transitive reading thereby not differing from agents in transitives. I would like to conclude from this that V_{CAUS} can only thematically license causers while they need some further kind of syntactic licensing which cannot be provided by V_{CAUS} itself. This syntactic licensing seems to be something close to the case filter in earlier stages of the theory. In anticausatives, prepositions provide this licensing. This raises the question of what allows causers in transitives to behave morpho-syntactically like agent subjects? One way would be to assume that Voice is present also in the case of causer subjects. The causer would be base-generated in the specifier of V_{CAUS} and would move to the specifier of Voice. While this would derive the right morpho-syntactic behavior of causers in transitive structures, it would probably predict that causer subjects have a complex theta-role; they would be causers due to first/external merge in the specifier of V_{CAUS} and they would be agents due to second/internal merge in the specifier of Voice. Empirically, this seems to be the wrong prediction, as causers in anticausatives and causers in transitives do not differ thematically. I have to admit that I cannot provide this missing link in the theory at this point.⁵

³ See Travis (2005) who also argues that causers and agents are introduced in different syntactic positions; causers are introduced by a telic aspect projection and agents are introduced in a position asymmetrically c-commanding this telic aspect projection.

⁴ Note that this means that only agents but not causers are severed from the (albeit decomposed) verb. Note, further, that the main argument for severing the external argument in Marantz (1984) or Kratzer (1996) is built on examples with human agents as subjects.

⁵ Alternatively, one could hypothesize that a categorial D-feature triggering first merge is not possible on V_{CAUS} at all. Thematically, causers are always associated with the event in V_{CAUS} (probably via a kind of identity relation between the event variable in the V_{CAUS} and the event variable in the causer argument (cf.

The same problem occurs in the case of passives. If agents and causers are introduced in different syntactic positions, how can they both be implicit external arguments of a passive? Note hereby that anticausatives without a causer-PP do not imply the presence of an implicit causer, while passives always imply an external argument which can be either an agent or a causer.⁶ The answer to this question depends, of course, also on the syntactic status of the implicit agent in passives, whether it is projected as a zero category or not (cf. the discussion in chapter 4.1).

I will not try to answer, in this thesis, these open questions about the licensing of different types of external arguments within a configurational theta theory. Instead, I will work with the preliminary assumption that both agents and causers are introduced by Voice (with the option that causers are only formally licensed by Voice while they are thematically licensed by V_{CAUS} ; see fn. 5). Therefore, I will stipulate for the moment that two Voice heads exist, one introducing (explicit or implicit) agents, and one introducing (explicit or implicit) causers. The thematic potential to introduce these thematic roles is inert to these Voice heads. If it turns out that causers are introduced by a different projection, this will not change the main findings of this chapter, as far as I can see. What is important, however, is that this (preliminary) conception excludes the logical option that a Voice head exists that is innately expletive. This opens the way to develop a theory about how anticausative morphology *derives* that a Voice head

Alexiadou & Schäfer (2006) who notice that causers are always inherently eventive; see the discussion around (103) in chapter 4.3). In transitives, Voice always provides categorial licensing to the element in its specifier (via a D-feature forcing external merge). Besides this categorial licensing, Voice gives thematic licensing only if necessary. That is, in the case of causer subjects, Voice gives just categorial licensing while, in the case of agent subjects, Voice gives both categorial and thematic licensing. This might be implemented within a post-syntactic mode of theta-role assignment as proposed below in this chapter. In anticausatives, the causer is also thematically associated with the causative event in V_{CAUS} but it is categorially licensed by a preposition.

⁶ Interestingly, causers in passives are often introduced by the same preposition which also introduces causers in anticausatives, while agents in passives are introduced by a different preposition (cf. Alexiadou et al. (2006a, b)). While this suggests that causers are thematically licensed by V_{CAUS} even in passives where Voice is present, the question remains why, in anticausatives, there is no implicit causer felt to be present if the PP is missing, while in passives an implicit argument is necessarily felt to be present which can be either an agent or a causer in most languages. Somehow, it happens that Voice can take over the thematic potential of V_{CAUS} and turn it from being optional in being obligatory.

becomes expletive. As mentioned, I restrict my discussion to reflexive morphology on anticausatives, i.e. how reflexive morphology *derives* that a Voice head *becomes* thematically inert. Importantly, the answer to this question should follow from the general principles that regulate the behavior of reflexive elements, i.e. within the general assumptions about Binding Theory. It seems quite obvious that the reflexive element in anticausatives is exactly the same element that shows up in the case of local binding between two argument positions; it is a so-called SE-anaphor in the terminology of Reinhart & Reuland (1993).⁷ Therefore, the general theory about the distribution and behavior of SE-anaphors should, without further ado, be compatible with the properties and effects of the SE-anaphor in anticausatives. This will be achieved in the next section.

7.2 External argument “reduction” within a configurational theta theory

In chapter 5, I concluded that German marked anticausatives are semantically intransitive but syntactically transitive. There are two case-marked DPs but only one theta-role (*theme*) is involved. The reflexive pronoun is a syntactic but not a semantic argument of the verb.

This conclusion immediately leads to the following question. If marked anticausatives involve two syntactic arguments, the theme and the reflexive pronoun, which of the two is merged internally and which is merged externally? On the first view, different modules of the grammar suggest different solutions.

Case theory: The theme is marked nominative and the reflexive is marked accusative. German is an accusative language. Therefore, the nominative should be on the external argument and the accusative on the internal argument. Therefore, the theme should be the external argument.

⁷ This then already explains why languages which lack SE-anaphors but only have SELF-anaphors (such as English or Greek (cf. Anagnostopoulou & Everaert (1999) for the latter) do not mark their anticausatives with reflexive morphology.

Binding Principle A: An Anaphor needs a c-commanding antecedent. This suggests that the theme is merged externally and the reflexive internally.

Configurational theta theory (i): Themes are always merged internally. This leaves the external argument position for the reflexive pronoun.

Configurational theta theory (ii): Both merging as an internal argument and merging as an external argument should lead to a thematic role. But ‘*sich*’ does not have a theta-role.

As mentioned in chapter 5, the predictions of these modules are diametrically opposed. They cannot be fulfilled all at the same time.

In chapter 5, I concluded that the theme in marked anticausatives is an internal argument. Two reasons led me to this conclusion. On a theoretical side, I assumed that a theory of configurational theta-role is basically correct. Since themes are internal arguments in transitives and in unmarked anticausatives, they should be internal arguments in marked anticausatives, too. Further, empirical findings pointed into the same direction. In the second part of chapter 5, I investigated the behavior of German marked anticausatives with respect to the unaccusativity diagnostics. The result of this investigation was that some of the tests turned out to be inconclusive while other tests suggest that German marked anticausatives are, indeed, unaccusative. Accepting this conclusion, of course, required not taking the term ‘*unaccusative*’ too literally; it was important to understand that the unaccusativity diagnostics fall into two classes: Some of them are sensitive to the question of whether a Voice head (projecting a specifier) is involved in a construction; these tests give positive results with marked anticausatives. This is not surprising given that German marked anticausatives are syntactically transitive. Other tests are sensitive to the question of whether an argument is internal or not; these tests suggested that the theme in German marked anticausatives is, indeed, an internal argument. For example, recall that, exactly like unmarked anticausatives, marked anticausatives license *affectedness* datives which are not possible with unergative verbs and that the order DAT >> NOM is the unmarked base order with these predicates. Further, recall that the interpretation of bare plurals and indefinites

suggested that the theme originates lower than the reflexive pronoun. Scrambling of the theme to the front moves it out of the domain of existential closure. This is again illustrated in (2) and (3).

- (2) a. weil sich Türen öffnen und schließen sollten (*generic, existential*)
 because REFL doors open and close should
- b. weil Türen sich öffnen und schließen sollten (*generic*)
 because doors REFL open and close should
 ‘because doors should open and close’
- (3) a. weil sich nichts verändern wird
 because REFL nothing change will
- b. weil nichts *(von dem) sich verändern wird
 because nothing (of this) REFL change will
 ‘because nothing (of this) will change’

Having empirically shown that the theme in marked anticausatives is indeed an internal argument leaves us with three properties of marked anticausatives which are, on the first view, in contradiction with what we thought to know about syntactic theory. That is:

- (i) We need an explanation for how the ergative-like case marking comes about, i.e. why the external argument gets accusative case and the internal argument gets nominative case in marked anticausatives.
- (ii) We need to explain why and how the SE-anaphor can survive without a c-commanding antecedent in contradiction to what Principle A of the classical binding theory demands.
- (iii) We need to explain why the reflexive pronoun in the specifier of Voice does not get a theta-role in contradiction to what a configurational theta theory seems to predict.

In the following sections, I will show that the properties (i) and (ii) follow from quite standard assumption about case theory and binding theory – from the fact that a reflexive pronoun does not have ϕ -features of its own. That is, I will show that, despite the apparent violation of Principle A, the structure of marked anticausatives survives syntactically and further leads to the unusual distribution of case marking.

Concerning property (iii), I argue that a reflexive pronoun which remains unbound and, therefore, without denotation simply cannot realize a thematic role; there is nothing there which could bear such a theta-role. Specifically, I propose that theta-roles are assigned in the interpretational component following the post-syntactic mode of configurational theta-role assignment in (4).

(4) Configurational Theta-Role Assignment:

The **Denotation** of a DP X bears a specific thematic relation R ($R = \text{Agent, Causer, Theme, ...}$) to an event E due to the specific syntactic relation of X to the syntactic structure expressing or modifying E .

Since reflexive pronouns have no reference or denotation of their own, an unbound reflexive pronoun necessarily remains without reference or denotation. Following the principle in (4), it therefore cannot realize a theta-role. If the unbound reflexive is merged in the specifier of Voice, the thematic impact of Voice cannot be realized. This results in an expletive Voice projection which does not introduce an external thematic role.⁸ We get unaccusative/anticausative semantics in a transitive syntax.

Such a derivation of an expletive Voice is syntactically unrestricted; in principle, we can have it with every verb that combines with a Voice projection in the first place. But once again, the C-I interface restricts the acceptability of structures. Semantically, a verbal construction with an expletive Voice does not differ from a verbal construction without Voice. In both cases, if the verb (-al Root) is not compatible with such semantics, the structure is filtered out as incomprehensible at the C-I interface. So, if an activity verb such as ‘*read*’ or an agentive change-of-state verb like ‘*murder*’ occurs with an expletive Voice, the C-I interface will filter out these derivations as not intelligible. The derivation of an expletive Voice survives in two contexts: (i) verbs

⁸ Cf. Doron’s (2003) ‘middle Voice’ and Embick’s (1998) typology of v for similar ideas.

undergoing the causative alternation pass the C-I interface even if no external theta-role or theta-role bearer is present (cf. chapter 4). (ii) generic middles of agentive verbs can pass the C-I interface although no external theta-role bearer is projected in the syntax (cf. chapter 6).

Finally, we need to encode somewhere that some Roots form necessarily marked anticausatives while others form necessarily unmarked anticausatives. Following Haspelmath's (1993) crosslinguistic study (cf. the discussion around TABLE II in chapter 5), I assume that some Roots have the formal requirement to occur in the context of Voice, i.e. to be at least syntactically transitive even if no external theta-role is involved.⁹

In the next two sections, I shortly present my assumptions about binding theory and case theory. Afterwards, I will show how the properties in (i) and (ii) above can be derived within these assumptions.

7.2.1 Binding theory

The development of a complete binding theory is beyond the scope of this thesis. I will only discuss the local binding of personal pronouns and anaphors (SE-reflexives in the terminology of Reinhart & Reuland (1993), or ϕ P-reflexives in the terminology of

⁹ This means, we need some counterpart to the lexical, c-selectional features assumed in Ramchand (2006). I will not investigate here how this can be done in a theory which assumes Roots. Note that this information, while conceptually motivated (as explained by Haspelmath (1993) and in chapter 5), must, nevertheless, be lexically encoded (i.e. listed with the Root) as we typically do not find an anticausative verb that changes its morphological behavior depending on the type of theme it combines with. That is, while we find verbs that form anticausatives only with some themes (*break a vase* vs. *break a contract*) we normally do not find verbs that form marked anticausatives with some themes and unmarked anticausatives with other types of themes. (However, for slight tendencies pointing into this direction in French, cf. section 1.4.5 and Labelle (1992); for slight tendencies in Greek, cf. Zombolou (2004)). Recall that if only the presence of anticausative morphology is coded on a Root (as the requirement to occur in the context of Voice), the absence of morphology with Roots forming unmarked anticausatives follows simply from economy considerations (cf. the discussion at the end of section 5.2.2). Further, recall that, in the case of generic middles, the computation of these economy considerations has to take into account that an agent can only be implicated if expletive Voice is present (cf. chapter 6, fn. 18).

Déchaine & Wiltschko (2002)). I have nothing to say about the binding of English type SELF-reflexives or about logophors besides the fact that they are clearly different from SE-anaphors. Further, I will not discuss non-local/long-distance binding of reflexives or pronouns.¹⁰

The traditional GB-assumption about anaphors is that they have to obey Principle A; they have to be bound by an antecedent in a local domain. The reason for this obligation to Principle A is that anaphors, by themselves, are referentially defective (e.g. Chomsky 1986). The reason, in turn, for their referential defectiveness is their lack of a full specification of ϕ -features (Chomsky 1981, Bouchard 1984). Binding by an antecedent is the only way to assign interpretative content to an anaphor.

Specifically, Reinhart & Reuland (1993) and Reuland & Reinhart (1995) assume that SE-anaphors are structurally identical to pronouns but differ from pronouns in that they always lack number and gender specification and hence they do not project an argument that can be interpreted independently. Reuland (2001) assumes that, in principle, any combination of a categorical D-feature and a subset of ϕ -features could exist. He goes on to argue that pronouns are fully specified for ϕ -features, while anaphors only have a person feature.

In a similar vein, but going one step further, Burzio (1991, 1996, 1998) argues that an anaphor is an element with no ϕ -features at all, “assuming that the ability to refer depends on morphological content, lack of such content will imply lack of independent reference and hence – naturally – referential dependence (Burzio (1991:87)).”

I will follow the latter view and will assume that (SE-)anaphors only have a D-feature but no (interpretable) ϕ -features.¹¹ I will further follow the assumption that this is the reason why anaphors are referentially void. However, all this does not yet explain

¹⁰ As my concern here is local binding, I will also not discuss coreference but assume that there is a competition between binding and coreference. I follow the well established view in the literature that coreference between DP_X and DP_Y is excluded if binding of DP_Y by DP_X would give an indistinguishable interpretation (cf. e.g. Reinhart (1983), Grodzinsky and Reinhart (1993) Reuland (2001), Safir (2004)).

¹¹ The assumption by Reinhart & Reuland (1993) that anaphors have a person feature rests on the observation that anaphors in Dutch or German can only be bound by a third person antecedent. First and second person antecedents yield bound pronouns. I take the morphological shape of a locally bound variable to be a pure PF-phenomenon and therefore not an argument for a person specification of anaphors (cf. the discussion below).

why anaphors should have to obey (a version of) Principle A. My claim is that at least some of the effects which are typically subsumed under Principle A of the binding theory do not necessarily result from a requirement of the anaphor itself but from theta theory. That is, I will show that, under specific circumstances, a SE-anaphor can indeed survive syntactically even if it is not bound by a c-commanding antecedent; however, since theta-role assignment (or theta-role realization) is dependent on denotation (as suggested by the principle in (4)), an unbound anaphor in argument position might lead to a interpretative clash at the C-I interface.

I follow proposals in the literature and assume that (local) binding is syntactically encoded via an Agree-relation where the antecedent acts as a probe and a variable acts as a goal (cf. e.g. Burzio (1996, 1998), Fischer (2004, 2006), Heinat (2006), Reuland (2001)). The locality effects known from Principle A derive from the locality restriction on Agree.¹² A variable which underwent Agree with its antecedent might either be spelled out as a SE-anaphor or as a (bound) pronoun (see below). This conception requires that not only heads but also phrases (the antecedent) can act as probes (cf. Fischer (2004), Heinat (2006)). In defending this view, Heinat (2006) argues that the restriction that only heads can act as probes is a mere stipulation within Bare Phrase Structure (Chomsky (1994)) because there is no “independently motivated factor in the syntactic derivation that would unify heads and probing, and at the same time exclude phrases” (Heinat 2006: 38).¹³ He concludes that a head as well as a phrase probes to get its unvalued features valued as soon as it is externally merged to another syntactic object.

Further, I assume that referential pronouns and variables have different lexical entries. Referential pronouns are the combination of a D-feature and a set of interpretable (valued) ϕ -features $\{D, \Phi\}$. A (locally bound) variable is totally underspecified with respect to ϕ -features; it is a set of categorical D-feature and

¹² Cf. also Hasegawa (2005).

¹³ Heinat further shows that having phrases as probes does not have unwanted consequences for the computation of standard constructions (active, double object, passive, raising, ECM) due to the PIC and inactive goals.

unvalued ϕ -features $\{D, u\Phi\}$.¹⁴ Therefore, it is referentially defective and needs an antecedent which values its features under Agree. These are deleted after valuation. If the unvalued ϕ -features remain unvalued, the derivation crashes.

At LF, the syntactic Agree-relation is evaluated semantically as a binding relation (as it was expressed via co-indexation at earlier stages of the theory). At PF, the Agree-relation is evaluated morpho-phonologically and the variable is spelled out in a language-specific way as developed in the framework of Distributed Morphology (cf. Halle & Marantz (1993), Heinat (2006)). The specific spell out (as a reflexive or as a (locally bound) pronoun) depends on the ϕ -features of the antecedent and language-specific morpho-phonological economy conditions (cf. Burzio (1998)). Some languages realize such a variable always as a reflexive pronoun (for example Polish), other languages (for example German or Dutch or Italian) realize it as a reflexive pronoun if it is valued by a third person antecedent but as a personal pronoun if it is valued by a first or second person antecedent.

Full fledged referential pronouns can never be bound and always spell out their full set of interpretable ϕ -features. Later, I will show in detail how the binding of a variable in object position by an antecedent in subject position works. Then we will also see how an unbound variable in subject position can get its ϕ -features valued although there is no c-commanding antecedent. But before this, I will first introduce my assumptions about case and agreement.

¹⁴ My definition of variables and referential pronouns differs from the definition in Heinat (2006) who assumes that both originate from a Root pronoun in combination with functional material; pronouns have an N-layer and a D-layer, anaphors only have a D-layer. Heinat further assumes a more complicated theory of features with valued and unvalued interpretable as well as valued and unvalued uninterpretable features in the spirit of Pesetsky and Torrego (2001). Anaphors have unvalued, but interpretable ϕ -features on D and need an antecedent; the features of full pronouns get valued DP internally by their own N-projection. They therefore do not need an antecedent.

7.2.2 Verbal agreement and case

I assume that overt verbal agreement as well as morphological case are mainly PF-phenomena accounting for the fact that both phenomena are not universal (see Marantz (2000), McFadden (2004), Sigurðsson (2003, 2005) for Case and Bobaljik (2006) for agreement).¹⁵ Yet, I assume that PF evaluates syntactic Agree-relations, e.g. the Agree-relation between Tense and the closest accessible DP in the domain of Tense. At PF, Tense might spell out the ϕ -features of the DP it has undergone Agree with in the syntax. Further, this DP might be spelled out with morphological nominative due to its syntactic Agree-relation with Tense. Any other DP in the same relevant domain which is not lexically case marked gets dependent accusative case morphology.

We will see that disregarding case as a syntactic phenomenon (i.e. as not being reflected by uninterpretable or unvalued case features) leaves me without a formal explanation of how the antecedent of an anaphor is activated as a probe; Heinat (2006) assumes that an unvalued case feature activates the subject as a probe which then checks the ϕ -features of the anaphor in its c-command domain. The case feature of the subject is valued only later when Tense is merged. I will simply stipulate that every DP can act as a probe exactly then when we see that it can bind a variable in its c-command domain. If a syntactic binding theory is on the right track, a formal account of what activates potential antecedents should be feasible. This is work which cannot be done here; all I want to say at this point is that case is not a relevant candidate if case is indeed post-syntactically assigned, as assumed here. Note, that a case feature as activator of antecedents faces a number of shortcomings, too (as mentioned also by

¹⁵ However, I also deviate from the specific assumptions made by these authors. Concerning case, I cannot follow McFadden in the assumption that the highest DP in a domain gets nominative, while a lower gets dependent accusative, as this would not derive the correct result with reflexive anticausatives. Instead, I follow Haider (2000) in the assumption that nominative is related to the verbal agreement which cannot be triggered by anaphors (see the discussion below). I assume, however, that the dependence between verbal agreement and nominative is evaluated at PF and that accusative is assigned at PF, too, depending on a nominative (more correctly, a second “structural case”) in a local domain. Concerning verbal agreement, Bobaljik argues that it is a mere PF-phenomenon. I do not follow this assumption as I cannot see how to connect verbal agreement and nominative case assignment if both are mere PF-phenomena.

