In the Middle, Somewhat Elevated

The semantics of middles and its crosslinguistic realization

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Abstract

This study explores the ways in which the semantics of personal middle constructions is encoded across languages. In Dutch, German and English, middles are syntactically unergative and the implicit Agent is syntactically inert. In Greek and French, middles are syntactically indistinguishable from generic passives: they exhibit a derived subject and a syntactically represented Agent. What unites the two types of middle is the interpretation they receive. The cross-linguistic variation invites the following question: what determines the choice of structure employed to convey the middle interpretation?

Any attempt to address this question requires a characterization of the middle interpretation itself. I make the following novel proposal: middles ascribe a dispositional property to the understood object. Disposition ascriptions are subject-oriented generic sentences. The core properties that middles share across languages follow: the genericity of an otherwise eventive predicate; the promotion to subject position by syntactic movement or base-generation, and the interpretation of the otherwise internal argument; the demotion and interpretation of the otherwise external argument.

The crosslinguistic variation relates to the following two factors. First, the different means available to languages to encode genericity distinguishes between unergative and unaccusative middles. Unaccusative middles obtain in languages like French and Greek, which encode genericity in the morphosyntax in the form of imperfective aspect. Languages where genericity is not expressed by aspectual morphology, i.e. German, Dutch and English, employ unergative structures. An additional factor at play within Germanic is the nature of the anaphoric system. I attribute the illicitness of *zich* in middles to the nature of the Dutch reflexive paradigm, which includes a complex anaphor, *zichzelf*. In the absence of a complex anaphor in German, *sich* can function as an argument but also as a marker of valency reduction; its occurence in middles is

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expected. The approach makes predictions for other structures besides middles and other Germanic languages, such as Afrikaans and Frisian.

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Chapter 1

The syntax of middles

1.1 Introduction

The topic of this dissertation is the syntax and semantics of the so-called personal 'middle construction' across languages. In particular, I will be concerned with examples like (1a) and its equivalents in Dutch, German, French and Greek, given in (1).

(1) a. This book reads easily.

    b. Dit boek leest   makelijk.
        this book read-3SG easily

    c. Dieses Buch liest   sich   leicht.
        this   book read-3SG REFL easily

    d. Ce livre se   lit   facilement.
        this book REFL read-3SG easily

    e. Afto to   vivlio δiavazete   efkola.
        this the book read-NONACT.3SG easily
        'This book reads easily.'

On a purely descriptive level, personal middle constructions are generic sentences about the understood object. They feature an otherwise internal argument, the Patient/Theme, in syntactic subject position. Additionally, the otherwise external argument, the Agent, is demoted to an implicit argument, in other words it is syntactically suppressed. These properties of middles are shared by passives, a fact which has led a number of authors to claim that the two structures are derived in the same way. In fact, the motivation for postulating the same mechanism for middle and passive formation and for arguing that across languages middles behave syntactically in a uniform

way is theoretical. Since the subject of the middle is a Patient/Theme argument, if we are to adhere to Baker (1988)'s Uniformity of Theta-role Assignment Hypothesis (UTAH), given in (2), we are forced to pursue an analysis of middles as involving a derived subject, on a par with passives.

(2)   *Uniformity of Theta Assignment Hypothesis (UTAH)*
      Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

In other words, (2) dictates that, in virtue of corresponding semantically to an 'internal' argument, the subject of middles is base-generated internally to the VP, as a complement of the verb, and moves to syntactic subject position. On the assumption that the UTAH holds, middles across languages are predicted to involve a syntactic derivation, in other words NP-movement, hence unaccusative syntax, and a syntactically represented implicit Agent.[1] Roberts (1987) is as explicit about this as one can be: "the UTAH forces us to adopt a syntactic theory of middles" (Roberts, 1987, 207).

There is substantial empirical evidence that this expectation is not met. As I will show in this chapter, the syntax of the middle construction does not uniformly comply with (2). Out of the languages studied here, only in Greek and French are middles well-behaved with respect to the UTAH. In these languages, middles are syntactically indistinguishable from (reflexive) passives, in that they involve syntactic NP-movement and a syntactically active implicit argument. In English, Dutch and German, on the other hand, middles behave syntactically as unergatives and lack a syntactically active Agent. That middles in English and Dutch pose a problem for the UTAH in virtue of their unergativity has been shown by Ackema and Schoorlemmer (1994, 1995). The crosslinguistic discrepancy has been acknowledged by Ackema and Schoorlemmer (2002) and Marelj (2004).

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[1]A note on terminology. Unaccusatives are standardly the intransitive verbs whose single argument behaves syntactically as an internal, as opposed to external, argument. There are more terms used with for this class of verbs, for example inchoative, ergative and anticausative. (The term 'inchoative' has a second sense, which will be of relevance in chapter 3.) In chapter 4 I will be more rigorous with the terminology, because there it will be relevant to distinguish between verbs whose semantics resembles that of unaccusatives but whose syntax is not unaccusative, and verbs which are syntactically and semantically unaccusative. Until that point I will freely use either one of the three aforementioned terms.

There are two issues pertaining to the syntax of middles: the unaccusativity/ unergativity of the verb, and the syntactic manifestation (or lack thereof) of the implicit Agent. I will examine each of these issues in the aforementioned languages in turn. The empirical evidence suggests that within the languages in question there are significant syntactic differences which are hard to reconcile with the UTAH. The data also challenge a syntactic notion of the middle construction, because they indicate that the middle cannot be syntactically defined in a cross-linguistically coherent way. This is one of the main tenets of this thesis. There is, however, a potential objection to the conclusion just drawn. One could acknowledge the existence of a crosslinguistic differentiation, but maintain that there is a syntactic common denominator in the derivation of middles: across languages, middles are parasitic on, i.e. are syntactically identical to (whatever is the syntax of) inherent reflexives. This solution implies that the syntax of inherent reflexivity is not uniform across languages, which is true as we will see in section 1.7 and in chapter 4. However, the proposal to reduce middles to inherent reflexives will be discarded as empirically inadequate.

In addition to the syntactic differences between Greek-type and English-type middles, there are two additional aspects of middle formation which attest cross-linguistic variation. One is the degree to which adverbial modification is required, with Greek and French behaving in a more liberal way than English, Dutch and German. The other concerns the restrictions regulating the eligibility of a verb to undergo middle formation, which are more stringent in Germanic than in Greek and French. Though not strictly syntactic, these two sets of facts, which I provide in sections 1.6.1 and 1.6.2 respectively, merit our attention. Why should English, Dutch and German pattern in the same way, and Greek and French in a different way with respect to these syntactic and non-syntactic properties? Why isn't the pattern the opposite of the one attested? An account of the cross-linguistic realization of the middle needs to be able to address all these issues. This thesis represents an attempt to do this; I will propose an account that enables us to capture the cross-linguistic similarities and differences without relying on a syntactically uniform notion of the middle.

1.2   Greek

I start with the languages that fulfill our expectations given the UTAH. In Greek, middles employ nonactive morphology:[2]

(3)   a.   Afto to   vivlio diavazete   efkola.
          this the book read-IMPERF.NONACT.3SG easily
          'This book reads easily.'

     b.   Afto to   provlima linete   efkola.
          this the problem solve-IMPERF.NONACT.3SG easily.
          'This problem can be/is solved easily.'

Nonactive morphology is used in passives, (inherent) reflexives, reciprocals, (some) unaccusatives, see Alexiadou and Anagnostopoulou (2004), as well as deponent verbs, i.e. verbs with passive morphology but transitive syntax. These functions of nonactive morphology are illustrated in (5). The verbs are all in the past perfective, which I do not give a gloss for.

(4)   Active 'voice':

     Eplina   to pukamiso.
     wash-1SG.ACT the shirt-ACC

     'I washed the shirt.'

(5)   Nonactive 'voice':

     a.   Plithikame.
          wash-1PL.NONACT
          'We washed ourselves.'/ 'We washed each other.'/ 'We were washed.'

     b.   Ta ruxa   plithikan   apo ti   mama.
          the clothes-NOM wash-3SG.NONACT by   the mom-ACC
          'The clothes were washed by mom.'

     c.   To trapezomandilo lerose/   lerothike   (apo mono tu).
          the tablecloth-NOM soil-3SG.ACT/ soil-3SG.NONACT by   alone it-GEN
          'The tablecloth got dirty (all by itself).' [3]

     d.   Dextika   /*edeksa   tin   apologia su.
          accept-1SG.NONACT/ accept-1SG.ACT the-ACC apology your

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[2]This section is an extended version of the discussion in Lekakou (2003).

[3]This example is from Alexiadou and Anagnostopoulou (2004). The verb *lerono* 'dirty' belongs to a class of verbs whose unaccusative alternant can appear with either active or non-active morphology. The 'by itself' phrase (Chierchia, 1989/2004), distinguishes passives from unaccusatives.

'I accepted your apology.'

The position that middles in Greek employ nonactive morphology has not been entirely uncontroversial. There has been a debate in the literature as to what qualifies as the genuine equivalent of the English/Dutch middle. The view defended here, according to which middles bear nonactive morphology, has been defended by Tsimpli (1989); Sioupi (1998); Papastathi (2001) and Tsimpli (2004). According to Tsimpli (1989), middles differ from passives in that the former always appear with imperfective aspect, cf. (7), whereas the latter can also be episodic, and thus employ perfective aspect, see (6). Sioupi also argues that middles employ nonactive morphology, but expresses a different view on their syntax, a point to which I will return shortly:

(6) Passive:

Afto to vivlio diavastike xtes.
this the book-NOM read-3SG.NONACT.PAST.PERF yesterday

'This book was read yesterday.'

(7) Middle:

Afto to vivlio diavazete efkola.
this the book-NOM read-3SG.NONACT.PRES.IMPERF easily

'This book reads easily.'

On the other hand, it has been claimed by Kakouriotis (1994) that cases like the ones discussed by Tsimpli and exemplified above in (7) are 'affix-mediated middles', and do not constitute the genuine Greek counterpart of the English middle. He purports to deal with 'non-affix mediated' middles. His examples include the following:

(8) Afta ta pukamisa katharizun efkola.
these the shirts-NOM clean-3PL.ACT.IMPERF. easily
'These shirts clean easily.'

(9) Ta aspra sendonia leronun efkola.
the white bedsheets-NOM dirty-3PL.AC.IMPERF easily
'White bedsheets dirty easily.'

(10) Afti i karekla diploni.
this the chair-NOM fold-3SG.NONACT.IMPER.
'This chair folds.'

(11) Ta mikra pedia tromazun efkola.
the small children-NOM scare-3PL.NONACT.IMPERF easily
'Small children scare easily.'

(12) To derma tis Marias ksefludizi efkola to kalokeri.
the skin-NOM the Maria-GEN peel-3SG.NONACT.IMPERF easily the summer
'Maria's skin peels easily in the summer.'

Yet a third view has been expressed by Condoravdi (1989b), who claims that middles in Greek can have both active and nonactive morphology.

The dilemma ceases to exist, as soon as one is rigorous about the criteria with respect to which one identifies a middle. The active-inflected sentences above have in common with the nonactive ones the following two things. First, both sets of sentences involve nonepisodic verbs, i.e. verbs which are marked for imperfective aspect and do not refer to a particular event. This is in line with the widely accepted view of middles as generic statements. The second similarity is that a Patient/Theme argument appears as the subject of the sentence. But there is one aspect of meaning that sets the two cases apart. In the active-inflected sentences, there is no implication of an Agent. For example, in (12), there is no one who causes Maria's skin to peel. The variant of the verb *ksefludizo* 'peel' that appears in this example is unaccusative. Unaccusatives, which feature a Patient/Theme argument in subject position, can independently be episodic or generic/habitual; in the latter case, they are close in meaning to middles, but they are different in virtue of lacking an implicit Agent. The meaning of middles involves an agent who brings about the action denoted by the verb. The cases Kakouriotis and Condovardi take to be middles are thus cases of generic unaccusatives, and not true middles.[4] The distinction between generic unaccusatives and middles has been discussed by Fellbaum (1986) and more recently by Ackema and Schoorlemmer (2002).

Therefore, following Tsimpli (1989) and Sioupi (1998), the equivalent of the English middle in Greek always bears nonactive morphology. Examples are repeated below:

(13) a. Afto to vivlio diavazete efkola.
this the book read-IMPERF.NONACT.3SG easily
'This book reads easily.'

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[4]It is quite telling that Condoravdi proposes that the following generalization regulates the form middles take in Greek: "a verb will not appear in the middle in the active form unless it participates in the ergative alternation and its intransitive counterpart is also in the active form" (Condoravdi, 1989b, 28).

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    b. Afto to   provlima linete   efkola.
           this the problem solve-IMPERF.NONACT.3SG easily.
           'This problem can be/is solved easily.'

More specifically, the middle in Greek is syntactically a passive: it features a derived subject, nonactive morphology, and a semanticcally available Agent; as we will see presently, the latter is also syntactically present. More precisely, the middle is parasitic on generic passives: it employs a nonactive-inflected verb, which is marked for imperfective aspect. As I will show in chapter 3, in Greek genericity is encoded in imperfective aspect on the verb. The middle is thus an interpretation that imperfective passives give rise to. Given these considerations, it seems reasonable to assume that 'middles' involve a derivation identical to passives.

    Tsimpli (1989) has already argued that middles and passives are structurally identical. In her analysis, the passive affix absorbs the external thematic role and is assigned accusative case by the verb. Consequently the object moves to subject position (Spec, IP) in order to receive nominative case. She gives the following argument in favour of her claim that the subject of middles, just like that of passives, is a derived one. According to her, derived subjects in Greek cannot control into purposes clauses. Because both passives and middles feature a derived subject, the latter fails as a controller.[5]

(14)   Passives:

    a. *O   Gianis   dolofonithike   gia na   gini
        the Gianis-NOM murder-PERF.NONACT.3SG for SUBJ become-33SG
        iroas.
        hero-NOM
        'Giannis was murdered in order to become a hero.'

    b. *I   Maria   apolithike   gia na   arxisi   apergia.
        the Maria-NOM fire-PERF.NONACT.3SG for SUBJ begin-3SG strike-ACC
        'Maria was fired in order to start a strike.'

(15)   Middles:

    a. *I   afelis   eksapatunde   efkola na   psifisun
        the naive-PL.NOM deceive-IMPERF.NONACT.3PL easily SUBJ vote-3PL
        deksia.
        right
        'Naive people are easily deceived into voting for the right wing party.'

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[5]I gloss *na*, the subjunctive marker, as SUBJ.

b. * O   Gianis   ksegeliete   efkola na   sinexisi
the Gianis-NOM fool-IMPERF.NONACT.3SG easily SUBJ continue-3SG
ti   dulia.
the work-ACC
'Giannis can be fooled easily into continuing to work.'

The inability of the subject of a middle or a passive to control the subject of an embedded purpose clause contrasts with the ability of the subject of a reflexive verb to do so. According to Tsimpli's analysis, unlike passives, reflexives have a base-generated subject, which can therefore act as the controler for the subject of a purpose clause:

(16)   Reflexives:

a. I   Maria   xtenistike   gia na   vgi   ekso.
the Maria-NOM comb-NONACT.IMPERF.3SG for SUBJ go-3SG out
'Maria combed herself in order to go out.'

b. Ta pedia   dithikan   grigora gia na   prolavun
the children-NOM dress-NONACT.PERF.3PL quickly for SUBJ catch-3PL
to   treno.
the train-ACC
'The children dressed quickly in order to catch the train.'

I should point out that there exists an alternative explanation for the contrast reported in (14)–(16): it is possible that only Agent arguments can control into purpose clauses (in Greek). The subject of middles and passives is not an Agent, but a Patient/Theme. By contrast, the subject of reflexives is plausibly interpretable as agentive. If this is on the right track, Tsimpli's argument is not a valid one, because her test diagnoses agentivity, and not whether or not the subject is a derived one. Note, however, that inanimate (hence nonagentive) subjects of unergative verbs pattern with the subject of reflexives, which suggests that agentivity is not relevant:

(17)   O   sinagermos xtipai gia na   dioksi   tus kleftes.
the alarmNOM rings for SUBJ turn.away-3SG.PERF the thieves-ACC
'The alarm goes off in order to turn thieves away.'

The evidence that middles are syntactically identical to passives is not limited to the above. Additional support comes from applying the unaccusativity diagnostics (Alexiadou and Anagnostopoulou, 1999) to middles. I will discuss only three of the available tests, namely the ones that are applicable in the case at hand. The results of these tests favour an analysis of middles on a par with passives in Greek, although

there are some problems which will be pointed out. I should stress from the outset that these tests were not originally devised for Greek and that in any event all of the available unaccusativity diagnostics are known to face problems and exceptions, see also the discussion in Alexiadou and Anagnostopoulou (op.cit.). Yet I believe the overall picture that emerges supports the claim that middles are syntactically indistinguishable from passives.

The discussion of the unaccusativity diagnostics is particularly interesting in light of the alternative proposal made by Sioupi (1998). Sioupi agrees with Tsimpli in assuming that middles employ nonactive morphology, but she contends that the verb itself is not a passive syntactically, but an unergative. This proposal is in line with Ackema and Schoorlemmer (1994, 1995) who have made a case for the unergativity of English and Dutch middles. I turn to their analysis in subsequent sections. Sioupi applies the same unaccusativity diagnostics, but her conclusions are the opposite of mine.

The first diagnostic is compatibility with postverbal bare plurals (PBPS). Only unaccusatives tolerate PBP subjects, unergatives do not. The middle interpretation of (18) is unavailable:[6]

(18)   * Vleponde   tenies.
          watch-NONACT.IMPERF.3PL film-PL.NOM
          'Films are watched.'

There is another generalization, however, which is relevant here. As noted by Alexiadou (1996, 1999), postverbal subjects are illicit with stative verbs in general. Alexiadou shows that stative verbs can only appear in SV(O) order, VS(O) order being available only for episodic contexts (i.e. eventive verbs). The same observation is made by Roussou and Tsimpli (2003). Due to its genericity, the middle verb is of (derived) stative aspect, hence it is unlikely that it can tolerate a postverbal subject. Therefore, the result of the first diagnostic does not invalidate the unaccusative analysis of Greek middles, but is attributable to a conflict between unaccusative derivation and generic, hence stative, aspect.

Besides, bare plurals can only receive a weak, existential interpretation in Greek (see Condoravdi (1992b)). As a result, even (19) is out on the relevant (middle) reading:

(19)   * Galikes tenies vleponde   efxarista.
          french   movies watch-NONACT.IMPERF.3PL with pleasure

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[6]The sentence is very marginal on the progressive interpretation of the imperfective. The issue is discussed in the appendix to chapter 3.

> (int.)'French movies watch easily.'

In English indefinite subjects of middles are always interpreted generically. This fact is tied to the genericity of the predicate and to the middle semantics more generally, which is the topic of the following chapter. Since bare plurals in Greek, pre- or post-verbally, cannot receive a generic interpretation, it comes as no surprise that postverbal bare plurals will not combine well with Greek middles.

In light of these complications, it seems that compatibility with PBPSs, even if valid as an unaccusativity diagnostic generally, cannot tell us much about the syntax of middles. Alexiadou and Anagnostoupoulou (1999:27-28) discuss problems with the test, and also suggest that the discourse function of inverted orders, that of introducing new information, might disqualify certain semantic classes of verbs. In Alexiadou et al. (2004), the claim is made that PBPSs "do not really qualify as an unaccusativity diagnostic for this language [Greek:ML]" (Alexiadou et al., 2004, 10). Sioupi (1998) does not discuss these complications, but merely notes the incompatibility of postverbal bare plural subjects with middles.

The second diagnostic is possessor datives, which are only compatible with unaccusatives. On the middle reading, (20) is bad:

(20)   * Mu   diavazonde   efkola ta vivlia.
         I-GEN read-NONACT.IMPERF.3PL easily the books
         (int.)'My books read easily.'

However, the passive is also bad, i.e. the episodic (nonmiddle) counterpart of (20) is also ungrammatical:

(21)   * Mu   diavastikan   efkola ta vivlia.
         I-GEN read-NONACT.PERF.3PL easily the books
         (int.)'My books were read easily.'

It is unclear which property of sentences this test is sensitive to, for if it were a real unaccusativity diagnostic, we would expect (episodic) passives to pass it. Again, Sioupi restricts her attention to the ungrammaticality of the middle sentence, and fails to note that the episodic passive is also ungrammatical.

The third available test provides evidence that middles, like passives, involve a derived subject. The diagnostic concerns subextraction of the postverbal argument, which is only possible with the single argument of unaccusative verbs (22a) and with

the object of transitives (22b). Unergatives fail this test (22c). The middle in (22d) is perfect:

(22)   a.   Tinos irthe   to aftokinito?
            whose came-3SG the carNOM
            'Whose car arrived?'

       b.   Tinos diavases to vivlio?
            whose read-2SG the book-ACC
            'Whose book did you read?'

       c.   * Tinos etrekse to aftokinito?
            whose ran-3SG the car-NOM
            'Whose car ran?'

       d.   Tinos vleponde   i   tenies   efxarista?
            whose watch-NONACT.IMPERF.3PL the film-NOM.PL with pleasure
            'Whose movies watch easily?'

Sioupi's reaction to this result is to note that there are exceptions to this test, an example of which is, according to her, the fact that middles pass it.

The most compelling argument that Greek middles are structurally identical to passives, and hence involve a derived subject, is the last one I discuss. Middles in Greek exhibit a syntactically active Agent, to the effect that the latter can even take the guise of a *by*-phrase, as already noted by Condoravdi (1989b) and Tsimpli (1989). Condoravdi notes that *by*-phrases are only licit with the 'nonactive' middles, not with the active-inflected ones. Recall that what she takes to be the 'active-inflected' middles are really generic unaccusatives. It comes as no surprise that they don't tolerate a *by*-phrase.[7]

(23)   a.   Afto to vivlio diavazete   efxarista   akomi ki apo
          this the book read-NONACT.IMPERF.3SG with pleasure even   and by
          megalus.
          grown-ups
          'This book reads with pleasure even by grown-ups.'

       b.   Afto to provlima linete   akomi ki apo anoitus.
          this the problem solve-NONACT.IMPERF.3SG even   and by   fools
          ''This problem can be solved even by fools.'

Sioupi judges such sentences as ungrammatical on the middle interpretation. However, the speakers I have consulted (including myself) do not agree with her intuition, and

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[7]The *by*-phrase that appears in the examples is 'augmented' by an *akomi ke* 'even', which is not obligatory, though it strongly favours the middle reading over the habitual passive interpretation.

find no problem with them. The *by*-phrase is licit with passives even on the middle interpretation. This is obviously a significant challenge facing any analysis that treats middles and passives as unrelated structures.

On the basis of the evidence discussed in this section, I conclude that in Greek, middles are parasitic on passive structures: they feature a derived subject and an implicit Agent which is syntactically represented. This also holds of French middles, to which I now turn.

1.3 French

Middles in French employ the reflexive clitic *se*, cf. (24a), which is also used for reflexives (24b), inherent reflexives (24c) and (24d), and inchoatives (24e). The data are from Wehrli (1986), except for (24b) which is from Kayne (2000).[8]

(24) a. Un veston de laine se   lave   facilement.
         a   jacket of wool REFL washes easily
         'A wool jacket washes easily.'

      b. Jean s' invite.
         Jean REFL invites
         'Jean invites himself.'

      c. Jean se   rase.
         Jean REFL shaves
         'Jean shaves (himself).'

      d. Jean s' évanouit.
         Jean REFL faints
         'Jean is fainting.'

      e. La branche s'est   cassée.
         the branch   REFL is broken
         'The branch bronke.'

What is missing from Wehrli's discussion is passive *se*. This omission is not infrequent. In fact, Lyons (1995) claims that French lacks passive *se*, even though Spanish

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[8]Wehrli's use of (24c) as an example of reflexive *se* is somewhat misleading, because such cases involving verbs of grooming can be argued to involve inherent reflexivity in a broad sense. This is in fact the view of inherent reflexivity adopted here, which I will explicate in chapter 4. (24d) is an instance of 'inherent reflexive' *se* on the strictest sense: the verb 'faint' does not have a transitive counterpart in French, and cannot be used without the reflexive. Sentence (24b) exemplifies 'genuine' (noninherent) reflexive *se*.

has it (and so does Italian). Following Dobrovie-Sorin (1998, 2002); Zribi-Hertz (2003); Marelj (2004), I take it that reflexive passives do exist in French, and 'middle' *se* is in reality nothing more than an instance of passive *se*. The dispute is very likely terminological. For those scholars who reject the existence of (formally) reflexive passives, the only way to make sense of data like the ones we are about to review, which do not fit under any of Wehrli's descriptive labels, is to consider them middles, albeit episodic ones, cf. Fagan (1992). Contrary to this view, and in line with the majority of researchers, I take it that middles are always generic. It is reflexive passives which need not be generic (i.e. which can be episodic). Middle *se* is thus passive *se*. Dobrovie-Sorin (2004) argues that middle *se* and passive *se* have similar thematic structure and differ interpretationally: middles ascribe a property to the subject, see (25), whereas passives refer to events, either to a particular event, in which case the reflexive passive is episodic, as in (26a), or to a habit, in which case the reflexive passive is habitual, see (26b). The semantic factors that underlie the distinction between habitual passives and middles will be discussed in the following chapter.

(25)   Middle:

Le grec se   traduit   facilement.
the greek REFL translates easily

'Greek translates easily.'

(26)   Passive:

   a. episodic:

Il s'est   traduit trois   romans.
it REFL has   translated three   novels
'Three novels were translated.'

   b. habitual:

Les pommes se   mangent en hiver.
the apples   REFL eat-3PL in winter
'Apples are eaten during winter.'