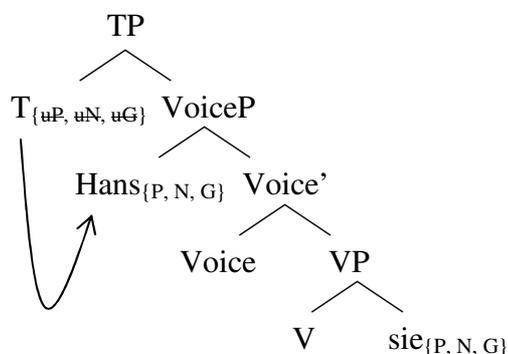
Heinat (2006)). For example, it only works for subject antecedents but not for antecedents which are inherently case marked. Further, probing/antecedency sometimes must be optional as, for example, an indirect object never binds a direct object obligatorily.

With these assumptions about binding theory and case theory, I will turn, in the next section, to the derivation of real subject-object binding and, afterwards, to the derivation of marked anticausatives with unbound reflexives. A slightly different approach to case which does not build on the assumption that nominative is directly dependent on Tense is shortly discussed afterwards.

7.2.3 The derivations

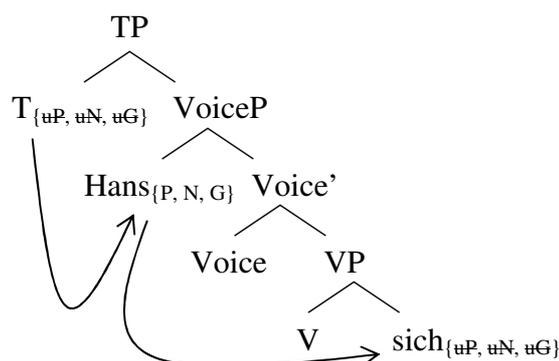
The derivation of an ordinary transitive sentence with referential object pronoun is shown in (5). The pronoun is merged in object position. The full subject DP is merged in the specifier of Voice. Next, Tense is merged with a set of unvalued ϕ -features; it probes the tree top-down and agrees with the closest goal, the subject. The unvalued features on Tense get valued and deleted. At PF, the Agree-relation between Tense and the subject leads to the overt verbal agreement with the subject's ϕ -features and nominative morphology on the subject which, in turn, effects accusative morphology on the object. Both the subject and the object have a full set of valued ϕ -features ($\{P, N, G\}$) which allows them to refer and to express the agent and theme relation at the C-I interface.

(5) Hans besucht sie
John visits her



(6) shows the derivation with a locally bound variable in object position. This variable enters the derivation with unvalued ϕ -features. The subject is merged with a full set of valued ϕ -features. As mentioned above, I have to stipulate that the subject can act as a probe, although it is not clear what activates it.¹⁶ The subject DP probes down the tree and values the variable's features. This Agree-relation will be evaluated at LF and PF. Tense is merged and agrees with the subject. At PF, we get verbal agreement with the subject, nominative on the subject, and dependent accusative on the variable. The variable is spelled out in a language-specific way, in German as a reflexive pronoun due to the third person antecedent. At LF, the Agree-relation between the subject and the variable is interpreted as binding. (The fact that the binding of anaphors is typically local follows from phase theory (see Heinat 2006) which restricts the domain of Agree.) Since the variable is bound, it has some denotation and can, in turn, realize the theme theta-role.

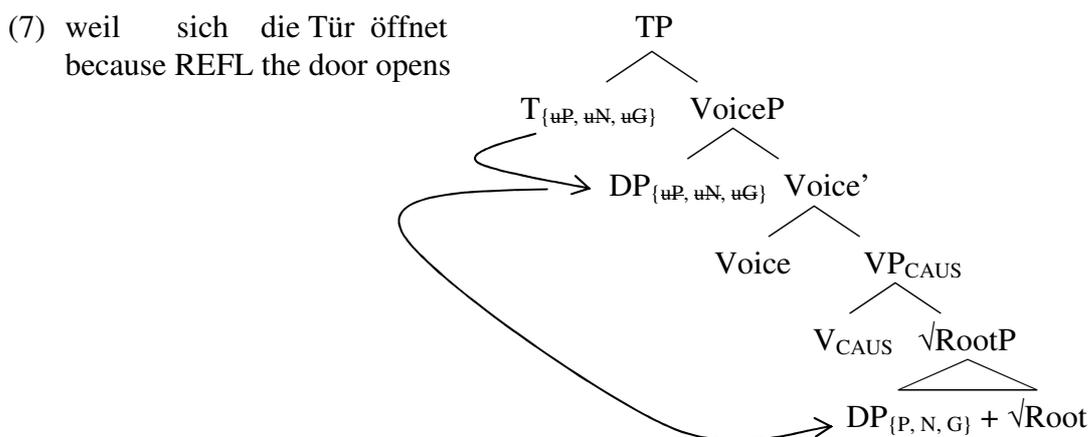
(6) Hans mag sich
John likes REFL



Finally, we are in the position to look at the derivation of reflexive anticausatives which have an anaphor in SpecVoice. This is illustrated in (7). The theme DP is merged in object position and the variable is merged in the specifier of Voice. I assume that the

¹⁶ Languages differ in whether indirect objects can bind anaphors. What is important here, however, is not so much the spell out of the variable with an indirect object antecedent but its interpretation. If an indirect object can license a variable in the direct object position, we have to conclude that an Agree-relation is established. The fact that such an Agree-relation is realised as a pronoun in some languages but as an anaphor in other languages is a mere PF-phenomenon. If, however, indirect objects cannot license direct object variables, we have to conclude that the indirect object cannot act as a probe. As mentioned above, probing/antecedency of an indirect object is, if possible, optional.

variable does not act as a probe.¹⁷ When Tense is merged, it probes down the tree. Assuming *multiple Agree* as well as a conception of Agree as *feature matching* (Chomsky 2004, 2005),¹⁸ Tense agrees with the variable but, since both have the same unvalued features, no valuation takes place. In order to get its unvalued features valued, Tense probes further down and finally agrees with the theme. Due to the fact that the variable is in an Agree-relation with Tense, the features of the variable thus get checked and deleted too.



Syntactically, this derivation in (7) is without any problems; since all unvalued features are deleted, it converges. Turning to the interfaces, one result of the derivation is that the spell out of both the verbal agreement and the variable depend on the features of the theme. Further, since the theme values Tense, it gets nominative at PF and the variable gets dependent case, i.e. accusative.

An interpretative evaluation of the variable, however, cannot take place. There is an Agree-relation, but the c-command-relation is not right; the referential DP is c-commanded by the non-referential one. This is not the right constellation for index

¹⁷ This would not be problematic for the derivation of reflexive anticausatives as it is proposed here. It would, however, make wrong predictions in the case of real binding dependencies. For example, if an indirect object is bound by a subject, we have to make sure that the variable merged in the indirect object position does not probe and agree with the theme. On the other hand, there are circumstances where one might perhaps want a variable to probe and bind a further variable, as in the case of (i). I leave these questions for future research.

(i) They proposed themselves to each other

¹⁸ Or feature sharing (cf. Frampton & Gutmann 2000).

transfer/semantic binding at LF. Therefore, the variable remains without interpretation (expletive) and the external theta-role is not realized.¹⁹

As said, syntactically all this is without problems and could occur with every verb which projects a specifier of Voice. But the result is a structure where no external theta-role is assigned/realized and has to be interpreted at the C-I interface. Often it is unacceptable; it is filtered out at the C-I interface as conceptually deviant as discussed in chapter 4. Only with verbs that are unspecified for external causation (and in the case of generic middles) is the result acceptable.

To conclude then, I argued that theta-roles are assigned post-syntactically to the denotation of syntactic objects. An unbound variable (which can arguably only occur in the highest argument position of a binding domain) remains without denotation and, in turn, cannot be assigned a theta-role; it is therefore a way to *switch off* external theta-role assignment but to maintain syntactic transitivity. This property is used with (a subclass of) verbs forming anticausatives as well as with generic middles. This account derives the absence of the external theta-role in reflexively marked anticausatives from general properties of the binding theory; it thereby gives an answer to Q 2 above; it explains why reflexive morphology can act as a “marker of reduction”.

Before I will turn to further motivation for the derivation of marked anticausatives proposed above (section 7.3) as well as for the mode of post syntactic theta-role assignment in (4) (section 7.4), I will shortly discuss, in the next subsection, how the derivation of marked anticausatives could work under the assumption that VoiceP is a phase which prohibits a direct Agree-relation between Tense and a DP inside of VoiceP.

7.2.4 Case under phase theory

In this section, I discuss marked anticausatives under the perspective of phase theory (cf. Chomsky (2000), (2001)). Chomsky claims that, besides CPs, only transitive vPs (VoiceP in the terminology used here) but not passive and unaccusative vPs are phases. As marked anticausatives are semantically unaccusative but syntactically transitive, the

¹⁹ One could further assume that the variable gets deleted at LF (due to a violation of the principle of Full Interpretation). Again, no external theta-role could be realized.

question about the phase-theoretical status of marked anticausatives arises. On the other hand, Legate (2003) claims that not only transitive but all verbal phrases are phases. If this is correct, then we need to indeed answer the question of how Tense can get its features checked against the theme inside the vP phase in ordinary unaccusatives as well as marked anticausatives.

Legate (2005) discusses this question for the following English unaccusative sentence.

(8) There arrive ten trains into this station every day

Within Chomsky's (2001) version of the phase impenetrability condition, sentence (8) is not a problem because a phase is sent to Spell Out not earlier than the next higher phase head is merged. This means that material in the vP is still accessible when Tense is merged and becomes inaccessible only when C is merged. Therefore, Tense can agree with the DP '*ten trains*' in (8). However, as Legate (2005) discusses, this solution is not really promising as it fails to derive examples where more than one phase head intervenes between Tense (the probe) and its goal, as in (9). In this sentence, two phase heads intervene between Tense and the nominative DP, the vP of '*seem*' and the vP of '*arrive*'. Therefore, the Agree-relation between Tense and '*ten trains*' should be impossible.

(9) There seem to have arrived ten trains into this station today

If Chomsky's solution to (8) is not transferable to (9), then we can generally assume that the domain of a phase is sent away as soon as the phase is completed. This means that, already in (8), the agreement relation between Tense and the DP '*ten trains*' is problematic as the DP is within the vP-phase and, thus, will have been spelled out before Tense is merged. Whatever solution will rescue (9) will probably rescue (8), too. As a solution, Legate proposes the operation of *cyclic agreement*; the DP first agrees with its local phase head which, in turn, either agrees with Tense or with the next phase head which then finally agrees with Tense.

It remains to be shown that the derivation of expletive Voice that I proposed in the previous section can be rephrased in such a system. Before doing this, I will discuss,

however, first one further topic that emerged in the recent discussion of case theory within a phase-bound checking theory. This is the question of whether nominative is really dependent on Tense, or whether this relation is only illusory or less straightforward than traditionally assumed.

The study of long-distance agreement in Icelandic suggests that nominative is not directly dependent on Tense but that structural case is determined at the vP/VoiceP level. If the vP/VoiceP hosts a sole DP, this DP gets nominative; if vP/VoiceP hosts an external and an internal argument, the former gets nominative case and the latter accusative case. The relation between Tense and the DP receiving nominative which is suggested by the fact that Tense inflects for the features of the nominative DP can then only be indirect, mediated by the head of vP/VoiceP, as proposed by Legate.

The decisive facts that suggest that nominative is determined inside the vP/VoiceP come from Sigurðsson's work (e.g. Sigurðsson (2000, 2003)) and were discussed recently by Marantz (2006b). They involve the relation between nominative assignment and long-distance agreement in Icelandic. A typical example of long-distance agreement is shown in (10a) where the matrix verb (optionally) agrees with the nominative object in the embedded clause. When a dative argument intervenes between the matrix verb and the lower object, agreement is blocked but the lower object still gets nominative, as shown in (10b).

- (10) a. Okkur syndist/syndust [hafa verið veiddir fjórir fiskar]
 us.DAT appeared(3sg/3pl) have been caught four fishes.NOM
 'It appeared to us that four fishes had been caught'
- b. Okkur virtist/*virtust [henni hafa leiðst þeir]
 us.DAT seemed(3sg/*3pl) her.DAT have bored they.NOM
 'It seemed to us that she had found them boring'

A further example which shows that nominative is computed locally in the vP is given in (11). This example involves a matrix ECM-verb embedding an infinitive. Since the subject of the infinitive is lexically marked for dative, the matrix verb cannot assign accusative to it. Importantly, the internal argument of the embedded verb gets

nominative, although the matrix verb is an ECM-verb which still has an accusative to assign.

- (11) Ég taldi [henni ekki hafa leiðst þeir/*þá]
 I believed(1sg) her.DAT not have bored they.NOM/*them.ACC
 ‘I believed her not to have found them boring’

The conclusion that Marantz (2006b) (following Sigurðsson) draws from these data is that nominative (in unaccusatives) is not dependent on higher Tense or on an ECM-verb but is computed at the vP level. If Tense, nevertheless, agrees with the low nominative, then this is a pure agreement phenomenon independent of case; it is probably the result of Tense agreeing with the v head which, in turn, agrees with the nominative DP.

While Marantz does not discuss nominative assignment to external arguments, I think that we should restrict our system to one source for nominative (this is also proposed by Sigurðsson, for example in Sigurðsson (2003)). This means, if objects can get nominative from v/Voice, then subjects should get it from there, too. In what follows, I will first propose a way to implement Burzio’s generalization within such a theory that negotiates case in the vP/VoiceP and then I will turn back to the derivation of marked anticausatives within such a theory.

I keep the assumption that accusative is automatically realized on a DP if a second DP within a relevant domain (here: vP/VoiceP) has already been determined to get nominative (or structural case). Turning to the determination of nominative then, we descriptively need to derive that external arguments are the preferred candidates to get nominative so that internal arguments can get nominative only in the absence of an external argument. If v/Voice is responsible for nominative, then Voice must prefer DPs in its specifier over DPs in its c-command domain. If nominative is the PF reflex of a syntactic Agree-relation, this means that Voice can agree with its specifier, i.e. Agree involves m-command. The preference for Agree between a head and its specifier can be derived as a minimality condition on the length of the agreement path; the specifier of a head is closer to the head than material embedded in the complement of the head. A conception of Agree with all these properties is defined in Müller (2004):

(12) *Agree*: (Müller (2004))

α agrees with β with respect to a feature bundle Γ iff (a), (b), and (c) hold:

- a. α bears a probe feature [$*F^*$] in Γ , β bears a matching goal feature [F] in Γ .²⁰
- b. α m-commands β .
- c. There is no δ such that (i) and (ii) hold:
 - (i) δ is closer to α than β .²¹
 - (ii) δ bears a feature [F] that has not yet participated in *Agree*.

Thus, *Agree*-operations are driven by a probe seeking a goal (12a), require m-command (12b) and obey minimality (12c).

One further ingredient is necessary. Assume that v/Voice has been merged with its complement involving an object DP. As also discussed by Müller (2004), at this moment an indeterminacy arises as the next derivational step could, in principle, be either *Agree* between v/Voice and the internal DP, or *Merge* of the external DP. We need, therefore, to make sure that an “earliness” requirement for merging the external argument holds.²²

With these assumptions, then, we can turn back to the relevant derivations. Starting with a simple transitive sentence involving an external and an internal argument, assume Voice has been merged with the VP containing an internal argument. Voice has a D-feature (not indicated in the tree below) and a set of unvalued ϕ -features. The D-feature on Voice drives the earliness requirement for merge; the external argument is merged in the specifier. Next, Voice probes its m-command domain. The closest

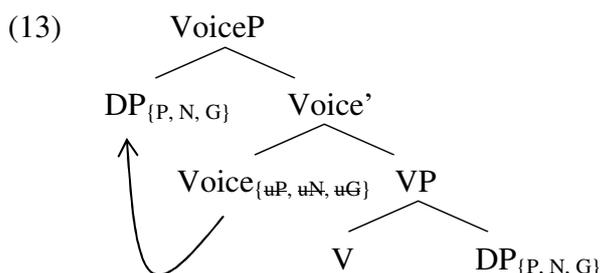
²⁰ Starring a feature indicates its probe status; see Sternefeld (2006).

²¹ Müller (2004: 4):

“ δ is closer to α than β if the path from δ to α is shorter than the path from β to α . The path from X to Y is the set of categories Z such that (a) and (b) hold: (a) Z is reflexively dominated by the minimal XP that dominates both X and Y. (b) Z dominates X or Y. (See Müller (1998, 130); also cf. Pesetsky (1982, 289), Collins (1994, 56).) The length of a path is determined by its cardinality. It follows that the specifier and the complement of a head qualify as equally close to the head; and that the specifier of a head is closer to the head than a category that is further embedded in the complement of the head.”

²² With the option that ergative languages have an earliness requirement for *Agree* instead of *Merge*, as discussed in Müller (2004).

element with valued ϕ -features is the external argument in the specifier of Voice which agrees with Voice. (This Agree-relation will trigger that, at PF, the external argument gets nominative.) This closes the VoiceP phase. The complement of the phase head is sent to the interfaces. At PF, the internal argument is marked with dependent accusative case as it has not undergone Agree with Voice.²³ Later, Tense is merged on top of VoiceP and undergoes an Agree relation with the Voice head which leads to verbal agreement.



Assume that, instead of Tense, an active ECM-verb is merged on top of VoiceP determining the next phase. This ECM-verb involves a Voice projection with an external argument in its specifier. The higher Voice head will agree with its specifier and afterwards its complement will be sent to the interfaces. Note that the embedded

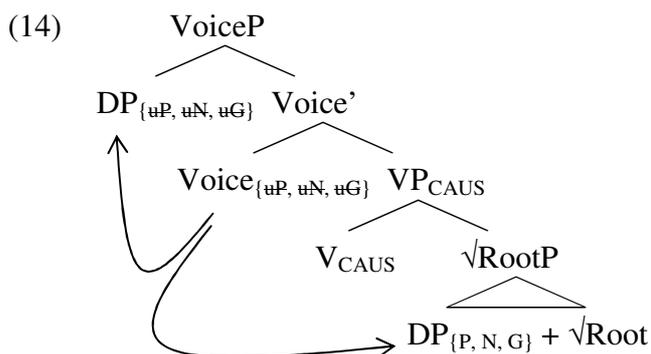
²³ This is not totally correct. The object receives accusative because there is a higher DP within the same phase which has valued the features on Voice via Agree. Note that thereby the case of the object is not dependent on the exact morphological case of the subject but on syntactic properties of the subject (i.e. having undergone Agree with Voice). Mainly following McFadden (to appear), I assume that elements already sent to PF have access to information about elements which are still syntactically active. Specifically, I assume that the complement of a phase head is sent to PF only once the phase is closed. That is, the VP containing an object is sent to PF only once the VoiceP has checked its categorial D-feature due to the insertion of a DP in its specifier and has valued its ϕ -features. This move prohibits the problem of counter-cyclicity in accusative assignment which was discussed by Sigurðsson (2006). More concretely, when the lower VP is sent to PF, the object does not need to know the exact morphological case of the subject in SpecVoice but only needs the information that this subject will get some structural case because it agreed with and valued Voice. This information will suffice to trigger accusative on the object.

subject is part of this complement and will now be marked accusative as a second DP in its phase domain is determined for nominative.²⁴

Finally, we can derive marked anticausatives. Voice is merged with a categorial D-feature. The latter drives the earliness requirement for merge. A variable with unvalued ϕ -features is merged in the specifier of Voice. Next, Voice probes its m-command domain. The unvalued ϕ -features of Voice agree with the unvalued ϕ -features of the variable but no valuation can take place. Therefore, Voice further probes its m-command domain and agrees with the object DP. This DP has valued ϕ -features which now value the ϕ -features of Voice as well as the ϕ -features of the variable (assuming again *multiple Agree* and the conception of Agree as *feature matching*). At PF, the internal argument will get nominative and the variable will get dependent accusative. Further, the variable will be spelled out depending on the ϕ -features of the theme and Tense will be spelled out depending on the ϕ -features of the theme due to an agreement relation with Voice. At LF, the variable cannot be assigned (or cannot realize) a theta-role as it remains without antecedent and, therefore, without denotation.²⁵

²⁴ I leave it open whether the embedded subject must move to the higher VP or not. The counter-cyclicity problem for the object of the embedded verb can, once again, be solved via the assumptions made by McFadden (to appear) if we assume that the embedded subject has undergone Agree with the embedded Voice.

²⁵ Hagit Borer (p.c.) asks whether this account predicts the existence of languages that form marked anticausatives with an ordinary expletive in the specifier of Voice. I do not think so. On the one hand, many languages have expletives which are homonymous with referential pronouns or subjects of “weather-verb”. If these expletives are merged in SpecVoice, they will probably be (re-)interpreted as referential pronouns and be assigned a theta-role. On the other hand, if a language has an unambiguous expletive, I assume that it cannot derive an expletive Voice since only elements which, in principle, *could* realize a thematic role can be merged in SpecVoice. A variable has the potential to realize various different thematic roles, while such an expletive does not have such a potential. It could be that this difference is encoded via different categorial features on expletives and DPs so that an ordinary expletive simply does not qualify for merge in the specifier of Voice.



To conclude, this section showed that expletive Voice can be derived in a framework that assumes that case is determined only within vP/VoiceP. All that is necessary is that nominative is dependent on some Agree-relation.

In the next two sections, I will give further motivation for the assumption that the reflexive pronoun in marked anticausatives remains without an antecedent as well as for the mode of post-syntactic theta-role assignment proposed in (4) above. Note that, for the following discussions, I will turn back to the technical assumptions made in section 7.2.2, where I assumed that nominative assignment depends on a direct Agree-relation between Tense and the nominative DP.

7.3 Motivating the derivation of non-thematic reflexives

This section provides further motivation for the formal derivation of the non-thematic, reflexive pronoun which, in turn, transfers VoiceP into a thematically inert or expletive projection.

The formal derivation of the non-thematic, reflexive pronoun/expletive Voice crucially builds on the assumption that the variable in the specifier of Voice does not have any c-commanding antecedent. It therefore makes the prediction that the variable gets assigned an external theta-role as soon as it has a (local) antecedent. Two situations come to mind; either an element is merged into a position close enough to antecede the variable or an element is moved into a position close enough to antecede the variable. In section 7.3.1, I will first turn back to the unintentional causer reading of datives in change-of-state contexts. I will deduce the blocking of the causer interpretation of the

dative in the context of German marked anticausatives from the fact that such a dative would antecede and bind the variable in the specifier of Voice. This would result in a situation where one change-of-state event has two external theta-roles, arguably an illicit result. In section 7.3.2, I will show that scrambling and raising of the theme in front of the variable does not pose problems for the derivation of non-thematic ‘*sich*’. In section 7.3.3, I will shortly discuss the option of long-distance binding.

7.3.1 Dative causers again

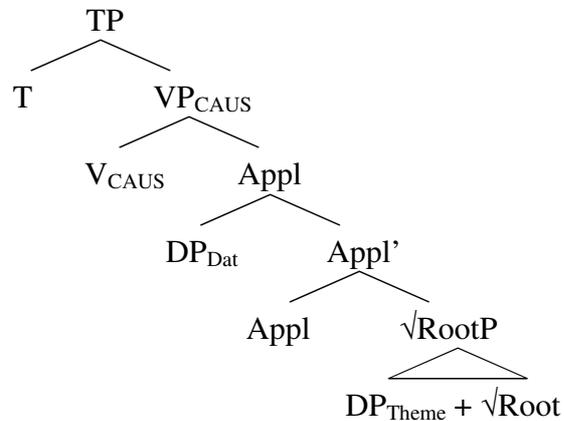
In this section, I turn back to the dative in change-of-state contexts. As discussed several times in this thesis (especially in chapter 3), such a dative can, in principle, get two interpretations, the affectedness reading or the unintentional causer reading. Below, you find again some examples from different languages.

- (15) a. Dem Hans zerbrach die Vase (German)
 The.DAT John broke the.NOM vase
 i) ‘The vase broke and John was affected by this’
 ii) ‘John unintentionally caused the vase to break’
- b. A Francesca è bollito fuori il latte (per errore) (Italian)
 To Francesca is boiled.SG over the milk (by mistake)
 i) ‘The milk boiled over on Francesca’
 ii) ‘Francesca accidentally caused the milk to boil over’
- c. Na Ivan mu izgorjia kahstata (Bulgarian)
 John.Dat he.Dat burned.3.SG house.the
 i) ‘John was affected by his house burning’
 ii) ‘John involuntary caused his house to burn’

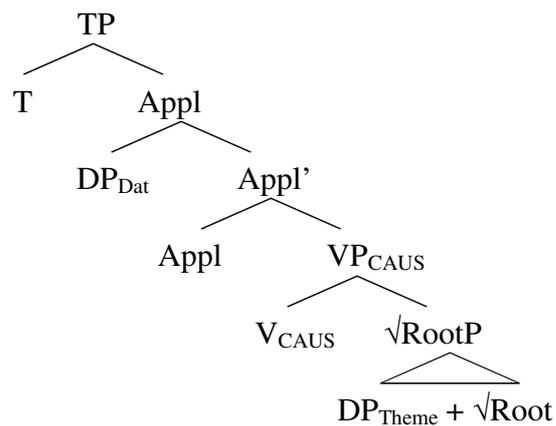
In chapter 3, I argued at length that the two readings result from different structures (as proposed by Cuervo (2003)). At the end of chapter 4, I updated these structures and made them compatible with the syntax of anticausatives proposed by Alexiadou et al. (2006a, b). Under the affectedness reading, an applicative phrase introducing the dative

in its specifier is sandwiched between V_{CAUS} and the Root+theme complex denoting the resultant state (cf. (16)). Under the causer reading, the applicative phrase is merged on top of the whole change-of-state predicate, i.e. on top of V_{CAUS} (cf. (17)).

(16) The affectedness reading



(17) The unintentional causer reading



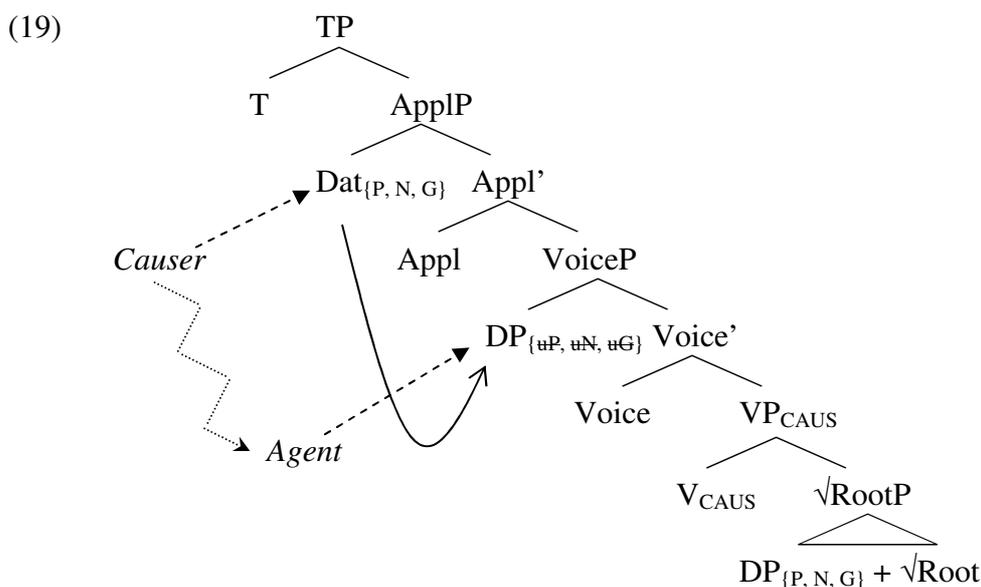
The examples above in (15) involve unmarked anticausatives. As also discussed several times (especially in chapter 2.2), German differs from all other languages discussed in this thesis in that it makes a difference between datives in the context of unmarked anticausatives and datives in the context of marked anticausatives. With German marked anticausatives, the dative can only receive the affectedness reading; the unintentional causation reading is not available. This is again shown with the examples in (18).

- (18) a. Der Maria öffnete sich (*aus Versehen) die Tür
 The-DAT Mary opened REFL (by mistake) the door
 i) ‘The door opened and Mary was affected by this’
 ii) *‘Mary (unintentionally) caused the door to open’
- b. Mir hat sich (*aus Versehen) der Wecker verstellt
 Me-DAT has REFL (by mistake) the alarm clock shifted
 i) ‘The alarm clock shifted and I was affected by this’
 ii) *‘I (unintentionally) caused the alarm clock to shift’
- c. Der Menschheit verändert sich (*aus Versehen) das Klima
 The-DAT mankind changed REFL (by mistake) the climate
 i) ‘The climate changed and the mankind is affected by this’
 ii) *‘The mankind (unintentionally) caused the climate to change’

We are now in the position to understand why this should be the case. Below, I give the structure of the sentences in (18) under the dative causer reading. As discussed above, under this reading, the dative should be applied to the inchoative change-of-state event. In the case of reflexively marked anticausatives, the inchoative event has a Voice projection on top with a variable/reflexive in its specifier. I argue that this constellation, an applicative phrase on top of a VoiceP with a variable in the specifier of VoiceP, is not well formed and that, therefore, the unintentional causer reading is not available. To see this, let us go through the derivation in (19). The theme DP is merged in object position and the variable is merged in the specifier of Voice. As mentioned in section 7.2.3, I assume that the variable does not probe itself. So nothing further happens till this point.²⁶ Next, the applicative head is merged. When the dative is merged in the specifier of the applicative phrase, it probes down the tree. The dative agrees with the variable and values the variable’s ϕ -features. This means that, at LF, we will get a binding relation between the dative in SpecAppIP and the variable in SpecVoiceP. But this, in turn, means that, at LF, the variable has some denotation (the same as the dative) and gets assigned the external theta-role. But note that the result is arguably not

²⁶ Recall that I turned back to the earlier theory where nominative is dependent directly on Tense, not on Voice. I leave the question open for future research whether the same results can be derived under the latter type of theory.

interpretable. It involves two DPs which are both assigned an external theta-role; the dative realizes the (unintentional) causer theta-role and the variable in the specifier of VoiceP is assigned the agent theta-role. But both these external theta-roles are related to the same event (expressed by V_{CAUS}). This leads clearly a situation of a conceptual clash; it is generally assumed that one event cannot be related to two external theta-roles, i.e. two external arguments.²⁷ The fact that the two theta-roles are realized by the same referent (i.e. the referent of the dative) should not change anything.



Note that the derivation of the affectedness reading is not afflicted by such problems; as the *affectedness* dative is merged below VoiceP, it cannot bind the variable in the specifier of VoiceP.²⁸

²⁷ See the discussion around the principle in (24) in chapter 2.

²⁸ A fair question asked by Halldór Sigurðsson is why the applicative projection could not be merged between VoiceP and VP_{CAUS} . The unintentional causer reading should then be possible with marked anticausatives. I would suggest that the relation between Voice and the eventive verbal head cannot be interrupted by other projections. In some sense, Voice directly selects an eventive verbal head. Appl crucially expresses a stative relation (cf. chapter 3) and I would claim that Voice does not combine with stative projections. This makes the clear prediction that stative verbs generally should not involve a Voice-projection.

If this is the right explanation for the loss of the *unintentional causer* dative in the context of German marked anticausatives, what then can we say about all other languages which license the reading with their marked anticausatives?

As mentioned several times, I would like to suggest that this difference between German and all other languages is grounded in the different phrase-structural properties of the bearer of the anticausative morphology. While, in German, the reflexive pronoun is clearly a maximal projection, in all other languages under discussion, the anticausative morphology is syntactically connected to a head. This is especially clear for languages like Albanian and Greek which mark their anticausatives with non-active morphology; this non-active morphology is probably the spell out of a Voice projection which does not project a specifier.²⁹ We do not expect the dative merged on top of this Voice projection to interfere with the bearer of this non-active morphology.

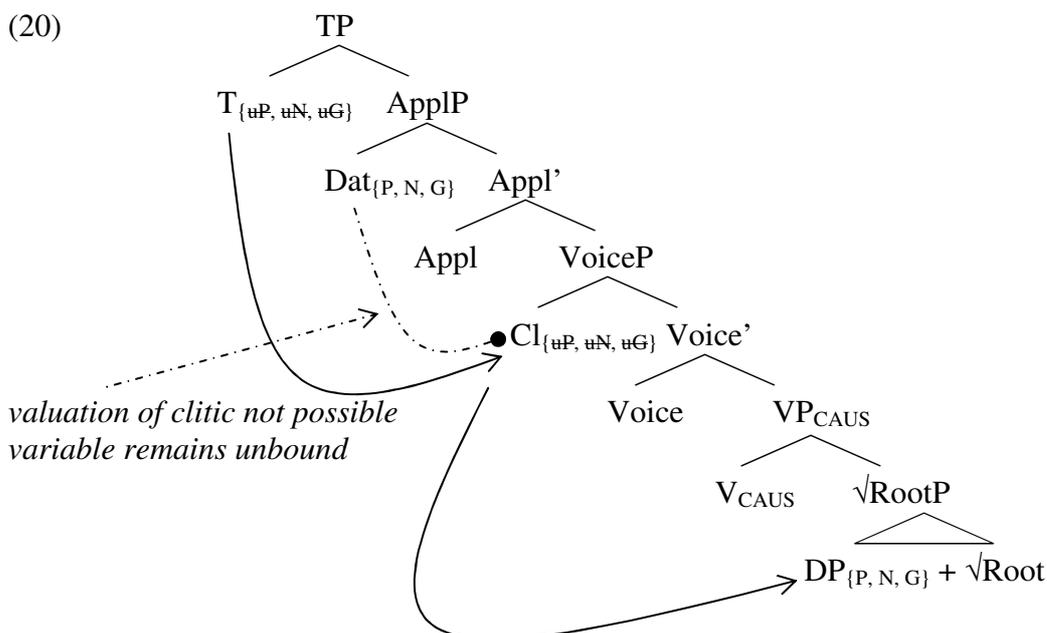
Turning to those languages that mark their anticausatives with a reflexive clitic (e.g. the Romance or Slavic languages), there are, in principle, two conceivable solutions. On the one hand, we could assume that these languages are similar to Albanian and Greek in that the reflexive clitic in anticausatives is just the spell out of a (expletive) Voice head which does not project a specifier. This is the analysis that I proposed for these languages in chapter 5 and chapter 6.

There is, however, a further option which is less stipulative because it reflects the fact that reflexive clitics can be real arguments, too. That is, we can assume that these languages derive the expletive Voice basically the same way as German does. The clitic is merged as a variable in the specifier of Voice; if it remains unbound, no external theta-role is realized.

The fact that these languages differ from German in that they license the dative causer even in the context of marked anticausatives simply follows from general properties of clitic binding. It is a well known fact that clitics are necessarily subject-bound (cf. e.g. Manzini (1986) for Italian ‘*si*’ or Safir (2004)); that is, clitics can only be bound to a c-commanding nominative subject. This, in turn, means that the dative in the specifier of

²⁹ As mentioned at the beginning of this chapter, I leave it open for future research how non-active morphology can derive an expletive Voice.

ApplP on top of VoiceP simply does not qualify as a convenient antecedent.³⁰ Therefore, it cannot value the features of the variable. This means then that the same derivation takes place as in the absence of the dative/ApplP. When Tense is merged, it probes down the tree and agrees with the variable. But since both Tense and the variable have unvalued ϕ -features, Tense probes further down the tree until it meets the theme DP. Both the features on Tense and the features on the variable get valued by the theme's features.



7.3.1.1 A further note on dative antecedents

I will shortly discuss an apparent problem concerning my proposal on how the unintentional causer reading is blocked in German. Recall that I proposed that, in German, the dative binds the variable in the specifier of Voice. This proposal might be seen as problematic in face of the following claim which can be found in the literature on binding in German: In German double object constructions, the dative cannot bind an

³⁰ I will not further discuss why this should be so but leave it as an empirical fact. It is clearly related to the fact that clitics undergo movement to a head position.

accusative anaphor, while the opposite is possible. The standard example exemplifying this effect is taken from Grewendorf (1989).

- (21) a. Der Arzt zeigte den Patienten_i sich_i / *ihm_i im Spiegel
 The doctor showed the.ACC patient REFL / him.DAT in.the mirror
 b. Der Arzt zeigte dem Patienten_i *sich_i / ihn_i im Spiegel
 The doctor showed the.DAT patient REFL / him.ACC in.the mirror
 ‘The doctor showed the patient_i to himself_i (using a mirror)’

The question is whether such data undermine my account proposed above. A number of reasons suggest that this is not the case.

First of all, the datives in (21) are quite low embedded in the VP while the *unintentional causer* dative is very high on top of the VoiceP. There is, a priori, no reason why the two types of datives should show the same behavior with respect to the binding theory.

Second, the data in (21) are not generally accepted; there seems to be lot of dialectal and idiolectal variation. For example, Frey (1993:112) judges the example (21b) as grammatical with the accusative anaphor.³¹

Since I myself agree on the data in (21), I would not like to rest my account on such facts. Instead, I would like to show that the data in (21) cannot be taken as indication that the dative is an inconvenient antecedent for binding in general. Two arguments suggest this.

First, it is widely accepted that, while the dative cannot bind an accusative anaphor, it can, nevertheless, bind an anaphor embedded in the accusative object, as shown in (22).^{32/33}

³¹ Cf. also the discussion in Featherston & Sternefeld (2003).

³² Note that German does not allow logophorically bound anaphors in picture-noun phrases as known from English (cf. (i)).

(i) John_i said that there was [a picture of himself_i] in the post office.

³³ This is highly reminiscent of the scrambling data discussed in the next section. In fact, McGinnis (1999) argues that this binding behavior of German datives suggests that the order ACC > DAT is the base order in German, while the opposite order is derived via scrambling of the dative. See also Müller (1995) for this proposal. There exist a number of further arguments, however, that suggest that the base

- (22) a. Der Arzt erzählte dem Patienten_i [Geschichten über sich_i]
 The doctor told the.DAT patient stories.ACC about REFL
 ‘The doctor told the patient_i stories about him_i’
- b. Ich habe den Gästen_i [Freunde von einander_i] vorgestellt
 I have the.DAT guests friends.ACC of each-other introduced
 ‘I have introduced friends of each other_i to the guests_i’

Second, note that while the anaphor in (21b) is bad, this does not mean that the dative cannot bind the accusative at all; in fact, the co-indexed accusative pronoun is judged as grammatical. But recall that the question of whether a locally bound variable is spelled out as a pronoun or a reflexive is a pure PF-phenomenon under the binding theory proposed in section 7.2.1. It could, therefore, very well be the case that datives in German can bind accusatives but that, for some reason, the variable is spelled out as a pronoun under this constellation (as it is always spelt out in German as a pronoun when bound by a first or second person antecedent).³⁴ So the question that has to be answered is whether the data in (21b) involves real binding between the dative and a variable or just coreference between the dative and a referential pronoun. The following example involving a quantified dative antecedent suggests that real binding is involved.

- (23) Man sollte einem /jedem Politiker_i immer ihn_i/*sich_i
 One should a.DAT/every.DAT politician always him/REFL
 als Verhandlungsführer vorschlagen
 as principal negotiator propose
 ‘One should always propose to a/every politician himself as a principal negotiator’

To conclude then, while the area of binding between objects in German is, for sure, a thorny one which deserves much further research, I conclude that the assumption that

order is DAT > ACC for most German ditransitive verbs (cf. Cook (2006), McFadden (2004), McIntyre (2006)).

³⁴ See Burzio (1996) for the role which the syntactic status of an antecedent plays for the morphological realization of a binding relation.

datives in German cannot locally antecede a variable is not tenable. The question of whether this variable is spelled out as a pronoun or an anaphor is of no deeper relevance for the proposal made in the previous section. In fact, I would like to suggest that a theory which takes this difference to be a mere PF-phenomenon might be able to shed more light on the phenomenon of binding between objects in German.