According to Dobrovie-Sorin, habitual passives can, and middles must feature the syntactic subject preverbally, but episodic reflexive passives dissalow a preverbal subject, and so an '*il*-impersonal' is employed (a construction with which I will not be concerned here). There do exist some counterexamples to this generalization. The following cases are well-known from the literature (Fagan (1992), quoting Zribi-Hertz

(1982)). According to Zribi-Hertz (2003) and Dobrovie-Sorin (2002), these exceptions are limited to a restricted number of predicates:

(27) a. La decision s'est prise   hier   à l' Assemblée Nationale.
the decision SE is taken-FEM yesterday in the Parliament
'The decision was taken yesterday in Parliament'

b. Le crime s'est commis   pendant les heures de bureau.
the crime SE is committed during   the hours of office
'The crime was committed during office hours'

c. Notre pièce s'est jouée   le 1er mars à 8 heures.
our   play SE is played-FEM the 1st March at 8 o'clock
'Our play was performed on 1st March at 8 o'clock.'

d. Leur texte s'est traduit   en moins d'une heure.
their text SE is translated in less   of one hour
'Their text was translated in less than one hour.'

e. Cela s'est su   aussitôt qu'elle a   ete partie.
this SE is known as.soon.as than she has been gone-FEM
'This became known as soon as she was gone.'

Such examples constitute an exception to a more interesting generalization which concerns the distribution of reflexive vs. periphrastic passives. Specifically, there is a preference in contemporary French for the periphrastic passive to be used in episodic contexts, i.e. for it to appear in sentences that refer to events, whereas the *se*-passive is employed whenever a nonepisodic statement is made (i.e. a middle or a habitual passive). Zribi-Hertz (2003) has argued that this is the case in Continental French, cf. her (28) and (29).[9] The synchronic distribution of the *se*-passive vs. the copula passive reflects the historical facts about reflexive and periphrastic passives. Episodic reflexive passives of the type exemplified in (27) indisputably existed in earlier stages of French, and in fact arose when periphrastic passives became associated with perfective aspect (Fagan, 1992, 208).

(28) a.   Le même ordre des mots se retrouve dans les infinitives.
the same order of words SE finds   in   the infinitive clauses

b. ?? Le même ordre des mots est retrouvé dans les infinitives.
the same order of words is found   in   the infinitive clauses

---

[9]It seems that the observation is valid only in the case of Continental French. Canadian French allows episodic reflexive passives much more freely. See Authier and Reed (1996) and the discussion in the main text.

'The same order of words is found in infinitive clauses.'

(29) a. La maison de Jean a   été   construite en haut d'une montagne.
          the house   of John has been built-FEM on top   of a   mountain

    b. ?? La maison de Jean s'est construite en haud d'une montagne.
          the house   of John SE is built-FEM on top   of a   mountain
          'John's house was built on top of a mountain'

Following these authors, I will take the episodic uses of the reflexive passive to be idiosyncratic. In other words, there is a strong preference for reflexive passives to be nonepisodic. In any event, the existence of episodic reflexive passives does not threaten the generalization that, when genericity is the targeted reading, the reflexive passive is used. Since middles are generic statements, it is hardly surprising that they are parasitic precisely on nonepisodic passives, which in French are morphologically reflexive. It is therefore most likely the affinity between reflexive passives and nonepisodic readings that led researchers to deny the existence of reflexive passives, and to claim that middles can be episodic. Certain instances of nonepisodic passives, however, do not qualify as middles; this is a point to which I return at several points in this thesis. In other words, I take the middle interpertation to be distinct from the habitual passive. But what we need to establish for the time being is if there is any difference of a syntactic nature between reflexive passives and middles.

The question of whether it is desirable and/or possible to distinguish passive from middle *se* in a language like French has been addressed very extensively in Ackema and Schoorlemmer (2002). These authors conclude that there might be a semantic difference, but there is no evidence for a need to syntactically distinguish between the two. Authier and Reed (1996) come to very much the same conclusion. Following these authors, I will treat reflexive passives and middles as syntactically identical.

It has been known since Kayne (1975) that reflexive clitics in French do not pattern with object clitics; in other words, any sentence with a reflexive clitic is intransitive. The 'traditional' answer to the question of what is the syntax of *se*-constructions— unergative or unaccusative—seems to have favoured the unaccusative analysis. One argument in this direction comes from auxiliary selection: all *se*-verbs select *être* 'be' and not *avoir* 'have', which means that they pattern with unaccusative and not unergative verbs. The auxiliary selection facts have already been illustrated with respect to middles in the sentences in (27).

Reinhart and Siloni (2004) have recently argued against the unaccusative analysis of reflexives not just in French but universally (see their paper for the arguments in the debate and for references). It is important to stress that Reinhart and Siloni argue in favour of the unergativity of the semantically reflexive *se*-construction (cf. (24b) and (24c) above). The proper treatment of semantically reflexive outputs is a matter currently under investigation, which does not affect the claim that medio-passive *se* is a passivizer, as in e.g. Roberts (1987). Middle/passive reflexive constructions, which are only formally reflexive, arguably involve unaccusative syntax; the same goes for inchoative *se*, on which see Labelle (1992). Reinhart (2000, 2003) herself does not make any specific claims about the syntax of middles, other than that they are derived by the same mechanism that results in passives (which is distinct from the operation whose output are reflexives). But Marelj (2004), working in Reinhart's framework, proposes a treatment of middles across languages which rests on the assumption that the cross-linguistic variation is of the type argued to exist here. In other words, for Marelj too middles in French are syntactically unaccusative. See also Wehrli (1986), who claims that inchoative and middle *se* absorb the external argument. (Wehrli at the same time argues for an unergative analysis of reflexive *se*.)[10]

Let us now turn to the issue of the syntactic activity of the implicit Agent. According to the standard tests employed to diagnose syntactic activity of implicit arguments, the implicit Agent of passives/middles is syntactically represented. Agent-oriented adverbs are licit, cf. (30), (31) and (32):[11]

(30) Les contrats de location, ça   se   lit   attentivement.
      the contracts of rental   this REFL read-3SG carefully
      'Rental contracts are read carefully.'

      (Authier and Reed, 1996)

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[10]Of relevance here is also McGinnis (1999), who argues for a movement analysis of the reflexive subject in French. One of her arguments concerns the presentational expletive construction, which involves a postverbal subject and is only possible with unaccusative verbs. We have seen already that passive-*se* allows this, cf. (26a). See also Zribi-Hertz (2003).

[11]I have provided these examples as they appear in the literature on middles, but note that these sentences may not all constitute relevant data. This depends on whether they receive what I will propose in the following chapter is the middle interpretation. At least for (31) we can be confident that it does. The distinction between habitual passives and middles will be taken up in chapters 2 and 3, where I will be able to say more about what distinguishes between the two. Anticipating that discussion somewhat, let me suggest that adverbs like 'regularly' are unproblematic with habitual passives, but require extra pragmatic work when they combine with middles.

(31) Avant de les   préparer,   les épinards se   lavent   soigneusement.
      before of them prepare-INFIN the spinach-PL REFL wash-3PL carefully
      'Before preparing it, the spinach is washed carefully.'

      (Dobrovie-Sorin, 2002)

(32) Cette valise se   porte   avec une main.
      this suitcase REFL carrie-3SG with one hand
      'This suitcase is carried with one hand.'

      Dobrovie-Sorin (2002)

The implicit argument can also control the subject of an embedded purpose clause as in (33), and as (34) shows, it can act as the subject of a secondary predicate. In the following sections, we will see that control and secondary predication are possible even in the absence of a syntactically represented implicit argument. These diagnostics are therefore unreliable, but I have included them here for the sake of completeness. The examples are from Authier and Reed (1996).

(33) Une usine, ça se   brûle   pour toucher   l'assurance.
      A   factory, this REFL burn-3SG for   collect-INFIN the insurance
      'Factories, they can be burned down to collect the insurance.'

(34) Ce musée   militaire ne se   visite qu'en   uniforme.
      this museum military not REFL visits than in uniform
      'This military museum can only be visited by people in uniform.'

In fact, there is reason to believe that the possibility of control does not relate to the middle reading, but to a habitual passive one. Consider the following example, adapted from Zribi-Hertz (2003):

(35) Ces   racines se   mangent pour maigrir.
      these roots   REFL eat-3PL for   lose.weight-INFIN
      'These roots are eaten in order to lose weight'.

      * 'These roots are edible in order to lose weight.'

It has been claimed that it is the the stativity of middles, which is due to their genericity, that is responsible for the impossibility of control, see Marelj (2004) and references there. But this is not a satisfactory explanation. Habituality is also subsumed under genericity; since habituals also come out as stative, we expect habitual passives to disallow control just as well. And in the following section we will see that even underived stative predicates with no implicit argument can control into purpose clauses,

which suggests that stativity is insufficient as an explanation of the unavailability of the middle interpretation for (35).

A similar observation should be made about sentences involving ECM predicates. Examples like the following, from Zribi-Hertz (2003), have been advanced in favour of a syntactic derivation of middles. Even though I too am also assuming a syntactic derivation of middles, I have to stress Zribi-Hertz's observation that the middle reading of the sentence below does not seem to be available:

(36) Ce genre d'endroit se croit généralement hanté.
     this kind of place REFL considers generally haunted
     'This kind of place is generally considered haunted.'

These considerations are not meant to suggest that there is a syntactic distinction to be made between middles and reflexive passives. What in all likelihood lies at the heart of the differences reported here is semantic in nature.

The strongest and most conclusive piece of evidence for the syntactic activity of the implicit Agent comes from the fact that, just like in Greek, in French as well, reflexive passives admit a *by*-phrase. Authier and Reed (1996) provide empirical support for this claim for Canadian French, in the form of examples like the ones in (37). The latter differs from Continental French in that it is more liberal in allowing *by*-phrases as well as episodic reflexive passives of the type that, as we saw earlier, exist rather idiosyncratically in Continental French (cf. (27)). The following examples are from Authier and Reed (1996). These authors provide an analysis of the reflexive mediopassive, which is very similar to that of the copula passive, i.e. one involving movement of the object to subject position. "French passives and middles differ minimally with respect to their syntactic properties" (Authier and Reed, 1996, 521).

(37) a. En général, ces débats s'enregistrent par Anne, qui est notre
        in general these debates SE record-3PL by Anne who is our
        technicienne la plus qualifiée.
        technician-FEM the most qualified-FEM
        'Generally, these debates are recorded by Anne, who is our most qualified technician.'

     b. Ce costume traditionnel se porte sûrtout par les femmes.
        this garment traditional SE wears mainly by the women
        'This traditional garment is worn mostly by women.'

For Continental French the claim that middles admit *by*-phrases is perhaps more controversial. It seems generally true that Continental French speakers resist most reflexive passives with a *by*-phrase, and similarly for middles.[12] However, it seems in fact that it is not impossible for middles to license a *by*-phrase, as long as we ensure that the DP within the PP is of the right type. The following examples, where the *by*-phrase contains a periphrasis for *everyone*, have been deemed grammatical by speakers of Continental French on the middle reading:

(38) Ces   étoffes se repassent facilement par tout le   monde.
      these fabrics SE iron-3PL easily   by all   the world
      'These fabrics can be ironed easily by everybody.'

(39) La Tour Eiffel se voit   de   loin par tout le   monde (qui veut   bien
      the Eiffel Tower SE see-3SG from afar by all   the world   who wants well
      la   voir).
      her see-INFIN
      'The Eiffel Tower can be seen from afar by anyone who really wants to see it.'

(40) Le francais ne   s'acquiert   pas par tout le   monde.
      the french   NEG SE acquire-3SG NEG by all   the world
      'French cannot be acquired by everybody.'

Eric Mathieu, who provided the examples, informs me in a personal communication that prescriptive grammars of French ban the occurence of *by*-phrases with reflexive passives, which helps explain the resistance with which sentences like the above are met among native speakers.

What I conclude from the discussion of the Continental and Canadian French middles is that both are parasitic on reflexive passives. Following the majority of authors, I take it that the derivation of *se*-passives involves syntactic A-movement of the object to subject position, much like what happens in the case of periphrastic (copula) passives.

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[12]Note that there is an additional argument here for the syntactic identity of middles and passives: in languages which disallow *by*-phrases with reflexive passives (as opposed to copula passives), middles also fail to license them. According to Marelj (2004), in Polish and Serbo-Croatian *by*-phrases are illicit with reflexive passives. It comes as no surprise that they are impossible with middles as well. What we expect not to find is a language where reflexive passives permit *by*-phrases and middles disallow them.

1.4   Dutch and English

The evidence reviewed so far confirms the prediction made by the UTAH. However, as soon as one looks at middles in languages like English, Dutch and German, it becomes less clear that the UTAH can be upheld. This is the picture that emerges from the discussion of middles in these languages by Ackema and Schoorlemmer (1994, 1995). The evidence reviewed in this section is almost exclusively based on these authors' findings.

Middles in English and Dutch employ an intransitive verb with no morphological marking. Given the already mentioned affinities with passives and the evidence from languages like French, it is not surprsing that the earliest analyses of the English and Dutch middle, for example Keyser and Roeper (1984), have had it that, just like passives or unaccusatives, middles are derived via base-generating the surface subject in object position, and then moving it to subject position. Instantiations of such 'movement' analyses of middles have been proposed by Stroik (1992) and Hoekstra and Roberts (1993). The underlying structures that these authors provide for the English middle (and its Dutch counterpart) *Walls paint easily* are (41) and (42) respectively:

(41)   [$_{IP}$ walls$_i$ [$_{I'}$ I [$_{VP}$ [$_{VP}$ [$_{V'}$ paint t$_i$ easily]] PRO]]]
       (Stroik, 1992)

(42)   [$_{IP}$ walls$_i$ [$_{I'}$ I [$_{VP}$ pro [$_{V'}$ paint t$_i$ easily]]]]
       (Hoekstra and Roberts, 1993)

However, syntactic accounts along those lines run into trouble, since the prediction is that it should be possible to raise under middle formation arguments that bear no thematic relation to the verb (as Roberts (1987) points out). After all, passive does not affect only thematically related aruguments. One such problematic case are ECM verbs, which clearly disallow middle formation. Example (43) is from Ackema and Schoorlemmer (1994), (44) and (45) are from Roberts (1987):

(43)   a.   * John believes to be a fool easily.

       b.   John was believed to be a fool.

(44)   a.   John was seen singing.

       b.   * John sees singing easily.

(45)   a.   These problems are considered easy at MIT.

b. * These problems consider easy at MIT.

Another discrepancy between passive and middle formation concerns idioms. As Ackema and Schoorlemmer point out, in passivized idioms "the derived subject is the chunk of the idiom, which bears no grammatical relation in the active" (Ackema and Schoorlemmer, 1994, 193). The corresponding middle is ungrammatical:

(46) a. Advantage has been taken of John by unscrupulous operators.

b. * Advantage takes easily of naïve customers.

These facts, unexpected under a movement analysis for the English middle, indicate that middle formation is different from passivization. Although the latter is standardly taken to involve A-movement of a possibly thematically unrelated argument to subject position, middles exhibit what Roberts (1987) calls (in the spirit of Williams (1981)) 'thematic constancy'. As Ackema and Schoorlemmer point out, it could be that the ungrammatical middles above are explainable on the basis of other properties of middles, e.g. the restrictions on the input to the process (see section 1.6.2). The point is, however, that no other known instance of A-movement is subject to these restrictions, and that makes one suspect that A-movement is perhaps not what is going on in middles in Germanic.

Under movement analyses, the middle verb is analyzed as unaccusative. Although English lacks unaccusativity diagnostics, there is an argument from morphology that this is the wrong analysis.[13] The observation, due to Edwin Williams (personal communication), is the following. Generally, causative-inchoative pairs are not distinguishable morphologically in English. There do exist, however, a few transitive verbs whose unaccusative variant is morphologically distinct. One such case is the verb *raise*, whose unaccusative counterpart is *rise*. (47a) is an instance of the transitive verb, (47b) is the generic/habitual unaccusative. If the middle is an unaccusative verb, we expect it

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[13]Resultative predication is taken as an unaccusativity diagnostic for English (Levin and Rappaport-Hovav, 1995). The grammaticality of (i) below might seem to lend support to the purported unaccusativity of middles, and therefore to the structures in (41) or (42).

(i) This metal hammers flat easily.

However, on the independently motivated complex predicate analysis of resultatives (Neeleman and Weerman, 1993; Neeleman, 1994; Neeleman and van de Koot, 2003; Larson, 1989), it is not problematic that middle formation can take as input a verb and resultative complex. The comlplex itself is a transitive verb syntactically. See Ackema and Schoorlemmer (1994) for discussion.

to take the form of the already existing unaccusative. However, the middle in (47c) employs *raise*, and not *rise*. The same observation is made by Fellbaum (1986), who offers (48).

(47)   a. John raises his kids very strictly.

          b. The sun rises from the East.

          c. Obedient daughters raise more easily than disobedient sons.

(48)   This vinyl floor lays/*lies in a few hours.

That movement analyses cannot be right is strongly supported by Dutch. Ackema and Schoorlemmer (1995) demonstrate that Dutch middles systematically pattern with unergatives by failing the unaccusativity diagnostics, contrary to the predictions of movement analyses. I repeat the core of their argumentation immediately below. Sentences (49-55) display the behaviour of unergatives, unaccusatives and middles with respect to the principal tests for unaccusativity in this language.

The first diagnostic is auxiliary selection. In Dutch, unaccusatives select *zijn* 'be', whereas unergatives employ *hebben* 'have'. Movement analyses predict that middles should select *zijn*, in virtue of featuring a derived subject. However, middles select *hebben*, thus patterning with unergatives:

(49)   De taalkundigen *zijn/hebben gedineerd.
        the linguistics   are/have   dined

(50)   De zwaan is/*heeft gestorven.
        the swan   is/has   died

(51)   a. Dit vlees heeft/*is altijd gemakkeljk gesneden.
             this meat has/is   always easily   cut

          b. Dit soort boeken heeft/*is altijd goed verkocht.
             this sort books has/is   always well sold

Furthermore, in Dutch, unaccusatives allow both past and present participles as prenominal modifiers, whereas unergatives only allow the present participle prenominally. Dutch middles pattern with unergatives, and not unaccusatives:

(52)   a. de dinerende taalkundigen/ *de gedineerde taalkundigen
             the dining   linguists/   the dined   linguists

          b. een lijdende student/ *een geleden student
             a   suffering student/ a   suffered student

(53) a. de stervende zwaan/ de gestorven zwaan
          the dying   swan   the died   swan

     b. de vallende bladeren/ de gevallen bladeren
          the falling   leaves   the fallen   leaves

(54) a. het makkelijk snijdende/ *gesneden vlees
          the easily   cutting   cut   meat

     b. de lekker lopende/ *gelopen schoenen
          the nicely walking   walked   shoes

Finally, Dutch middles, like unergatives and unlike unaccusatives, do not allow adjectival passive formation:

(55) a. De kinderen lijken gegroeid.
          the children look   grown

     b. *De kinderen lijken gewerkt.
          the children look   worked

     c. *Dit vlees lijkt   gemakkelijk gesneden.
          this meat looks easily   cut

     d. *Deze schoenen lijken lekker gelopen.
          these shoes   look   nicely walked

Ackema and Schoorlemmer (1994) also discuss two additional unaccusativity diagnostics, impersonal passives and -*er* nominals. The behaviour of middles also with respect to these tests disconfirms movement analyses, but there are complications with these diagnostics. Ackema and Schoorlemmer (1994) discuss them extensively; I refer the reader to their work for the details. I discuss impersonal passivization in chapter 4.

In light of such evidence, movement analyses of the Dutch middle seem highly implausible. Given the morphological similarity of the English and Dutch middles, and the affinity between the two languages, it is not unwarranted to treat English on a par with Dutch with regards to middle formation. As we have seen already, the evidence from Dutch shows quite clearly that middles are not syntactically unaccusative, and there are some indications even from English that (41) or (42) cannot be the right underlying structure. Since middles in Dutch and English do not behave as unaccusatives, analyses that take the syntactic subject in middles to originate in object position in line with the UTAH face a severe challenge.

The second part of Ackema and Schoorlemmer (1994)'s argumentation concerns the status of the implicit Agent in middles. According to both (41) and (42), the implicit argument is syntactically represented, and is hence predicted to be syntactically active. The verb in the middle is thus argued to be identical as far as its argument structure is concerned to the transitive entry. I repeat these proposals below:

(56) [$_{IP}$ walls$_i$ [$_{I'}$ I [$_{VP}$ [$_{VP}$ [$_{V'}$ paint t$_i$ easily]] PRO]]]
      (Stroik, 1992)

(57) [$_{IP}$ walls$_i$ [$_{I'}$ I [$_{VP}$ pro [$_{V'}$ paint t$_i$ easily]]]]
      (Hoekstra and Roberts, 1993)

Let us start by clarifying (57). Hoekstra and Roberts (1993) argue that both internal and external arguments project canonically (in the sense of the UTAH). The external thematic role is assigned in the (VP-internal) subject position to a *pro*. The problem Hoekstra and Roberts (1993) had to solve was the licensing of this element, and the fact that this *pro* was unlike any other.

For this, Hoekstra and Roberts (1993) adopt the distinction from Rizzi between formal licensing and content licensing, and introduce in addition a third kind of licensing, which occurs when a syntactic element is in a thematic relation with a head. The new distinction is between m(orphological), or S-structure licensing, and θ-licensing. Their licensing conditions for *pro* are as follows (Hoekstra and Roberts, 1993, 190):

(58) a. Morphological licensing:
          A m-formally licenses B only if A is a Case-assigner and B is in A's Case-assignment domain. B is m-content licensed only if B is assigned relevant morphological features (e.g. agreement) by A.

      b. arb licensing:
          A, a lexical head, assigns the index arb to *pro* in its θ-assignment domain (sister of A). This index may be identified by a modifier or by some morphological element.

(58a) is Rizzi's, (58b) is their own contribution. The idea is that *pro* can be formally licensed by being assigned a θ-role by a lexical head; and this in fact is how middle *pro* is licensed, as it receives the external theta role of the verb.[14] This middle *pro* will be content-licensed by a modifier, to wit the adverbial typically present in middles.

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[14]As Cabredo-Hofherr (1997) observes, the authors contradict themselves on this point, as they

Note that this new flavour of *pro* is attested only in the case of English and Dutch middles. In fact, Hoekstra and Roberts (1993) try to make the case for a parallel between English object deletion and middles, by arguing that the same sort of *pro* is involved in both structures (but see Rizzi (1986) for an analysis of English object deletion with no *pro*). This, however, clearly is false, as object deletion structures do not require a modifier, whereas middles do. This difference between object-drop and middles was acknowledged in Roberts (1987), although no satisfactory solution to the problem was offered.

There is a much more severe problem with this proposal. The problem is that the traditional tests for the syntactic activity of implicit arguments, which have been mentioned already in connection to French, do not give the desired results. Only syntactically active Agents can license agentive adverbs, *by*-phrases, and purpose clauses. The implicit Agent in middles, contrary to the implicit argument of passives, fails to do any of the above (Ackema and Schoorlemmer, 1994, sect.1):

(59)   a.   * Walls paint easily on purpose/carefully.

       b.   * Walls paint easily by Harry/by anyone.

       c.   * Walls paint best to protect them against the rain.

(60)   a.   The wall was painted carefully.

       b.   The wall was painted by Harry.

       c.   The wall was painted to protect it against the rain.

The data show that the implicit Agent in middles is not syntactically active, contrary to the implicit Agent of passives. Hoekstra and Roberts (1993) adopt the following solution to this problem. They stipulate a correlation between arbitrary licensing and syntactic inactivity: "where *pro* is m-licensed for content, it is syntactically active. This means that elements that are arb-licensed only are not syntactically active" (Hoekstra and Roberts, 1993, 192). Ackema and Schoorlemmer (1995) have correctly pointed out that what Hoekstra and Roberts (1993) do is "introduce a syntactic element that does not syntactically manifest itself" (Ackema and Schoorlemmer, 1994, 176). I concur with Ackema and Schoorlemmer that this proposal cannot be maintained.

mention, prior to this comment, that arb-*pro* is subject to the standard formal licensing condition in (58a) in addition to the condition in (58b). See Cabredo-Hofherr (1997) for a critical examination of their account.

Let us now consider the version of a movement analysis for middles advocated by Stroik (1992), repeated in (61). The issue of the purported unaccusativity of the middle verb has been dealt with already, so I will only summarize the arguments in favour of and against Stroik's proposal concerning the status of the implicit Agent.

(61) [$_{IP}$ walls$_i$ [$_{I'}$ I [$_{VP}$ [$_{VP}$ [$_{V'}$ paint t$_i$ easily]] PRO]]]

According to the proposal in (61), the external theta role in English/Dutch middles is assigned to PRO$_{arb}$, adjoined to VP. Stroik brings forward empirical evidence having to do with binding, the *for*-phrases sometimes present in middles, and control of an embedded PRO by the middle verb's PRO. The argument from binding is that, in cases like (62), the anaphor within the syntactic subject is bound by PRO. This can only happen if movement has occured for the subject DP from the object position.

(62) a. Books about oneself never read poorly.

   b. Letter to oneself compose quickly.

But there are good reasons to believe that (62) involves no structural binding, but instead represents a case of logophoricity (Zribi-Hertz, 1993; Ackema and Schoorlemmer, 1995). As Ackema and Schoorlemmer note, anaphors may be used logophorically, in which case no (c-commanding) antecedent is required. The following sentences exemplify cases of anaphors occuring legitimately albeit in the absence of a (c-commanding) antecedent: (63) is from Ackema and Schoorlemmer (1995), (64) is from Reinhart and Reuland (1993). Stroik's examples involve such logophoric uses of the anaphor, and so the argument for syntactically representing the middle Agent is flawed.

(63) a. Physicists like yourself are a godsend.

   b. Letters to oneself usually stink.

(64) The queen invited both Max and myself for tea.

A second argument adduced by Stroik in favour of the syntactic activity of the middle Agent concerns the occurence of *for*-phrases in middles. Stroik's claim is that the DP within this PP is the overt counterpart of the middle PRO (examples from Ackema and Schoorlemmer (1995)):

(65) a. The book reads easily for Mary.

   b. No Latin text translates easily for Bill.

It seems, however, that *for*-phrases cannot serve as an argument, because, first, they are not always licit with middles, but also because they can occur when no PRO is otherwise motivated.[15] The sentences in (66) and (67) substantiate these two points respectively:

(66)   a. These books don't sell (*for the average shopkeeper).

      b. This shoe chest stows on floor or shelf (*for tidy people).

(67)   a. That book is too thick for Mary.

      b. As far as translation is concerned, no Latin text poses a problem for Bill.

Finally, Stroik presents an argument from control. Although control into purpose clauses is impossible for the implicit argument in middles, cf. (59c), there are other instances of control which might suggest that the implicit argument is syntactically represented:

(68)   Most physics books read poorly even after reading them several times.

(69)   Bureaucrats bribe best after doing them a favour or two.

The question is whether these cases necessitate postulating a syntactic element as the controler. Ackema and Schoorlemmer (1995, 2002) argue against this view. They point out that there is independent evidence from implicit arguments which do not project syntactically but which nonetheless are able to control, that this sort of control is not syntactic, in the sense that no (c-commanding) controler is necessary. Ackema and Schoorlemmer (2002) discuss extensively the distinction between obligatory and nonobligatory control (on which see in particular Williams (1980)). The following examples are cases of the latter type of control, i.e. they involve 'control' even though there is no evidence for a syntactic controler. (70) is from Rizzi (1986), who has argued that implicit dative (as well as accusative) objects in English are not represented syntactically. The examples in (71) are from Ackema and Schoorlemmer (2002), and illustrate the same point with the predicates *difficult* and *cooperative*. Even though these predicates have implicit Experiencers, they do not correspond to syntactically realized arguments.

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[15]For discussion of the first point mainly, see also Rapoport (1999). Note, however, that Rapoport does not make the distinction between generic unaccusatives and middles, which leads her to draw conclusions about middles which in reality concern unaccusatives. In any event, the factors that determine the acceptability of *for*-phrases in middles constitute an unresolved issue, which will not concern me.

(70)   John shouted/said/gave the order (to Bill) to leave.

(71)   a. Most physics books are very difficult even after reading them several times.

       b. Bureaucrats usually are more cooperative after doing them a favour or two.

These considerations relate to the behaviour of middles with respect to another diagnostic for syntactic activity of implicit arguments which we considered earlier, in the discussion of French middles. In English and Dutch middles, secondary predicates which apparently predicate a property of the implicit Agent are sometimes licit, see (72) (Ackema and Schoorlemmer, 2002, 48). Again, it is unlikely that these sentences involve a syntactically represented subject for the secondary predicate corresponding to the middle Agent, given examples like (73). These sentences are grammatical, even though they predicate a property of an entity which is not syntactically present:

(72)   a. Physics books read poorly when drunk.

       b. Dat soort artikelen leest gemakkelijker met een slok   op.
           that sort   articles   reads easier   with a   drink up
           'That sort of articles is easier to read when drunk.'

(73)   a. Physics books are tedious when sober.

       b. Met een slok   op is wiskunde   veel leuker.
           with a   drink up is mathematics much funner
           'Mathematics is much more fun with a drink.'

For more details, I refer the reader to the works cited already and conclude that the Agent in English and Dutch middles, though semantically present, is syntactically inert.

To sum up, following Ackema and Schoorlemmer, there is no evidence for an analysis of middles in languages like English and Dutch on a par with passives. Ackema and Schoorlemmer (1994, 1995) have instead proposed to treat middle formation as an operation on argument structure, one that takes place prior to syntax proper (cf. Williams (1981)). They provide an analysis of Dutch and English middles whereby the understood object is base-generated in subject position, in violation of the UTAH. Following these authors, I take it that in these languages, middles involve a base-generated subject. The account to be presented in this thesis will depart from the one proposed by Ackema and Schoorlemmer in certain respects, not least because my main interest lies in explaining the cross-linguistic variation, which was not the objective of Ackema and Schoorlemmer (1994, 1995). For the time being, I take it that something

like their presyntactic derivation of the English and Dutch middle fares better with respect to the data than a syntatic account does. In the following section I will show that the conclusions reached here with respect to English and Dutch extend to German middles.

1.5   German

As Cabredo-Hofherr (1997) has extensively argued, middles in German systematically pattern with unergatives and not unaccusatives. They select *haben*, 'have', and not *sein*, 'be', cf. (74), similarly to unergatives and unlike unaccusatives.

(74)   a.   John ist/*hat zur   Schule gegangen.
            John is/has   to-the.DAT school gone

       b.   John hat/*ist gesungen.
            John has/is   sung

       c.   Das Buch hat/*ist sich   immer gut gelesen.
            the book has/is   REFL always well read-PART
            'The book has always read well.'

Furthermore, like unergatives, middles cannot form prenominal past participles, as seen in (75). Recall that only unaccusatives can form past participles prenominally (present participles as prenominal modifiers are licit for both unaccusative and unergative verbs).

(75)   a.   das zerbrochene Stock
               the broken   stick

       b.   * das gesungene Kind
               the sang   child

       c.   * das sich   gut gefahrene Auto
               the REFL well driven   car

       d.   * das sich   gut verkaufte Buch
               the REFL well sold   book

Finally, German middles disallow topicalization of the surface subject with the participle, see (76). This also suggests that they are syntactically unergative, because topicalization of the subject and the participle is only possible with derived subjects,

i.e. subjects of unaccusative verbs.[16]

(76)   a.   Ein Stock zerbrochen hat schon einmal.
             a   stick broken   has alredy once

       b. *Ein Kind gesungen hat schon   einmal.
             a   child sang   has already once

       c. *Eine Kurzgeschichte gelesen hat sich   schon immer schnell.
             a   short story   read   has REFL always   quickly

To sum up, there is evidence that German middles pattern with English and Dutch middles in exhibiting syntactic unergativity. That German belongs to the same group of language with respect to middle formation is evident also from the fact that the implicit Agent is not syntactically present (Fagan, 1992; Steinbach, 2002). Contrary to the implicit argument of passives, the implicit Agent of middles cannot license a *by*-phrase. Moreover, agent-oriented adverbs are illicit:

(77)   a.   Das Buch liest sich (*von den meisten Lesern/irgendwem) leicht.
             the book reads REFL by   the most   readers/anyone-DAT easily
             'The book reads easily (*by most readers/anyone).'

       b.   Das Buch wurde von den Shülern gelesen.
             the book was   by the pupils   read
             'The book was read by the pupils.'

(78)   a. *Das Buch liest sich vorsichtig.
             the book reads REFL carefully
             'The book reads carefully.'

       b.   Das Buch wurde vorsichtig gelesen.
             the book was   carefully read
             'The book was read carefully.'

There are two sets of data which introduce complications for the claim advanced here. Both cases are extensively discussed in Cabredo-Hofherr (1997), who reaches the same conclusions as the ones drawn here, namely that there is no convincing evidence in favour of the syntactic activity of the Agent in middles.

First, there are some contexts which can be said to involve control by the implicit argument. Cabredo-Hofherr carefully distinguishes among different kinds of infinitival

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[16]I have not included all the diagnostics here, but only those which are immediately relevant and show conclusive results. See Cabredo-Hofherr (1997) for extensive discussion of the unaccusativity diagnostics available in German applied to middles.

complements. I will only discuss control into purpose clauses here, as this constitutes the most likely context which would require a syntactically active element.

Cabredo-Hofherr (1997) points out that there are successful cases of control into purpose clauses, where no syntactically present argument is available, like the following sentences, which involve stative verbs with no implicit arguments (or whose implicit arguments are not the ones controling the PRO of the infinitive):

(79) Die Operation ist notwendig, um weitere Komplikationen   zu verhindern.
      the operation is necessary   for further complications-ACC to avoid-INFIN
      'The operation is necessary to avoid further complications.'

(80) Die Abschlussveranstaltung findet am   Nachmittag statt, um den
      the closing ceremony   finds in.the-DAT afternoon   place for the
      Teilnehmern   noch am   selben Tag die Abreise   zu ermöglichen.
      participants-DAT yet   on.the-DAT same   day the departure to allow-INFIN
      'The closing ceremonly takes place in the afternoon, as to allow the participants
      to leave the same day.'

(81) Ärztekittle   sind weiß, um sie   bei 95 Grad   waschen   zu können.
      doctors' clothes are white for them in 95 degrees wash-INFIN to can-INFIN
      'Doctors clothes are white in order to be able to wash them at 95 degrees.'

Such examples indicate that control into purpose clauses is possible even in the absence of a structurally represented argument in the matrix clause. Therefore, the fact that a similar pattern is found with middles does not show that the implicit Agent is syntactically realized:[17]

(82) Dieses Buch liest sich   gut, um sich   auf die Prüfung vorzubereiten.
      this   book reads REFL well for REFL on the exam   to.prepare-INFIN
      'This book reads well to prepare for an exam.'

(83) Das Buch liest sich   nur um einzuschlaffen   gut.
      the book reads REFL only for to.fall.asleep-INFIN well
      'The book reads well only in order to fall asleep.'

The second set of data concerns adjectives predicated of the implicit argument. Again, the grammaticality (for some speakers) of some middles with such secondary predicates—cf. the examples in (84)—does not necessitate postulating a syntactically represented Agent. This view is shared by Cabredo-Hofherr (1997). We have seen

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[17]In fact, there is considerable variation among speakers with respect to the following sentences, which I ignore for the sake of the argument.

already that similar cases exist in English and Dutch. Moreover, note that there are similar sentences which are irremediably ungrammatical, cf. (85):

(84)   a.   So ein Buch liest sich am besten angetrunken.
            such a book reads REFL best drunk
            'Such a book reads best (when one is) drunk.'

       b.   Solche Probleme lösen sich am ehesten im Schlaf.
            such problems solve REFL most likely in sleep
            'Such problems are most likely to solve (when one is) asleep.'

       c.   Dieses Auto fährt sich sogar müde leicht.
            this car drives REFL even tired easily
            'This care drives even (when one is) tired easily.'

(85)   a.   ?? Eine solche Expedition übersteht sich leicther gut ausgerüstet.
            one such expedition survives REFL easier well prepared
            'One survives such an expedition more easily if one is well equiped.'

       b.   * Eine solche Aufgabe nimmt sich nur hochmotiviert erfolgreich in
            a such task takes REFL only highly.motivated successful in
            Angriff.
            attack
            'Such a task is undertaken successfully only if one is highly motivated.'

I conclude that middles in German pattern with English and Dutch in involving a base-generated subject and an implicit Agent which is not represented in the syntax. There is, however, one aspect of middle formation which characterizes exclusively German, namely the presence of a reflexive. I will discuss the requirement of the reflexive in German but not Dutch middles in chapter 4. Until that point, I will treat middles in German on a par with their English and Dutch counterparts.

1.6   Some more differences

There are some more dissimilarities between middles in English, Dutch and German on the one hand, and middles in Greek and French on the other, to which we now turn.

1.6.1   The need for adverbial modification

Middles in Germanic languages seem to require some sort of adverbial modification—typically, an adverb like *easily* or *well*:

(86)   English:

    a.   * Bureaucrats bribe.

    b.   * Pine saws.

    c.   * This book reads.

(87)   Dutch:

    a.   * Zo'n   stuk zingt.
        such.a piece sings

    b.   * Dit boek leest.
        this book reads

(88)   German:

    a.   * Das Buch liest sich.
        the book reads REFL
        'The book reads.'

    b.   * Der Stoff wäscht sich.
        the fabric washes REFL
        'The fabric washes.'

    c.   * Der Wagen fährt sich.
        the car   drives REFL
        'The car drives.'

At the same time, it has been claimed by Roberts (1987); Condoravdi (1989b); Ackema and Schoorlemmer (1995) among others that negation, a modal, or emphatic stress on the verb are capable of rescuing an adverbless middle.[18]

(89)   English:

    a. Bureaucrats may bribe, but you never know.
       (Ackema and Schoorlemmer, 2002, 9)

    b. Pine SAWS/DOES saw after all!

    c. This book doesn't read.

(90)   Dutch:

    a. Dit vlees snijdt niet.
       this meat cuts   not
       'This meat won't cut.'

       (Ackema and Schoorlemmer, 2002, 10)

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[18]Native speakers' intuitions do not seem to actually comply with this claim. The matter of adverbless middles is more complicated; extensive discussion is deferred until chapter 3.

   b. Die   aardappels ROOIEN, niet te geloven!
      those potatoes   dip.up,   not to believe
      'I can't believe how easy to dig up those potatoes are.'

      (Ackema and Schoorlemmer, 2002, 10)

(91) German:

    Dieses Kleid macht sich   nicht zu.
    this   dress fastens REFL not   PART

    'This dress doesn't fasten.'

Finally, to make matters a bit more complicated, there are some few cases of adverbless middles in English, Dutch and German reported in the literature which do not require stress, negation or a modal to be acceptable, and on which acceptability judgments are in fact not that difficult to elicit.

(92) English:

    a. This silk washes.

    b. This dress buttons.
       (McConnell-Ginet, 1994)

(93) Dutch:

    Deze jurk ritst dicht.
    this   dress zips shut

    'This dress zips up.'

(94) German:

    Dieses Kleid knöpft   sich   zu.
    this   dress buttons REFL PART

    'This dress buttons.'
    (Fagan, 1992)

On the whole, however, it is fair to say that Germanic middles in principle require a modifier. By contrast, in Greek and French, adverbless middles are not infrequent or deviant at all, and the presence of negation, a modal or emphatic stress is not felt necessary (French data from Fagan (1992)):

(95) French:

      a. Ce papier se lave.
         this papier SE wash-3SG
         'This paper is washable.'

      b. Le papier se recycle.
         the paper SE recycle-3SG
         'Paper is recyclable.'

      c. Cette racine se mange.
         this   root   SE eat-3SG
         'This root is edible.'

      d. Cette solution se discute.
         this   solution SE discuss-3SG
         'This solution is debatable.'

(96)   Greek:

      a. To nero   edo pinete.
         the water-NOM here drink-3SG.NONACT.IMPERF.
         'The water here can be drunk.'

      b. To giali   anakiklonete.
         the glass-NOM recycle-3SG.NONACT.IMPERF
         'Glass is recyclable.'

      c. Afta ta manitaria   trogonde.
         these the mushrooms eat3PL.NONACT.IMPERF
         'These mushrooms are edible.'

      d. Afto sizitiete.
         this discuss-3SG.NONACT.IMPERF
         'This can be discussed.'

Whether the need for modification is a syntactic or semantic/pragmatic property of middles is a much debated issue. On the one hand, there are accounts of middles where the need for the adverb is attributed to essentially the syntax of the construction, for example Roberts (1987); Hoekstra and Roberts (1993). On the other hand, Condoravdi (1989b); McConnell-Ginet (1994) have argued that what makes an adverb necessary has to do with conditions on semantic well-formedness. Related to this view is the one defended by Fagan (1992); Ackema and Schoorlemmer (1994, 1995); Steinbach (2002) among others, according to which it is considerations of pragmatic informativeness that impose the requirement for a modifier. Crucially, even though the crosslinguistic difference with respect to this issue has been recognized (Fagan, 1992; Steinbach, 2002), there exists as yet no account that can capture it.

1.6.2   Restrictions on middle formation

In addition to the difference with respect to the need for modification, middle formation in English, Dutch and German seems to be more restricted than in Greek and French. The nature of the constraint(s) is a matter of some controversy; the issue will be taken up in chapter 3. For now, we can use aspectual terms: apparently only activity and accomplishment verbs are legitimate input to middle formation in Germanic, achievements and statives are illicit (Fagan, 1992).

(97)   English:

    a.   * Disguised spies don't recognize easily.

    b.   * Such mistakes don't notice easily.

    c.   * High summits don't reach easily.

    d.   * French acquires easily.

(98)   Dutch:

    a.   * Dat herkent   gemakkelijk.
        that recognizes easily

    b.   * Frans   verwerft gemakkelijk.
        French acquires easily

(99)   German:

    a.   * Der Kirchturm   sieht   sich   liecht trotz   des   Nebels.
        the church tower see-3SG REFL easily despite the-GEN fog

    b.   * Diese Krankheit erkennt   sich   nicht leicht.
        this   disease   recognizes REFL not   easily

    c.   * Deine Unsicherheit bemerkt sich   unschwer.
        your   uncertainty   notices   REFL not.difficult

    d.   * Die Welt kennt   sich   nicht leicht.
        the world know-3SG REFL not   easily

As with the case of the lack of adverb, French and Greek seem to be more liberal, in allowing achievements and even statives to undergo middle formation:

(100)   French:

    a.   La Tour Eiffel se voit   de   loin.
        the Eiffel Tower SE see-3SG from afar
        'The Eiffel Tower can be seen from afar.'

    b.   Pierre se   reconnaît à son nez rouge.
            Pierre REFL recongizes by his nose red
            'Pierre is recognizable by his red nose.'

    c.   La saleté   des   rues   de New York se   remarque facilement.
            the dirtiness of.the streets of New York REFL notices   easily
            'The dirtiness of the streets of New York can be noticed easily.'

    d.   Le francais s'acquiert   facilement.
            the french   REFL ACQUIRES easily
            'French is easy to acquire.'

(101)   Greek:

    a.   I   tenies tu Agelopulu   de   vleponde
            the movies the Agelopulos-GEN NEG watch-3PL.NONACT.IMPERF.
            me   tipota.
            with nothing
            'Movies by Angelopoulos are impossible to watch.'

    b.   Tetia sfalmata den anagnorizonde   efkola.
            such mistakes not recognize-3PL.NONACT.IMPERF easily
            'Such mistakes are not easy to recognize.'

    c.   To rafi ine poli psila ke   de   ftanete   efkola.
            the shelf is   too high and not reach-3SG.NONACT.IMPERF easily
            'The shelf is too high and is not easy to reach.'

            (Tsimpli, 2004)

    d.   Ta elinika den kataktonde/
            the greek   not acquire-3PL.NONACT.IMPERF/
            mathenonde   efkola
            learn-3PL.NONACT.IMPERF easily
            'Greek is not easy to acquire/learn.'

We are in need of an explanation for why languages differ in this way, and for why middle formation should be restricted in Germanic in the first place.

    In this section, we have seen that there exist two additional dimensions of middle formation with respect to which there is crosslinguistic variation of a by now familiar pattern—Greek is grouped together with French, and both languages behave differently from English, Dutch and German. Given the number of properties shared by the languages in the two respective groups, the conclusion seems unavoidable that there exists a pattern of cross-linguistic variation which merits our attention and which demands a principled account.

1.7 An alternative syntactic approach

The evidence reviewed thus far strongly suggests that middles across languages do not behave in a syntactically uniform way. The cross-linguistic data show that middles exhibit syntactic properties of one sort in one type of language, and properties of a different sort in another. It is thus an impossible task to coherently characterize the 'middle construction' in syntactic terms. This suggests that the middle is not a syntactic category, but rather should be treated as a semantic notion. In line with Condoravdi (1989b). I maintain that the middle is a particular interpretation that independently existing structures receive: passives in Greek and French, unergatives in English, Dutch and German. It does not follow from such an approach that one and the same structure will be used across languages in order to express the middle semantics.

There is one potential objection to the conclusion I have been led to. One could maintain the thesis that the middle is a particular interpretation conveyed by independently existing means, but at the same time argue that across languages middles *do* have something syntactic in common, on which we can rely in providing an account for them: they are parasitic on inherent reflexives. That is, whatever happens to be the syntax and form of inherent reflexives in a given language, middles will employ precisely that. This alternative is particularly relevant in light of the proposal for English middles advocated by Massam (1992) and endorsed by Steinbach (2002), that they feature a null reflexive in the object position bound by the syntactic subject. Inherent reflexives are relevant because they are cases for which a null reflexive might seem independently motivated.

Let us explore this possibility. Inherent reflexives like *wash* and *shave*, and verbs of grooming more generally, can receive a reflexive interpretation without any (overt) morphological marking, i.e. no (overtly realized) anaphor is necessary.[19] Moreover, French middles and inherent reflexives both employ the reflexive clitic *se*, and similarly German middles and inherent reflexives require *sich*; in fact Steinbach's main motivation for adopting Massam's view of English middles is the unification of English with

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[19]Reinhart and Siloni (2004) have argued in favour of an unergative analysis of these cases and more generally of reflexives universally (and so they do not seem to endorse the view that reflexive *wash* and *shave* involve a null reflexive). Middles and reflexives would thus come out very similar syntactically: both are unergative structures.

German. However, once we take into consideration the other two languages in our sample, it becomes evident that this proposal is not tenable.

In Greek inherent reflexives and middles employ nonactive morphology alike. The former do not tolerate a *by*-phrase, presumably because, in some sense, the theta roles corresponding to Patient and Agent have been identified. But in the case of middles, no such identification takes place, and the two arguments remain distinct. As we have seen already, a *by*-phrase is licit with middles in Greek. The contrast, illustrated below, is entirely mysterious under an approach that treats middles as parasitic on inherent reflexives.

(102)   * O   Nikos   plenete   apo ti   Maria.
            the Nikos-NOM wash-3SG.NONACT.IMPERF. by   the Maria-ACC

(103)   Teties askisis   de   linonde   apo protoetis
            such   exercises-NOM.PL.   NEG solve-3PL.NONACT.IMPERF. by   first.year
            fitites.
            students-ACC
            'Such exercises cannot be solved by first-year students.'

Moreover, on the unergative analysis of reflexives advocated by Reinhart and Siloni (2004), middles are syntactically distinct from inherent reflexives. We have already seen evidence for the unaccusativity of the 'middle' verb. Furthermore, we have already encountered an important difference between middles and reflexives, which is repeated below. Whatever the explanation for it is, the contrast between (104) and (105) runs counter to the idea that middles are parasitic on reflexives:[20]

(104)   a.   * I   afelis   eksapatunde   efkola na   psifisun
                the naive-PL.NOM deceive-IMPERF.NONACT.3PL easily SUBJ vote-3PL
                deksia.
                right
                'Naive people are easily deceived into voting for the right wing party.'

       b.   * O   Yianis   ksejeliete   efkola na   sinexisi
                the Yianis-NOM fool-IMPERF.NONACT.3SG easily SUBJ continue-3SG
                ti   dulia.
                the work-ACC
                'Yiannis can be fooled easily into continuing to work.'

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[20]I remain agnostic on what the syntax of reflexives is in Greek. Papangeli (2004) has proposed a treatment of Greek reflexives within Reinhart's system, which suggests that she endorses the view that they are unergative, although she does not run the unaccusativity tests.

(105) a. I   Maria   xtenistike   gia na vgi   ekso.
          the Maria-NOM comb-NONACT.IMPERF.3SG for SUBJ go-3SG out
          'Maria combed herself in order to go out.'

      b. Ta pedia   dithikan   grigora gia na   prolavun
          the children-NOM dress-NONACT.PERF.3PL quickly for SUBJ catch-3PL
          to   treno.
          the train-ACC
          'The children dressed quickly in order to catch the train.'

Furthermore, in Dutch, inherent reflexives appear with the reflexive element *zich*, whereas middles disallow the reflexive. This, again, shows that the syntax of middles cannot be reduced to the syntax of inherent reflexives.

(106) Jan schaamt *(zich).
      Jan shames   REFL
      'Jan is ashamed.'

(107) Dit boek leest (*zich) gemakkelijk.
      this book reads REFL   easily
      'This book reads easily.'

But even English provides a counterargument. As argued by Borgonovo and Neeleman (2000) and Safir (2004), there are sentences with *himself* which qualify as instances of inherent reflexivity. (The Dutch equivalents of these cases employ *zich*.) An example is (108), on the nonvolitional reading. But the anaphor is illicit in middles.

(108)   John hurt himself.

(109)   * This book reads itself easily.[21]

Furthermore, there are cases of German inherent reflexives which, like English, do not require *sich*; the middle, however, always does. Engelberg (2002)) provides the

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[21]This brings up the claim made by Williams (1981 and personal communication) that English has two middle constructions, the one we are discussing and the one featuring the anaphor, cf. (i):

(i) This book virtually/practically reads itself.

I don't agree with this. It seems to me that in cases like (i) the thematic structure is altogether different: the syntactic subject receives the Agent theta role, and the anaphor the Patient theta role. Because it is anomalous to construe a book as an Agent, *virtually/practically* is required. Note also that examples like (i) resist modification by *easily*, which 'true' middles cannot do without. It could very well be that middles and 'virtual-constructions' have in common (some aspects of) the dispositional semantics, which I develop for middles in the following chapter; but in any event it does not follow that all dispositionals are middles.

following examples, which can only receive a reflexive interpretation, even though no *sich* is present:

(110)   a. Er duschte   in fünf Minuten.
                he showered in five minutes
                'He showered in five minutes.'

           b. Sie badete in zwanzig Minuten.
                she bathed in twenty   minutes
                'She bathed in twenty minutes.'

In sum, the proposal that middles are parasitic on inherently reflexive predicates faces a number of problems and cannot be maintained.