7.3.2 Scrambling and raising

As mentioned in chapter 5, German reflexive pronouns tend to move to the Wackernagel position, but they are not forced to move there. Therefore, we find both sequences of the reflexive pronoun and the theme as in (24).

- (24) a. als sich die Tür öffnete
 when REFL the door opened
- b. als die Tür_i sich t_i öffnete
 ‘when the door opened’

I proposed that the reflexive pronoun in (24) is merged in the specifier of Voice. This means that in (24b) the theme has scrambled in front of the reflexive pronoun. This seems, at the first sight, to pose a problem because scrambling (at least in German) is known to provide new binding relations; a scrambled DP can bind a position which it only c-commands after scrambling has taken place. If this is generally the case, then the scrambled object in (24b) should bind the reflexive in the specifier of Voice; this in turn would mean that the reflexive in the specifier of Voice would get a denotation and, as a consequence, it should express the external theta-role. The sentence (24b) should therefore mean something like “the door caused itself to go open” which is not the case; both (24a) and (24b) have the same, strictly anticausative, interpretation.

Let us take a closer look at the claim that scrambling can provide new binding relations. Weak and strong crossover constellations are a case in point. In (25b), the scrambled object quantifier can bind a possessive pronoun embedded in the subject DP.

In (26b), scrambling of the object leads to a principle C violation if the pronoun is co-indexed with the pronoun embedded in the subject DP.

- (25) a. weil seine_i Mutter jeden*_i liebt
 because his mother.NOM everyone.ACC loves
 b. weil jeden_i seine_i Mutter t_i liebt
 because everyone.ACC his mother.NOM loves

- (26) a. weil der Bruder von Hans_i ihn_i besucht hat
 because the brother.NOM of Hans him visited has
 b. weil ihn_i der Bruder von Hans*_i besucht hat
 because him the brother.NOM of Hans visited has

However, the binding relations above are not of a strictly local nature; in both cases, a DP_X is scrambled in front of DP_Y and binds an entity embedded in DP_Y. Note that the situation in the case of scrambling with marked anticausatives is different; here we would like to know whether a DP_X which is scrambled in front of DP_Y can bind DP_Y itself.

The work by McGinnis (1999, 2004) reveals that this difference is very important. She provides strong crosslinguistic evidence which suggests that the reflexive in anticausatives remains unbound even when the theme is scrambled in front of it. This evidence comes from languages which have both reflexive possessive pronouns as well as nominative reflexives. As the data below from Georgian, Japanese and Hindi show, an object scrambled in front of the subject licenses a possessive reflexive pronoun embedded in the subject. However, scrambling cannot license a reflexive pronoun in the subject position itself (all data from McGinnis (1999)).

(27a) shows that, in Georgian, an unscrambled object cannot bind a possessive anaphor embedded in the subject. But as shown in (27b), if the object is scrambled to the front, binding becomes possible. However, as shown in (28), if the subject is itself an anaphor, it cannot be bound by the object, even if the latter scrambles in front of the subject.

(27) a. ??Tavisi_i deida [nino-s_i xaTav-s] (Georgian)
 self's aunt.NOM Nino.DAT draw-PRS

b. Nino-s_i tavisi_i deida [t xaTav-s]
 'Her_i aunt is drawing Nino_i'

(28) a. *Tavisi tav-i_i [vano-s_i xaTav-s].
 self.NOM vano.DAT draw-PRS
 'Himself_i is drawing Vano_i'

b. *Vano-s_i tavisi tav-i_i [t xaTav-s].
 'Himself_i is drawing Vano_i'

Japanese, which also has nominative anaphors, shows the same behavior. First, an unscrambled object cannot bind an anaphor embedded in the subject (29a), but a scrambled object can bind such an embedded anaphor (29b). However, a scrambled object cannot bind the subject itself, as shown in (30).

(29) a. *[otagai_i-no sensei-ga] [[John-to Mary]-o_i mita] (Japanese)
 each other.GEN teacher.NOM John-and Mary.ACC saw

b. [John-to Mary]-o_i [otagai_i-no sensei-ga] [t mita]
 (lit.) 'Each other's teachers saw John and Mary'

(30) *[John-to Mary]-o_i otagai_i-ga [t mita]
 John-and Mary.ACC each other-NOM saw
 (lit.) 'Each other saw John and Mary'

Hindi shows the same behavior.

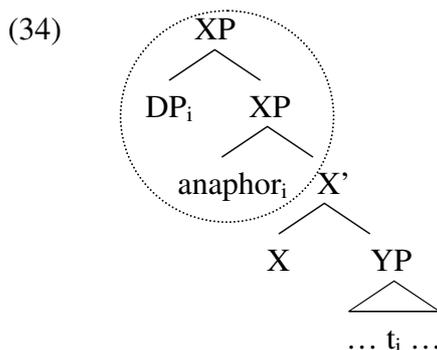
(31) a. *[apne_i baccon-ne] [mohan-ko_i ghar se nikaal diyaa] (Hindi)
 self's children.ERG mohan.ACC house from throw give.PERF

b. [mohan-ko_i [apne_i baccon-ne] [t ghar se nikaal diyaa]
 'His_i children threw Mohan_i out of the house'

- (32) *raam-ko_i apne-aap-ne_i [t maraa]
 raam.ACC self.ERG beat.PERF
 (lit.) ‘Himself_i beat Raam_i’

McGinnis (1999) argues that scrambling involves movement to an outer specifier. Scrambling an object over a subject in the specifier of vP moves the object to the outer specifier of vP. The ungrammaticality of the data in (28b), (30) and (32) can be descriptively captured by her principle in (33). The situation described by (33) is depicted in (34).

- (33) An anaphoric dependency cannot be established between two specifiers of the same head. (McGinnis 1999)



McGinnis (2004) argues that the constellation in (34) constitutes a case of “lethal ambiguity”; due to the locality between the Binder and the Bindee, the moved DP cannot unambiguously be associated with its base position.

Turning back to the derivation of reflexively marked anticausatives, it is clear that exactly the same situation as in (34) is created when the theme is scrambled in front of the reflexive pronoun in the specifier of Voice. Assuming that scrambling always uses as little structure as necessary, the scrambled DP would move to the outer specifier of the VoiceP. We can conclude from the crosslinguistic survey given in this section that in such a constellation no binding relation can be established; the reflexive pronoun in the inner specifier of VoiceP remains unbound. Therefore, it remains without denotation and will not be assigned or realize a theta-role at the C-I interface. The result is anticausative semantics.

Movement of the nominative theme to the structural subject position in SpecTP would bring about a constellation where the theme c-commands the variable in SpecVoice. We know from English raising construction that long A-movement can indeed lead to new binding relations (cf. (35)).

(35) Carol_i seemed to herself_i [t_i to have been quite fortunate]

However, derivations involving long A-movement do not run counter the proposal about the derivation of non-thematic Voice made above. In the Romance languages, only full reflexive pronouns can be anteceded by raised DPs, while reflexive clitics cannot (cf. Rizzi (1986b), McGinnis (2004)). This is illustrated with the passive of a ditransitive verb below.

- (36) a. Gianni_i è stato affidato a se stesso_i
 Gianni was been entrusted to REFL SELF
- b. *Gianni_i si_i è stato affidato
 Gianni REFL.DAT was been entrusted
 ‘Gianni was entrusted to himself’

Since marked anticausatives are formed with the reflexive clitic, we can, therefore, be sure that movement of the nominative theme to the specifier of TP does not lead to a binding relation between the moved theme and the reflexive clitic in the specifier of Voice.

Concerning the derivation of marked anticausatives in German, it has often been assumed that nominative can be assigned into the VP in German; for example, in the passive of double object verbs the nominative theme prefers the position following the dative. In her recent discussion of this topic, Wurmbrand (2006) proved for some constructions that such VP-internal nominatives not only remain in the VP overtly but that they stay there also at LF. This in turn means that German does not have an (obligatory) EPP-feature on Tense and that A-movement of the theme in marked anticausatives does not (have to) take place.

7.3.3 Long-distance binding

Finally, I would like to discuss shortly the prediction that the account proposed above makes for long-distance binding. Assume, for example, that a language allows long-distance binding of an anaphor across an infinitival sentence boundary. Does this predict that a reflexive anticausative will not be possible in the infinitive? Although I have not studied this phenomenon, I would suggest that such behavior is not predicted. The reason is that long-distance binding is typically optional; that is, if a language has an anaphor that can be bound long-distance, then this anaphor can also be bound (more) locally. In fact, it is often assumed that apparent long-distance binding involves (covert or overt) movement of the bound element to a higher binding domain (cf. for example Safir (2004)). Under this view, binding itself is always local and only movement can be non-local. In order to derive the optionality between local and long-distance binding of anaphors, one has, therefore, to assume that the movement to the higher binding domain is optional. But then, all that we need in order to prohibit that the variable in reflexive anticausatives be bound long-distance is to prohibit the movement of this variable.

At this point I would like to discuss the only constellation where German allows a kind of long-distance binding. German has a small number of ECM-verbs which take non-finite complements with accusative subjects. Besides the verb '*lassen*' (to let/to make) a number of perceptual verbs have this property. In (37) the construction is exemplified with the matrix verb '*sehen*' (to see).

- (37) a. Hans sah den Peter die Tür öffnen
 Hans saw the.ACC Peter the.ACC door open
 'John saw Peter open the door'
- b. Hans sah den Peter sie küssen
 Hans saw the.ACC Peter her.ACC kiss
 'John saw Peter kiss Mary'

The subject position of these complements can be an anaphor bound by the matrix subject as in (38). (Binding an anaphor across the embedded subject is not possible).³⁵

- (38) Hans_i sah sich_i das Mädchen küssen
 Hans saw himself the.ACC girl kiss
 ‘John saw (imagined) himself kiss the girl’

We might wonder how marked anticausatives behave in this construction. If the binding across the infinitival sentence border is obligatory then this predicts that reflexive anticausatives will not be licensed as the complement of perception verbs. It turns out that this is partly the case. (39a) does not have an anticausative reading but only the reading where the reflexive pronoun is bound by the matrix subject and is interpreted as the agent of the opening event. We can understand this if the variable in the specifier of the embedded VoiceP is obligatorily bound by the matrix subject. (39b) is then ungrammatical because the reflexive pronoun does not agree in ϕ -features with its obligatory antecedent, the first person matrix subject.³⁶

- (39) a. Hans sah sich die Tür öffnen
 Hans saw REFL.ACC the.ACC door open
 b. *Ich sah sich die Tür öffnen
 I saw REFL.ACC the.ACC door open
 ‘I saw the door open’

However, surprisingly, the example in (40) is grammatical and interpreted as involving an inchoative change-of-state event.

³⁵ With the exception that binding can cross the embedded subject if the anaphor is embedded in a PP (cf. Lee-Schoenfeld (2004) for a recent discussion).

³⁶ With ‘lassen’ (let) as matrix verb, the reflexive pronoun is preferably interpreted as an *affectedness* dative and the embedded verb is interpreted passively.

- (i) Hans liess sich die Tür (von jemandem) öffnen
 Hans let REFL.DAT the.ACC door by someone open

- (40) Hans / Ich sah die Tür sich öffnen
 Hans / I let the.ACC door REFL.ACC open
 ‘Hans/I saw (that) the door opened’

It seems as if, in (40), scrambling of the theme in front of the variable prohibits binding of the variable by the matrix subject. Aside from the question why scrambling should have such a protecting effect, there is clear evidence that scrambling cannot be involved in (40). Examples with two referential arguments in the complement of perceptual verbs only allow the order agent > theme, as shown in (41). ((41b) is ungrammatical under the reading that the pronoun is the theme and the full DP is the agent.)

- (41) a. *Hans sah die Tür den Peter öffnen
 Hans saw the.ACC door the.ACC Peter open
 ‘I saw Peter open the door’
 b. *Hans sah sie den Peter küssen
 Hans saw her.ACC the.ACC Peter kiss
 ‘I saw Peter kiss her’

(40) then seems to suggest that, in marked anticausatives, the theme is base-generated higher than the reflexive pronoun. This is in clear contradiction to what I have argued for in this thesis; but in particular, it is in clear contradiction to the tests discussed in section 5.3 which suggested that the theme is base-generated below the reflexive pronoun.

I cannot give a full explanation of what is going on in (38), (39) and (40). However, I would like to give the following suggestion. If we assume that predicates are the basic domain for binding, then the example in (38) involves long-distance binding. Further, if we assume that long-distance binding involves movement of the bound variable to the higher binding domain, then the variable in (38) has to move (overtly or covertly) to the matrix sentence. Movement must be triggered; it is conceivable that, in the case of ECM-verbs, the movement is triggered by case or EPP-considerations related to the matrix verb. So, if in (37) the embedded subject moves to the matrix verb, then the variable in the embedded subject position of (38) and (39) moves to the matrix verb,

too. This movement brings the variable to the higher binding domain so that it can be bound (and has to be bound) by the matrix subject. My suggestion about (40) then is that the order theme > ‘*sich*’ is not derived by scrambling but that the theme undergoes (case- or EPP-driven) movement to the matrix verb, thereby crossing the embedded subject variable. Clearly, we would need some motivation why this crossing is possible; this crossing would at least allow us to derive the anticausative interpretation. Further, the movement under consideration must be overt. If all this is conceivable, we have an explanation for why the variable remains unbound in (40), and, in turn, for why an anticausative interpretation is possible. Obviously, all this is highly speculative.^{37/38}

7.4 The ‘*es*-construction’ and the ‘*stray accusative construction*’

As discussed throughout this thesis, the causative alternation is not a strictly binary alternation; many languages have two classes of anticausatives which differ morpho-syntactically but not semantically. In this section, I will discuss a further construction, the German ‘*es*-construction’ (and its Icelandic counterpart, the ‘*stray or fate accusative-construction*’) and relate it to the causative alternation. Similarly to marked anticausatives with a reflexive pronoun in subject position, the ‘*es*-construction’ involves a pronoun in subject position; the construction differs however from anticausatives semantically in a very subtle way. I will argue that this subtle meaning difference originates at the C-I interface from the fact that the subject pronoun in the ‘*es*-construction’ is referentially reduced but not completely inert. I take this as further

³⁷ It is not clear that the variable in (38) and (39) is bound long-distance and that it should move in order to be local to its antecedent. The variable is located in the lower SpecVoiceP and the antecedent in the higher SpecVoiceP. If ECM-verbs select vPs/VoicePs as their complement, then no phase boundary intervenes between these two positions.

³⁸ Fanselow (1991) argues that movement of the embedded subject cannot be involved in German ECM-constructions because the embedded subject can be topicalized together with its infinitival verb, i.e. the two form a constituent (cf. (i)).

(i) Peter den Wagen waschen habe ich noch nie sehen können
 Peter.ACC the.ACC car wash have I yet never see can
 ‘I have never ever been in able to see Peter was the car’

evidence for (i) the post-syntactic mode of theta-role assignment proposed in (4) in the beginning of this chapter as well as for my proposal that the reflexive pronoun in marked anticausatives is located in the external argument position. This section leads to the interesting result that the external argument position of change-of-state predicates can be thematically “reduced” *gradually* by reducing the ϕ -feature content of the pronominal element merged in the external argument position.

Consider the examples in (42)-(45). In (42), we find two transitive, causative sentences, one involving an agent subject, the other involving a causer subject. In (43), we find an unmarked anticausative and in (44) a marked anticausative. In (45) finally, we find an example of the so-called German ‘es-construction’, which combines an accusative theme and a third person pronoun ‘es’ (it). While this pronoun is formally ambiguous between accusative and nominative, the fact that the theme is clearly marked for accusative suggests that the pronoun is a nominative pronoun in subject position. Semantically, the ‘es-construction’ is close to an anticausative construction with an important modification to be discussed in more detail later; sentence (45) roughly means ‘for some unexpressed reason, the man was the theme of a movement to the bar’.

- (42) a. als Hans die Vase zerbrach (causative)
 when Hans.NOM the.ACC vase broke
- b. als der Wind die Tür öffnete
 when the.NOM storm the.ACC door opened
- (43) als \emptyset die Vase zerbrach (unmarked anticausative)
 when the.NOM vase broke
- (44) als sich die Tür öffnete (marked anticausative)
 when REFL.ACC the.NOM door opened
- (45) als es den Mann ins Lokal trieb (es-construction)
 when it.NOM the.ACC man in-the bar drove

I want to argue that the ‘es-construction’ is syntactically connected to the causative alternation; specifically, I propose that the four constructions in (42)-(45) should be seen as ordered on a transitivity scale as in (46).

(46) *Transitivity scale:*

causative > es-construction > reflexive anticausative > unmarked anticausative

For the causative and the two types of anticausatives, the ordering in (46) is easy to motivate. Causatives are transitive in both their syntax and semantics, unmarked anticausatives are intransitive in both their syntax and semantics, and marked anticausatives are in-between in that they are syntactically transitive but semantically intransitive. How, then, should the ‘es-construction’ relate to the first three constructions, and what is the motivation to relate it to verbs undergoing the causative alternation in the first place?

The main motivation for the assumption that the ‘es-construction’ is correctly positioned on the scale in (46) is that the ‘es-construction’ stands in a subset relation to causatives and anticausatives as displayed in (47).³⁹

(47) [[[causatives] es-construction] anticausative]

(47) is meant to express the following generalizations:

- (i) Basically all verbs that form causatives and (reflexive or unmarked) anticausatives can also occur in the ‘es-construction’. This is exemplified in (48).

³⁹ This holds for German. Below, I will argue that the ‘stray accusative (or FATE accusative) construction’ in Icelandic is the counterpart of the German ‘es-construction’. In Icelandic, however, the construction is lexically restricted in that not all verbs undergoing the causative alternation license it. It seems that a verb undergoing the causative alternation either forms ordinary anticausatives or the stray accusative construction, but not both. Note further, that the ‘es-construction’ is more common in southern parts of Germany and in Austria.

- (ii) Some verbs form causatives and the ‘es-construction’ but not anticausatives. An example for such a verb is given in (49).
- (iii) Some verbs form causatives but neither the ‘es-construction’ nor anticausatives. An example is given in (50).
- (48) a. Hans zerriss das Papier
Hans tore the paper
- b. Die Explosion zerriss den Kessel
the explosion ruptured the boiler
- c. Es hat den Kessel zerrissen
it has the boiler ruptured
- d. Der Kessel zerriss
the boiler ruptured
- (49) a. Der Jäger / Der Fels erschlug das Reh
the hunter / the rock struck-dead the deer
- b. Da hat es das Reh erschlagen
there has it the deer struck-dead
- c. *Das Reh erschlug (sich)
the deer struck-dead REFL
- (50) a. Hans hat den Präsidenten ermordet
John has the president murdered
- b. *Es hat den Präsidenten ermordet
it has the president murdered
- c. *Der Präsident ermordete (sich)
the president murdered REFL

Applying the terminology of Alexiadou et al. (2006a, b), all Roots of the class $\sqrt{\text{cause-unspecified}}$ and the class $\sqrt{\text{externally caused}}$ enter into the ‘es-construction’, while Roots of the class $\sqrt{\text{agentive}}$ and the class $\sqrt{\text{internally caused}}$ do not. Note that the fact

that the Roots of the class $\sqrt{\textit{externally caused}}$ enter the construction is a first indication that the ‘es-construction’ involves a semantically active external argument. Further, the morpho-syntactic make-up with the theme in the accusative and the pronoun in the subject position suggests that the pronoun is the bearer of this external argument semantics. On the other hand, it is not clear what this pronoun exactly denotes.

I propose that the scale in (46) reflects degrees of referentiality of the structural subject. Referentiality, in turn, depends on the φ -feature content of the element in the specifier of Voice.

(51) *Referentiality scale:*

$$\text{DP}\{\text{D}, \Phi\} > \text{es}\{\text{D}, \Phi \text{ reduced}\} > \text{sich}\{\text{D}\} > \emptyset(\text{no Voice})$$

R-expressions (as well as referential pronouns) are fully specified for φ -features; if they are merged in the subject position of change-of-state verbs, they realize the external theta-role. The pronoun found in the subject position of the ‘es-construction’ has a reduced φ -feature set. I propose that it has only number but not person. I will claim that the specific semantics of the ‘es construction’ are the consequence of the fact that a reduced φ -feature set cannot refer to a concrete entity in the world, and therefore no concrete bearer of the external theta-role can be identified. A reflexive pronoun (or better a variable) as it shows up in the subject position of marked anticausatives has no φ -features at all;⁴⁰ since it is also not bound by a c-commanding antecedent, it cannot realize an external theta-role. Finally, if no Voice head is merged, then no structural subject is merged at all and, again, no external theta-role is realized; this is the case with unmarked anticausatives.