1.8   Summary

The purpose of this chapter has been to introduce the task that is undertaken in this thesis. It has been established that middles do not behave in a uniform syntactic way across languages: on the one hand, in English, Dutch and German, they are parasitic on unergative verbs, and the implicit Agent is syntactically inert. In French and Greek, on the other hand, middles take the syntactic guise of passives; in the former case, the verb is accompanied by the reflexive clitic *se*, in the latter case, the verb carries an affix of nonactive voice. In both languages, the implicit Agent is syntactically active, to the effect that a *by*-phrase is licit. Additional differences, not of a syntactic nature, were reviewed in sections 1.6.1 and 1.6.2. They concern the obligatoriness of adverbial modification and the restrictions on middle formation. These aspects of middle formation too attest crosslinguistic variation: Greek and French pattern together and contrast with English, Dutch and German.

The data thus indicate that there is a robust bipartition of languages with respect to the behaviour of middles. The one thing common to middles across languages, as far as the syntax is concerned, is that they are parasitic on independently existing structures. I have argued that this structure cannot be argued to be the structure employed to express inherent reflexivity, as there exist significant syntactic differences between inherent reflexives and middles. These facts suggest that a characterization of the middle couched in syntactic terms is unfeasible, because any attempt to syntactically define the middle construction across languages will have to ignore the syntactic differences that exist. In other words, there is no cross-linguistically coherent syntactic sense of

the 'middle'. In the spirit of Condoravdi (1989b), I conclude that the middle does not exist as a syntactic construction. Instead, its most appropriate characterization is that of a particular interpretation that independently available structures receive, namely unergatives and passives. The central question that I address in this thesis concerns the locus of the crosslinguistic variation. In other words, my aim will be to provide an answer to the following: what determines which structure will be employed in a given language to convey the middle interpretation?

In the course of the discussion, I will be refering to the 'middle verb/ construction', to 'middle formation' and the like only for the sake of convenience. On my approach, 'middle constuction' is the independently available structure which encodes the middle interpretation, and 'middle formation' refers to the independently existing mechanisms whereby a given structure comes to convey the middle interpretation. I will need to resort to the established ways of referring to these notions, but the reader should bear in mind that this is merely for stylistic purposes and for the ease of exposition.

Finally, let me address a question that Anne Zribi-Hertz (p.c.) has raised: is the upshot of this approach that the middle exists as a cognitive category in the mind of the speakers? I would not like to suggest that, nor do I believe it follows. My point of emphasis is that the way to understand the attested crosslinguistic variation is to not treat the middle as a syntactic creature, but rather as an interpretation that arises through a conspiracy of interrelated factors, and then ask which properties of languages are responsible for the choice of structure employed to convey this interpretation. The only mind, therefore, in which the middle might exist as a category, is that of linguists. The definition of 'the middle' that I will develop does not have the status of a grammatical principle.

1.9   The structure of the thesis

The discussion in this study will proceed in the following way.

In **chapter 2** I propose a novel characterization of the middle semantics, from which we will derive the core of the properties shared by middles in all the languages examined. The following chapter therefore aims at elucidating the middle as a particular interpretation. In particular, I will argue that the middle is a disposition ascription to the Patient/Theme argument, an otherwise internally realized argument. I propose a treatment of dispositional sentences as subject-oriented generics. This will allow

us to derive the fact that across languages, personal middle constructions feature the understood object in subject position. But this proposal also makes the rest of the properties of middles follow: the genericity of the otherwise eventive verb, and the demotion and interpretation of the external argument. The latter is interpreted as a generic indefinite, which I will dub ONE*.

Chapter 3 deals with the cross-linguistic differences. I show there that what sets apart the two language groups that have been identified here is the (un)availability of imperfective aspect as a means of encoding genericity. Only Greek and French make the distinction between generic and nongeneric statements morphologically overt, in the form of the distinction between imperfective and perfective aspect on the verb. The aspectual system of English, Dutch and German, by contrast, does not encode this distinction. I argue for a correlation between the nature of the implicit argument, ONE*, and the generic operator that licenses it, and I propose an account which captures the unergativity of Germanic middles and the unaccusativity of Greek/French middles. Moreover, I relate the need for adverbial modification to the nature of the process that derives middles in these two language types. In the appendix to that chapter I discuss the restrictions imposed on middle formation.

Chapter 4 addresses the question posed by the contrast between German and Dutch middles. Why do German middles feature *sich* and why don't Dutch middles employ *zich*? The answer to this largely ignored question that I will propose makes reference to the nature of the anaphoric system of Dutch and German. In particular, I will argue in favour of relating the potential of simplex anaphors to function as markers of valency reduction to the nonexistence of a complex anaphor. The proposal put forward generates a number of predictions that go beyond Dutch and German; languages like Frisian and Afrikaans will be shown to support it. The claims made also involve structures other than middles, in particular inherent reflexives and anti-causatives, which will therefore figure prominently in the discussion. Finally, we will be confronted with the more general question of when to expect morphological marking in middles. On the basis of the approach advocated here, we will be able to address this question and account for an interesting but thus far mysterious observation which correlates the occurrence of reflexives in middles and their potential for being interpreted as reciprocals.

Chapter 2

The semantics of middles

2.1   Introduction

In the previous chapter it was concluded on the basis of the distinct behaviour of middles across languages that a cross-linguistically coherent delimitation of 'the middle' in syntactic terms is not feasible. This fact invites the conclusion that the middle is not a syntactic creature at all. In other words, there is no 'middle construction', at least not in the sense of a syntactic construction. Instead, it is more promising to treat the middle as a particular interpretation, which different languages achieve by different means. Especially since 'middles' are parasitic on independently existing structures—unergatives and passives—, I propose to think of the former as a particular interpretation that the latter may receive. The focus then shifts to the more general, morphosyntactic properties of languages that are relevant for the realization of the middle semantics. Why is it that in certain languages it is unergatives that express the middle semantics, while in others the task is assigned to passives? And why do the languages under consideration here fall into one of the two categories in precisely the way they do?

This line of thought is the one adopted by Condoravdi (1989b), who emphasized that there is no such thing as 'middle verbs' or a 'middle forming operation', but instead:

> "The middle is a type of interpretation certain sentences receive and can, therefore, be seen as a notional category independently of its grammatical properties" (Condoravdi, 1989b, 24). "If there

> is a theory of the middle proper to be had, it would amount to
> a theory of the choice of the means a language may choose to
> express it" (Condoravdi, 1989b, 27).

In order to address the question of the crosslinguistic variation, we therefore first need a characterization of the middle interpretation itself. This is the goal pursued in this chapter.[1] I will put forth a novel proposal for the middle semantics, which elaborates on the fairly uncontroversial claim that middles are generic statements. The locus of the cross-linguistic variation, which is discussed extensively in subsequent chapters, will be argued to be primarily the way in which genericity is encoded across languages.

The discussion is structured in the following way. In the next section, I attempt a first approximation of the middle semantics, based on proposals that bear on the issue, in particular Condoravdi (1989b) and Ackema and Schoorlemmer (1994). Our starting point is a number of properties that constitute the core of the middle interpretation and which are shared by all languages. The second approximation aims at providing a link among these properties. I will show that the list can be compressed into a single statement about the interpretation that middles target, from which the core properties all follow. To this end, I discuss genericity more in detail, and propose that middles are a special type of generic sentence, namely dispositionals. I propose that disposition ascriptions utilize a generic operator whose properties are similar to those of dynamic modals as analyzed by Brennan (1993). Building on this idea, the second attempt at the middle semantics will successfully give us a single statement that summarizes the middle as the targeted interpretation from which the core properties follow.

2.2 Semantic properties of middles (first approximation)

Middles have (almost) unanimously been assumed to involve genericity. In addition to their genericity, and as we will see in connection to their genericity, a crucial property of middles is the demotion of the Agent and its interpretation as 'arbitrary'. A third fact about personal middles across languages is that they feature the otherwise internal argument, the Patient/Theme, in syntactic subject position. (111), adapted from

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[1] The discussion builds on Lekakou (2004a).

Ackema and Schoorlemmer (2002), contains the essential properties of what we can summarize as the core of the middle semantics.

(111)   The core components of the middle interpretation:

      a. The subject of the sentence corresponds to the internal argument (the understood or notional object).

      b. The interpretation of the sentence is non-episodic. Middles do not make reference to an actual event having taken place, they rather report a property of the grammatical subject. The otherwise eventive verb becomes a derived stative and, more precisely, receives a generic interpretation.

      c. The Agent is demoted and receives an arbitrary interpretation.

Attentive readers may object that (111a) does not qualify as a semantic property, but refers to a characteristic of middles which is syntactic in nature. One of my central goals in this chapter will be to show that (111a) is justifiable on semantic grounds.

2.2.1   Condoravdi (1989)

According to Condoravdi (1989b), a sentence like (112a) receives the representation in (112b):

(112)   a. This book reads easily.

      b. Gen [e: book(x), read(e), Patient (e,x)] [easy(e)]

I will discuss genericity more extensively in what follows. For now, let me only offer a few clarificatory comments on the representation in (112b). On the quantificational view of genericity, to which Condoravdi (1989b) adheres, generic sentences have in their semantic representation a generic operator, whose semantics approximate that of a universal quantifier (except generic sentences, unlike universally quantified sentences, tolerate exceptions). The generic operator is assimilated to adverbs of quantification in that it induces a partition of the clause into restrictor and nuclear scope, and binds any free variables in its restrictor. Any variables in the scope are existentially closed. (112b) reads roughly as follows: all reading events that involve this book are easy.

The proposal encapsulated in (112b) raises the following questions. The representation in (112b) does not make any reference to the implicit Agent. In fact, Condoravdi (1989b) claims that the Agent is absent from all levels of representation, not just the

syntactic, or the semantic, but also from the level of argument structure. Moreover, Condoravdi contends that no rule of Agent deletion is operative in the case of middles. Instead, the claim is that the Agent can be had as an entailment of the lexical meaning of the verb (whenever the latter includes one). As she points out, this move is required in any event for the case of English, where the Agent is not syntactically present, but only semantically understood.[2]

It is unclear what Condoravdi means by 'argument structure'. Research has provided evidence which supports the idea that the presyntactic level of representation is not monolithic (Hale and Keyser, 1986; Jackendoff, 1990; Grimshaw, 1990; Sadler and Spencer, 1998; Levin and Rappaport-Hovav, 1998). Assuming that what is meant by 'argument structure' in Condoravdi (1989b) is the theta grid of the verb, we will agree with her for languages like English, Dutch, and German, where there is no Agent projected onto a syntactic position, in other words, the Agent is not present in the theta-grid of a middle verb. But this cannot be a property of middles across languages, since in Greek and French, as we have seen already, the Agent is syntactically represented. Moreover, it seems that in both language groups this argument needs to figure in the semantic representation. This is because middles consistently involve an implicit Agent as part of their meaning. It is not clear how the semantic presence of the implicit Agent can come about through "an entailment of the lexical meaning of the verb". Let us briefly see why this is so.

The main problem with Condoravdi's suggestion about the implicit Agent arises when it comes to distinguishing between middles and generic unaccusatives. Unaccusatives lack an Agent, both syntactically and semantically. And unaccusatives can be episodic or generic. Generic unaccusatives convey a meaning which is very close to the middle, except that the latter includes an Agent. The problem is not evident with verbs like 'read', because 'read' has no unaccusative counterpart. For the sake of the argument, we can assume for middle-*read* that the Agent is an entailment from the meaning of the predicate. However, there are verbs which have both an unaccusative and a middle variant, and the only difference in meaning is the absence vs. presence of an Agent. The question is why middles systematically involve the recovery of the Agent, whereas generic unaccusatives don't. The following examples are discussed in

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[2]Later in the same paper, Condoravdi gives a semantic representation of the middle which is different from the one in (112b) in that there is an Agent, presumably recovered through the effect of this entailment.

Fellbaum (1986).

(113)   a. The door closes easily; you just have to press down. (middle)

          b. The door closes easily; it only takes a gust of air. (unaccusative)

(114)   a. These garden chairs collapse easily; just unhinge them. (middle)

          b. These garden chairs collapse easily; please don't seat your German shepherd on them. (unaccusative)

The upshot of Condoravdi's proposal is that there is no way of distinguishing middles from generic sentences featuring a Patient argument and syntactically lacking an Agent. It is thus unclear on what grounds we can deny a sentence like (115) the status of a middle.

(115)   The sun rises from the East.

It might be that all there is to this is terminology. Given Condoravdi's treatment of middles in Greek, which was mentioned in the previous chapter, it seems that for her the distinction between (generic) unaccusatives and middles is superfluous. Condoravdi's notion of the middle is thus more general than mine: I take as middles sentences which are understood to feature an Agent—let's call them middles-1—and her view of middles includes, in addition to middles-1, generic unaccusatives—call them middles-2. Both categories can be semantically described by (112b). (Although, note that if middles-1 systematically entail an Agent, their semantics has to be different in some way from that of middles-2, which do not entail an Agent.) If this is what the debate boils down to, all there needs to be said is that this dissertation is about middles-1.[3]

2.2.2 Ackema and Schoorlemmer (1994)

Ackema and Schoorlemmer (1994) argue that middle formation in English and Dutch involves the suppression of the Agent at a presyntactic level of representation and

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[3]The issue discussed here is not trivial, because Condoravdi's claim about the nonexistence of the middle relies on the fact that middles differ not just across languages, but also within a language, as in the case of Greek. The first part of this statement finds me in agreement, of course, but the second one does not. In other words, my claim is that the middle as an interpretation is not realized by uniform syntactic means across languages, but within a language it is. The fact that middles-1 in English, Dutch and German are unergative, but middles-2 are unaccusative is not an argument in her favour.

the base-generation of the Patient argument in syntactic subject position. They thus agree with Condoravdi (1989b) that the Agent is not projected in the syntax in these languages, but since they assume a more enriched structure for 'argument structure', the Agent *is* present at some level of representation. The core of middle formation for these authors is the assignment of an arbitrary interpretation to the Agent. As we will see shortly, in the system they are assuming, this means that the Agent does not project to syntax.[4]

(116)   Middle Formation: Actor = ARB(itrary)

The analysis of Ackema and Schoorlemmer is highly successful in capturing the syntactic facts about Dutch and English middles: the base-generation of the syntactic subject and the fact that the Agent does not project syntactically. However, the proposal faces some problems, which are worth discussing. In order to understand both the proposal and the problematic aspects of it, we need some background on the system they are employing. The following clarifications are offered on the basis of essentially how Ackema and Schoorlemmer (1994) themselves explicate the way in which lexical semantic information is structured and syntactic projection is determined. I will return to the specific proposal in (116) after presenting Ackema and Schoorlemmer (1994). Therefore, in this first part of the chapter, we will also be concerned with issues which are not obviously semantic in nature. This seems unavoidable, but it also reflects the view advocated in the second part of the chapter, namely that the semantics that best characterizes middles imposes certain restrictions on the mapping from lexical semantics to syntax proper.

Lexical Conceptual Structure

Ackema and Schoorlemmer (1994) assume a Jackendoffian level of presyntactic representation, from which arguments are projected onto D-structure. This is the level deemed Lexical Conceptual Structure (LCS). LCS comprises two tiers, the Thematic and the Action tier. Thematic roles are defined as arguments of functions which characterize these tiers. The functions themselves encode aspects of lexical meaning.[5] The

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[4]I have been using the term 'Agent' in a looser way than Ackema and Schoorlemmer (1994), for whom the appropriate term is Actor. I will utilize their terminology in this section, but will retain the more theory-neutral term 'Agent' in general.

[5]"In other words, thematic roles are nothing but particular structural configurations in conceptual structure; the names for them are just convenient mnemonics for particularly prominent configura-

Thematic tier encodes information about motion and location, and this is the level at which the notions of Agent, Theme and Goal are defined: Agent is the first argument of the function CAUSE. The conceptual (in Jackendoff's terminology) role Theme is characterized by Jackendoff, as "the object in motion or being located" (Jackendoff, 1990, 46); it is the first argument of functions like GO and STAY. The sentence *John ran into the room* is represented at the Thematic tier in the following way. The subscript A notates that the particular semantic argument is projected as a syntactic argument.

(117)   [$_\text{EVENT}$ GO ([$_\text{THING}$ JOHN]$_A$, [$_\text{PATH}$ TO ([$_\text{PLACE}$ IN ([$_\text{THING}$ ROOM]$_A$)])])]

The Thematic tier only encodes spatio-temporal information, but the semantics of predicates includes additional information. In particular, the affectedness relations between arguments are represented at the Action tier, which uses an AFFECT function. Actor and Patient are the first and second argument respectively of this function, as indicated below:

(118)   AFF[Actor,Patient]

The diagnostic employed for whether a DP denotes an Actor argument is whether it can fit into the X slot of "what X did was *verb* Y"; correspondingly, the diagnostic for Patienthood is if the corresponding DP can successfully substitute for X in the phrase "what happened to X is that Y *verb*-ed X".

As Ackema and Schoorlemmer (2002) point out, the distinction between Agent and Actor finds correspondences in other frameworks. For example, for Reinhart (2000), who decomposes thematic roles to combinations of two valued features, [+/-cause] and [+/-mental state involved], Causer is a [+c] role, and Agent is the [+c,+m] combination. The Jackendoffian Actor then corresponds to Reinhart's Agent, and Jackendoff's Agent is Reinhart's Causer.[6] It is possible for an argument to be present at both the Thematic and the Action tier: Agents are usually also Actors. Furthermore, it is also possible for an argument which is represented as an Actor at the Action tier to realize the Theme

tions" (Jackendoff, 1990, 47).

[6]However, since Jackendoff (1990) introduces a further distinction between volitional and nonvolitional Actors, the task of establishing this correspondence becomes more complicated. Jackendoff motivates this distinction on the basis of examples like *Bill rolled down the hill* which according to him involves a three-way ambiguity, depending on whether Bill is construed as willful doer, nonwillful doer, or undergoer (Jackendoff, 1990, 129). Accordingly, (116) has to be reformulated so as to make reference to a volitional Actor. I will ignore this complication.

role at the Thematic tier. This case is exemplified in (119) with respect to *John*, which is Actor and Theme.

(119)   John went for a jog.

The generalization is that, if the lexical conceptual structure (lcs) of a verb contains an Action tier, it will also have a Thematic tier, and the argument(s) represented in the former will also be represented in the latter, though the particular argument(s) will be projected to syntax only once.

Syntactic projection

Projection to syntax (D-structure) is regulated by a thematic hierarchy, applied to the A-marked elements of a predicate. Arguments that are represented at the Action tier are more prominent than those appearing at the Thematic tier:

(120)   Actor-Patient-Agent-Theme-Goal

As regards the issue of the external argument, Ackema and Schoorlemmer (1994) argue that there is no single argument that is designated as external, because 'external argumenthood' is not a property of arguments to start with. Rather, to have or to lack an external argument is a property of the lcs of a predicate as a whole. What is more, this is a property that cannot be altered:

(121)   The property [+ext] cannot be erased during a derivation.

(121) states that once an lcs obtains with the [+ext] property, the external argument position has to be filled by a (thematic) argument. What projects externally is the argument that is highest on the thematic hierarchy.

Ackema and Schoorlemmer (1994) argue that semantic arguments are not obligatorily projected to syntactic positions. The optionality of projection is not, however, unconstrained. It is regimented by a recoverability condition, stated in (122):

(122)   *Recoverability Condition*
        An A-marked nonprojecting semantic argument α must be
        a. discourse linked to a semantic argument identical to α or
        b. ARB[itrary]

It is not the case that any argument can receive an arbitrary interpretation and consequently be permitted to not project to a syntactic position. State verbs, which lack

2. The semantics of middles

an Action tier altogether, cannot have any of their arguments interpreted as arbitrary. The empirical generalization, then, is the following:

(123)   Only an argument represented at the Action tier can be a non-projecting ARB.[7]

Back to middles

This brings us to what is going on in the case of middles. For Ackema and Schoorlemmer (1994), the essence of middle formation is the assignment of an arbitrary interpretation to the Actor:

(124)   Middle Formation: Actor = ARB

Given clause (b) of (122), the arbitrary Actor is free to not project to syntax. However, given that the lcs of the verb in question has the [+ext] property, and that this property cannot be altered, there has to be an external argument projected in the syntax. The argument that is highest on the hierarchy (below the Actor) will project as external. This argument is the Patient (cf. the thematic hierarchy in (120) above). The effect that middle formation has on an originally dyadic verb is that it forces the Patient argument to be realized as a syntactic subject, with no movement in the syntactic component. The 'transition' from a dyadic unergative to a monadic unergative is schematized in (125):

(125)   a. $(\theta_{\text{Actor}} \ (\theta_{\text{Patient}}))^{+\text{ext}}$

       b. $(\theta_{\text{Patient}})^{+\text{ext}}$

The process of middle formation as defined above only concerns the nonprojectability of the Actor. Ackema and Schoorlemmer (1994) suggest that, whenever any argument in an Action tier is ARB, this results in a not-fully specified Action tier. This in turn affects the way the verb itself is interpreted, namely whether it is eventive or stative:

(126)   A verb has an event role iff it has a fully specified Action tier.

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[7]As Ackema and Schoorlemmer (1994) demonstrate, this derives both the Affectedness Constraint, which has been claimed to apply in middle formation, as well as the exceptions to it (Ackema and Schoorlemmer, 1994, section 6); given (123), middle formation cannot apply to stative verbs, nor to unaccusatives, which lack an Actor. The constraints on middle formation are discussed in the following chapter. Finally, Ackema and Schoorlemmer claim that (123) also captures the facts from object deletion, which is impossible with stative verbs.

Stative verbs lack an Action tier altogether, hence they too lack an event role, and are, accordingly, interpreted as non-eventive. Ackema and Schoorlemmer (1994) propose that middles are, in particular, individual-level predicates. As a result, their middle-forming operation, whose core is (124), has the effect of an otherwise eventive verb 'becoming' a stative one, and more precisely an individual-level predicate.

Questions opened

I will start with the stativity of middles. Ackema and Schoorlemmer (1994) follow Kratzer (1995)'s analysis of individual level predicates, according to which the latter lack the Davidsonian event argument. Individual level predicates (henceforth ILPs), like *intelligent*, are a subclass of stative predicates. According to what Ackema and Schoorlemmer (1994) assume about the impact of a (not) fully-specified Action tier on the (non-)eventive reading of the sentence, it is not clear how it actually follows from their account of middle formation that middles are specifically individual level, rather than just stative predicates. Recall that stative verbs are assumed on this approach to lack an Action tier altogether and concomitantly an event role, so it is not obvious what forces the rule in (124) to turn a nonstative predicate to an ILP specifically.[8] This, of course, is not a devastating problem, and it might not be a problem at all, given that the status of middles as ILP's is contested; for instance, Steinbach (2002) argues that middles do not qualify as ILPs. Although I am inclined to disagree with Steinbach, the controversy is in all likelihood insubstantial: as also concluded by Marelj (2004), whether or not middles should be characterized as individual level predicates does not settle the numerous questions that they pose.[9]

One of these questions, and in particular the one with which I am preoccupied in

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[8]There are two separate but related questions here: whether statives in general differ from non-statives in the absence vs. presence of an event variable, and whether ILPs as a subclass of statives are definable by lack of the e-role. Both issues are controversial. The view that stative verbs lack an event variable has been defended by Zwarts (1992) and Katz (2000), but it seems that the majority of researchers assume that all predicates are endowed with a Davidsonian event argument. As for ILPs in particular, the Kratzerian analysis assumed by Ackema and Schoorlemmer has been contested—see in particular Condoravdi (1992a), Chierchia (1995a), Jäger (2001), Cohen and Erteschik-Shir (2002) and Greenberg (2003) among others.

[9]Steinbach (2002); Marelj (2004) contend that the characterization of middles as generic sentences suffices. However, as we will see in the course of this chapter, on a 'one-size-fits-all' concept of generics genericity is just as inconclusive a property of middles as individual-levelhood.

this thesis, concerns the cross-linguistic realization of the middle semantics. This is a question which cannot be addressed within the account reviewed above. Ackema and Schoorlemmer successfully account for English and Dutch personal middles, but their analysis cannot extend to what Ackema and Schoorlemmer (2002) deem 'type II middles', i.e. middles of the French/Greek type, which are syntactically indistinguishable from passives. Ackema and Schoorlemmer do not purport to capture the facts in this latter type of language. What they say on the matter is that they "expect that in a language where a middle construction is not morphologically marked it is derived presyntactically" (Ackema and Schoorlemmer, 1994, fn.12). It is, however, unclear what generates this expectation, in other words, which aspect of their analysis of middles relates to the absence of morphological marking.

The case of German pertains to this point. I devote chapter 4 to this topic, but let me suggest what German implies for their account. Their statement cited above cannot be interpreted as a bi-conditional. As Ackema and Schoorlemmer (2004) acknowledge, German middles have a base-generated subject and a syntactically inert Agent, on a par with Dutch and English middles. The correlation with morphological marking is therefore to be interpreted as a one-way implication: if a language has morphologically unmarked middles, we expect them to behave as unergative, but not vice versa. No predictions can be made about morphologically marked middles. The unergative derivation of German middles, much like the unaccusative derivation of French and Greek middles, is outside the scope of Ackema and Schoorlemmer (1994)'s account. This is rather unfortunate, as we would want to ensure a derivation of German middles on a par with their Dutch and English counterparts.

These are all relatively minor issues that the account raises. What is not a minor problem with the proposed account of middles concerns the [+ext] property. Recall that this is taken to be the property of an lcs which states whether the external position has to be filled or not. Ackema and Schoorlemmer (1994) do not discuss what conditions need to obtain for an lcs to qualify for taking an external argument (though they mention in a footnote that this property might be connected to aspectual properties of verbs). How is this property assigned to particular lcs's? The generalization seems to be that verbs that have an Actor argument always have an lcs with the [+ext] specification. This can hardly be an accidental correlation, and a coherent system of presyntactic representation should be able to reflect it. More generally, it seems that the [+ext] property only serves to derive the base-generation of the subject in

English/Dutch type middles.