In the next section, I will turn to change-of-state verbs in Icelandic which turn out to have a number of peculiarities that are, however, easily captured within the theory of the causative alternation proposed in this work. Further, it turns out that Icelandic has a counterpart of the German ‘es-construction’; studying this construction will help us to understand the thematic effect of the φ -feature-reduced pronoun in the specifier of Voice.

⁴⁰ As discussed, variables start out with a set of uninterpretable/unvalued φ -features which get deleted in the course of the derivation. At LF, such a variable has no φ -features at all.

7.4.1 The causative alternation in Icelandic

The Icelandic causative alternation is not a unified phenomenon; apart from variation in the verbal morphology which can be observed in some form in many languages, there is also wide variation in case marking as discussed recently for example by Svenonius (2001, 2002a, b, 2005, 2006), Haider (2001), Jónsson (2003), or Sigurðsson (2005).

Besides ordinary causatives with accusative objects as in (52a), there is also a large group of Icelandic causatives that mark their object with dative case, as in (52b). If the verbs in (52) form anticausatives, both accusative and dative themes turn to nominative, as shown in (53).

(52) a. Ég stækkaði garðinn (NOM-ACC causative)

I.NOM enlarged the.garden.ACC

‘I enlarged the garden’

b. Skipstjórinn sökk skipinu (NOM-DAT causative)

the.captain.NOM sank the.ship.DAT

‘The captain sank the ship’

(53) a. Garðurinn stækkaði (ACC -> NOM anticausative)

the.garden.NOM enlarged

‘The garden enlarged’

b. Skipið sökk (DAT -> NOM anticausative)

the.ship.NOM sank

‘The ship sank’

So-called *st*-middles⁴¹ of verbs selecting accusative and dative objects show the same behavior; both object cases are lost under middle formation as shown in (54a, b) and (55a, b).

⁴¹ I take over the term ‘*st*-middle’ from Svenonius’ work; the examples in (54) and (55b) are not generic middles, but a kind of marked eventive anticausatives. Clearly, the *st*-ending derives from the old Indo-Germanic reflexive pronoun; therefore it is tempting to analyze Icelandic *st*-middles similar to marked

- (54) a. Hann skemmdi bílinn (NOM-ACC causative)
 he.NOM damaged the.car.ACC
 ‘He damaged the car’
- b. Bílinn skemmdist (ACC -> NOM st-middle)
 the.car.NOM damaged.middle
 ‘The car got damaged’
- (55) a. Ég týndi úrinu (NOM-DAT causative)
 I.NOM lost the.watch.DAT
 ‘I lost the watch’
- b. Úrið týndist (DAT -> NOM st-middle)
 the.watch.NOM lost.middle
 ‘The watch got lost’

These data suggest that not only accusative but also dative on the above themes is an instance of structural case, as both cases are dependent on the presence of an external argument in accordance with Burzio’s Generalization. However, if we use the passive as the classical test for structural case, we see that here only the accusative but not the dative turns to nominative (data from Svenonius (2006)).

- (56) a. Stormurinn blés strompinn af húsinu (NOM-ACC causative)
 the.storm.NOM blew the.chimney.ACC off the.house
 ‘The storm blew the chimney off the house’
- b. Strompurinn var blásinn af húsinu (ACC -> NOM passive)
 the.chimney.NOM was blown off the.house
 ‘The chimney was blown off the house’
- (57) a. Skipstjórinn sökkti skipinu (NOM-DAT causative)
 the.captain.NOM sank the.ship.DAT
 ‘The captain sank the ship’

anticausatives in German or the Romance languages. However, I have not investigated this morphological marking in any depth.

- b. Skipinu var sökkt af skipstjóranum (DAT -> DAT passive)
 the.ship.DAT was sunk by the.captain
 ‘The ship was sunk by the captain’

Svenonius (2001, 2002a, b) argues that the dative-accusative contrast on Icelandic themes is not driven by a structural difference between the dative and accusative themes but is the morphological reflection of an aspectual difference of the verb phrases involved. Svenonius (2001) gives three arguments that the syntax of the Icelandic accusative and dative objects under discussion is basically identical,⁴² thereby arguing against the idea of locating the dative-accusative contrast in different licensing positions (as e.g. by a silent preposition/head for the dative): (i) Both objects undergo Object Shift, while prepositional complements do not. (ii) Both objects, unlike prepositional complements, are promoted to subject position in the passive (under preservation of the dative but not the accusative). (iii) Particle shift in the verb-particle construction applies equally with both objects. He concludes that accusative and dative objects have the same syntactic position and thematic role.⁴³

Turning to the aspectual differences between verbs with dative themes and verbs with accusative themes, Svenonius argues that dative themes typically undergo “*ballistic motion*”; verbs with dative objects express the object’s movement through space after initial impartation of kinetic force (e.g. verbs corresponding to English *kick* or *smash*). The same type of movement is found with verbs expressing the launching of a projectile. The target of the action may be accusative, but the projectile itself is dative (Data from Svenonius 2001).

⁴² Of course, Svenonius does not claim that all datives in Icelandic are of this type but only the themes of change-of-state verbs.

⁴³ In order for these arguments to go through, one would like to see that indirect dative arguments in ditransitives differ from the datives in change-of-state verbs with respect to these or further tests. Otherwise, the dative objects under discussion could, of course, be syntactically indirect objects. Indeed, Platzack (2006) uses other tests to argue that the dative theme of Icelandic ‘*throw*’ (a verb of ballistic motion) is not the complement but a specifier of *V*, i.e. an indirect object.

- (58) a. skjóta fuglinn ‘shoot the bird’ (ACC)
 b. skjóta kúlunni ‘shoot the bullet’ (DAT)

- (59) a. skutla hvalinn ‘harpoon the whale’ (ACC)
 b. skutla skutlinum ‘throw the harpoon’ (DAT)

When an event involves “*assisted*”, “*accompanied*” or “*directed motion*”, then the object is accusative, not dative. This is for example the case with the following verbs.

- (60) a. draga ‘pull, drag, draw’
 b. flytja ‘move, transport, carry’
 c. færa ‘move, bring’

Verbs which specify manner of motion typically take dative objects. Svenonius argues that this is so because with these verbs “there is a sense in which the movement of the object may be initiated by some action on the part of the subject, but the subject’s influence need not persist throughout the event” (Svenonius 2001:5). He gives the following examples:

- (61) a. dreypa vatninu ‘sprinkle water’
 b. fleyta bátnum ‘float the boat’
 c. velta tunnu ‘roll a barrel’
 d. venda skipi ‘turn a ship around’

The following citation from Svenonius (2001:17) points up his findings:

“When some event has been initiated by some external force, and some change of state or location for some theme then occurs, then the theme appears in the dative. When the initiator of the event remains involved in what happens to the theme, then the theme is accusative. When there is no initiator [...] then the theme [...]

will appear in the nominative; this is what happens with true unaccusatives, inchoatives and st-middles ...”⁴⁴

For reasons of space, I will not review how Svenonius implements the difference between accusative and dative themes.⁴⁵ It should, however, be noted that he builds on an event decomposition of change-of-state verbs involving not one but two events in addition to the resultant state, roughly an event of causing and an event of becoming.⁴⁶ As argued in chapter 4, such decomposition is empirically not motivated. I will therefore implement Svenonius’ insights on the aspectual difference between verbs with dative and accusative theme in the framework developed in the earlier chapters; crucially, this framework assumes that all change-of-state events are decomposed into a resultant state and one further verbal event head (V_{CAUS}). If an external argument is added to this structure, then this is done via Voice, which does not introduce a further event but just relates the external argument to the verbal event. The structural relation introduced by Voice is interpreted as a thematic agent or causer relation; the external argument is the agent or causer of the verbal event.

My analysis of the dative-accusative contrast takes the above statement by Svenonius literally. It says that object case is dependent on the way the initiation of an event (by an “external force” or an “initiator”) takes place. If the initiation effects only the very beginning of the verbal event, we get dative. If the initiation is constantly going on during the whole verbal event, we get accusative.

The system developed by Alexiadou et al. (2006a, b) which was introduced in chapter 4 posits the verbal event in V_{CAUS} and the initiation of the verbal event in Voice. This means that, if the grammar distinguishes different ways to initiate an event, then this difference must be located in Voice. This, in turn, means that we need two types of

⁴⁴ Both object cases are also lost in the adjectival passive and with deverbal adjectives; both structures are smaller than the eventive passive, i.e. they don’t have *Voice*. *St*-middles probably have both a *Voice* and a *V* level, but the middle-*Voice* seems not to have the properties necessary for object case. This would follow if the relevant *Voice*-head is semantically empty/expletive as proposed for Voice in the case of German reflexive anticausatives.

⁴⁵ The details of his analysis also differ from article to article.

⁴⁶ Svenonius adopts Ramchand’s (2006) event decomposition framework which involves an initiation sub-event, a process sub-event and a resultant state sub-event.

Voice; let's call them *Voice_{ACC}* and *Voice_{DAT}* for reasons of reference. The two Voice heads differ in their semantic impact. *Voice_{DAT}* expresses a relation between the entity in its specifier and the very beginning of the CAUS-event, yielding dative themes, while *Voice_{ACC}* expresses a relation between the entity in its specifier and every sub-part of the CAUS-event, yielding accusative themes.

Specifically, I want to propose that the accusative in Icelandic change-of-state constructions is a prototypical structural object case (which is simply dependent on a further structural case in the same domain) as discussed in section 7.2.2 and 7.3.1. This means then that, in Icelandic, the *Voice_{ACC}* head does not add any extra parameters on case assignment; if this Voice head is present, then the object gets structural case. Depending on whether *Voice_{ACC}* projects an overt or an implicit external argument (the active-passive contrast), the structural case on the object is either dependent accusative or default nominative. In this sense, *Voice_{ACC}* is the default Voice head.

Voice_{DAT}, on the other hand, interrupts structural case assignment; this Voice head has (associated with its semantics) the property of assigning inherent dative case to the internal argument in its c-command domain.⁴⁷ The assignment of this inherent dative overrides structural case assignment.

The passive pattern in (56b) and (57b) follows immediately. Since passives have a Voice head with an implicit external argument, the same semantic relation between Voice and the CAUS-event holds in the passive as in the active. In the context of the passive version of *Voice_{DAT}*, we get themes with inherent dative. In the context of the passive version of the default *Voice_{ACC}* head, we get themes with structural nominative, as the external argument is only implicit but not syntactically projected.

Note that the question of which of the two Voice heads is allowed with which verb is a kind of lexical information; once again, I propose to locate this information on the Root. As in the case of the classification of Roots as *√agentive*, *√externally caused* or *√internally caused*, this information is information about how the event associated with

⁴⁷ Woolford (2006) proposes to differentiate between lexical case on internal arguments and inherent case on specifiers. It seems to me that the dative themes in Icelandic are an instance of inherent case on internal arguments. These datives are not purely idiosyncratic but related to aspectual information located at a specific Voice head and, if Svenonius is right, these datives are internal arguments just like accusative themes.

the Root is conceptualized, i.e. whether it is conceptualized as being brought about by a punctual or a sustained impact of the external argument.

Finally, recall that the causative alternation is basically a Voice alternation; (unmarked) anticausatives do not involve a Voice head. This then predicts that themes in anticausatives generally get structural case which, in the absence of a higher subject, is nominative. This then explains why both accusative and dative disappear in the anticausatives in (52b) and (53b).⁴⁸

This derives the unusual case properties that we saw above with Icelandic change-of-state verbs. The peculiarity about Icelandic is that it has a Voice head which assigns inherent case to the object. As usual, inherent case is related to semantic properties.

It turns out, however, that Icelandic change-of-state verbs exhibit even more peculiarities. There is a further class of change-of-state verbs that makes the situation in Icelandic even more complicated. Some verbs that mark their objects with accusative or dative when used transitively keep the object case in what looks like an anticausative use. This is exemplified below.

- (62) a. Stormurinn rak bátinn á land (NOM-ACC causative)
 the.storm.NOM drove the.boat.ACC on land
 ‘The storm drove the boat onto land’
- b. Bátinn rak á land (ACC -> ACC anticausative)
 the.boat.ACC drove on land
 ‘The boat drifted onto land’
- (63) a. Jón lauk sögunni (NOM-DAT causative)
 Jon.NOM finished the.story.DAT
 ‘Jon finished the story’

⁴⁸ As mentioned, I do not try to analyze Icelandic the *st*-middles here. Historically, the *st*-ending on the verb is related to a reflexive pronoun. Therefore, it could be that this construction is the counterpart of German marked anticausatives. This would mean that they involve an expletive Voice head. Arguably, an expletive Voice head cannot assign inherent case as inherent case is related to specific semantics. The assumption of an expletive Voice in *st*-middles would, therefore, be compatible with the case shifts in the *st*-middles in (54b) and (55b).

- (65) a. *?(?)Sjórinn fyllti bátinn*
 the.sea.NOM filled the.boat.ACC
 ‘The sea filled the boat’
- b. *Bátinn fyllti (af sjó)*
 the.boat.ACC filled (with sea)
 ‘The boat swamped’

But recall that there is a very strong crosslinguistic generalization which says that verbs which restrict their external argument position to agents do not form anticausatives (cf. chapter 4, Levin & Rappaport Hovav (1995), Reinhart (2000)). If the examples in (64b) and (65b) were really anticausatives without an external argument, then Icelandic would provide an exception to this generalization. In the next two subsections, I will therefore investigate the hypothesis that the Icelandic ‘stray accusative/dative construction’ indeed involves a covert external argument.

7.4.2 Syntactic transitivity

Haider (2000, 2001) seeks the solution to the Icelandic “case preserving anticausatives” in the comparison with the German ‘es-construction’ illustrated again below. The German verb *‘treiben’* (to drive/to drift) forms a transitive construction with a referential subject in (66a), an unmarked anticausative construction in (66b) and the ‘es-construction’ with the pronoun *es* (it) as subject in (66c).

- (66) a. *Trieben die Wellen den Kahn an den Strand?* (*causative*)
 drove the waves.NOM the boat.ACC to the beach
 ‘Did the waves drive the boat on the beach?’
- b. *Trieb der Kahn an den Strand?* (*anticausative*)
 drove the boat.NOM to the beach
 ‘Did the boat drive on the beach?’
- c. *Trieb es den Kahn an den Strand?* (*es-construction*)
 drove it the boat.ACC to the beach
 roughly: ‘Did the boat drive on the beach?’

Haider proposes that the pronoun ‘*es*’ in the subject position of the ‘*es*-construction’ is a so-called ‘quasi argument’, as we find also in the case of “weather-verbs”. Next, he argues that the Icelandic ‘stray accusative/dative’ construction is syntactically identical to the German ‘*es*-construction’; the only difference between German and Icelandic is that, in German, the quasi-argument is overtly realized by the pronoun ‘*es*’ (it) (which is also used as first position expletive in verb-second constructions) while, in Icelandic, the quasi-argument is covert (and not realized by the first position expletive ‘*það*’ (it)). The following examples show how German and Icelandic realize “weather-verbs”. Sigurðsson (1989) proposes that the subject position of Icelandic “weather verbs” is occupied by a *pro*.

(67) Rigndi (*það) mikið í gær (Icelandic)
 rained it much yesterday

(68) Gestern regnete *(es) viel (German)
 yesterday rained it much

Haider proposes a structure as in (69) for the Icelandic ‘stray accusative/dative construction’. The phonetically silent quasi-argument is the external argument of the VP; the accusative theme originates in the object position and moves to a clause internal specifier position that hosts the structural subject (FP). Presumably, this position has an EPP-feature which cannot be checked by phonetically silent elements (cf. Holmberg (2000)). Importantly, the case-preserving construction in Icelandic is not a real anticausative construction under this analysis; it has an external argument, although a reduced one. Since the construction is transitive, accusative on the theme is regular structural case in accordance with Burzio’s Generalization.⁴⁹

(69) a. [F° [VP PRONOM [v' V₀ DP_{ACC}]]] →
 b. [CP C₀ [FP DP_{ACC} [F₀ [VP PRONOM [v' V₀ t_{ACC}]]]]]

⁴⁹ I would assume that the ‘stray dative’ construction differs only in the type of Voice involved as discussed above.

Svenonius (2002) argues against Haider's account. His argument originates however from a misunderstanding. This misunderstanding stems from a note in Haider (2001) that (66b) and (66c) were paraphrases. From this note, Svenonius concludes that 'es' is a mere expletive and does not get a theta-role. He goes on to mention that real expletive constructions in Icelandic are subject to a definiteness effect which is not found in the context of the 'stray accusative/dative construction'. Therefore, he concludes that the latter cannot have a silent expletive. But, as mentioned, Haider assumes that the 'es' in the German construction (66c), as well as the silent expletive in the corresponding Icelandic construction, are instances of a weather-expletive. It is typically assumed that weather-expletives are quasi-arguments, "special cases of arguments, receiving atmospheric or temporal theta-roles and being in the domain of the Theta-Criterion on a par with referential arguments" (Rizzi 1986: 528-529). If this is the case, then we do not expect a definiteness effect in the Icelandic construction. It is also not the case that the sentences (66b) and (66c) are real paraphrases; the German 'es-construction' has, exactly as its Icelandic counterpart, a specific semantic property which is missing in the real anticausatives of both languages. This will be the topic of the next section.

Three further observations support the close relationship between the German 'es-construction' and the Icelandic 'stray accusative/dative' construction. First, as discussed by Kainhofer (2002), the two constructions are accessible with the same semantic verb classes. Kainhofer examines the 'stray accusative construction' in Icelandic and divides the verbs involved into different semantic classes. Then, she goes on and shows that, for each semantic subclass, there are German verbs that allow the 'es-construction'. Her work therefore provides further comparative evidence for the analysis in Haider (2001).

As a further motivation, recall that Sigurðsson claimed that some of the Icelandic verbs licensing the 'stray accusative/dative' construction do not really tolerate causer subjects. German is, once again, similar; German also allows the 'es-construction' with verbs that hardly tolerate causer subjects. An example is the ditransitive change of possession verb '*geben*' (give) which typically selects a human agent as external argument. The verb allows the 'es-construction' (cf. (70)) with an interpretation which is close, but not identical to the inchoative, get-passive-like '*kriegen*' construction in (71).

(70) Es hat ihm einen Schlag gegeben
 it has him.DAT a shock given
 ‘He received an electric shock’

(71) Er hat einen Schlag gekriegt
 he has a shock gotten
 ‘He got an electric shock’

The Icelandic example discussed above in (65) can also be transferred to German, and there it shows the same restriction as its Icelandic counterpart. The verb ‘*füllen*’ (to fill) licenses the ‘es-construction’ (cf. (72)) but does not really tolerate causer subjects like ‘*See*’ (sea) or ‘*Wasser*’ (water) (cf. (73)). Human agents, on the other hand, are of course okay, as shown in (74).⁵⁰

⁵⁰ However, the German verb ‘*füllen*’ (to fill) clearly detransitivizes as in (i). Also, other types of causers are licensed as external argument (see (ii)). I do not know whether corresponding examples are possible in Icelandic.

(i) weil sich das Boot mit Wasser gefüllt hat
 because REFL the boat with water filled has

(ii) weil der Regen das Boot mit Wasser gefüllt hat
 because the rain the boat with water filled has

Also, note that verbs that imply volition or intention on behalf of their external argument do not allow the ‘es-construction’ in German (cf. (iii)). I would predict that the same holds for the Icelandic case preserving construction, too.

(iii) *Es hat den Politiker ermordet
 it has the politician murdered

Note, however, that I do not assume that agents are necessarily volitional. Following Alexiadou & Schäfer (2006), I assume that non-human agents exist. Further, there are a number of reasons that suggest that the ‘*es*’ in “weather-verbs” and in the ‘es-construction’ is a kind of agent, not a causer. One argument pointing in this direction is the fact that “weather verbs” are atelic, but causers are licensed only in telic contexts (thanks to Beth Levin (p.c.) for providing this argument). It might be, therefore, that the ‘es-construction’ is licensed with verbs that never license causer subjects but which also do not pose an intentionality restriction on their agent subject. If the Icelandic sentence corresponding to (ii) is not acceptable, I would analyze the Icelandic verb ‘*fill*’ as a verb that needs a (not necessarily volitional) agent subject.

(72) weil es das Boot mit Wasser gefüllt hat
because it the boat.ACC with water filled has

(73) a. (??)weil die See das Boot (mit Wasser) gefüllt hat
because the sea the boat (with water) filled has
b. (??)weil (das) Wasser das Boot gefüllt hat
because (the) water the boat filled has

(74) weil wir das Boot mit Fisch gefüllt haben
because we the boat with fish filled have

A further observation about the Icelandic ‘stray accusative construction’ holds for the German counterpart, too. As Sigurðsson (2005) mentions, the Icelandic construction often shows interpretative idiosyncrasies. The same is the case for German. Take the verb ‘*zerbröseln*’, literally meaning “*to crumble*”. This verb undergoes the causative alternation with its literal meaning (cf. (75)). In the ‘es-construction’, the meaning however changes to something like “*fall down on ones face*” (cf. (76)).

(75) a. Er zerbröselt das Brot
he crumbs the bread
b. Das Brot zerbröselt
the bread crumbs

(76) Da hat es ihn zerbröselt
there has it him crumbed
‘Then he fell down on his face’

To conclude, the Icelandic ‘stray accusative construction’ and the German ‘es-construction’ show similar semantic peculiarities and idiosyncrasies, and the same

classes of verbs participate in them. These findings support Haider's proposal that the two have essentially the same syntax.⁵¹

While I have discussed some of the semantic peculiarities found with the construction in both languages, I have so far not said much about the general interpretation of the 'es-construction' and the 'stray accusative/dative construction'. All I have said is that it is close to the interpretation of an anticausative. But if these constructions really involve a thematic external argument in the specifier of Voice, then there should be an interpretational difference between these constructions and real anticausatives. This is indeed the case, as the next section will show. As mentioned over and over in this thesis, within a configurational theta theory, a DP in the specifier of Voice should necessarily get an external thematic role, simply from the fact that it is merged in this position. There is only one way out; if the element in the specifier of Voice does not have any denotation, then no external theta-role can be realized. I will argue that the weather-*es* indeed realizes an external theta-role, but that, due to the fact that weather-pronouns are referentially reduced (due to a reduced ϕ feature set), the bearer of this theta-role remains vague.⁵²

7.4.3 Semantic transitivity

If the German 'es-construction and the 'stray accusative construction' involve a quasi-argument in subject position, this quasi-argument should be visible for theta theory; under a configurational theta theory, it should be assigned an external theta-role due to its syntactic position in the specifier of Voice. One question to ask, then, is what the theta-role of *es/pro* is? In principle, two options are possible; agent and causer. If we

⁵¹ One might find it problematic that there are some Icelandic change-of-state verbs with object case on the theme which never come with an overt external argument. There are two solutions; first, since the stray accusative/dative' construction sometimes has idiomatic meanings, these verbs might be frozen idioms. Further, Jonsson (2003: 145f.) reports that many of these verbs describe events which are necessarily brought about by the weather (e.g. '*brima*' (to foam) (affects only the sea); '*hema*' (to freeze) (affects only rivers)). As mentioned above, "weather-verbs" never have overt subjects in Icelandic.

⁵² Cf. also Szucsich (2006) who argues that, in a comparable construction in Russian, a silent external argument is present which has a theta-role of low referentiality.

leave the answer to this question aside⁵³, we can ask the simpler question of whether we can identify some thematic/semantic effect connected with *es/pro*?

It turns out that we can identify such an effect and, importantly, once again the Icelandic and the German construction behave alike. Sigurðsson (2005) and Platzack (2006) characterise the Icelandic ‘stray accusative construction’ the following way:

Sigurðsson (2005:105-107): “... the peculiar ‘accusative unaccusative’ construction in Icelandic has a special uncontrolled process semantics, a get-passive fate reading of a sort, hence the term Fate Accusative. Importantly, this fate reading is not shared by the transitive or passive counterparts to these [...] predicates. [...] In sum, there is no doubt that all Fate Accusatives relate to semantics of a rather special sort.”

Platzack (2006: 82): “... cases like (...) have an uncontrolled process or fate reading, often with a natural force as a kind of hidden agent.

And Haider (2001) describes the semantics of the German ‘es-construction’ this way:

Haider (2001:5): “... [It] is an impersonal construction with the interpretation of an unidentified cause of the event. It is different from the passive interpretation in which the implicit argument is interpreted as if bound by an existential quantifier.

It seems fair to say that these authors describe quite the same semantic intuition about the respective constructions. I will use the term ‘FATE semantics’ as shorthand for the interpretational characteristic of these constructions.⁵⁴ But, of course, we should get

⁵³ But see fn. 50 for a suggestion.

⁵⁴ Sigurðsson (2005:107) argues that this FATE reading “is largely (but not entirely) specific” to the anticausatives that keep the accusative; it is not existent or at least not forced with those that keep the dative. As he proposes himself on page 107, this might simply be a reflex of the verbal semantics of the dative taking verb. While I develop an account of the FATE reading later, I have nothing further to say about the difference between dative and accusative besides the fact that the FATE reading is an interface phenomenon and, therefore, should indeed be sensitive to lexical semantics.

beyond pure description and find the source of these semantic characteristics. In order to do this, we should try to make this FATE meaning component more tangible.

Recall that the ‘*by itself*’ test is typically taken to diagnose the presence of an external argument (agent, causer). Crosslinguistically, anticausatives, but not passives, license ‘*by itself*’. This is shown once again for English and German below.

- (77) a. The plate broke by itself (anticausative)
 b. The vase was broken (*by itself) (passive)
- (78) a. Die Vase zerbrach von selbst (anticausative)
 the vase broke by SELF
 b. Die Vase wurde (*von selbst) zerbrochen (passive)
 the vase was by SELF broken

As the examples in (79) show, the German ‘*es-construction*’ cannot be modified with ‘*by itself*’ and patterns, thereby, with passives.

- (79) a. weil es den Kahn (??von selbst) ans Land trieb
 because it the boat.ACC by SELF to-the beach drove
 b. Den Kamin hat es (*von selbst) vom Dach geweht
 the.ACC chimney has it by SELF from-the roof blewn

Turning to Icelandic, the examples in (80) (from Ottósson (1989)) show that Icelandic anticausatives with nominative themes allow the ‘*by itself*’-phrase, too.

- (80) a. Dyrnar opnuðust af sjálfum sér
 door.the.NOM opened of self REFL
 b. Rúðan brotnaði af sjálfri sér
 window.glass.the.NOM broke of self REFL

The ‘stray accusative/dative construction’, on the other hand, patterns with the German ‘es-construction’ in not licensing ‘*by itself*’. This is shown in (81) (p.c. Gunnar Hrafn Hrafnbjargarson and Þórhallur Eythórsson.).⁵⁵

- (81) a. Bátinn rak að landi (?af sjálfum sér)
 boat.the.ACC drove at land of self REFL
- b. Strompinn blés af húsinu (*af sjálfum sér)
 chimney.the.ACC blew from house of self REFL
- c. Sögunni lauk (*af sjálfri sér)
 story.the.DAT finished of self REFL

The ‘*by itself*’ test shows, therefore, that in both the ‘es-construction’ and the ‘stray accusative/dative construction’ a thematically active external argument is involved. These constructions are syntactically and semantically transitive.

7.4.4 The origin of the FATE semantics

In the last two sections, I argued that both the German ‘es-construction’ and the Icelandic ‘stray-accusative/dative construction’ are syntactically and semantically transitive. But of course, there are still open questions about these constructions. First, while these constructions differ semantically from anticausatives (as revealed by the ‘*by itself*’ test) they obviously differ from ordinary transitives, too. The latter have a clearly identifiable external argument, while the external argument in the ‘es-construction’ and

⁵⁵ Note that the examples in (79a) and (81a) are nearly paraphrases and both are slightly better than the other examples in (79) and (81). While I have no account for this improvement, it once again shows that the German ‘es-construction’ and the Icelandic ‘stray accusative construction’ have the same syntax and semantics. The ‘*by itself*’ test also has to be taken with care; sometimes it leads to acceptable results even with active and passive sentences, i.e. where an external argument is present (cf. Schäfer (2007) for discussion). What is important is that real anticausatives clearly differ from actives, passives and the ‘es-construction’/‘stray accusative construction’ in how the ‘*by itself*’ phrase can be understood; only in anticausatives can it mean that the theme underwent the change of state without the intervention of an external force.

the ‘stray accusative/dative construction’ is quite intangible. Further, we still need an answer to what the origin of the special FATE-semantics is which we find with the two constructions.⁵⁶

I want to argue that these two questions are quite closely related. Specifically, I want to propose that the FATE-semantics are due to the abstractness of the external argument in the constructions under consideration.⁵⁷ Concretely, I propose that German ‘*es*’ (and its Icelandic covert counterpart) is referentially defective (as witnessed by the fact that we cannot question it and we cannot focus it with the addition of intensifying ‘*selbst*’ (self)). I assume that the measure for referentiality is the φ -feature content of a DP. If the φ -feature content of a DP is reduced, then the referentiality of the element is reduced, too.

This gives us the hierarchy of referential expressions in (82). An R-expression is made up by a categorial D-feature plus a fully specified set of φ -features plus a category-neutral Root. Fully referential pronouns are made up of a categorial D-feature plus a fully specified set of φ -features. In principle, any subset of φ -feature specification should be possible (cf. Reuland 2001). I assume that weather-pronouns only have a reduced set of φ -features; specifically, I propose that they have a number-feature but no

⁵⁶ Svenonius does not discuss the FATE semantics. Sigurðsson (2005:106f) proposes that ‘the stray accusatives’ are syntactically unaccusative but involve “a special fate or uncontrolled process feature to be present or active in their clausal structure” He goes on to argue that this feature “is a voice feature of a sort, blocking or ‘turning off’ the usual voice feature that otherwise introduces AGENT in both transitives and passives.”

Platzack (2006:82), on the other hand, assumes, similar to Haider (2001), that the ‘stray accusative construction’ involves “an invisible Agent in Spec-vP which is probed by T.” He makes this invisible agent responsible for the FATE-semantics when he says: “we will represent this element as DP_{FATE} ”.

It seems to me that assuming a semantic FATE-feature in the syntax does not lead us beyond a description of the facts. Specifically, such accounts cannot explain why and under which circumstances the FATE-semantics show up.

⁵⁷ There is one caveat necessary. The FATE accusative is often replaced by nominative in colloquial Icelandic (p.c. Halldór Sigurðsson). If it turns out to be generally true that the FATE semantics do not disappear under this case shift, then the proposed parallel between Icelandic and German is no longer tenable. The proposed analysis then can only be applied to the German ‘*es*-construction’

person-feature and no gender-feature.⁵⁸ Finally, a variable has only a D-feature but no valued ϕ -features at all.

(82) *The referentiality scale*

| | | | |
|--|-----------------|-----------------|------------------|
| R-expression | pronoun | weather-pronoun | variable |
| {D {P, N, (G)}} + $\sqrt{\text{Root}}$ | {D {P, N, (G)}} | {D, {N}} | {D {uP, uN, uG}} |

Note that, in the syntax, only these feature sets are present. At PF, these feature sets are spelled out in a language specific way. So, while German spells out the set {D, {N}} as ‘*es*’, Icelandic spells it out as *zero/pro*. Further, note that, in German, ‘*es*’ is also used to spell out the fully specified feature set {D, {3. person, singular, neuter}}. This means that the form ‘*es*’ is ambiguous between the reduced weather-pronoun and a fully referential pronoun.⁵⁹ At LF, these feature sets have to be interpreted. Interpretation in turn is a precondition to realize a theta-role. Above, I proposed a post-syntactic mode of theta-role assignment repeated below:

(83) Configurational Theta-Role Assignment:

The Denotation of a DP *X* bears a specific thematic relation *R* (*R* = Agent, Causer, Theme, ...) to an event *E* due to the specific syntactic relation of *X* to the syntactic structure expressing or modifying *E*.

I concluded that an unbound variable cannot be assigned a theta-role simply due to the fact as it does not have any denotation. Turning to the weather-pronoun, it is referentially reduced but not totally defective. I propose, therefore, that it can be assigned an external theta-role.^{60/61} However, the concrete bearer of this theta-role

⁵⁸ This is just for expository reasons. I have not investigated the exact feature make-up of weather-pronouns, especially not under the pronominal feature geometry proposed in Harley & Ritter (2002).

⁵⁹ Similarly, I would propose that in Italian the form ‘*si*’ is ambiguous between a referentially fully defective variable and an impersonal pronoun with a reduced, but not empty ϕ -feature set (cf. also Dobrovie-Sorin (1998), D’Alessandro (2003); thanks to Hubert Haider (p.c.) for raising this point).

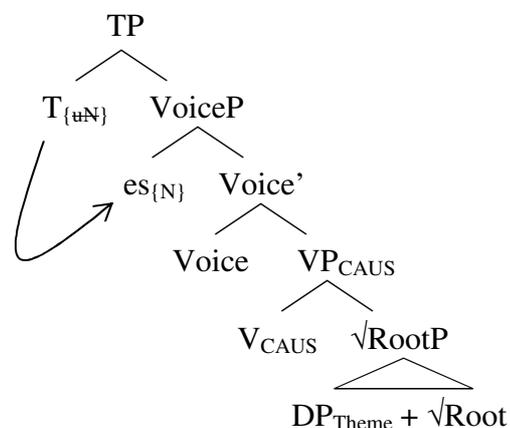
⁶⁰ I do not think that it makes sense to assume that there are reduced theta-roles.

⁶¹ As mentioned in fn. 50, there are reasons to assume that it is assigned the agent-role. On the one hand, we find it with non-telic “weather-verbs” and telicity is a precondition for the licensing of causers. On the

remains abstract due to the referential defectiveness of the weather-pronoun. This, I claim, is the reason for the FATE semantics. Specifically, I propose that the FATE semantics arise at the C-I interface. They are the result of the fact that an external theta-role is assigned but the referent of this theta-role cannot be made concrete.

For completeness, I give the formal derivation of the German ‘es-construction’ in (84). The reduced pronoun is merged in the external argument position. If Tense is reduced in the same way, it can check its ϕ -feature against the subject; we get verbal agreement with the reduced subject pronoun and, in turn, nominative on the subject pronoun; the theme gets dependent accusative.⁶²

(84) weil es die Tür aufdrückte
because it the door open-pushed



As mentioned, I assume that the same subject that we find in the ‘es-construction’ shows up with ordinary “weather-verbs”. One might wonder, therefore, whether a “weather-verb” construction such as in (85) involves the same kind of FATE semantics?

(85) Es regnete.
it rained

other hand, the ‘es-construction’ allows the addition of ‘durch’-PPs modifying the causative event as in (i). This, again, is a property known from agent subjects as mentioned in section 4.1.1.3.

(i) Es hat den Kahn durch die starken Winde ans Land getrieben
It has the boat through the strong winds ashore driven

‘The boat drove ashore from the strong wind’

⁶² Alternatively, one could assume that number on ‘es’ is valued, while the other ϕ -features are unspecified. The result on Tense would be default agreement.

The answer is probably no. However, I think that “weather-verb” constructions in fact support my proposal that the FATE semantics originate at the C-I interface. As (86) shows, “weather-verbs” can take objects and, then (it seems to me), they indeed carry the FATE-semantics known from the ‘es-construction’.

- (86) Dann regnete es 1000 Euro Scheine vom Dach
 then rained it 1000 Euro notes from-the roof

It is clear that, in the above example, a human agent is lurking behind the scene. I propose, therefore, that the FATE semantics typically occur if the external argument remains underspecified and if, in principle, a more specified external argument would be compatible with the event. This is exactly the situation that we found in the case of the ‘es-construction’ with change-of-state verbs which can alternatively form full transitive sentences.

7.5 Conclusion

In this final chapter of this thesis, I developed the hypothesis that reflexive morphology on marked anticausatives is a way to deactivate the capacity of Voice to introduce a theta-role, i.e. it is a way to *derive* an expletive Voice.

In order to develop this theory, a shift in the perspective on theta-role assignment was necessary. While I had assumed in earlier chapters that theta-roles are coded by syntactic features, I argued at the beginning of this chapter that such an account prevents us from understanding the mechanisms behind anticausative morphology simply because it cannot explain why we find the specific anticausative morphology that we actually do. Further, under a strict configurational theta theory, thematic roles should ideally be determined solely by merging of arguments in specific syntactic positions. If such a theory which provides us with a one-to-one mapping between syntactic positions and theta-roles is feasible, then thematic features are superfluous and should not exist.

Concentrating on external arguments, they acquire their thematic role due to the fact that they are merged in the specifier of Voice. Voice is combined with a (specifically decomposed) verbal structure and the argument associated with Voice (the explicit or implicit external argument) is interpreted as bearing the external theta-role of this event. Under this perspective, anticausative morphology then must be seen as a way to prohibit the assignment of an external theta-role.

Next, I concentrated on the fact that, while marked anticausatives are syntactically transitive, they are semantically intransitive. The reflexive pronoun is a syntactic argument of the anticausative verb but it is not assigned a theta-role. Further, unaccusativity tests suggested that the reflexive pronoun is syntactically the external argument while the theme is the internal argument. This dichotomy between syntactic and semantic transitivity led me to the conclusion that theta-role assignment – while determined by structural relations – must happen post-syntactically at the interpretative component. Specifically, I argued that theta-roles are assigned to (or better realized by) the *denotation* of arguments merged in specific syntactic positions. I further argued that, in marked anticausatives, the reflexive pronoun does not realize the external theta-role simply because it remains without denotation. Reflexive pronouns (variables in the conception of the binding theory applied in this chapter) are referentially defective and are interpretationally dependent on a c-commanding antecedent. Since the reflexive pronoun is merged in the highest argument of the change-of-state event, it remains without antecedents and, in turn, without denotation; therefore, no external theta-role can be assigned (or realized).

Under this perspective, the violation of Binding Principle A is not so much a syntactic but an interpretative phenomenon; the reflexive pronoun can remain unbound (as long as it gets its unvalued ϕ -features valued via Tense) if this does not lead to interpretative problems at the C-I interface. An unbound reflexive, which arguably can only show up in the highest argument position of an event, cannot realize the external theta-role. This, in turn, means that it can only show up in the context of events which can be conceptualized as happening without a thematic external argument. As argued during the whole thesis, this is only possible with verbs undergoing the causative alternation (and in the case of generic middles as discussed in chapter 6).

In the second part of this chapter, I gave further motivation for the proposed derivation of expletive Voice as well as for the post-syntactic mode of theta-role assignment. I first derived the blocking of the *unintentional causer* dative in the context of German marked anticausatives from the general conception of the binding theory assumed. Since such a dative would antecede the reflexive pronoun in SpecVoice, the reflexive would realize the external theta-role. But this would make it impossible to integrate the causer dative into the event as it is not possible to have two external arguments for one event. The fact that, in the Romance languages, the dative causer is not blocked in the context of reflexively marked anticausatives was explained by the clitic nature of the reflexive element in these languages which can only be anteceded by a nominative subject. I also showed that neither scrambling nor raising of the theme to a position to the left of the reflexive nor the option of long-distance binding undermine the derivation of expletive Voice proposed.

Finally, I discussed the German ‘es-construction’ and its Icelandic counterpart, the ‘stray-accusative construction’. I argued that these constructions are semantically intermediate between (marked) anticausatives and transitive constructions due to the fact that they involve an external argument of reduced ϕ -feature content. At the C-I interface this external argument is detectable and gets assigned the external theta-role but, due to the reduced ϕ -feature content, its denotation remains vague or underspecified; this leads to the specific FATE-interpretation associated with these constructions.

Appendix

Inherent reflexive verbs

In this appendix, I shortly discuss inherent reflexive verbs in German. My goal is neither to give a comprehensive discussion of the phenomenon of inherent reflexivity nor to provide a theory of inherent reflexive verbs but just to show that German inherent reflexives differ syntactically from reflexive anticausatives. Specifically, the full referential DP in inherent reflexives is an external argument. This is against the relatively widely-held belief that (inherent) reflexive verbs are unaccusative (cf. e.g. Marantz (1984), Everaert (1986), Grimshaw (1990), Pesetsky (1995), among others). However, as Reinhart & Siloni (2004) showed for a number of languages, this assumption is empirically not justifiable. The short discussion of German inherent reflexive verbs will support this conclusion mainly on the basis of passivization data.