Recall that Ackema and Schoorlemmer have assumed that this property cannot be altered during the derivation, cf. (121) above, repeated below as (127).

(127)   The property [+ext] cannot be erased during a derivation.

Because the lcs of the verbs which are input to middle formation are specified as [+ext], and because of (127), once the Actor is suppressed, the understood object is base-generated in subject position. Once we also take unaccusatives into consideration, however, we have to loosen (127), and it then becomes obvious that the [+ext] property serves the purpose of only doing middles in English and Dutch.

Following Reinhart (2003), I assume that unaccusatives are derived from the basic transitive entry. This transitive entry will have to be specified as [-ext], in order to allow for the single argument of the derived unaccusative entry to originate in object position and move to subject position. However, the causative–inchoative pairs also have a middle variant, which means that the verb must at the same time have the [+ext] specification, for middle formation to proceed as outlined above. This leads to a paradoxical situation: one and the same class of verbs needs to be [+ext] and [-ext].

One could assume that unaccusatives are listed independently, which is an undesirable solution. More plausibly, one would probably have to assume that unaccusatives are the underived form, and that addition of an external argument results in the transitive entry. The transitive entry, marked with [+ext], would then feed middle formation. Reinhart (2000) has extensively argued against such an analysis of unaccusatives. Part of the motivation for her proposal is the problem of delimiting the set of unaccusatives. Reinhart shows that the candidates eligible for unaccusative-type reduction are those transitive verbs which take as their external argument a Causer ([+c]). The empirical generalization seems to be correct. On the alternative view of the directionality of alternation, Reinhart argues, it is unclear how the bounds of the set of unaccusatives can be delineated.[10]

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[10]But even if we adopt the view that unaccusatives are the basic, underived form and that addition of an external argument results in the transitive variant, the [+ext] specification that the transitive entry ends up with reduces to the property of taking an external argument. This is arguably not a desirable result for Ackema and Schoorlemmer, since they argue in favour of dissociating the [+ext] property from particular arguments and in favour of assigning it to lcs's as a whole. The same result obtains on the opposite view of the directionality of the alternation, see the discussion in the main text.

Let us then assume the Reinhart-derivation of unaccusatives. In a personal communication, Peter Ackema suggests the following solution to the problem posed by unaccusatives. Given that the operation that turns a transitive into an unaccusative, reduction in Reinhart (2003)'s terms, is different from the one that turns a transitive into a middle, namely saturation, one could assume that the [+ext] property is sensitive only to reduction, and not to saturation. In other words, reduction effects the loss of the [+ext] property. This in itself implies that the property of (not) taking an external argument *can* be altered in the course of the derivation, contrary to what we saw above Ackema and Schoorlemmer (1994) assumed, but only in the case of unaccusatives.[11]

The suggestion that reduction eliminates the [+ext] property highlights the central problem that this conception of external argumenthood faces: dissociating the [+ext] property from properties of specific arguments, and ascribing it instead to lcs's. So far, the only example we have of a violation of (127), i.e. of the [+ext] property being tampered with, is the operation which tampers with the external argument itself: unaccusative-reduction, an operation that takes away the external argument, also eliminates the [+ext] property.

It seems fair to say that recourse to a [+ext] property is only taken in order to ensure the unergativity of English and Dutch middles. To belabour the point in a more transparent way: in a system where no [+ext] property exists, and only a thematic hierarchy determines projection, we are able to do unaccusatives, but we cannot account for English/Dutch middles, namely we are unable to derive their unergativity (once the external argument does not project, there's nothing to exclude the unaccusative derivation). Now consider what we are led to on the assumption that there exists

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[11]There is an issue with passives, which in Reinhart's system are also the result of saturation. If passives like middles are derived by saturation, it is unclear that the [+ext] property is insensitive to saturation, because unlike the subject of middles, the subject of passives is a derived one, forced to move much like the subject of unaccusatives. In other words, in both unaccusative and passive derivations, the [+ext] property does not obtain, and so it seems hard to argue that this property is sensitive to the type of operation taking place. In Ackema's view (personal communication), this problem can be avoided as long as we assume that passives do not involve saturation. On the more or less standard view that in passives the external theta-role is assigned to the participial morphology (Jaeggli, 1986; Baker et al., 1989; Ackema, 1995) (or is in any event syntactically represented), the argument structure of passives does not differ from that of their transitive counterparts: both arguments of the verb are assigned, hence no saturation is involved. The argument in the main text is not affected, even if passives are not a problem.

a [+ext] property: we can do middles, viz. middles respect (127), but we can't do unaccusatives, viz. unaccusatives too come out as having underived subjects.

I conclude that Ackema and Schoorlemmer have provided an account which is adequate in capturing the facts from middles in English and Dutch, but which relies on a suspect piece of machinery. Moreover, their analysis of middles cannot extend to languages like French and Greek, where the [+ext] property crucial in deriving the English/Dutch type middle is clearly not respected.

2.3   Interim summary and the way ahead

To resume our orientation, let us revisit the core of the middle semantics. I repeat the list given earlier in (128):

(128)   The core components of the middle interpretation:

    a. The internal argument (the understood or notional object) is the subject of the sentence.

    b. The interpretation of the sentence is non-episodic. Middles do not make reference to an actual event having taken place, they rather report a property of the grammatical subject. The otherwise eventive verb becomes a derived stative and, more precisely, receives a generic interpretation.

    c. The agent is demoted and receives an arbitrary interpretation.

We have seen thus far that at least for one scholar, namely Condoravdi (1989b), there is an issue with respect to the representation of the implicit Agent. I have suggested, contrary to Condoravdi, that the semantic characterization of middles needs to make reference to the implicit Agent. Moreover, we have seen that Ackema and Schoorlemmer (1994) account for (128a) in English and Dutch by making use of a rather problematic [+ext] property. As for linking property (128c) to (128b), Ackema and Schoorlemmer have proposed (129):

(129)   A verb has an event role iff it has a fully specified Action tier.

Relating the genericity of the predicate to the interpretation of the implicit argument has been proposed by others. For instance, Lyons (1995) proposes to reduce the genericity of middles, which he refers to as 'the aspect constraint', to a property of arbitrary arguments: "an arbitrary agent requires a generic context, but the converse

is not the case" (Lyons, 1995, 102). Steinbach (2002) claims that the generic operator, as an unselective binder, binds the variable contributed by the implicit argument as well as the event variable.[12]

In line with Steinbach and others, I propose that the interpretation of the implicit Agent is generic. The way I interpret the insight that (129) attempts to capture is that the generic interpretation of the implicit Agent is a by-product of the generic interpretation of the sentence (in a way to be made precise subsequently). I propose that the implicit argument in middles is interpreted as an inherently generic indefinite, in particular as *one*. I use ONE* to designate this interpretation. The proposal is summarized below:

(130)   The Agent in middles is interpreted as ONE*.[13]

ONE*, like *one*, is inherently generic, in the sense of Condoravdi (1989a). (I will return to this in section 2.7 and in the following chapter.) I use the following examples from Roberts (1987) to illustrate that *one* is only licit in the context of a modal operator, which in the cases below is a generic operator (on which more shortly).

(131)   a.   One likes to visit one's friends.

        b.   One is often sent books.

(132)   a. ?? One went to the bank last Friday.

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[12]I do not wish to make any commitment as to the proper representation of indefinites, viz. the question of whether they are existential quantifiers or they introduce a predicate and variable. This is one of several semantic issues which are orthogonal to our preoccupations. Another one is, for instance, the presumption of a Davidsonian event variable. The claims made here about the semantics of middles should be transferable to whichever framework one wishes to use.

[13]I am thus departing from previous analyses (Lekakou, 2002, 2003, 2004a) of the implicit Agent as a covert free-choice *any*. The reason for giving this up is that it does not seem to correspond to what speakers' intuitions reveal about the meaning of middles. There are cases like *This dress buttons* which have no free-choice flavour. For the more standard cases of middles, to the extent that an 'arbitrariness' is present, there is reason to believe that it is due to the adverb *easily*; if one can read a book easily, we can deduce that anyone can read the book. According to the analysis of *any* by Kadmon and Landman (1993) which I assumed, free-choice *any* is a generic indefinite with two additional semantico-pragmatic properties, namely widening and strengthening. The differences between *any*+common noun and *a*+common noun might be even less significant under other analyses of free-choice items. See Giannakidou (2001) for related discussion and references. In sum, it is not clear that assuming *any* instead of *one* as the middle Agent is empirically motivated in any way. I thank Øystein Nilsen for many discussions on this issue.

      b. ?? One is going to the bank tomorrow.

A particularly pressing question arises with respect to (128a) in the context of a discussion of the semantic (as opposed to syntactic) properties of middles. In the remainder of this chapter, I will propose a characterization of the middle semantics which makes the three central properties in (128) fall out, and thus compresses the middle semantics into a single statement. The statement is given in (133). In what follows, I will show that a semantic motivation for (128a) is possible, and that (128a) indeed relates to a semantic fact about middles.

(133)   Middles ascribe a dispositional property to the understood object.

We will see what the ascription of a 'dispositional property' amounts to and why middles qualify as this type of generic sentence. Dispositionals will be argued to be a type of generic sentence, which, unlike other instances of generic sentences, are obligatorily subject-oriented.

(134)   Disposition ascriptions:
      a. express 'in virtue of' generalizations.
      b. employ a VP-level **Gen**
      c. are subject-oriented.

The aspect of dispositionals stated in (134c) will prove crucial in my treatment of middles, as it will be shown to drive the 'promotion to subject' of the otherwise internal argument that we see in the case of middles. The dispositional semantics associated with middles makes the genericity fall out straightforwardly. Moreover, I will argue that the demotion and interpretation of the implicit Agent also follow from characterizing middles as dispositional generics. My proposal for the middle semantics thus has it that the core semantic property of middles is not the arbitrariness of the Agent, but genericity, and more precisely, a type of genericity, namely dispositionality.

The account I will put forward improves on the one just reviewed in the following respects. First, it is based on a semantic characterization of the middle, which allows as to seek the locus of the crosslinguistic variation. The analysis proposed by Ackema and Schoorlemmer (1994), by contrast, does not make available a crosslinguistic analysis (or notion) of middles. Second, my proposal does not rely on a [+ext] property of (the lcs of) predicates, and hence does not face the problems that this feature of Ackema and

Schoorlemmer's system generates. Third, on the account proposed by these authors, it is unclear how the dispositional semantics that I am about to ascribe to middles is derived. This holds only on the assumption, of course, that my proposal about the semantics of middles is correct.

In order to present my proposal, I will work my way through a certain amount of literature on generics and modals. In section 2.4.1 I discuss the modal treatment of genericity on the basis of Krifka et al.'s (1995) introduction. Section 2.4.2 deals with the Kratzerian analysis of modal operators, on which the modal approach to genericity is founded. Readers who are familiar with these two topics should feel free to skip the following section and go directly to section 2.5. There I discuss two proposals that build on Kratzer's analysis: Greenberg (2002) and Brennan (1993). Greenberg (2002) introduces a distinction between descriptive and 'in virtue of' generalizations, which I will employ in my analysis of middles. The domain of genericity in which Greenberg puts this distinction to use, NP-genericity, is discussed in section 2.5.1. Greenberg's proposal owes an obvious debt to Brennan (1993), who building on Kratzer's work argued for distinguishing between modals that serve as sentence-operators and those that modify VPs; the latter are subject-oriented. This treatment of modals will be explicated in section 2.5.2. My proposal will be to apply Brennan's analysis to the realm of genericity. The generic operator has been assumed to be a modal operator of the sentence-type; I will argue in section 2.6 that the genericity of disposition ascriptions is of the VP type. In section 2.7 I show that middles are dispositional generics and argue that their core properties follow from this characterization. Section 2.8 concludes.

2.4   Some background

2.4.1   On genericity and the modal semantics of Gen

Generic sentences are statements that abstract away from particular occurrences and entities and instead express a non-accidental, law-like generalization or regularity. Krifka et al. (1995) distinguish between two phenomena that have been subsumed under the rubric of genericity. On the one hand, we have generic NPs; in the following sentences, the capitalized NP's are interpreted generically, as kind-referring, as opposed to (what Krifka et al. call) object-referring NPs:

(135)   a. THE POTATO was first cultivated in South America.

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    b. POTATOES were introduced into Ireland by the end of the 17th century.

    c. The Irish economy became dependent upon THE POTATO.

    d. A LION has a bushy tail.

We are not directly interested in this kind of genericity, although one proposal about generic NPs will be discussed shortly. The second variety of genericity is the category of generic sentences to which middles belong. It involves generic or *characterizing* sentences, which as a whole report a general property or pattern. These sentences, unlike episodic sentences, abstract away from particular events, and express a regularity.

(136)   a. John smokes after dinner.

    b. Mary works at the post office.

    c. A beaver builds dams.

    Characterizing sentences differ from episodics in that the latter make reference to a specific event, whereas the former are generalizations over events, which have a law-like, non-accidental flavour. It is a general property of generic sentences that they express law-like generalizations. As noted by Dahl (1975), the difference between accidental generalizations and generics is that the former report on an actual set of cases, whereas the latter relate also to possible, non-actual ones. As a result, generic sentences enable us to draw inferences and make predictions. Consider sentence (137), which is discussed by Dahl. According to him, the sentence can be interpreted as expressing an accidental and a non-accidental generalization. It is only on the non-accidental reading that the prediction in (137a) and the counterfactual in (137b) follow from it:[14]

(137)   My friends vote for the Socialists.

    a. Hence, when you have become my friend, you'll vote for the Socialists.

    b. Hence, if you had been my friend, you would have voted for the Socialists.

This is an important feature of generics that we need to bear in mind. We will shortly see how the semantics of **Gen** as discussed by Krifka et al. (1995) reflects it.

    On the quantificational approach to genericity, generics have in their semantic representation a silent generic operator, **Gen**, which is like quantificational adverbs (Q-adverbs) such as *usually* in that it induces a partition of the clause into two semantic

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[14]NP-generics also support counterfactual entailments:

(i) A lion has a mane.

(ii) If Simba were a lion, he would have a mane.

constituents, the restrictor and the nuclear scope, and relates one to the other (see Carlson (1989), Krifka et al. (1995) and the references cited therein). Elements that appear in the restrictor of **Gen** are bound by it and are interpreted generically, and elements occurring in its scope undergo existential closure and receive an existential interpretation. Schematically, this can be represented in the following, where ϕ represents the restrictor and ψ the nuclear scope:

(138) **Gen** (ϕ, ψ)

Assuming the existence of the Davidsonian event argument, we can say that episodic sentences involve binding of the event by an existential operator, whereas in characterizing sentences like (136a), the event variable is bound by **Gen**. Under the view of **Gen** as an unselective binder, any other free variables in its restriction are also bound by it.[15] We can thus have both NP-level and sentence-level genericity combined in one sentence, as in (136c above).

The semantics of this silent generic operator is a particularly difficult problem. Although the force of the operator is quite similar to that of a universal quantifier, generic sentences are different from universally quantified sentences in that they exhibit a high tolerance to exceptions. For instance, the sentence *Mary goes to Greece at summertime* may be true even if there have been summers which she spent elsewhere. More generally, generics are known to be subject to what has been termed quantificational variability. The following two sentences differ in the number of occasions required to have occurred in order for them to be deemed true:

(139)   a. Al smokes.

   b. Al sells shoes.

If Al's job is selling shoes, the truth of (139b) can be ensured, even if he is very bad at his job and has only sold a couple of pairs. By contrast, for him to qualify as a smoker, as the truth (139a) requires, he needs to have smoked on more than just a couple of occasions.

The quantificational approach to genericity has it that **Gen** is a universal null Q-adverb, with a special modal character. This means that its semantics is similar to a

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[15]One of the central issues pertaining especially to NP-genericity thus involves the proper representation of indefinites. As mentioned already, I do not mean to make any commitments with respect to this set of questions.

necessity modal (i.e. *must*). The truth of a generic sentence will thus be computed with reference to possible worlds, invoked by the utterance world (given the modal nature of **Gen**). Krifka et al. (1995) give modal **Gen** the representation in (140a). Accordingly, the sentence *A lion has a bushy tail* receives the representation in (140b):

(140)   a.   **Gen**[x_1,...,x_i;y_1,...,y_j](**Restrictor; Matrix**) is true in w relative to a modal base B_w and an ordering source $\leq_w$ iff:

For every x_1,...,x_i and every w' $\in B_w$ such that **Restrictor**[x_1,...,x_i] is true in w', there is a world w" in B_w such that w"$\leq_w$ w', and for every world w"'$\leq_w$ w", $\exists y_1$,...,y_j**Matrix**[x_i,...,x_j, y_1,...,y_j]] is true in w"'.

   b.   **Gen**[x;y](x **is a lion**;, y **is a busy tail** & x **has** y) is true in w relative to B_w and $\leq_w$ iff:

For every x and every w' $\in B_w$ such that 'x is a lion' is true in w', there is a world w" in B_w such that w" $\leq_w$ w', and for every world w"'$\leq_w$ w", $\exists y$[y **is a bushy tail** & x **has** y] is true in w"'.

(140b) says that, in the relevant worlds, i.e. the worlds picked out by the modal base (B_w), everything which is a lion is such that, in every most normal world, as specified by our ordering source ($\leq_w$), it will have a bushy tail. In other words, a world in which a lion comes without a bushy tail is less normal than a world in which a lion has a bushy tail.

The modal analysis of **Gen** treats it as an intensional operator (in virtue of the appeal to the world parameter). One of the advantages of ascribing to **Gen** a modal semantics is that the law-likeness of generics can be captured in a formal way. (This is not to say that the only way to do this is by the analysis presented here. See Krifka et al. (1995) for discussion of other proposals that have been made.) Dahl (1975) already noted that modal logic offers us a way to formalize the difference between accidental and non-accidental generalizations. In order to clarify the use of accessible worlds, it would be useful to look into the semantics of modal operators, like *may* and *must*, on which the modal semantics of **Gen** is based. This is what we will turn to next.

Before doing that, I would like to make one comment on the nature of genericity as it is analyzed on this theory. The quantificational theory of genericity presented here is regarded as an improvement over the analysis of Carlson (1980). In that work, generics involved a monadic generic operator and genericity was conceived of as a relation of

predication between a generic predicate and the subject of the sentence. The analysis of generics that we reviewed here employs a dyadic generic operator, and takes genericity to be quantificational. The most serious challenge that Carlson encountered were generic sentences which were ambiguous, as a result of what came to be analyzed as different mappings to the tripartite structure. (Carlson's original theory predicted only one of those readings, and in fact the pragmatically least plausible or even false one to exist.) These cases will be discussed in section 2.6. Although the quantificational approach to generics is by far the one most generally assumed, the question of whether genericity is predicational or quantificational has recently been reexamined. Carlson (1995) presents us with the choice between the inductivist or quantificational theory of generics and the rules-and-regulations or predicational theory of generics; see also Delfitto (2002) for related discussion. According to Cohen (2001), the distinction is not between two different theories, but two different readings of generics; Cohen argues that we need both. My proposal about the existence of a dispositional generic operator suggests that the relevant cases of genericity involve something like a predicational relation.

2.4.2   The Kratzerian semantics of modals

Kratzer (1977, 1981, 1991) develops a possible-worlds semantics for modals which highlights their context-dependence. Modals are uniformly treated as propositional operators which quantify over possible worlds. Modal statements are argued to contain three basic ingredients. One is the modal relation itself. This relation can be that of a necessity, or of a possibility. A necessity modal is a universal operator, whereas a possibility modal contributes an existential operator. I illustrate with the following pair:

(141)   a. Al must be rich.

         b. Al may be rich.

(141a), in this framework, means that Al is rich in all possible worlds, whereas (141b) says that Al is rich in (at least) one possible world. Necessity modals are thus universal quantifiers over possible worlds, and possibility modals involve existential quantification over possible worlds.

This will, of course, not suffice to give us the meaning of modal sentences. We need to restrict the set of possible worlds over which the modal quantifies. This is

what the second aspect of the meaning of modal sentences gives us, which is heavily context-dependent. And this is also where the difference between root and epistemic modals is argued to stem from. The modal base, or conversational background, is the pragmatic or contextual information that is necessary in order to specify what the relevant worlds are. Essentially the modal base consists of a set of facts. In Kratzer's work, conversational backgrounds are usually introduced with an 'in view of' phrase.[16] There are several different conversational backgrounds. For example, an epistemic conversational background would be of the type 'in view of certain facts that are known (in a world)'. A deontic conversational background would consist of facts that pertain to what is commanded (in a world). Facts are propositions. Because a proposition, in turn, is equivalent to the set of possible worlds in which it is true, a modal base will end up giving us a set of worlds, which is precisely what we need. Recall that the role of the modal base/conversational background is to indicate which worlds the modal relation holds of. Formally, an epistemic modal base, to take a concrete example, is the function that assigns to any world w in our set of worlds W the set of all those propositions which are known (in that world). And because a proposition is equivalent to the set of worlds in which it is true, the modal base is a function from the set of worlds W into the power set (i.e. the set that consists of all the subsets) of W.

By way of illustration, consider (141a) on its epistemic reading (which is the most salient in the case at hand). Consider the following context (which makes it clear that we are employing an epistemic modal base). Al is the new boyfriend of my flatmate, who takes us out in town one night. He is dressed in very elegant and expensive clothes. Throughout the evening, he buys drinks for everyone, and in the end he offers to take us home. His car is a BMW convertible. On the basis of these facts, I conclude that he is rich. After he's dropped me and my flatmate off, I utter (141a) to her. What I'm saying is that, in view of these facts (the way he's dressed, the fact that he bought everyone drinks, and that he drives an expensive car), Al is rich. In other words, in all possible worlds where the facts given above (concerning Al's appearance, behaviour and type of car) hold, Al is rich.

The deontic interpretation of (141a) is derived in the same way. The method is exactly the same for epistemic and necessity modals; the only difference between the

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[16]This is an aspect of the system that Brennan (1993) modified, as we will see shortly.

two, according to Kratzer, is the set of facts (= propositions) that constitute the modal base. To illustrate with the same example, consider one kind of contextual information that would favour the deontic interpretation. This time, Al whom I haven't yet met, is not the boyfriend of my flatmate, although as it turns out he would very much like to be. Now, my flatmate is fascinated with wealth, and is quite a big spender herself. In fact, all of her previous boyfriends have been more than moderately well-off. If anyone is to stand any chances with this woman, he has to be rich. So, when a common friend of ours tells me about this guy Al who is interested in getting involved with her, I utter (141a). What I am saying is that, in view of what is required for Al in order to become my flatmate's boyfriend, he is rich; in other words, in all the worlds where the facts given above about my flatmate and the prerequisite for eligibility as her boyfriend obtain, Al is rich.

The third aspect of the interpretation of modal statements is provided by the ordering source. The ordering source—also supplied by pragmatic/contextual factors—specifies an 'ideal' world, and orders the worlds given by the modal base on the basis of their similarity or closeness to that ideal. This further restricts the worlds over which the modal word quantifies. The advantage of adding an ordering source is basically that it enables us to give an accurate account of gradient modality (Kratzer, 1991). (We will see shortly that for Brennan (1993) the ordering source is useful for other reasons as well.)

For example, consider the following pair from Butler (2003):

(142)   You must wash the dishes now (#but you don't have to).

(143)   You should wash the dishes now (but you don't have to).

The (lexical) meaning of a strong modal like *must* requires that the worlds we're considering are all those that are very similar to the ideal that the ordering source establishes. In interpreting sentences containing *should*, on the other hand, we are free to consider worlds which are less similar to the ideal world of the ordering source.

Now we are in a position to better understand the proposal for extending the semantics of necessity operators (i.e. of *must*) to **Gen**. I do not repeat the proposed semantics for **Gen**, but only an example sentence and its associated semantics. $\leq_w$ notates the ordering source, with the ideal taken to be our world w.

(144)   a. A lion has a bushy tail.

b. **Gen**[x;y](x **is a lion**;, y **is a busy tail** & x **has** y) is true in w relative to B_w and $\leq_w$ iff:

For every x and every w' $\in B_w$ such that 'x is a lion' is true in w', there is a world w" in B_w such that w" $\leq_w$ w', and for every world w"'$\leq_w$ w", $\exists$y[y **is a bushy tail** & x **has** y] is true in w"'.

(144) says that, if something is a lion in our world, then in all the worlds which are similar to ours in the relevant respects (as determined by the modal base and the ordering source), a lion has a bushy tail.

2.5 'In virtue of generalizations'

The aim of this section is to introduce two things that I will make use of in my proposal about the semantics of middles: the distinction between descriptive and 'in virtue of' generalizations and Brennan (1993)'s treatment of modals. The latter is discussed in section 2.5.2. I start by looking at Greenberg (2002)'s proposal on the semantics of NP-genericity. As I mentioned already in section 2.4.1, the genericity of middles is of the sentence-type, but there are several reasons why reviewing this particular proposal on NP-genericity is useful: Greenberg's account utilizes Kratzer's insights; it highlights the import that 'in virtue of' generalizations have on genericity in general; and, most importantly, it brings to the fore a feature of such generalizations that is of interest in connection to middles: the fact that their conversational background incorporates properties of the subject.

2.5.1 NP genericity and the difference between 'in virtue of' and descriptive generalizations

In English, NP-genericity is expressed by, among other things, singular indefinites, like *a lion*, and bare plurals, i.e. *lions* on their generic use. It is a well-established fact that sentences containing singular indefinite (SI) and bare plural (BP) generic NPs are very similar but at the same time quite different. SIs differ from BPs in (at least) their felicity conditions and in expressing a somewhat stronger non-accidental generalization; see Cohen (2001); Greenberg (2002, 2003) for detailed discussion.