The term '*inherent reflexive verb*' is typically used to describe verbs that necessarily occur with a reflexive pronoun which cannot be replaced by a full referential DP. A German example of an inherent reflexive verb is '*wundern*' (to wonder) in (1).

- (1) a. Hans wundert sich über das Wetter
John wonders REFL about the weather
- b. *Hans wundert Maria über das Wetter
John wonders Mary about the weather
'John wonders (*Mary) about the weather'

A first indication that inherent reflexives cannot have the same syntax as marked anticausatives comes from examples where the irreplaceable reflexive pronoun is embedded in a PP. This is, for example, the case with the idiomatic string '*etwas von sich geben*' (to dole/put something out, to utter) in (2).

- (2) Hans hat heute viel Unsinn von sich/*Peter gegeben
 John has today many crap from REFL/Peter given
 ‘John doled out lots of crap today’

Besides the fact that the obligatory reflexive pronoun is embedded in a PP, the subject DP in (2) is also able to license agentive/intentional adverbs such as ‘*absichtlich*’ (on purpose) as well as purpose clauses.

Further, while many inherent reflexives do not assign intentionality to their full referential argument (typically a human DP) some of them, nevertheless, seem to be agentive as they license imperatives.

- (3) a. Schäm(e) dich !
 ashamed you
 ‘Be ashamed!’ (Shame on you!)
- b. Du solltest dich schämen!
 you should you ashamed
 ‘You should be ashamed’

Further, recall from chapter 5 (section 5.3.10) that, in the case of reflexive anticausatives, the relative order of the theme DP and the reflexive pronoun has interpretative effects. The theme can get a weak reading only if it follows the reflexive pronoun; if the theme precedes the reflexive pronoun a weak reading is not possible. Inherent reflexives differ from marked anticausatives in that a weak reading of the nominative DP in inherent reflexives is possible under both orders. This is shown in (4) with a negative indefinite. The fact that (4a) is acceptable (even under a non-partitive reading of the quantifier) suggests that, in inherent reflexives, the nominative DP and not the reflexive pronoun occupies the specifier of Voice.

- (4) a. Ich glaube dass niemand sich wundern würde wenn ...
 I think that no-one REFL wonder would if
- b. Ich glaube dass sich niemand wundern würde wenn ...
 ‘I think that no one would wonder if ...’

The study by Kemmer (1993) showed that there is a huge class of verbs which are quite similar to inherent reflexives although these verbs can also be constructed in a transitive, non-reflexive way, too. These are the so-called ‘middle verbs’ (or ‘medium verbs’). These verbs come from a number of related semantic classes which all represent events which carry “*inherent in their meaning [...] the lack of expectation that the two semantic roles they make reference to will refer to distinct entities*” Kemmer (1993:58). So called grooming verbs such as ‘wash’ or ‘dress’ form one main subgroup of the class of middle verbs. One reason to assume that these verbs are closely related to strictly inherent reflexive verbs comes from the observation that, in languages with a two-form reflexive system, normal transitive verbs are typically reflexively constructed with a morphologically heavy reflexive marker while both inherent reflexive as well as middle verbs are constructed with a morphologically light reflexive marker. Dutch is a case in point.

- (5) a. Jan zag zichzelf
 Jan saw REFL-self
- b. Jan heeft zich aangekleed
 Jan has REFL dressed

German, in contrast, has a one-form reflexive system, i.e. with all three types of verbs (fully transitive, middle and inherent reflexive verbs), the simple reflexive pronoun ‘*sich*’ can be used. (The intensifier ‘*selbst*’ (self) is never obligatory but can optionally be added to real transitive verbs for special contrastive efforts). Nevertheless, we find syntactic differences comparable to the one in (5) in German, too (cf. for example Kemmer (1993) or Kaufmann (2001)). For example, in the case of transitive verbs, the reflexive object pronoun can be coordinated with a further referential DP (cf. (6)); in the case of strictly inherent verbs, this is completely impossible (cf. (7)) and, in the case of middle verbs, this is quite marked (cf. (8a)). In order to make conjunction possible with the latter class of verbs, the intensifier ‘*selbst*’ must be added which makes clear that the verbs is expressed not in its middle use but in its plain transitive use (cf. (8b)).¹

¹ A further test which suggests that middle verbs are close to inherent reflexives comes from interpretational properties in the case of first or second person pronouns in subject position. In such a

- (6) Er sieht sich und seinen Vater im Spiegel an (transitive)
 He sees REFL and his father in-the mirror on
 ‘He looks at himself and his father in the mirror’
- (7) *Er ärgert sich und seinen Vater (inherent reflexive)
 He gets-angry REFL and his father
 ‘He becomes angry and angers his father’²
- (8) a. ??Er wäscht sich und das Kind (middle verb use)
 He washes REFL and the child
- b. Er wäscht sich selbst und das Kind (transitive use)
 He washes REFL self and the child
 ‘He washes himself and the child’

It turns out that there is one further clear context that shows, on the one hand, that inherent reflexive verbs and middle verbs are closely connected and, on the other hand, that, in German, inherent reflexives and middle verbs are clearly not unaccusatives. That is, all these verbs allow a construction called ‘reflexive passive’, i.e. they can undergo passive formation under retention of the accusative reflexive pronoun. Two preliminary examples are given below.^{3/4}

context, real transitive verbs allow a strict and a sloppy reading while middle verbs only license the sloppy reading suggesting that they strongly tend to have their object bound by the subject in accordance with the citation from Kemmer (1993) above in the text.

- (i) Nur du wäschst dich (sloppy/?*strict)
 only you wash you
- (ii) Nur du verteidigst dich (sloppy/strict)
 only you defend you

² This sentence has an acceptable reading ‘He angers himself and his father’ which of course does not involve the middle verb use but the real transitive use under a reflexive construal of the verb ‘*ärgern*’.

³ Note that this is not a reflexive passive as it is found for example in French (cf. for example Dorbrovie-Sorin (2004)) where a reflexive clitic itself is the morphological indication of passive formation (cf. (i) and (ii)).

- (9) a. Was da auf der Konferenz alles von sich gegeben wurde
 what there at the conference all from REFL given becomes
- b. Jetzt wird sich gewaschen!
 now becomes REFL washed

Note that (9a) is a personal passive with a nominative theme ('was' (what)) while (9b) is an impersonal passive which lacks a nominative argument.

This construction was ignored or disregarded for a long time. For example, Haider (1985) assumed that the passivization of reflexive structures always leads to ungrammaticality (cf. also Reis (1982)). Others assumed that this construction is only possible if it expresses an imperative request as in (9b) above. Later, however, it was recognized that this view is not correct.⁵ First examples that show that the reflexive passive is possible and is not restricted to such imperative contexts can be found in Abraham (1986) and Sells, Zaenen & Zec (1987). Plank (1993) and Vater (1995) are the first studies which investigate the reflexive passive in more depth and which show that the construction is generally accepted. For example, Plank (1993) asked thirty subjects to judge (among other examples) the sentence '*Hier wird sich täglich gewaschen*' (Here is REFL daily washed) on a scale from 1 to 4. Twenty four subjects rated the sentence with 1, four with 2 and two with 3. He further showed that this construction is not only

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- (i) Il s'est traduit trois romans
 it REFL translated three novels
 'Three novels were translated'
- (ii) Le crime s'est commis pendant les heures de bureau
 The crime is REFL committed during the hours of office
 'The crime was committed during office hours'

Instead, the German construction is an ordinary passive construction built up by the copula '*werden*' (become) and a passive participle which keeps, in addition, the reflexive pronoun which is already present in the active counterpart of these sentences.

⁴ Although Dutch allows impersonal passive formation it does not allow the formation of Reflexive Passives (p.c. Martin Everaert). As shown by Åfarli (1992:128), Norwegian middle verbs allow to some extent passive formation as shown in (i).

- (i) ???Det vart vaska seg i elva av alle
 it was washed REFL in-the river by everybody

⁵ An overview of the literature on the German Reflexive Passive can be found in Helbig (2004).

used to convey requests but is found in embedded and matrix sentences expressing different illocutionary force. He concludes, therefore, that “the status of passives of reflexives is not at all dubious” (Plank 1993:136). Vater (1995) also investigates reflexive passives in a questionnaire study and finds mixed acceptance; on the one hand not all speakers like reflexive passives in the first place; on the other hand some of his examples were accepted by most speakers while others were refuted by most speakers. The latter fact suggests that there are lexical prerequisites for the formation of the reflexive passive.

Ágel (1997) observes that all good examples of reflexive passives that can be found in the literature are formed with either inherent reflexive verbs or with verbs subsumed by Kemmer (1993) under the notion ‘middle verb’. A further factor which seems to affect the formation of reflexive passives is the agentivity involved in the verbal event (as Ágel also observes).

Ágel’s (1997) claim that only ‘middle verbs’ in the sense of Kemmer (1993) allow the formation of reflexive passives is, if true, interesting in a number of respects. First, dividing the middle verbs from reflexively-used transitive verbs in German, thereby corroborating the relevance of this lexical semantic partition, would constitute a syntactic test.⁶ Second, it would show that the use of the reflexive pronoun ‘*sich*’ in inherent reflexives and middle verbs is different from the prototypical use of the reflexive pronoun in the case of real argument binding with non-middle verbs. Third, it would show that inherent reflexive verbs and ‘middle verbs’ differ from reflexive anticausatives in that the reflexive pronoun with the former class of verbs is not an external argument. This, in turn, means that inherent reflexives and middle verbs cannot be unaccusative; the full DP that shows up in the active use must be an external argument as it is absorbed and becomes implicit in the passive.

As it turns out, Ágel’s (1997) claim is indeed correct. As mentioned, Kemmer divides the class of middle verbs into a number of well-defined subclasses. For a selected number of these subclasses, I selected one verb and checked via Google-searches whether it forms the reflexive passive. The result was positive for each of the subclasses. As a comparison, I checked for a number of non-middle verbs whether they

⁶ Recall that, in languages with two reflexive pronouns of different phonological weight (e.g. Dutch), the choice of the reflexive pronoun provides exactly this.

form the reflexive passive. It turned out that these verbs hardly ever form reflexive passives.⁷ Below I list some of these results.

I. grooming verbs: e.g. ‘*sich waschen*’ (to wash)

Using the search string “*wird sich gewaschen*” I found 28 matches on Google which were passive constructions. Two of them are listed below (in fact, the second example involves four middle verbs which are all realised as passives).

(10) Nein, erst **wird sich gewaschen** und zwar draussen im Schnee
 No first gets REFL washed and namely outside in-the snow

(11) Dann **wird sich gewaschen**, schön gemacht, umgezogen
 Then gets REFL washed, nice made, clothes-changed
 und die Zähne geputzt
 and the teeth brushed

II. verbs of change in body posture: e.g. ‘*sich hinsetzen*’ (to sit down)

The search string “*wird sich hingesetzt*” yielded 16 matches that were passive constructions.

(12) Danach **wird sich hingesetzt** und den Nachbarn ausgefragt
 Later gets REFL sit-down and the.ACC neighbour asked
 nach wohin, warum, wie lange usw.
 about whereto, why, how long etc.

(13) Daheim angelangt **wird sich hingesetzt**
 at-home arrived gets REFL sit-down
 auf die teure Ledergarnitur
 on the expensive leather-upholstery

⁷ Note that, in the case of middle verbs, I only used one of a number of possible search strings while in the case of real transitive verbs I checked all conceivable search strings which differed in word order and tense.

III. verbs of non-translational motion: e.g. 'sich verbeugen' (to bow)

The search query "*wird sich verbeugt*" yielded 12 matches.

(14) Auf der Bühne **wurde sich verbeugt** und verabschiedet.
on the stage gets REFL bowed and said-good-bye

(15) Der Fight beginnt, nachdem **sich verbeugt wurde**
the fight starts, after REFL bowed was

IV. verbs of translational motion: e.g. 'sich bewegen' (to move)

The search string "*wird sich bewegt*" yielded 19 matches.

(16) Da **wird sich bewegt** und geschwitzt und ...
there gets REFL moved and sweat and

(17) ... im Musikunterricht **wird sich bewegt**,
in-the music-class gets REFL moved,
im Kunstunterricht wird der Pinsel geschwungen ...
in-the art-class gets the brush swung

V. verbs of antagonistic events: e.g. 'sich prügeln' (to trash)

The search string "*wird sich geprügelt*" yielded 30 matches.

(18) Es **wird sich geprügelt**, geschlagen und getreten.
it gets REFL trashed, beaten and kicked

(19) Da **wird sich geprügelt**, der geliebte Nachbars-Hund entführt,
there gets REFL trashed, the beloved neighbour's dog kidnapped

VI. verbs of affectionate actions: e.g. 'sich küssen' (to kiss)

The search string "*sich geküsst wird*" yielded 5 matches.

(20) ... zuerst **wird sich geküsst**, später dann geheiratet
 first gets REFL kissed, later then married

(21) Zum Abschied und zur Begrüßung **wurde sich geküsst**
 at-the farewell and at-the reception was REFL kissed

VII. social/encountering actions: e.g. 'sich treffen' (to meet)

The search string "*wird sich getroffen*" yielded 76 matches.

(22) es **wird sich getroffen** und gezankt ...
 it gets REFL met and quarrelled

(23) Aber auch privat **wird sich getroffen**, sei es ...
 but also privately gets REFL met, be it ...

VIII. verbs of interlocution: e.g. 'sich unterhalten' (to talk to s.o.)

The string "*sich unterhalten wurde*" yielded 14 matches.

(24) Das Thema über das **sich unterhalten wurde** lautete PC Zeitungen.
 the topic about which REFL talked gets was PC journals

(25) Worüber **sich unterhalten wurde**, haben wir nicht erfahren,
 about-what REFL talked gets have we not found-out

IX. verbs of emotion: e.g. 'sich wundern' (to wonder)

The search string "*wird sich gewundert*" yielded 39 matches.

(26) Und dann nach Eintritt des Todes **wird sich gewundert**
 and then after occurrence of.the death gets REFL wondered

- (27) Und dann **wird sich gewundert**, warum man keinen Schritt weiter kommt
and then gets REFL wondered why one no step further comes

X. emotive speech actions: e.g. ‘*sich beschweren*’ (to complain (about))

The search string “*wurde sich beschwert*” yielded 34 matches.

- (28) Es **wurde sich beschwert** über die vielen Diskussionen
it got REFL complained about the many discussions

- (29) In vielen Reviews **wurde sich beschwert**, dass
in many reviews was REFL complained that

XI. simple cognitive events: e.g. ‘*sich überlegen*’ (to consider)

The search string “*wird sich überlegt*” yielded 5 matches.

- (30) Es **wird sich überlegt**, wie man die Zuschauer entschädigen kann.
it gets REFL considered how one the spectators compensate can

- (31) ... und es **wird sich überlegt**, ob ...
and it gets REFL considered whether

XII. verbs of perception: e.g. ‘*sich anschauen*’ (look at)

The search string “*wird sich angeschaut*” yielded 7 matches.

- (32) auch das Opel-Problemforum **wird sich angeschaut**
also the Opel-problem-forum gets REFL looked at

- (33) Dann **wird sich angeschaut**, wie ...
then gets REFL looked at how

XIII. intentive verbs: e.g. ‘sich wünschen’ (to desire)

The string “*wird sich gewünscht*” yielded 4 matches.

(34) Auch ein Kino **wird sich gewünscht**, genau wie Konzerte, ...
 also a cinema gets REFL desired exactly like concerts

(35) ... den Job zu wechseln **wird sich gewünscht**.
 the job to change gets REFL desired

XIV. ordinary transitive and ditransitive verbs:

I checked the following verbs both with reflexive and reciprocal pronouns and in different word orders (for matrix and embedded sentences) and in the present as well as in the past tense.

schneiden (cut):

for example “*wird sich (selbst) geschnitten*” - 0 matches.

zerstören (destroy):

for example “*sich (selbst) zerstört wird*” - 0 matches.

töten (to kill):

for example “*wurde sich (selbst) getötet*” - 0 matches.

umbringen (to kill):

for example “*wird einander umgebracht*” - 2 matches

(36) Es wird **gesoffen** und es **wird sich umgebracht**
 it becomes boozed and it gets REFL killed

(37) Um **uns herum** **wird sich umgebracht** ...
 around us around gets REFL killed

verletzen (to hurt):

for example “*wird sich (selbst) verletzt*“ - 1 match

(38) es **wird sich verletzt**, es wird probiert, getestet, therapiert
 it gets REFL hurt, it becomes tried, tested, therapy-made

sehen (to see):

for example “*sich (selbst) gesehen wurde*” - 0 matches.

loben (to praise):

for example “*wird einander gelobt*” - 0 matches.

beschuldigen (to accuse):

for example “*wurde sich (selbst) beschuldigt*” - 0 matches.

angreifen (to attack):

for example “*einander angegriffen wird*” - 0 matches.

geben (to give):

for example “*wurde sich (selbst) gegeben*” - 2 matches.

(39) Ein Leitbild **wurde sich gegeben** und
 a overall concept was REFL given and

(40) Eine Vereinssatzung **wurde sich gegeben** und
 a statute was REFL given and

This short investigation sustains the claim by Ágel (1997) that the reflexive passive in German is licensed exactly with the class of middle verbs identified in Kemmer (1993).

This concludes my discussion of inherent reflexive and middle verbs. The fact that these verbs undergo passive formation clearly indicates that they are not unaccusative and that they involve a thematic external argument. Of course, a large number of

questions remain to be answered about inherent reflexives in general and about the reflexive passive in particular. For example, it is absolutely unclear whether and (if yes) how the reflexive pronoun is anteceded as there is often no overt DP at all present in the reflexive passive. What does this, in turn, mean for the role of the reflexive in the active use? Further, something has to be said about case assignment as the reflexive pronoun is arguably accusative in both the active and the passive. I leave these interesting questions for future research.

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Deutsche Zusammenfassung

Diese Dissertation beschäftigt sich mit antikausativen Verben, i.e. mit der intransitiven Variante von Verben, die an der kausativen Alternation teilnehmen. Der Forschungsschwerpunkt liegt dabei auf der speziellen antikausativen Morphologie, die man sprachübergreifend mit einer Teilklasse der antikausativen Verben findet. Das Phänomen wird hier mit deutschen Beispielen erläutert.

Die Sätze in (1a) und (2a) sind mit transitiven, kausativen Verben gebildet. Die Sätze in (1b) und (2b) hingegen sind mit den intransitiven, antikausativen Gegenstücken dieser Verben gebildet. Wie die Beispiele zeigen, hat das Deutsche zwei Gruppen von antikausativen Verben. Die eine Gruppe – hier repräsentiert vom Verb ‘*öffnen*’ in (2b) – muss in ihrem antikausativen Gebrauch notwendigerweise zusammen mit dem reflexiven Pronomen ‘*sich*’ auftreten. Die andere Gruppe – hier repräsentiert durch das Verb ‘*zerbrechen*’ in (1b) – erscheint hingegen notwendigerweise ohne das Reflexivum. In ihrem transitiven Gebrauch unterscheiden sich die beiden Verbgruppen nicht. Ich nenne Verben, die sich wie ‘*zerbrechen*’ in (1b) verhalten, *unmarkierte Antikausative* (*unmarked anticausatives*). Verben, die sich wie ‘*öffnen*’ in (2b) verhalten, nenne ich *(reflexiv) markierte Antikausative* (*(reflexively) marked anticausatives*).

- (1) a. Hans zerbrach die Vase
b. Die Vase zerbrach (*sich)
- (2) a. Hans öffnete die Tür
b. Die Tür öffnete *(sich)

Die zentralen Fragen dieser Arbeit sind die Folgenden: Warum finden wir diese zwei Klassen von antikausativen Verben? Unterscheiden sich diese zwei Klassen abgesehen von ihrer unterschiedlichen Morphologie noch in anderer Hinsicht? Was ist die genaue

Funktion des Reflexivums in markierten Antikausativen, wo doch reflexive Pronomen normalerweise dazu dienen, Bindung zwischen zwei Argumenten auszudrücken?

Das Deutsche ist mit seinen zwei morphologischen Klassen von antikausativen Verben keineswegs eine Ausnahme; eine ähnliche Zweiteilung lässt sich in vielen anderen Sprachen finden. Auch wenn das Deutsche in dieser Arbeit eine zentrale Rolle spielt, so ist die Konzeption dieser Arbeit doch klar sprachvergleichend angelegt; neben dem Deutschen werden hauptsächlich markierte und unmarkierte Antikausative in den Balkansprachen und den Romanischen Sprachen besprochen. Diese Arbeit setzt sich somit das Ziel, Licht in jene grundlegenden linguistischen Mechanismen zu bringen, die der sprachübergreifenden Aufspaltung von antikausativen Verben in zwei morphologische Klassen zugrunde liegen.

Bei meiner Untersuchung stütze ich mich auf folgende theoretische Grundannahmen: Ich nehme an, dass Verben syntaktisch dekomponiert sind und aus einer kategorie-neutralen Wurzel bestehen, die sich mit einer Reihe von verbalen Projektionen verbindet (Distributed Morphology; cf. Halle & Marantz (1993), Marantz (1997) neben anderen). Ausserdem nehme ich an, dass die thematische Rolle eines Arguments syntaktisch determiniert ist durch die spezifische Position, die das Argument in der dekomponierten Syntax des Verbes einnimmt (Configurational Theta Theorie, cf. Hale & Keyser (2002), Borer (2005), Ramchand (2006) neben anderen). Theorien, die sich auf diese Annahmen stützen, verschieben einen Großteil jener Informationen, die traditionell als lexikalische Informationen angesehen wurden, an die Schnittstelle zwischen Syntax und allgemeiner Kognition (C(onceptual)-I(ntentional) interface; vgl. Chomsky (1995)).

Die Arbeit ist wie folgt aufgebaut:

Kapitel 1 und Kapitel 2 beschäftigen sich mit der Frage, ob sich die zwei Klassen von Antikausativen semantisch unterscheiden. In **Kapitel 1** behandle ich markierte und unmarkierte Antikausative im Italienischen, Französischen und Griechischen. Ich erkunde dabei vor allem die Behauptung aus der Literatur, dass sich in diesen Sprachen markierte und unmarkierte Antikausative in ihren aspektuellen Eigenschaften unterscheiden. Es zeigt sich jedoch, dass die interpretativen Unterschiede nicht immer

so eindeutig und systematisch sind wie in der Literatur behauptet. Vor allem aber zeigt sich, dass man im Deutschen keine vergleichbaren Unterschiede zwischen markierten und unmarkierten Antikausativen findet.

In **Kapitel 2** identifiziere ich einen semantischen Unterschied zwischen markierten und unmarkierten Antikausativen im Deutschen. Dieser Unterschied betrifft die möglichen Interpretationen, die ein freier Dativ im Kontext antikausativer Verben haben kann. Ich zeige, dass ein freier Dativ im Kontext unmarkierter Antikausative zwei mögliche Interpretationen hat, nämlich entweder als Benefaktor bzw. Malefaktor des verbalen Ereignisses (Dativus (in)commodi) oder als unabsichtlicher Verursacher des verbalen Ereignisses. Im Kontext markierter Antikausative hingegen ist nur die Interpretation als Benefaktor bzw. Malefaktor des verbalen Ereignisses möglich, während die Interpretation als unabsichtlicher Verursacher des verbalen Ereignisses blockiert ist. Dieser interpretative Unterschied steht offensichtlich im Zusammenhang mit der Präsenz bzw. Absenz des reflexiven Pronomens. Ich diskutiere und verwerfe die Hypothese, dass markierte Antikausative ein implizites externes Argument besitzen, das die Interpretation des Datives als unabsichtlicher Verursacher blockiert. Weder unmarkierte noch markierte Antikausative zeigen irgendeinen Reflex eines solchen impliziten Arguments. Kapitel 2 deckt außerdem einen klaren Unterschied zwischen markierten Antikausativen im Deutschen auf der einen Seite und markierten Antikausativen in den Romanischen Sprachen sowie den Balkansprachen auf der anderen Seite auf. Die Romanischen Sprachen und die Balkansprachen erlauben genau dieselben zwei Interpretationen für einen freien Dativ im Kontext von unmarkierten Antikausativen wie das Deutsche. Anders als im Deutschen jedoch erlauben diese Sprachen auch im Kontext markierter Antikausative beide Interpretationen. Kapitel 2 führt somit zu zwei Fragen: Wie kann die antikausative Morphologie im Deutschen die Interpretation des freien Datives als unabsichtlicher Verursacher des verbalen Ereignisses blockieren und warum hat die antikausative Morphologie in den anderen Sprachen nicht denselben Effekt?

Mit dem Ziel, eine Antwort auf diese Fragen zu finden, bespreche ich in **Kapitel 3** ausführlich die Syntax und Semantik des freien Datives unter den beiden Interpretationen

als Benefaktor/Malefaktor bzw. als unabsichtlicher Verursacher des Ereignisses. Bezüglich der Frage nach der Ursache für den Unterschied zwischen Deutsch und den anderen Sprachen stelle ich die Hypothese auf, dass dieser sich in einem phrasenstrukturellen Unterschied der antikausativen Morphologie dieser Sprachen begründet. Das deutsche Reflexivum '*sich*' ist ein volles Pronomen, also eine maximale Projektion, während sein Gegenstück in den Romanischen Sprachen und den Balkansprachen entweder ein reflexives Klitikum oder ein verbaler Kopf ist. Eine genaue Diskussion, warum dieser phrasen-strukturelle Unterschied dazu führen soll, dass die Interpretation des Dativs als unabsichtlicher Verursacher des Ereignisses im Kontext markierter Antikausative des Deutschen blockiert ist aber nicht in den anderen Sprachen, wird auf Kapitel 7 verschoben.

Kapitel 4 behandelt die Syntax der kausativen Alternation. Ich argumentiere, dass weder Theorien, die einen derivationalen Prozess der Dekausativierung annehmen, noch Theorien, die einen derivationalen Prozess der Kausativierung annehmen, allen Eigenschaften, die die kausative Alternation in den verschiedenen Sprachen zeigt, gerecht wird. Anschließend führe ich die Theorie der kausativen Alternation von Alexiadou et al. (2006 a, b) ein, die keinen direkten derivationalen Zusammenhang zwischen kausativen und antikausativen Verben annimmt, sondern stattdessen vorschlägt, dass beide Varianten von einer gemeinsamen kategorie-neutralen Wurzel abgeleitet werden. Ich zeige weiterhin, dass sich kausative und antikausative Verben nicht in ihrer Ereignis-Dekomposition unterscheiden und motiviere damit die Sichtweise von Alexiadou et al., dass die kausative Alternation einfach eine Voice-Alternation ist. Kausative und Antikausative unterscheiden sich lediglich darin, dass erstere ein externes Argument haben, welches letzteren fehlt. Da externe Argumente wiederum von einer Voice-Projektion eingeführt werden, bedeutet dies, dass Kausative eine Voice-Projektion haben und Antikausative nicht. Ausserdem argumentiere ich, dass die Information darüber, ob ein Verb an der kausativen Alternation teilnimmt oder nicht, keine strikt linguistische oder lexikalische Information sein kann. Stattdessen, so schlage ich in Anlehnung an Alexiadou et al. vor, handelt es sich um enzyklopädische Information (also Weltwissen) über Zustandsänderungsereignisse, welche an der C-I Schnittstelle mit der syntaktischen Struktur abgeglichen wird.

Die in Kapitel 4 entwickelte Theorie der kausativen Alternation erfasst die Alternation zwischen kausativen und unmarkierten antikausativen Verben. Sie hat so weit nichts zu der morphologischen Zweiteilung antikausativer Verben zu sagen, die wir in so vielen Sprachen finden. In **Kapitel 5** wende ich mich daher wieder dieser morphologischen Zweiteilung zu und suche die Antwort auf folgende zwei Fragen:

- (Wie) unterscheiden sich markierte und unmarkierte Antikausative syntaktisch?
- Was ist die phrasen-strukturelle Position, die die zusätzliche Morphologie einnimmt oder mit der sie assoziiert ist?

Unter Bezugnahme auf die typologische Studie von Haspelmath (1993) argumentiere ich, dass sich unmarkierte Antikausative von markierten Antikausativen syntaktisch unterscheiden; während erstere syntaktisch und semantisch unakkusativ sind, sind letztere formal (also syntaktisch) transitiv, obwohl sie semantisch ebenfalls unakkusativ sind. Im Speziellen schlage ich vor, dass markierte Antikausative sprachübergreifend eine nicht-thematische oder expletive Voice-Projektion haben. Diese Voice-Projektion führt kein semantisch aktives externes Argument ein, sondern sie liefert lediglich eine syntaktische Position für die verschiedenen Arten antikausativer Morphologie, die man in den Sprachen findet. Wie im Kapitel ausführlich erklärt wird, findet man diese Morphologie hauptsächlich aus Gründen der Ikonizität mit manchen antikausativen Verben. Voice als syntaktische Position der antikausativen Morphologie macht insofern Sinn, als dieselbe antikausative Morphologie in vielen Sprachen auch für andere, klar Voice-betreffende Konstruktionen verwendet wird (z.B. Passiv im Griechischen).

Ich argumentiere, dass das reflexive Pronomen deutscher Antikausative im Spezifikator von Voice auftritt, während die antikausative Morphologie anderer Sprachen mit dem Voice-Kopf selber assoziiert ist. Diese Sichtweise, dass die antikausative Morphologie mit Voice assoziiert ist, erlaubt uns eine Antwort auf folgende Frage:

- Warum findet man so häufig zwei (anstelle von zum Beispiel drei oder fünf) morphologische Klassen von Antikausativen?

Wenn die antikausative Morphologie tatsächlich mit Voice assoziiert ist, dann reflektieren die beiden Klassen von Antikausativen, die wir sprachübergreifend finden, die Syntax der kausativen Alternation selber. Wie erwähnt argumentiere ich in Kapitel 4, dass die kausative Alternation eine Voice-Alternation ist; Kausative haben eine Voice-Projektion, die ein externes Argument einführt, und Antikausative haben keine solche Projektion. Wenn die Morphologie markierter Antikausative ebenfalls mit einer Voice-Projektion assoziiert ist (allerdings mit einer expletiven, die keine externe thematische Rolle einführt), dann können wir verstehen, warum wir typischerweise genau zwei Klassen von Antikausativen finden: Die Antwort ist dieselbe wie die Antwort auf die Frage, warum die kausative Alternation genau zwei Konstruktionen umfasst; dies ist so, weil in beiden Fällen eine Variante mit einer Voice-Projektion konstruiert wird (einer thematisch aktiven im Falle von Kausativen und einer thematisch inaktiven im Falle markierter Antikausative), während die andere Version ohne eine Voice-Projektion konstruiert wird. Neben Präsenz und Absenz von Voice gibt es keine dritte Option.

Die Konzeption markierter Antikausative des Deutschen, die in Kapitel 5 vorgeschlagen wird, lässt einige Fragen aufkommen: Wenn das Reflexivum im Spezifikator von Voice lokalisiert ist, dann muss die volle DP der Konstruktion ein internes Argument sein. Wie aber kann dann das Reflexivum im Spezifikator von Voice Prinzip A der Bindungstheorie erfüllen? Und wie kommt das ergative Kasusbild zustande mit Nominativ auf dem internen Argument bei gleichzeitiger Präsenz eines externen Arguments (dem Reflexivum, das ausserdem, wie ich zeige, Akkusativ trägt)?

Die Antworten auf diese Fragen verschiebe ich auf Kapitel 7. In der zweiten Hälfte von Kapitel 5 liefere ich erst einmal weitere empirische Evidenz, dass eine solche syntaktische Konzeption markierter Antikausative tatsächlich korrekt ist. Zu diesem Zwecke untersuche ich die markierten Antikausative des Deutschen bezüglich ihres Verhaltens hinsichtlich verschiedener Unakkusativitätsdiagnostika. Ich zeige, dass – im Gegensatz zu manchen Behauptungen in der Literatur – markierte Antikausative im Deutschen tatsächlich insofern unakkusativ sind, als ihr Thema-Argument ein internes Argument ist, das unterhalb des reflexiven Pronomens generiert wird.

In **Kapitel 6** behandle ich die generische Mittelkonstruktion. Ich argumentiere, dass die Mittelkonstruktion genau dieselbe Syntax hat wie markierte Antikausative. Hauptmotivation für diese Behauptung ist die Beobachtung, dass sprachübergreifend Mittelkonstruktionen dazu tendieren, mit derselben Morphologie wie markierte Antikausative aufzutreten.

Die Behauptung, dass markierte Antikausative und die Mittelkonstruktion dieselbe Syntax haben, führt zu folgender Frage: Wenn beide Konstruktionen lediglich eine expletive Voice-Projektion beinhalten, wie kann es dann sein, dass markierte Antikausative kein (implizites) externes Argument haben, die Mittelkonstruktion aber schon? Es ist in diesem Zusammenhang wichtig, dass das implizite externe Argument der Mittelkonstruktion syntaktisch inaktiv ist (anders als etwa das implizite Argument des Passivs). Hauptziel von Kapitel 6 ist es deshalb, eine Theorie zum nicht-syntaktischen Ursprung des impliziten externen Arguments der Mittelkonstruktion zu entwickeln. Ich argumentiere, dass dieses implizite Argument einer Implikation an der C-I Schnittstelle entspringt. Diese Implikation ist geleitet von unserem Weltwissen über verbale Ereignisse, und sie ist formal abhängig von der generischen Semantik der Mittelkonstruktion.

In **Kapitel 7** wende ich mich folgender, letzter Frage zu, warum wir in so vielen Sprachen reflexive Morphologie als Marker auf Antikausativen finden.

Mein Vorschlag ist, dass ein reflexives Pronomen (ein SE-Pronomen), das im Spezifikator von Voice eingeführt wird, die Möglichkeit eröffnet, das thematische Potential von Voice zu deaktivieren. Folgender Gedankengang steckt hinter diesem Vorschlag: Es wird grundsätzlich angenommen, dass reflexive Pronomen referentiell defektiv sind, und dass sie ein Antezedens brauchen, um eine Denotation zu erlangen. Ich habe allerdings behauptet, dass das reflexive Pronomen in markierten Antikausativen im Spezifikator von Voice eingeführt wird, also in der höchsten Argumentposition des antikausativen Prädikats. Wenn dies stimmt, dann kann das Reflexivum kein Antezedens finden und es bleibt ungebunden. Es wird typischerweise angenommen, dass ein ungebundenes Reflexivum zu einer Verletzung von Prinzip A der Bindungstheorie führt. Ich argumentiere hingegen, dass ein ungebundenes Reflexivum nicht notwendigerweise zu einer syntaktisch devianten Struktur führt.

Stattdessen schlage ich vor, dass solch einem ungebundenen Reflexivum, das ohne Interpretation oder Denotation bleibt, keine thematische Rolle zugewiesen werden kann. Dies ist so, weil thematische Rollen nicht in der Syntax selber an ein Element in einer spezifischen syntaktischen Position zugewiesen werden, sondern an der C-I Schnittstelle an die Denotation eines Elements in einer spezifischen syntaktischen Position.

Wenn ein ungebundenes Reflexivum im Spezifikator von Voice auftritt, dann kann keine externe thematische Rolle an der Schnittstelle an dieses Reflexivum zugewiesen werden, weil dieses Reflexivum ohne Denotation bleibt. Der thematische Effekt von Voice wird auf diese Weise sozusagen von dem ungebundenen reflexiven Pronomen "ausgeknipst". Dies resultiert in einer verbalen Struktur, die semantisch antikausativ oder unakkusativ ist. Solch eine verbale Struktur ist jedoch nur möglich mit Verben, die eine Interpretation ohne ein externes Argument ermöglichen, also mit Verben, die die kausative Alternation erlauben. Andere Verben, die nicht ohne externes Argument interpretiert werden können (zum Beispiel agentive Verben), werden an der C-I Schnittstelle als unverständlich ausgefiltert, wenn sie mit einem ungebundenen Reflexivum im Spezifikator von Voice konstruiert werden. Ich zeige ausserdem, wie ein ungebundenes Pronomen im Spezifikator von Voice dazu führt, dass das interne Argument Nominativ trägt und Kongruenz auf dem Verb auslöst, während das Reflexivum Akkusativ trägt.

In der zweiten Hälfte von Kapitel 7 liefere ich zum einen weitere Motivation für den Vorschlag, dass eine expletive Voice-Projektion durch ein ungebundenes reflexives Pronomen im Spezifikator von Voice deriviert werden kann. Desweiteren motiviere ich weiter den Vorschlag, dass thematische Rollen post-syntaktisch an der C-I Schnittstelle an die Denotation einer syntaktischen Entität vergeben werden.

Der Vorschlag, dass ein ungebundenes Reflexivum im Spezifikator von Voice keine thematische Rolle realisieren kann (und dass solch eine Konstellation deshalb zu einem antikausativen Prädikat führt), macht die starke Vorhersage, dass das Reflexivum die externe thematische Rolle realisiert, sobald es ein lokales Antezedens findet. Ich argumentiere, dass diese Vorhersage in der Tat korrekt ist, und dass dies die Erklärung für die Beobachtung ist, dass im Deutschen ein Dativ im Kontext markierter

Antikausative nicht als versehentlicher Verursacher des verbalen Ereignisses interpretiert werden kann.

In Kapitel 3 argumentiere ich, dass der Dativ, wenn er als versehentlicher Verursacher des verbalen Ereignisses interpretiert wird, von einem applikativen Kopf eingeführt wird, der das gesammte Zustandsänderungsprädikat c-kommandiert. Im Falle eines markierten Antikausatives würde diese applikative Projektion oberhalb der expletiven Voice-Projektion stehen. Dies bedeutet, dass der Dativ im Spezifikator der applikativen Projektion das Reflexivum im Spezifikator von Voice lokal c-kommandiert. Diese Konstellation führt zu einer Bindungsrelation zwischen dem Dativ und dem Reflexivum. Da aber das Reflexivum nun gebunden ist, erhält es eine Denotation und dies wiederum bewirkt, dass es an der C-I Schnittstelle die externe thematische Rolle von Voice zugewiesen bekommt. Aber dies führt nun dazu, dass der Dativ, der ja den versehentlichen Verursacher des verbalen Ereignisses ausdrücken soll, nicht mehr in die verbale Struktur thematisch integriert werden kann. Würden wir ihn integrieren, würde dies zu einem Zustandsänderungsereignis mit zwei externen Argumenten führen (dem Dativ und dem Reflexivum), eine Situation, die konzeptuell nicht verarbeitbar ist.

In den Romanischen Sprachen, die ihre Antikausativen mit einer reflexiven Klitik markieren, kann dieses Problem nicht entstehen, da reflexive Klitika nur von nominativischen Subjekten, aber nicht von Dativen gebunden werden können.

Zum Ende von Kapitel 7 behandle ich zwei weitere Konstruktionen, die mit Zustandsänderungsverben möglich sind. Dies ist die deutsche 'es-Konstruktion' und ihr isländisches Gegenstück, die sogenannte 'stray-accusative-Konstruktion' (oder auch 'FATE-accusative-Konstruktion'). Beide Konstruktionen ähneln in ihrer Interpretation Antikausativen, aber sie vermitteln zusätzlich das Gefühl, dass eine unidentifizierte Kraft für das Zustandekommen des verbalen Ereignisses verantwortlich ist. Ich argumentiere, dass diese semantische Eigenheit verstanden werden kann, wenn thematische Rollen an der C-I Schnittstelle an die Denotation eines syntaktischen Ausdrucks zugewiesen werden (oder besser von ihr realisiert werden).

Die Arbeit schließt mit einem **Appendix** zu inhärent reflexiven Verben im Deutschen. Ich argumentiere, dass inhärent reflexive Verben im Deutschen sich syntaktisch von markierten Antikausativen unterscheiden, obwohl beide zusammen mit dem Reflexivum

‘*sich*’ auftreten. Während markierte Antikausative insofern unakkusativ sind, als ihr referentielles Argument ein internes Argument ist, welches unterhalb des Reflexivums basisgeneriert wird, können inhärent reflexive Verben nicht unakkusativ sein und ihr referentielles Argument muss ein externes Argument sein. Dieser Schluss gründet sich hauptsächlich auf die Beobachtung, dass inhärent reflexive Verben im Deutschen passivierbar sind.

Eidesstattliche Erklärung

Hiermit erkläre ich, dass ich die vorliegende Arbeit unter fachlicher Betreuung selbständig und nur mit den angegebenen Hilfsmitteln angefertigt habe.

Alle Textstellen, die in Wortlaut oder dem Sinn nach anderen Werken entnommen sind, habe ich durch Angabe von Quellen als Zitate kenntlich gemacht.

Stuttgart, den 11. Juni 2007

(Florian Schäfer)