Greenberg (2002) proposes to derive both the differences and the similarities between SIs and BPs in the following way. She argues that there exist two types of

nonaccidental generalizations in the realm of generic statements: descriptive generalizations, and 'in virtue of' generalizations. In the case of SI's and BP's (in subject position), Greenberg argues that 'in virtue of' generalizations assert that the generalization is non-accidentally true in virtue of some property that the subject referent is taken by the speaker to have and that the hearer has to accommodate. On the other hand, descriptive generalizations merely assert the existence of a pattern. BPs can denote both types of non-accidental generalization, but SIs always denote 'in virtue of' generalizations. The following is her illustration of the different readings.

(145) a. A boy doesn't cry.

b. The generalization 'Every boy doesn't cry (in all relevant, e.g. tear inducing situations)' is nonaccidentally true in virtue of some property, associated with the property of being a boy (e.g. the property of being tough).

(146) a. Boys don't cry.

b. The generalization 'every boy doesn't cry (in any relevant situation)' is not accidental: not limited to actual boys in actual (relevant) situations, but is expected to hold for other, nonactual boys in other, nonactual (relevant) situations, as well.

c. The generalization 'Every boy doesn't cry (in any relevant situation)' is nonaccidentally true in virtue of some property, associated with the property of being a boy (e.g. the property of being tough).

The difference that Greenberg proposes exists between SIs and BPs is that they rely on different accessibility relations (which is another term for the modal base). In other words, the quantification is over different worlds. On the 'in virtue of' generalization, the modal base that restricts the generic quantifier involves a property that the speaker has in mind, in virtue of which the generalization reported is true. For example, if the property in(145a) is ˆ**be tough**, then we only consider worlds where boys are tough in order to evaluate the sentence. In the case of descriptive generalizations, the accessibility relation is taken to remain vague. Both SIs and BP's, then, rely on the structural schema given below. The difference is what constitutes the accessibility relation (i.e. the first line of (148)):

(147) a. A boy doesn't cry.

b. Boys don't cry.

(148) ∀w'[w' is appropriately accessible from w] →

[∀x,s [boy(x,w') & C(s,x,w')] → [¬cry(s,x,w')]]

Paraphrase: In all worlds appropriately accessible from w, every boy, in all contextually relevant situations, doesn't cry.[17]

Greenberg assumes that on the 'in virtue of' reading, we only choose a property associated with the subject referent and claims that this association relation is determined by our stereotypes, norms, beliefs etc. about the actual world. In effect, besides the modal base (or accessibility relation) which tells us to look at worlds where the subject referent has the 'in virtue of' property, there is another Kratzerian modal base/accessibility relation, which effects the association between the subject-referent property (e.g. being a boy) and the 'in virtue of' property (e.g. being tough). There is thus a double modality in 'in virtue of' readings, absent from descriptive generalizations, which according to Greenberg, reflects the intuition that SIs express a stronger nonaccidental generalization than BPs.

Explicating the analysis proposed by Greenberg in greater detail would take us too far afield. I retain her insight concerning the distinction between descriptive and 'in virtue of' generalizations, which we will employ in our discussion of dispositional generics, and refer the reader to Greenberg (2002, 2003) for the formal implementation of the claims summarized above and for an extensive exposition.

2.5.2 Root modals according to Brennan (1993)

'In virtue of' modal statements were originally discussed by Brennan (1993) in her dissertation on modal auxiliaries. In my analysis of the middle semantics, I adopt a number of insights from Brennan's analysis of modals, and so we need to review her approach in brief.

Brennan (1993) analyses certain modals, in particular dynamic modals, i.e. ability *can* and dispositional *will*, not as S(entence)-operators, but as predicate operators applying to the VP. On this view, a dynamic modal combines with a VP, with the

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[17]C stands for the context variable which selects the 'relevant situations'. Its usefulness is evident once we consider how we evaluate a sentence like *Greeks smoke*. We wouldn't want that to mean that Greeks smoke every single minute of every waking hour, even though they might be known to be very heavy smokers. This is what C does; it stands for the contextually relevant situations in which a systematic behaviour is expected to manifest itself. See Chierchia (1995a) for discussion.

result of a modalized VP, which denotes a modal property. This property is ascribed to the syntactic subject. The intuition behind this proposal is that VP-operator modals relate properties and individuals (Brennan, 1993, 43). Thus, although epistemic modals take a proposition as their sole argument and bear no thematic relation to any of the arguments inside that proposition, a dynamic modal forms a sort of complex predicate with the VP, which is applied to the subject; in the latter case, the modal bears a thematic relation to the syntactic subject.

Brennan contends that "in uttering a root modal sentence, the speaker typically relies on information about the syntactic subject" (Brennan, 1993, 66). This information about the subject restricts the conversational background. Brennan's innovation is thus the introduction of a different kind of accessibility relation to restrict dynamic modals, as opposed to epistemic modal operators. Recall that the latter are restricted by a conversational background which, in Kratzer's analysis, consist of a set of propositions, those that in Kratzer (1991) are introduced by *in view of.* The conversational background of dynamic modals does not comprise propositions, but properties, which in Brennan's work are introduced by *in virtue of.* Most crucially for our purposes, the new conversational background/ accessibility relation that restricts dynamic modals consists of properties of the subject, and in that sense, it is "keyed to the syntactic subject". Dynamic (readings of) modals are thus subject oriented (cf. Barbiers (1995)).[18] There is thus a parallelism between the nature of the operator and the nature of the accessibility relation that restricts it: epistemic modals are S-level operators and have conversational backgrounds which consist of propositions, whereas dynamic modals are VP-operators and have conversational backgrounds that consist of properties.

Brennan uses several arguments to demonstrate that dynamic modals are different from epistemic ones in ways that argue in favour of positing such a difference. The arguments concern the scope of modals relative to the subject NP, and whether or not the modal is concatenated with the VP to form a modal property expression. The first difference relates to the fact that subjects can take both wide and narrow scope with respect to epistemic modals (and can have correspondingly *de re* and *de dicto* readings), whereas they consistently take only wide scope when combined with a dynamic modal (and thus lack the *de dicto* reading). The second point, which distinguishes epistemic

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[18]See Brennan (1993) for discussion of the compatibility of her proposal with the Kratzerian context-dependent analysis of modals.

from dynamic modals, is illustrated by the behaviour of symmetric predicates under a modal, and by the intensionality that a modalized VP creates. For reasons of space, I cannot review these arguments here, also since, for independent reasons, we won't be able to use them to support our proposal for middles.

In connection to the subject-orientedness of dynamic modals, Brennan makes the following observation. *In virtue of* adverbials are obligatorily subject-controlled only when combined with dynamic modals (Brennan, 1993, 48-52). That these adverbials are not generally restricted this way is evident from (149):[19]

(149)   They did not award him the prize in virtue of his reputation.

By contrast, consider what happens when 'in virtue of' adverbials co-occur with modals:

(150)   a.   Joan can sing arias in virtue of her natural ability.

        b.   In virtue of her patience, Joan will listen to anything.

(151)   a.   * In virtue of being a graduate student, Joan may be intelligent.

        b.   * In virtue of winning a Guggenheim, Joan must be intelligent.

(152)   a.   ?? In virtue of the rock being lightweight, Mary can lift it.

        b.   ?? Mary will agree to anything in virtue of the loose atmosphere in the office.

When combined with dynamic modals, *in virtue of* adverbials are necessarily subject-oriented. From the examples above, only the ones in (150) are good, because only they relate the modalized properties, the ability to sing arias and the disposition to listen to anything, to properties of the syntactic subject. (152) shows that epistemic modals do not combine with subject-oriented 'in virtue of'.[20] Finally, restricting dynamic modals by properties of (the referents of) non-subject arguments leads to ill-formedness, as shown by the examples in (152).

In the theory of modality employed, (the complement NPs of) these adverbials are property-denoting expressions that fix the set of accessible worlds, and thus restrict the accessibility relation to only include worlds where the subject possesses the property

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[19]This is an interesting example for other reasons, as it exhibits ambiguity depending on the site of adjunction of the adverbial. See Brennan's discussion of why this is predicted on the view that it is a VP (rather than an S) operator.

[20]The non-subject oriented 'in virtue of' is licit, cf. the grammaticality of *They must have not awarded him the prize in virtue of his reputation.*

in question (the one denoted by the adverbial). This is why they are subject-oriented when combined with dynamic modals.[21] In order to achieve this, Brennan relativizes accessibility to individuals. Accessibility keyed to an individual (the subject) is defined in (153) (Brennan, 1993, 64). $\mathcal{P}$ is an arbitrary property-denoting expression restricting the modal:

(153)   *Accessible for d:* a world w' is accessible from a world w for an individual d,
        $\langle$w,d$\rangle$ R w', iff $\langle$w',d$\rangle \in \mathcal{P}$

This essentially says that a world w' is accessible from a world w for an individual d (notated by $\langle$w,d$\rangle$ R w'), as long as, in world w', the individual has the relevant property (namely $\mathcal{P}$). A model for the semantics of property-denoting expressions, which restrict dynamic modals and thus provide their conversational background, is given in (154) (Brennan, 1993, 65) W×D is the Cartesian product consisting of sets of pairs of the members of the set of worlds W and the members of the set of individuals D.

(154)   *Conversational Background '(in virtue of) her physical properties':*
        The meaning of *(in virtue of) her physical properties* will be that function f
        from W×D into the power set of W×D, which assigns to any world-individual
        pair, $\langle$w,d$\rangle$, in W×D, the set of all those (relevant) physical properties that d
        has in w.

Recall that this function is meant to give us the set of worlds we are quantifying over. Instead of consisting of propositions, which pick out as accessible the worlds in which they are true, the conversational background of dynamic modals consists of properties of an individual (in particular, of the subject), which pick out as accessible the worlds in which the individual possesses the properties in question.

Now we can turn to the semantics of root *must* and dynamic *will*, which is given in (155) (Brennan, 1993, 67):

(155)   Property-level *must* and *will* (*must₂* and *will₂*):
        Must₂ and *will₂* denote that function v of type schema $\langle$ˆIV,IV$\rangle$ such that for

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[21]Technically, the reason why they are subject-oriented is that, according to Brennan, the adverbial that forms the basis of the conversational background appears as an open sentence that combines with the subject. Brennan assumes that the individual has the relevant property in the actual world as a matter of presupposition.

any index w, any assignment g, any conversational backgrounds h_x, j, and any
expression ˆP of type $\langle s, \langle e, t \rangle \rangle$,

$[\![v(ˆP)]\!]^{w,g,h_x,j} : D \Rightarrow 2$.

For any $d \in D$ $[\![v(ˆP)(d)]\!]^{w,g,h_x,j} = 1$ iff

$\forall$ w' $\in$ W if

(i) w' is accessible from w for d given h_x,

(ii) w' is maximally close to the ideal established by j(w), then

(iii) $\langle w',d \rangle \in [\![P]\!]^g$

The type of dynamic modals is $\langle ˆIV, IV \rangle$, from the intension of an intransitive verb
to an intransitive verb. This corresponds to $\langle \langle s, \langle e, t \rangle \rangle, \langle e, t \rangle \rangle$, which is a function from
properties of individuals ($\langle s, \langle e, t \rangle \rangle$) to sets of individuals ($\langle e, t \rangle$)(the set of individuals
in the denotation of the intransitive verb). Applying the modal (the function v) to
a VP (denoting a property of individuals—the part of the formula that reads 'any
expression ˆP of type $\langle s, \langle e, t \rangle \rangle$'—) will map each member of the domain of individuals
D onto a member of the set of truth values (which is what the '2' stands for). This
modalized property will be true, applied to an individual d, in world w relative to
an assignment function g, and conversational backgrounds h_x and j, iff all worlds w'
accessible from w for d given h_x are such that, if w' is maximally close to the ideal
of j(w), then the individual d has the property denoted by the VP in that world w'
relative to the assignment function g. The conversational background h_x corresponds
to the accessibility relation as defined in (153). *j* is the Kratzerian ordering source,
which Brennan assumes is determined by a stereotypical conversational background.

Recall that the ordering source is a second conversational background, i.e. a modal
base, which ranks the accessible worlds according to similarity to an ideal. When
this conversational background is stereotypical, the ideal is the actual world, and so
this function will pick out worlds in which the course of events considered normal
in our world w also obtains. Brennan assumes that this conversational background,
unlike the one which defines the accessible worlds for dynamic modals, can consist
of propositions, and thus also incorporate facts about the non-subject entities (so,
propositions which are not necessarily subject-oriented). She can thus account for the
fact that the evaluation of e.g. *Joan can climb that tree* will depend on properties of
the tree as well as well as properties of Joan. The stereotypical ordering source ensures
that the worlds maximally close to the ideal, the actual world, are those where trees

are pretty much what they are like in the actual world.

2.6   Extension to dispositional generics

In what follows, I will propose to extend the approach advocated by Brennan (1993) for dynamic modals to generic sentences which have dynamic (ability and dispositional) readings. In the next section, I will argue that middles fall in this category of generics.

The proposal is to apply Brennan's analysis of dispositional *will* to a sub-class of generic sentences, namely dispositional generics. Disposition ascriptions, as we will see, can be made through a number of different constructions. I am assuming that disposition ascriptions, whichever form they take, are generic statements, cf. Dahl (1975). I should note that the nature of this type of genericity has not been very thoroughly studied; at the same time, the term may have been used for cases I do not purport to account for. My criterion for whether a sentence attributes a disposition, as opposed to stating a descriptive generalization, will be whether it makes (implicit) reference to a property in virtue of which the generalization is true. The essence of disposition ascriptions, then, is that they express 'in virtue of' generalizations. I will discuss several such cases that involve a dispositional component, and show that Brennan's treatment can be applied to them. In the spirit of Brennan (1993), I suggest that the formal implementation of this is that the accessibility relation restricting such modal statements is keyed to the subject, and that therefore disposition ascriptions are subject-oriented:

(156)   Dispositional (readings of) generic sentences are subject-oriented.

I start with what we may deem 'canonical disposition ascriptions'. These sentences, exemplified in (157), are studied in Fara (2001). From the informal characterization of the meaning of such sentences it is evident that the intuitions Fara wishes to account for are similar to those expressed in Brennan (1993). His truth conditions for (157) are given in (158):

(157)   Sugar is disposed to dissolve when put in water.

(158)   'N is disposed to M when C' is true iff N has an intrinsic property in virtue of which it Ms when C.

Fara argues that "to attribute to an [entity] a disposition to do so-and-so is to say not just that it does so-and-so, but that it has some intrinsic property in virtue of which it does so-and-so" (Fara, 2001, 35-36). This is strongly reminiscent of the proposal we just reviewed with respect to dispositional *will*. If we take the predicate corresponding to *is disposed to* to be a modal, whose restriction comprises a modal base consisting of properties of the subject, dispositional sentences of the type in (157) involve the ascription of a modal property (the result of the modal combined with the VP) to the syntactic subject. The intrinsic properties mentioned by Fara form the restrictor of the modal and correspond to the complement of the *in virtue of* adverbial in Brennan's system.

Fara (2001)'s proposal concerning the semantics of canonical disposition ascriptions employs an operator, DISP, under which is embedded a habitual sentence. I would suggest that, instead, the *is disposed to* part has the same semantics as dispositional *will*, as analyzed by Brennan (1993). This means that *is disposed to* is a modal VP-operator, rather than a modal S-operator.[22]

That (156) is true of canonical disposition ascriptions is evident from examples like the following, where we are forcing a dispositional reading on a sentence (the habitual *Bread turns into gold when touched by Midas*) whose truth does not depend on properties of the subject:

(159)   ?? Bread is disposed to turn into gold when touched by Midas.

The myth has it that Midas had a special property, in virtue of which he could turn anything into gold, merely by touching it. The problem with (159) is that it is dispositional on its subject, whereas the relevant property resides with the referent of a non-subject NP, namely Midas. Bread has no inherent property in virtue of which it turns into gold when Midas touches it; it is in virtue of Midas' properties, in particular his touch, that bread turns into gold.

As further evidence for the subject-orientedness of dispositionals, consider the following context. Due to a traumatic experience in her childhood involving her blond stepmother, Alice has as an adult a pathological inclination to killing blondes. We can

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[22]Note in this connection that Fara himself contends that "disposition ascriptions form contexts of obligatory control"(Fara, 2001, 32). This claim about the syntax of canonical disposition ascriptions is similar to Brennan's treatment of the syntax of dynamic modals, which is argued to involve a control structure.

express this by the following sentence:

(160)   Alice is disposed to kill(ing) blondes.

Now, there is certainly some property of the object referent, namely the colour of their hair, that triggers the manifestation of Alice's dispositional property. However, the sentence ascribes a property to Alice, and is subject-oriented in the sense of Brennan. To illustrate in less informal terms: the accessibility relation that restricts the modal comprises the properties that Alice has in the actual world, namely properties pertaining to her psychological profile, and thus picks out as accessible the worlds in which she has these properties. In such worlds, Alice does kill blondes. Conversely, if we consider worlds where Alice does not have the property in question, it is conceivable that she does not kill any blondes (in those worlds).

Although Fara only discusses canonical disposition ascriptions, he does not fail to note that disposition ascriptions more generally need not take the guise of sentences like (157).The classical examples of dispositional predicates are adjectives like *fragile* and *soluble*, and *-able* adjectives more generally (cf. Dahl (1975); Chierchia and McConnell-Ginet (1990) and Krifka et al. (1995) for the claim that *-able* adjectives are (dispositional) generics).

When the disposition ascription does not involve an overt dispositional predicate, as in the case of canonical disposition ascriptions that Fara discusses, it is reasonable to assume that what we have is a generic operator. What I would like to propose for the case of dispositional (readings of) generics, is that what is involved is indeed a generic operator, but it is not a Sentence-level operator. Dispositional generics involve a **Gen** that attaches to the VP much like dynamic modals according to Brennan. The semantics of this VP-level generic operator is very similar to the semantics of dispositional *will*. And parallel to the latter, what restricts the generic operator is Brennan's accessibility relation keyed to the syntactic subject. The proposal about disposition ascriptions is thus that they express 'in virtue of' generalizations, and that 'in virtue of' statements involve a VP-level operator. It follows that dispositionals are subject-oriented. These three properties are summarized below. Given that we are assuming Brennan's analysis, in effect the key feature of dispositional generics is that their **Gen** is a VP-operator, as stated in (162).

(161)   Disposition ascriptions:

   a. express 'in virtue of' generalizations.

    b. employ a VP-level **Gen**

    c. are subject-oriented.

(162)   Dispositional generics employ a VP-**Gen**

For habitual sentences, i.e. sentences which express nonaccidental descriptive generalizations, we can still assume the standard version of **Gen**, i.e. a S-level operator. What I am suggesting in other words is not that this VP-level generic operator replace the more familiar S-level operator, but that we allow for both possibilities. The modal semantics of **Gen**, and indeed one that assimilates the latter to a necessity modal (i.e. an operator of universal force), is more or less standard. This is the version of genericity that we were introduced to in section 2.4.1. My proposal is essentially to take the modal nature of **Gen** quite literally; instead of only allowing for **Gen** to be a necessity modal exclusively of the epistemic type, I propose to admit the possibility that in some cases it is of the VP-type, i.e. it modifies directly the VP, and relates the resulting modal property to the subject of the sentence. In other words, at least some generic sentences give rise to both habitual and dispositional readings. The former reading corresponds to a descriptive generalization, the latter to an 'in virtue of' generalization. The empirical coverage of this proposal is constrained to precisely 'in virtue of' generalizations in the realm of 'sentence-level' genericity.

Consider the sentences that appear below, which have a habitual reading alongside the dispositional one.

(163)   a. Kim speaks German.

    b. John rides horses.

    c. This car goes 200 km/h.

On the dispositional/ability reading, these sentences ascribe a property to their subject, and are subject-oriented. It is in virtue of inherent properties of the car, that it can go 200 km/h, not in virtue of properties of the asphalt, say, even though such circumstances may affect its performance. Similarly, it is in virtue of John's training and physical condition that he can ride horses and of Kim's knowledge and mental capacities that she can speak German.[23]

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[23]The dispositional reading of these sentences has been argued to involve a quantifier with existential, and not (quasi-)universal force, as I am assuming here. I will return to this issue at the end of section 2.7.

Note that the subject-orientedness that I have been arguing is characteristic of 'in virtue of' generalizations (cf. (156) above) receives support from a fact pertaining to NP-genericity, where something very similar seems to be going on. The observation is that it is impossible for singular indefinites, but not for bare plurals, to be interpreted generically in a non-subject position. The following examples, which illustrate this difference between bare plurals and singular indefinites in object position, are from Cohen (2001).

(164)   a. Kimberly hates plays.

       b. Kimberly hates a play.

We have seen that, according to Greenberg (2002), singular indefinites on the generic reading only have 'in virtue of' readings and cannot express descriptive generalizations. 'In virtue of' generalizations are therefore only possible if the indefinite is in subject position.[24]

The view that we might need more than one variety of **Gen** is supported by the evidence that testifies to the diversity of the phenomena subsumed under the label 'genericity'. I am particularly interested in the differences between habituals and other kinds of generics. I claim that one way of viewing the differences is by taking recourse to a generic operator which comes in (at least) two flavours. The point, in other words, is that by allowing for a dispositional **Gen** we can capture the existing differences between habituals and dispositionals. The semantic diversity in the domain of characterizing sentences has been emphasized recently by Van Geenhoven (2003), on the basis of evidence from Greenlandic. Laca (1990) has also distinguished between habits, which she calls 'iterated events' and dispositions, which are 'genuine generics' (Laca, 1990, 43), without however offering a formal implementation of the distinction. I should stress that characterizing habituals as iterated events is misleading, because the notion of iteration refers to a (possibly accidental) multiplicity of events. Iteratives do not express

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[24]Cohen (2001) discusses the difference in (164) at length and deals with apparent counterexamples to the generalization. The account he proposes is quite different from Greenberg's. Cohen does not utilize the distinction between 'in virtue of' and descriptive generalizations, but he does accord singular indefinites a different status from bare plurals. He proposes to distinguish between inductivist and rules-and-regulations readings of generics—cf. the distinction made by Carlson (1995)—and argues that bare plural sentences can have both readings, whereas for singular indefinites only reference to a rule or a regulation is available. His proposal thus constitutes an example of a mixed approach to genericity in terms of the predicational vs. quantificational debate.

non-accidental, lawlike generalizations and they therefore need to be kept separate from both habituals and dispositionals. The issue will concern us in the following chapter.

Habituals assert the existence of a pattern of regularly recurring events. In making a habitual statement, we are making a commitment with respect to the occurrence of prior events. By contrast, dispositional generics can be true in the absence of any event of the type denoted by the verb. The following pair illustrates this difference. (166) is from Krifka et al. (1995).

(165) John goes to school on foot.

(166) This machine crushes oranges.

The truth of (166) does not depend on whether or not there have been orange-crushing events in the past; the generalization is true in virtue of properties inherent in the machine. By contrast, the habitual in (165) cannot be true if there have been no events of John walking to school.[25] This point is made already in Dahl (1975) with respect to the dispositional predicate 'soluble in water'. Dahl comments:

> A classical example of a dispositional property is 'soluble in water'. Such a property shows itself only under certain conditions: to test whether something is soluble in water, we must put it in water. Still, we want to be able to call a thing soluble in water, even if it has never been in contact with this liquid and will perhaps never be. (Dahl, 1975, 102)

Another example of a generic sentence which has an additional reading distinct from the habitual one with different truth conditions is the following:

(167) Mary handles the mail from Antarctica.

One reading involves Mary's habitual behaviour, and the other relates to her job. Crucially, on the latter, 'vocation' reading no events of mail-handling are required on the part of Mary for the sentence to be true. On the habitual reading, however, Mary needs to have handled mail from the Antarctica on several occasions.

If my proposal about dispositional generics as distinct from habituals and as subject-oriented generics is on the right track, it follows that any non-subject oriented generics

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[25]Scheiner (2003) discusses the semantics of habituality and the differences between habituals and other characterizing sentences. She concludes that habituals do not involve the intensional **Gen** at all, but an extensional operator, HAB. By contrast, I assume here that we can keep the standard **Gen** for habituals, as long as our theory of genericity also includes the dispositional, VP-**Gen**.

have to involve descriptive, and not 'in virtue of' generalizations, i.e. they are predicted to be habituals. In order to test this, we need to look at the well-known examples discussed by Krifka et al. (1995) which exhibit an ambiguity with respect to what the generic property is attributed to, the subject of the sentence or a different constituent. These cases were problematic for Carlson's predicational theory of genericity, because he only predicted the subject-oriented readings to exist. [26]

(168)   Typhoons arise in this part of the Pacific.

    a.   Typhoons in general have a common origin in this part of the Pacific.

    b.   There arise typhoons in this part of the Pacific.

(169)   A computer computes the daily weather forecast.

    a.   Computers in general have the task of computing the daily weather forecast.

    b.   The daily weather forecast is computed by a computer.

(170)   A cat runs across my lawn every day.

    a.   Cats in general run across my lawn every day.

    b.   Every day, a cat runs across my lawn.

My claim is that, if these sentences have a dispositional reading at all, this reading can only be the subject-oriented one, i.e. it can only be derived on the basis of the (a) paraphrases. The reading indicated in (b) cannot be dispositional, but only habitual. Krifka et al. describe the (b) readings as the natural interpretations, and the (a) readings as less favoured and pragmatically odd. It is not difficult to see why this should be so. If dispositionality is distinct from habituality, and if dispositionality is linked to the subject position, then it follows that the (a) readings are odd, since they make very little sense as disposition ascriptions. Given our world knowledge, it is not a dispositional property of computers, for example, that they compute the daily weather forecast. The reading of the generic indicated in (169b) is habitual in that it summarizes a regularity of events: the sentence tells us that the computation of weather forecasts is a task generally carried out by computers. There is no intrinsic property of the forecasts in virtue of which this is so. Native speakers' intuitions about

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[26]Focus structure influences the availability of the readings: the more plausible (b) readings arise when the subject is stressed/focused. These sentences show that an indefinite subject can receive an existential interpretation in the context of a generic sentence, a point to which I return in the following section.

the truth conditions associated with the (a) and (b) readings prove extremely delicate, but it seems that the prediction is borne out.[27]

To summarize, in this section I proposed to generalize Brennan's analysis of dynamic modals to disposition ascriptions, including canonical disposition ascriptions and dispositional generics. I have argued that the latter are distinct from habituals, which are descriptive generalizations and utilize a sentence-level generic operator. Disposition ascriptions are 'in virtue of ' generalizations, i.e. the report a generalization which is true in virtue of some property of the subject referent. They exhibit subject-orientedness in the same way dynamic modals do. I therefore proposed to derive such sentences by having **Gen** combine with a VP. The resulting modalized property is ascribed to the syntactic subject.

Additional evidence in favour of positing a distinction between habituals and dispositionals along the lines suggested here is provided by middles, to which we can now turn.

2.7 Semantic properties of middles (second approximation): middles as dispositionals

My proposal about the middle semantics is that it involves a dispositional component, in other words, middles belong to the class of dispositional generics. They are subject-oriented, 'in virtue of' generalizations and they thus employ a VP-level generic operator.[28]

The semantics of this generic operator is identical to the semantics proposed by Brennan for dispositional *will*. I repeat it below (I notate the VP-level **Gen** as Gen$_2$):

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[27] I have asked speakers to imagine a world where computers were designed to compute the daily weather forecast (cf. the interpretation of (166) above). In that world, after designing the computers, we decided we don't want to know what the weather will be like, so no-one ever used a computer. In this context, it seems that (169b) can only be true on the (a) reading. This means that the (b) reading is habitual in that it requires verifying instances.

[28] Brennan (1993) hints at a suggestion to this effect concerning middles and *-able*, on the basis of the systematic absence of epistemic modal readings in these structures (Brennan, 1993, 42–43). She concludes that also in the case of middles "the modal word/affix relates a property-denoting expression and an individual-denoting expression" (Brennan, 1993, ibid). Contrary to Brennan, however, I suggest that the operator in question is generic (also contrary to what I claimed in Lekakou (2002)).

(171)   *Gen₂* denotes that function v of type schema $\langle \text{ˆIV,IV} \rangle$ such that for any index
w, any assignment g, any conversational backgrounds h_x, j, and any expression
P of type $\langle s, \langle e, t \rangle \rangle$,

$[\![v(\text{ˆP})]\!]^{w,g,h_x,j} : D \Rightarrow 2$.

For any $d \in D$ $[\![v(\text{ˆVP})(d)]\!]^{w,g,h_x,j} = 1$ iff

$\forall$ w' $\in$ W if

(i) w' is accessible from w for d given h_x,

(ii) w' is maximally close to the ideal established by j(w), then

(iii) $\langle$w',d$\rangle \in [\![VP]\!]^g$

As happens with dynamic modals, the VP-generic operator is restricted by a conversational background that consists of properties of the syntactic subject, and by a stereotypical ordering source.

What is the evidence that middles are dispositional, and thus amenable to the same analysis that dynamic modals received in Brennan (1993)? That the middle intuitively ascribes a non-accidental property to the syntactic subject has been widely recognized; cf. the characterization of the middle interpretation by Ackema and Schoorlemmer (2002) as involving a 'property' reading, and the statement in Fellbaum (1986) that "middles implicitly state something about the qualities of the patient that enable any potential agent to perform the action in question, with the result or in the manner indicated by the adverb" (Fellbaum, 1986, 12). In our terms, the generalization expressed by middles rests upon information about the syntactic subject, as happens with other sentences involving subject-oriented modals. Consider the following sentences:

(172)   Trashy novels read easily.

(173)   Cotton shirts wash easily.

(172) says that trashy novels are such, that reading them is easy. In other words, trashy novels have certain properties, pertaining to how they are written, the degree to which the prose is smooth and the plot easy to follow etc, such that one can read them easily; similarly for (173), the generalization is true in virtue of properties inherent in cotton shirts.

Let us see some more concrete evidence which shows that the conversational background that restricts the generic operator in middles consists of properties of the syntactic subject. For one thing, we expect an overt 'in virtue of' adverbial in middles

to be subject-controlled. The prediction is borne out. The sentences below from the literature do not feature an *in virtue of* adverbial, but a *because* clause, a fact which, presumably, only strengthens the argument. Van Oosten (1977) first noted the contrast between (175) and (176), and Dowty (2000) offers (174):

(174)   This car drives well...

    a.   ... because the suspension is engineered well.

    b. ??... because we're driving on smooth pavement.

(175)   The clothes wash with no trouble because...

    a.   ... they're machine-washable.

    b. *... I have lots of time.

(176)   It's no trouble to wash the clothes because...

    a.   ... they're machine-washable.

    b.   ... I have lots of time.

Dowty (2000) reaches the same conclusion that I have been arguing the dispositional semantics can derive: "the only factors that determine whether a middle construction sentence [sic] is true are properties inherent in the object acted on" (Dowty, 2000, 16).

There have been (at least) two proposals that seek to derive this intuition. Van Oosten argues that the contrast between (175) and (176) can be explained by (177):

(177)   *Responsibility condition*
        The subject of a middle (the logical object) must have properties such that it can be understood to be responsible for the action expressed by the predicate.

According to her, (177) holds of all (nonstative) subjects, because responsibility is a general trait of (agentive) subjects, which is why middles, but not sentences like (176), are subject to this constraint.[29] Despite the vagueness of the proposal in (177), the responsibility condition has been assumed by a number of researchers as a means of accounting for some impossible middles. This issue arises in connection to the restrictions that middle formation in e.g. English is subject to, a topic discussed in the following chapter. It is hard to see where the predictive power of (177) lies. I

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[29]Note that by 'subject', van Oosten means 'underived subject', as she shows that subjects of passives are not interpreted as responsible. This of course leaves languages like Greek, where middles are parasitic on passives, unaccounted for.

will show in the next chapter that as it stands the responsibility condition in fact does not explain any data. A theory of middles should be able to do without it. The dispositional semantics, which makes reference to inherent properties of the subject referent in virtue of which the generalization is true, reflects the same intuition in a more explicit fashion, and is thus to be preferred.

Something similar to (177) is discussed in McConnell-Ginet (1994), from where the following examples originate:

(178)   ? Cars park easily.

(179)   Small cars park easily.

Sentence (179) is an improvement over (178) (in my terms, because it spells out the 'in virtue of' property). What is communicated is that small cars, in virtue precisely of being small, are easy to park. McConnell-Ginet (1994) admits this feature of the middle in the semantic representation, by designating the syntactic subject as the causer. According to her, the middle in (179) means something like: 'some property of small cars is such that (the STATE of) their having that property is what CAUSES parking them to be generally easy' (McConnell-Ginet, 1994, 241). She provides the following formulation of the property predicated of small cars in (179) (y_i* stands for a null reflexive that she assumes exists in English middles):

(180) $\lambda x \lambda e.[easy(parking(y_i*))(e) \ \& \ x = Causer(e) \ \& \ x = y_i*]$

I believe there is no need to formally represent this feature of the meaning of middles in the way it is done in (180). Note also that in, for instance, the framework of Reinhart (2000), it would in fact be impossible to do so ('small cars' is the Patient and not the Causer of the action denoted by the verb). Treating middles as dispositionals means precisely that there is some property inherent to the subject in virtue of which the action denoted by the verb is facilitated; the extent to which the 'in virtue of' relation involves causation is not a matter I will be concerned with.[30] If it is causation, then McConnell-Ginet's insight is correct—but not general enough, since, in that case, we would actually want to generalize (180) to all dispositionals. It seems to me that by characterizing middles as disposition ascriptions, in the way advocated here, the intuition about the middle semantics that McConnell-Ginet expresses is captured.

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[30]See Fara (2001) for a discussion of this philosophical issue.

The claim that middles involve dispositional semantics, i.e. they express a generalization on the basis of properties of the subject referent, suggests that their meaning is distinct from habituality. Recall that I have claimed habituality involves no 'in virtue of' component, and is not keyed to the syntactic subject in the way dispositionality is. We have evidence that this expectation is met. There exists a thus far unnoticed contrast between middles and habitual passives. There are two contexts that reveal the non-identity of their interpretation. In the absence of an adverbial, the passive is habitual, but the middle is not. (These examples relate to the issue of adverbial modification in middles, and will thus also be discussed in the following chapter.)

(181)   a. Poetry just isn't translated!

          b. Poetry just doesn't translate!

Moreover, conjoining a middle with a negated habitual passive does not result in contradiction:[31]

(182)   This book reads easily, but it isn't easily read.

The data above indicate that generic passives and middles express different kinds of generalizations. (182) could be uttered successfully about a very long book, which nevertheless is very well written. A crucial semantic difference between the two conjuncts in (182) relates directly to the analysis of middles as disposition ascriptions. Specifically, native speakers detect a difference regarding which facts or properties determine the truth or falsity of the generalization in each conjunct. In the middle conjunct, what is crucial is properties of the book, which make the process of reading it easy. On the other hand, in the case of the generic passive what is relevant is not only properties of the book but also properties of the reader and of the circumstances more generally, which facilitate events of reading it.

The data in (181) and (182) raise several interesting questions. In the context of this chapter, they serve to substantiate the claim made in the previous section that habituals are distinct from dispositionals. The evidence from middles indicates that this distinction has to be made. Recall that I proposed to interpret the distinction

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[31]The only reason I have used different verbs in the two sets of data is that, contrary to what is claimed in the literature, adverbless middles are not acceptable by native speakers of English. *Translate* is one of the very few verbs which seem to tolerate the lack of an adverb, but *read* is not. See the following chapter for discussion.

between habituals and dispositionals as the distinction between an S-level and a VP-level generic operator. Although it might have seemed that this leads to an undesirable proliferation of silent generic operators, I believe the data overall suggest quite forcefully that the distinction is empirically motivated.

The evidence reviewed thus far supports the idea that middles qualify as dispositional generics. What distinguishes middles from the kind of dispositional generics discussed in the previous section is that the dispositional property they denote is not ascribed to the canonical subject, the Agent, but to the understood object, i.e. the Patient argument. Because disposition ascriptions are subject-oriented, if the Patient/Theme argument were realized in the object position, it would fail to be associated with the dispositional semantics of the modalized VP. Recall that the VP combines with the generic modal predicate, and the resulting modalized VP is predicated of the syntactic subject. Middles are not about the dispositions/abilities of people who read trashy novels (172) or wash cotton shirts (173). Middles are statements about (properties of) the understood object. If the semantics of middles is essentially the ascription of a dispositional property to the otherwise internal argument, it follows that this argument will have to surface in syntactic subject position. Moreover, it now follows that the Agent will be demoted: the dispositionality component of the middle interpretation requires that what occupies the subject position is the subject of the dispositional predicate. If the Agent, the otherwise most eligible candidate for subject position, were mapped onto its canonical position, the dispositional semantics would at best be associated with that argument. The Agent is therefore syntactically suppressed for semantic reasons, in order to allow the dispositional property to be predicated of the understood object.

Dispositional semantics therefore places certain requirements on the mapping to syntax. This means that both of our observations concerning the syntax of middles—i.e. the fact that across languages, the internal argument occupies subject position and the fact that the Agent is demoted—are reflexes of the targeted semantics.

One may object that middles are synonymous with active sentences which feature the modal *can, one* in subject position and the understood object in the object position. However, there are contexts that bring out the fact that there are subtle semantic differences between such sentences and middles, which pertain precisely to the ascription of a dispositional property to the understood object. The following minimal pair, due to Peter Svenonius (personal communication), illustrates this point:

(183)   One can read this book easily (anywhere in the world) in virtue of its having
         been translated into fifty languages.

(184)   * This book reads easily (anywhere in the world) in virtue of its having been
         translated into fifty languages.

The above contrast shows that, even though it may be convenient to use such *can*-sentences to paraphrase middles, the former are not identical to the latter.[32] In the following chapter, we will examine more examples of presumed synonyms of middles and we will see that they differ from middles in the same way as *can*-sentences differ, namely the dispositional factor.

There is evidence that the interpretation of both the suppressed and the promoted argument is also related to the dispositional semantics of middles. Recall that my proposal about the interpretation of the middle Agent is that it corresponds to *one*, a generic indefinite:

(185)   The Agent in middles is interpreted as ONE*.

Following Condoravdi (1989a), *one* is treated as inherently generic, in other words it can only receive a generic interpretation.

Now note the oddity of (186), with a 'canonical' disposition ascription:

(186)   ?? Sugar is disposed to dissolve when put into water by John.

It makes little sense to ascribe a disposition to an entity that only manifests itself when a specific agent is involved. In fact, it seems that the more 'specific' the agent, the less dispositional the reading of the sentence is. Dispositions, I presume, hold across agents (whenever they are involved).

More concretely, I surmise that, in cases of disposition ascriptions which involve an implicit argument, the latter is invariably interpreted as generic. The obligatorily generic interpretation of the implicit Agent of middles is one instance of this pattern. Condoravdi (1992a) has independently observed the effect of dispositionality on implicit arguments. She notes that when the reading of a predicate like *serious* or *hesitant* is

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[32]There are also some peakers for whom the following contrast obtains (Gillian Ramchand, personal communication):

 (i) ?One can read this book easily in virtue of its simple conversational style.

(ii) This book reads easily in virtue of its simple conversational style.

dispositional, its implicit argument, viz. the person to which seriousness or hesitation is directed, has no existential or anaphoric reading. (In fact, Condoravdi claims that in such cases the predicate is one-place, i.e. the implicit argument does not correspond to a syntactically represented argument.) Implicit arguments can otherwise be given a value by the context (i.e. they can be anaphoric), but then the predicate is no longer interpreted as dispositional.[33]

Consider the following context, where we attempt to force an anaphoric interpretation on the implicit Agent of the middle:

(187)   I am a lecturer of linguistics at UCL. The MA students this year have virtually no background in semantics, and are for the most part non-native speakers of English. I am therefore looking for an introductory semantics textbook that reads easily.

The context set out in (187) favours linking the implicit argument of the middle in the last clause to the previously mentioned MA students. However, the implicit Agent fails to be anaphoric to that entity. Although ultimately the book in question is intended for the MA students to read, the implicit Agent cannot be construed as specifically that set of people, but is interpreted as generic.

There seems, therefore, to exist a correlation between the interpretation of a predicate as dispositional and the interpretation of its implicit argument(s) as generic. On the assumption that this is true, the interpretation of the middle Agent is one aspect of this more general phenomenon. Unfortunately, there is little work on disposition ascriptions (and the little there is does not take middles into account). Hopefully, future research can shed more light on the proposed correlation.[34]

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[33]See Condoravdi (1992a) and especially Condoravdi and Gawron (1998) for the different interpretations implicit arguments may receive.

[34]The genericity of the middle Agent may be implemented as mapping (the variable corresponding to) ONE* onto the restrictor of the generic operator (see immediately below), as Steinbach (2002) has argued. This could be ensured by, for instance, the same mechanism that Chierchia (1995a) (following Diesing (1992)) maintains is responsible for generic readings of object-NPs. Chierchia argues for a VP-**Gen** for individual-level predicates, which accounts for the generic interpretation of their subjects. For objects which are interpreted generically despite originating within the scope of **Gen** (where they should get an existential reading), he assumes that scoping out of the VP is possible. We could assume the same. The obligatoriness of this scoping out for ONE* in middles might have to do with the nature of inherently generic indefinites: Condoravdi (1993) claims that "the use of *one* is felicitous only if its corresponding variable in logical form is mapped into the restrictor" (Condoravdi, 1989a, 79). This

The account I have defended makes a more straightforward prediction about another semantic property of middles, namely the obligatorily generic interpretation of indefinite subjects of middles. In virtue of appearing to the left of the generic VP, indefinite subjects will always have wide scope with respect to the generic predicate. The subject of middles is always mapped onto the restrictor of the operator. This means that only a generic reading will be possible. This is certainly true for middles:

(188)   Linguistics books read easily.

(189)   Cotton shirts wash easily.

(188) does not mean 'there exist linguistics books such that they read easily', and (189) similarly does not say that 'there exist cotton shirts and they wash easily'.

Recall that, as the examples in (168)–(170) show, an existential interpretation of indefinite subjects of generic sentences is in principle possible. Why it would be unavailable in the case of middles is a valid question, which anyone taking the genericity of middles as a given has to address. The account I have developed can successfully handle it. As Sabine Iatridou (personal communication) points out to me, this (and a related question) has arisen for the account of *be able to* proposed by Bhatt (1999). On the basis of the interaction of this verb with perfective and imperfective aspect in languages like Greek, Bhatt argues that the meaning of *be able* is that of an implicative verb like *manage*. In other words, *be able* is not a modal, but merely asserts its complement; a conventional implicature is also associated with it, which says that some effort went into the realization of the complement clause. The modal reading arises when *be able* combines with imperfective aspect, which realizes the generic operator; in that case, no actuality entailment is present (i.e. no actualization of the ability is asserted). On this account, imperfective *be able to* sentences are generic. We have reason to believe that the generic operator involved is the dispositional, VP-**Gen**. The issue also relates to the cases of dispositional/ability generics in (163) discussed in the previous section. It was noted there that their dispositional reading has been standardly assumed to involve an existential quantifier, instead of a quasi-universal as I am suggesting. For a view more in line with the one pursued here see Giannakidou (2001) and Meier (2003).

Bhatt observes that existential readings of bare plural subjects are only available in the absence of the generic operator, when the sentence is interpreted as episodic

all depends on, among other things, the nature and proper representation of generic indefinites.

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("existential readings are only available when there is an actuality entailment", (Bhatt, 1999, 181)). When the generic operator is present, the subject is interpreted generically:

(190) Firemen are able/manage to lift heavy cinder blocks. (subject only generic)

We can account for the unavailability of the existential reading of *firemen* above if we assume that the generic operator present is the dispositional VP-**Gen**.

Moreover, Bhatt recognizes that the semantics attributed to *be able* on the truly modal reading might be too strong, because such ability ascriptions do not require verifying instances, as do other generics. But we have seen that it is precisely habitual sentences which impose this requirement, and that other generics, e.g. dispositionals, do not (see the examples in (191) repeated from above). We can capture the fact that the genericity of *be able to* is of the same nature as the genericity of dispositionals rather than habituals, by assuming that *be able to* combines with dispositional **Gen**.

(191) a. John goes to school on foot.

b. This machine crushes oranges.

Summary of the results

To recapitulate, I repeat below what we started with, namely the three core properties of the middle interpretation, having now restated property (a) so that it makes reference to the dispositionality element:

(192) The core components of the middle interpretation:

a. The understood object is ascribed a dispositional property.

b. An otherwise eventive verb becomes a derived stative and, more precisely, receives a generic interpretation.

c. The agent is syntactically suppressed and receives an arbitrary interpretation.

Property (b) follows from (a): a disposition ascription is a generic statement. Property (a), in conjunction with the subject-orientedness of disposition ascriptions argued for above, is responsible for the promotion of the understood object to subject position, which takes place at a presyntactic level in English, German and Dutch, and in the syntax in Greek and French. Property (c) also follows, in the sense of the syntactic suppression, but also with regard to the interpretation of the implicit Agent, given

the incompatibility of disposition ascriptions and specific agents. Now the core of the middle semantics can be reduced to a single statement:

(193)   Middles ascribe a disposition to the understood object.

I would like to emphasize that this is intended as an analysis of personal middles, which are derived from transitive verbs and whose subject corresponds to the understood object. Intransitive verbs can in some languages give us impersonal and adjunct middles. (Dutch and German have impersonal middles; adjunct middles exist in Dutch, but not in German.) Although the syntactic and semantic properties of these constructions are not discussed in this thesis, I would like to point out that it is not implausible that the semantics proposed for personal middles can extend to impersonal and adjunct middles. The following Dutch sentences from Ackema and Schoorlemmer (2002) exemplify these two cases.

(194)   Impersonal middle:

Het zit prima in deze stoel.
it   sits fine   in this chair

'This chair is fine to sit in.'

(195)   Adjunct middle:

Deze stoel zit prima.
this   chair sits fine

'This chair is fine to sit in.'

As far as the semantics is concerned, the disposition is ascribed to the DP within the adjunct 'in this chair'. A question that arises for the analysis of dispositionals that I have proposed is how the disposition ascription can target the adjunct in the impersonal middle. For adjunct middles there is no problem, because *the chair* is actually the syntactic subject. In fact, Ackema and Schoorlemmer (1994) provide an analysis of adjunct middles which assimilates them to personal middles. They propose that 'adjunct-middle formation' is an applicative-like process that derives DP-subjects from PP's. (They moreover show that not any adjunct can undergo this promotion: what is promoted is always a DP from within an argumental PP.) But in the case of the impersonal middle, what occupies the subject position is an expletive. How can an expletive, a nonthematic subject, be a 'semantic' subject, i.e. the subject of a dispositional predicate?

There are reasons to believe that the problem is not as devastating as it seems. Dutch has two expletives, *het* and *er*. Impersonal middles feature *het*, which is the same expletive that occurs in weather-sentences and certain other constructions. Bennis (1987) has claimed that *het* is always a referential element, which can sometimes be associated with other material, for example an extraposed constituent. In other words, *het* is never a dummy element. One could therefore argue that in middles, *het* associates with a PP, which denotes the entity to which the dispositional property is ascribed. That there is something special about the syntactic subject of impersonal middles is evident from contrasting impersonal middles with impersonal passives. First, the expletive in Dutch impersonal passives is *er*, the non-argumental expletive. Moreover, even in German which uses the same element in both cases, *es*, impersonal passives behave differently from impersonal middles: in the former case, *es* is only there to satisfy the V2 requirement, and is obligatorily omitted when something else does that. In impersonal middles, by contrast, the expletive cannot be omitted. The expectation is that in no language (which has them) can impersonal middles feature the non-argumental expletive.

These considerations suggest that the existence of impersonal middles is not particularly problematic for the approach I have defended, because they rely on a mechanism independently available in some languages of relating an extraposed constituent to an argumental expletive syntactic subject. The syntax and semantics of impersonal and adjunct middles needs to be thoroughly investigated from the point of view I have adopted here, but this is a project that will have to be undertaken in the future.

2.8   Concluding remarks

In this chapter, I investigated the interpretation that middles receive. I argued that we can derive all of their semantic properties by attributing to the middle the status of a disposition ascription. Dispositionals are subject-oriented generic sentences. I proposed a treatment of the **Gen** employed in dispositionals along the lines of Brennan's (1993) analysis of dynamic modals. More precisely, I have argued that in the case of dispositional generics, **Gen** is a VP-operator.

The subject-orientedness of dispositionals means that the entity to which the disposition is ascribed has to surface in subject position. In middles, the entity of which a dispositional property is predicated is the otherwise internally realized argument of the

verb. It follows that a syntactic or presyntactic promotion of that argument to syntactic subject position is necessary, which also results in the demotion of the otherwise externally realized argument, the Agent. I have also suggested that the interpretation the syntactic subject and the implicit argument receive is related to the dispositional nature of the genericity of middles. In particular, this proposal enables us to understand why indefinite subjects of middles are always interpreted generically, when in principle an existential interpretation would also be compatible with the genericity of the sentence.

This treatment of the semantics of middles capitalizes on their dispositionality as a type of genericity. It is now possible to locate the crosslinguistic variation in the means that different languages have at their disposal for expressing genericity. In the following chapter, I will develop such an analysis, which will reduce the attested cross-linguistic variation in the syntactic behaviour of middles and in the projectability of the implicit Agent to the distinction between languages where **Gen** is encoded in imperfective aspect and languages which have no morphosyntactically realized **Gen**.

Chapter 3

The analysis

3.1 Introduction

In chapter 1, I introduced the empirical evidence that testifies to the cross-linguistic variation in the syntax of middles. I proposed adopting an approach to middles which denies them syntactic existence of their own and instead treats the middle as a particular interpretation that independently existing structures receive. In the previous chapter I investigated the middle interpretation itself and argued that it involves a disposition ascription (to the understood object). I analyzed dispositionals as subject-oriented generic sentences. The aim of this chapter is to argue that the cross-linguistic variation in middles relates to the way in which genericity is expressed across languages. More specifically, I will argue that the (un)availability of grammatical aspect to encode genericity determines the syntactic behaviour of the 'middle' verb, and the syntactic projectability of the demoted Agent.

I will show that Greek and French encode genericity in the morphology of the verb, whereas English, Dutch and German do not. I will show this individually for each language. Greek and French employ imperfectively-marked verbs for generic statements, although imperfective aspect encodes other interpretations in addition to genericity. Perfective aspect is incompatible with genericity. In other words, French and Greek mark the distinction between generic and nongeneric morphologically. In these languages, the generic operator, **Gen**, is morphosyntactically instantiated in the form of imperfective aspectual morphology. By contrast, English, Dutch and German employ the verbal forms in generic and in episodic contexts. These languages do not encode

the distinction between generic and nongeneric in the morphosyntax; in other words, they lack a morphosyntactically realized **Gen**. The distinction between languages that have and languages that lack morphosyntactic **Gen** is made on the basis of (196):

(196)   A language encodes **Gen** in imperfective morphology iff in at least one tense it has two distinct verb forms for generic and nongeneric uses, i.e. iff genericity $\implies$ imperfectivity.

How does this relate to middles? There are two issues that we have been concerned with: the syntactic (in)activity of the Agent, and the (un)ergativity of the middle verb. As far as the first issue is concerned, as mentioned in the previous chapter, I propose that the suppressed Agent in middles is interpreted as *one*, which is an inherently generic indefinite. I have dubbed this 'covert' form of the generic indefinite ONE*. (197) holds across all languages (that have middles).

(197)   The Agent in middles is (interpreted as) ONE*.

Like its overt counterpart, ONE* is only licit in the context of genericity. I will henceforth be treating the relation between **Gen** and ONE* as one of licensing. The sense of licensing intended is the one that characterizes the relation holding between, for instance, negative polarity items and negation. That genericity can enter into such a relation is not unheard of. As briefly mentioned in the previous chapter, Chierchia (1995a) proposed to treat individual-level predicates as inherently generic and deemed them 'generic polarity items'. That ONE* is bound to **Gen** by a relation of licensing seems only natural, given its nature as inherently generic (cf. Condoravdi (1989a) and the discussion in the previous chapter).

The gist of my proposal is that there exists a correlation between licensor and licensee, which is captured in terms of an 'immediate' licensing requirement imposed by ONE*, as stated in (198):

(198)   ONE* needs to be licensed at the level at which it is expressed.

According to (198), ONE* can be syntactically active only if it is licensed by an operator which is realized in the morphosyntax. In fact, as we will see later on, ONE* can only be syntactic, i.e. projected in the syntax, if its licensor is present in the syntax. This is what happens in Greek and French, whose imperfective verbal forms encode **Gen**. In English, Dutch and German, **Gen** is morphosyntactically absent, that is, it is only present semantically. Syntactic licensing cannot obtain in this type of language,

because **Gen** is not expressed morphosyntactically. I will have a bit more to say about (198) in a subsequent section.

On the basis of this line of reasoning, the following typological generalization is made with respect to the syntactic behaviour of the verb in middles:

(199)   A language will employ an unaccusative structure to convey the middle interpretation iff **Gen** is encoded in imperfective morphology.

In the first part of this chapter and in particular in sections 3.3 and 3.4, I look at the aspectual systems of the aforementioned languages in order to substantiate the claim that only Greek and French encode genericity in the verbal morphology. In the second part of the chapter, I provide an analysis of middles in the two types of language which is based on the (un)availability of morphosyntatic **Gen**. In section 3.5, I show how the morphosyntactic encoding of **Gen** pertains to the way in which the internal argument surfaces in subject position, in other words how the syntactic behaviour of the middle verb is determined by the way in which genericity is realized across languages. Section 3.6 deals with the difference between English-type middles and Greek-type middles with respect to the issue of adverbial modification. My proposal is summarized in section 3.7. The restrictions that middle formation is subject to in the two types of language are discussed in the appendix to this chapter.

3.2   Some preliminaries

Aspectual matters are notoriously delicate and complicated. Fortunately for us, the goal is not to exhaustively characterize the aspectual system of the languages under consideration here. Our interest lies exclusively in the way in which genericity is encoded across these languages. However, I will not always be able to avoid going into aspectual matters that are not directly related to the narrowly-defined task pursued here. In order to make this possible, we need to clear some ground before setting out to explore the morphosyntax of **Gen**.

The first issue that needs to be clarified is the independence of lexical aspect, or Aktionsart, from grammatical aspect. The two kinds of aspect interact in interesting ways, and whether or not they apply at different levels or reduce to the same notion is a matter that has received an enormous amount of attention in the literature and is still being explored. (For references and for recent discussion of how the two may in-

teract, embedded in specific proposals for the aspectual systems of different languages, see de Swart (1998) and Borik (2002) among many others.) I assume that lexical and grammatical aspect are to be kept separate. The analysis I propose for middles capitalizes on the availability of distinctions within the domain of *grammatical* aspect.

The notion of lexical aspect applies to the nature of the eventuality denoted by the VP and refers to e.g. the Aristotle/Vendler classification of predicates as belonging to states, activities, accomplishments and achievements.[1] States, like *love Mary*, and activities, like *run*, are atelic predicates, as there is no inherent endpoint in the eventuality they refer to: these predicates denote homogeneous and cumulative eventualities, and have the subinterval property. On the other hand, accomplishments, like *write a letter*, and achievements, like *spot the difference*, are telic predicates, which denote a change of state and therefore are not homegeneous or cumulative, but quantized. They lack the subinterval property. These properties of predicates will be most relevant in the appendix, when we take up the issue of the restrictions on the input to middle formation.

Grammatical aspect is a notion that applies at a different ('higher', or 'later') level than do distinctions of Aktionsart aspect (Ramchand, 1997; de Swart, 1998; Iatridou et al., 2002). According to Comrie (Comrie, 1976, 1–3), "aspects are different ways of viewing the internal temporal constituency of a situation". The intuition that distinctions within the realm of grammatical aspect pertain to different ways of viewing the temporal structure of eventualities is reflected in the use of the term 'viewpoint aspect' for grammatical aspect by Smith (1997). A major distinction in this domain is between perfective and imperfective. Smith characterizes the difference between the two 'viewpoints' in the following way (Smith, 1997, 3):

(200)   Perfective viewpoints focus a situation in its entirely, including both initial and final endpoints.

(201)   Imperfective viewpoints focus part of a situation, including neither initial nor final endpoints.[2]

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[1]The term 'lexical' is not entirely accurate, because it has been known since Verkuyl (1972) that the determination of the aspectual class to which a given verb belongs depends crucially on the nature of its arguments. The terms Aktionsart(en), predicational aspect, situation type, and eventuality description have been employed in the literature instead.

[2]Smith (1997) in addition defines a third kind of grammatical aspect, what she calls a neutral viewpoint:

Iatridou et al. (2002) argue that perfective morphology realizes the feature [bounded], and imperfective instantiates the feature [unbounded]. An eventuality is presented as unbounded when "it is ongoing at an interval (and is therefore not asserted to have reached an endpoint—achievement of the goal, for telics; termination, for atelics)" (Iatridou et al., 2002, 214). Conversely, "an eventuality is described as bounded when it is contained in an interval (i.e. when it is asserted to have completed/terminated)" (Iatridou et al., *op.cit.*).

Under both definitions of (im)perfectivity, the English progressive is an imperfective aspect. Like the progressive reading of imperfective aspect in languages like Greek and French, the progressive in English focuses on a part of the situation denoted by the V(P), in other words it expresses unboundedness. The progressive aspect applies naturally to activities and accomplishments, not to statives or to achievements (though there are counterexamples and complications with this). The progressive is thus a kind of imperfective, but it is episodic in that it refers to events (and naturally applies to nonstative predicates). I will briefly discuss the progressive as an imperfective aspect when I deal with English. Let me note already, though, that the English progressive is generally incompatible with habituality/genericity, so its availability in English will ultimately not threaten my general thesis, which concerns the morphosyntax of genericity, not imperfectivity. In what follows I will be using the term 'nonepisodic' as referring to cases which are (or resemble, see below) habitual or generic statements, in other words 'nonepisodic' will be a term for cases which do not make reference to a single event. 'Episodic' will be used for cases which involve reference to an event, i.e. 'episodic' will correspond to 'bounded'. On this use, 'episodic' excludes the progressive.

(i) Neutral viewpoints are flexible, including the initial endpoint of a situation and at least one internal stage (where applicable).

Smith provides arguments for the existence of this third kind of grammatical aspect and uses it in her characterization of the French aspectual system. Schaden (2003) proposes an alternative description of French, but employs the neutral viewpoint for his characterization of the German system. Finally, Iatridou et al. (2002) take the neutral viewpoint to be instantiated in Bulgarian.

3.3 Languages that have Gen (encoded in imperfective aspect)

After these brief remarks, let us turn to the issue of how genericity is encoded in grammatical aspect. My proposal for what it means for **Gen** to be morphologically encoded is repeated in (202):

(202)   A language encodes **Gen** in imperfective morphology iff in at least one tense it has two distinct verb forms for generic and nongeneric uses, i.e. iff genericity $\implies$ imperfectivity.

What (202) instructs us to do in order to see if there is morphosyntax for the generic operator is the following. We look for a verbal form that allows a generic reading. (Given the affinity of genericity with imperfectivity, it is reasonable to assume that the first thing to check will be imperfective verbal forms.) Then we need to check if that is the only verbal form available for expressing genericity. If generic/habitual readings only arise with that particular form—i.e. if such readings do not arise unless that verbal form is used—the language in question will be said to have **Gen** in the sense of (202). However, if a language allows the verbal form suitable for genericity/habituality to express episodicity (in the sense defined above, i.e. boundedness), then it will lack morphosyntactic realization of **Gen**. Whether or not imperfective morphology allows for example a progressive reading in addition to generic/habitual readings (as is the case with Greek and French) does not matter: we are interested in whether genericity can be expressed exclusively by a certain aspect (in particular imperfectivity), and not whether an aspectual form can express meanings that are not generic in addition to encoding genericity.

I should note from the very start that (202) requires either a certain level of abstraction, or extra care to be taken when sorting out generic/habitual readings from others, which also involve quantification over events; I will generally opt for the latter strategy. The reason for this caveat is that there is probably no tense/aspect that is entirely incompatible with a reading which involves quantification over events, not least because general restrictions on aspectual or tense operators can be in some cases overruled, due to the interference of, for instance, adverbial phrases which have their own semantic restrictions. The quantificational reading itself may be either a habitual or it may express something that resembles habituality without reducing to it, namely

iterativity.[3] For the sake of concreteness, let me illustrate the cases for which this warning is issued:

(203) Linguistics students are working harder and harder these days.

(204) John has always left for work at 8 am.

Such sentences seem to involve generalizations over events, although they employ the Progressive and the Present Perfect, respectively, instead of the Present or Simple Past. These cases will be dealt with in the section where I discuss English. Similar facts will also be discussed shortly in connection to French.

Against the background of these considerations, the main point of this section will be to establish that Greek and French encode genericity in morphological imperfective aspect in the sense of (202). The claim that imperfective aspect and genericity are closely linked has recently been re-asserted by Delfitto and Bertinetto (2000) and Lenci and Bertinetto (2000). According to Delfitto and Bertinetto (2000), "in Slavic and Romance, the interpretive contrast between episodic and habitual sentences is aspectually encoded by means of the opposition between perfective and imperfective morphology" (Delfitto and Bertinetto, 2000, 215).[4] For these authors, imperfective morphology (and only imperfective morphology) triggers the presence of the generic operator. Perfective aspect on the verb is associated with existential closure of the event/time variable of the verb. The same claim is made in Lenci and Bertinetto (2000), where Italian is argued to have "a specialized aspectual device to express habituality as part of the domain of imperfectivity" (Lenci and Bertinetto, 2000, 250).

Following these authors, I contend that only imperfectivity is associated with genericity. Perfective aspect does not encode (or trigger the presence of, as these authors would have it) genericity. For the intricate interactions between aspect and tense, and aspect and adverbial expressions, as well as the issue of what precisely the generic

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[3]This is what I take the morale from Filip and Carlson (1997) to be, and not that there is no affinity between imperfectivity and genericity, as they argue.

[4]The authors cited here intend the term 'habitual' to refer to characterizing sentences in the sense of Krifka et al. (1995). Recall that in the previous chapter I suggested interpreting the differences between habituals and dispositionals as pertaining to the distinction between sentence-level **Gen** and VP-level **Gen**. For the better part of this chapter, the distinction is not going to be relevant, so I feel free to use habitual statements to illustrate my points. What will be crucial here is to show that certain instances of generalizations over events do not qualify as habitual, but express iterativity. This is one of the main claims made in the papers cited.

operator and existential closure applies to (the time variable or the event variable), I refer to Delfitto and Bertinetto (2000) and Lenci and Bertinetto (2000).

3.3.1 Greek

In Greek, all verbs are obligatorily inflected for perfective or imperfective aspect. The morphemes are of the so-called *portmanteau* type: a single morpheme simultaneously encodes information on voice, tense, number and person.[5] In other words, Greek verbal suffixes do not have a one-to-one correspondence with meaning, but display "overlapping and extended exponence" (Stump, 1998, 37). More in particular with respect to aspect, the distinction between perfective and imperfective is obligatorily made for each verb in Greek, by affixation, root/stem allomorphy or suppletion (Horrocks and Stavrou, 2003). The paradigm is given in full in the table 3.1, taken from Holton et al. (1997).

Tense/Mood	*Imperfective*	*Perfective*
Non-past	graf–o 'I write' 'I am writing' **Present**	graps–o **Dependent**
Past	e–graf–a 'I used to write' 'I was writing' **Impefect**	e–graps–a 'I wrote' **Simple Past**
Future	tha grafo 'I will write (often)' **Imperfective Future**	tha grapso 'I will write (now)' **Perfective Future**
Imperative	grafe 'write (often)' **Imperfective Imperative**	grapse 'write (now)' **Perfective Imperative**

Table 3.1: The Greek aspectual system

The term 'dependent' that appears in the Nonpast perfective in the table is meant

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[5]See Rivero (1990) and Joseph and Smirniotopoulos (1993) for different views on how the information that verbal endings carry in Greek is encoded in the syntactic tree.

to indicate that this perfective form never appears in isolation, but in constructions where it is obligatorily preceded by a particle. (This 'particle' introduces future and subjunctive.) The universal impossibility of present perfective (cf. Iatridou et al. (2002)) is discussed when we turn to English.

Episodic sentences, i.e. sentences which describe an event as bounded, require perfective aspect. As noted above, such sentences involve existential closure of the Davidsonian event argument (Giannakidou and Zwarts, 1999). In fact, perfective is the only form that may be used in such cases: perfective aspect is used exclusively in episodic contexts. The imperfective aspect, on the other hand, may be used either for generic/habitual actions or it may describe an event as ongoing. Thus, the Greek imperfective can be thought of as ambiguous between a generic/habitual and a progressive interpretation. On its generic reading, the Greek imperfective has been analyzed by Giannakidou and Zwarts as involving quantification over events.

In Greek, genericity may only be expressed by imperfective aspect, never with the perfective verb form, as illustrated in the following contrast:

(205)   a.   O   Janis egrafe   ena grama kathe mera.
             the-NOM Janis write-PAST.IMPERF.3SG one letter every day
             'Janis used to write a letter every day.'

        b. * O   Janis egrapse   ena grama kathe mera.
             the-NOM Janis write-PAST.PERF.3SG one letter every day
             'Janis wrote a letter every day.'

Therefore, Greek has morphosyntactically realized **Gen**, in the sense of (202), repeated below as (206):

(206)   A language encodes **Gen** in imperfective morphology iff in at least one tense it
        has two distinct verb forms for generic and nongeneric uses, i.e. iff genericity
        $\implies$ imperfectivity.

3.3.2   French

In French, too, distinct verb forms are used for episodic and generic/habitual sentences. French makes the distinction between perfective and imperfective in the past tenses only. (Since the distinction is not made morphologically explicit in the present and the future tenses, I do not give a table for the French aspectual system.) There are three past tenses in this language: the Imparfait, which is is ambiguous between a habitual

and a progressive interpretation, much like the Greek Past Imperfective. There is, in addition, the Passé Simple, henceforth (PS), and the Passé Composé, henceforth (PC). Both PS and PC are used in episodic sentences mainly, in the sense that generic and habitual statements in the past tense require Imparfait.

(207) a. Jean écrivit   une lettre hier/   *chaque jour.
           Jean write-PAST.PERF.3SG one letter yesterday/ every   day
           'Jean wrote a letter yesterday/everyday.'

       b. Jean écrivait   une lettre chaque jour.
           Jean write-PAST.IMPERF.3SG one letter every   day
           'John used to write one letter every day.'

       c. Jean a   écrit   une lettre hier/   *chaque jour.
           John has written one letter yesterday/ every   day
           'John has written a letter.'

That PS is perfective is indisputable, see Smith (1997) and references there. There are complications with the PC, which in some cases appears in nonepisodic contexts. The following examples appear in Doetjes (2002):

(208) a. Pendant sa jeunesse, Pierre est souvent allé au   Louvre.
           during his youth   Pierre is   often   gone to.the Louvre
           'Pierre often went to the Louvre during his youth.'

       b. Sylvie a   souvent apprecié   ce   film.
           Sylvie has often   appreciated this film
           'Sylvie often appreciated this film.'

       c. Pierre a   souvent acheté trois kilos d'olives.
           Pierre has often   bought three kilos of olives
           'Pierre has often bought three kilos of olives.'

This flexibility of PC may be linked to the double status of PC in French, as Schaden (2003) points out: on the one hand, the PC has the value of a simple past tense, but on the other hand, it bears similarities to the English present perfect. On its simple past guise, it can be argued to be perfective, but on its present perfect guise, its aspectual value is not so clear. The point is that it is most likely on the latter persona that the PC in French can appear in 'habitual' contexts.

But there are other reasons to have reservations about the status of the examples in (208) as habitual. In particular, it can be argued that these sentences do not refer to a habit, but to a multiplicity of events, or an iteration, in the sense of Doetjes (2002).

Essentially, the difference is that a sentence like (208c) says something about the total number of olive-buying events during a certain period of time, namely that the number is relatively big. A true habitual reading characterises a time interval as one with lots of olive-buying.[6] Because habituals express non-accidental generalizations, they allow the inference that the habit reported may persist (recall the discussion in the introduction to genericity from the previous chapter); this is not true of iteratives.

Lenci and Bertinetto (2000) argue that only imperfective aspect surfaces in truly habitual contexts. As these authors emphasize, "multiple occurrences of an event do not automatically turn it into a habit" (Lenci and Bertinetto, 2000, 251). Lenci and Bertinetto examine perfectively-marked 'habituals', and show that they are different from their imperfective counterparts, to the effect, as mentioned above, that only imperfective aspect is associated with the intensional generic operator. Perfective 'habituals' are not genuine generic sentences, because they merely express quantification over a *bounded* set of events, and they therefore lack the nonaccidental, law-like nature of characterizing sentences. Accordingly, no generic operator is invoked in these cases.[7]

To illustrate, the perfectively marked (209) tells us only of the cinema-going events that occurred within the interval denoted by the temporal adverbial; because no non-accidental generalization is expressed, there is no inference that cinema-going events persist. On the other hand, the imperfective habitual in (210) leaves the possibility open that the habit expressed in the sentence still holds.[8]

(209)   En 1998, Jean est souvent allé   au   cinema avec Marie.
        in 1998, Jean is   often   gone to.the cinema with Marie
        'In 1998, Jean often went to the cinema with Maria.'

(210)   En 1998, Jean allait   souvent au   cinema avec Marie.
        in 1998 Jean went-IMP often   to.the cinema with Marie
        'In 1998, Jean used to go often to the cinema with Marie.'

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[6]I thank Jenny Doetjes for clarifying this. To press the point with another example, *John drank a glass of whiskey several times in the past year* reports the multiple occurrence of an event of drinking whiskey during a time interval without ascribing a habitual property to John, i.e. the sentence is clearly not habitual/generic.

[7]More specifically, Lenci and Bertinetto define the perfective as contributing an extensional existential quantifier which binds the time variable; any quantification is introduced by frequency adverbs which bind the event variable within the existentially closed time interval.

[8]The examples that appear in Lenci and Bertinetto (2000) are Italian, but the authors make claims about Romance more generally. Valentine Hacquard (personal communication) verifies that the observation applies to French just as well.

There is in fact evidence that genericity proper is not compatible with the PC. As Authier (1989) points out, there are certain contexts which disallow PC, and these are indisputably generic, namely cases of object deletion as in (211), and of generic subjects, as in (212)—both sets of data are from Authier (1989). Note that the presence of *d'habitude* in (212) apparently does not suffice to rescue a habitual reading of PC.

(211) a. Trop   de bruit rend   *ec* sourd.
            too.much of noise make-3SG   deaf
            'Too much noise makes one deaf.'

      b. * Trop   de bruit a   rendu *ec* sourd.
            too.much of noise has made   deaf

      c. En ce   temps-là, la syphilis, pour laquelle   aucun traitement
            at that time   syphilis   for   which-FEM no   treatment
            n'existait,   rendait   *ec* fou.
            NEG existed-IMPARF made-IMPARF   insane
            'At that time, syphilis for which no cure existed turned people insane.'

(212) a. D'habitude, les chats aiment le lait.
            usually   the cats love-3PL the milk
            'Usually, cats like milk.'

      b. * D'habitude, les chats ont aimé le lait.
            usually   the cats have loved the milk

I therefore concur with Lenci and Bertinetto (2000) that the generic operator is only encoded by imperfective morphology, i.e. the French Imparfait, and that perfective sentences may express a multitude of events, but this does not amount to a genuine modal generalization. In other words, iteratives may employ perfective aspect, precisely because iteratives do not belong to the category of generics, which are modal/intensional in nature.

The above considerations lead us to conclude that, like Greek, French encodes genericity in imperfective morphology, along the lines of (202), repeated below as (213):[9]

(213) A language encodes **Gen** in imperfective morphology iff in at least one tense it has two distinct verb forms for generic and nongeneric uses, i.e. iff genericity $\implies$ imperfectivity.

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[9]Greek and French are different in a way that does not affect the conclusion drawn here: only in French is perfective aspect compatible with iterative readings. In Greek this is impossible.

Interim summary

In this section, I have argued that Greek and French encode **Gen** in imperfective morphology, in the sense of (213). By (198), Greek/French imperfective aspect licenses a syntactically active ONE*. Greek/French type middles will employ a passive structure to convey the middle interpretation. These claims will be fleshed out in section 3.5. I now turn to the Germanic languages under consideration.

3.4 Languages that don't have Gen (encoded in imperfective aspect)

In this section, I show that the Germanic languages in question have a crucial thing in common (glossing over some of the differences that exist within these languages with respect to aspectual matters): their verbal morphology does not encode the distinction between generic and nongeneric aspect. That English and Germanic languages more generally have a fairly impoverished verbal morphology is a well-known fact. Our narrow interest, again, is the way in which generic readings arise. I will be using (213) as a criterion. A language will be said to encode genericity if there are different verb forms for generic and nongeneric, episodic uses. I start with English and then proceed to Dutch and German.[10]

3.4.1 English

According to Comrie (1976), English does not have a special marker for genericity/ habituality, and hence generic vs. nongeneric is not a grammaticalized distinction in this language. Comrie claims that the oppositions that are encoded in English are progressive–nonprogressive, and perfect–nonperfect. The (present) perfect and its puzzles will not particularly concern me here. I refer the reader to Iatridou et al. (2002) for discussion of the existing accounts and for a recent proposal.[11]

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[10]I ignore periphrastic means of expressing habituality, e.g. *used to.*

[11]To my understanding, what emerges from Iatridou et al. (2002) is that there is no independent perfect aspect: the temporal and aspectual characteristics of the construction are derived from properties of the elements which compose the present perfect, namely the present tense and the participle. These authors claim that the English participle is perfective, unless the verb is stative or in the progressive.

Giorgi and Pianesi (1997) have claimed that bare verb forms in English have a perfective value. The claim, in other words, is that the English verbal forms are always associated with the feature [+perfective]. The feature [–perf] is never instantiated in English, since there is no corresponding morpheme. In their system, the fact that "English associates the feature value [+perf] to all eventive predicates entails that they are interpreted as topologically closed [i.e. bounded/perfective]" (p.164). It is not necessary to endorse this particular view of English aspect in order for the claim advanced here to hold; the unavailability of the generic-nongeneric distinction does not reduce to the unavailability of the perfective-imperfective distinction (although it relates to it, as we saw for Greek and French, where genericity is encoded in imperfective aspect). But it is instructive to consider how generic readings arise according to this proposal.

With regards to the Present tense in English, the question is how a verb whose aspectual value is perfective yields a generic reading (which is 'unbounded', imperfective). The question does not in fact arise only for English; it relates to the universal impossibility of a Present tense perfective, to which I have alluded already in connection to the Greek present perfective. A more or less standard assumption that Giorgi and Pianesi (1997) elaborate on is that utterances are interpreted temporally through the anchoring of the event denoted by the verb to the speech time. Present tense sentences are interpreted as simultaneous with the speech event. Past tense sentences denote events that occur prior to the speech event, and in the case of future tense sentences, the event denoted by the verb occurs after the speech event. The speech event itself is conceived of as punctual and in Giorgi and Pianesi's framework this means that the speech event has no temporal structure. For a Present perfective to exist, what we would need is the following situation to obtain: a nonstative predicate, which has temporal structure, would have to be simultaneous with the speech event, which is punctual (viz. it has no temporal structure). This is not possible. The principle that rules it out is stated in (214) (Giorgi and Pianesi, 1997, 163):

(214)   A closed event cannot be simultaneous with a punctual event.

Smith (1997) employs a similar explanation which refers to the way in which the present moment is conceptualized. She suggests that "there is a pragmatic principle of interpretation for sentences about Present time, requiring that they be interpreted in a certain way: Present sentences may not include the endpoints of situations" (Smith,

1997, 110).

The purpose of these remarks is to give a flavour of how the generic interpretation of nonstative predicates in the present tense can be derived in languages like English. However, given that generic readings are available in Germanic not just in the present tense, but in past and future tenses as well, (214) cannot be the whole story. What (214) does is rule out episodic readings in the Present tense and rule in the generic interpretation; it does not tell us, however, how the second kind of reading arises in the rest of the tenses. It is examples like the following that confirm that the Past tense in English admits, alongside the episodic reading, habitual/generic readings (the same can be shown for the Future, but I will not do this here). These examples show that English does not encode genericity morphosyntactically.

(215)   a. John drove to school (yesterday).

         b. John drove to school (as a teenager).

To derive these facts we need to claim, in the spirit of de Swart (1998), that generic/ habitual readings in Germanic are the result of coercion. This is what de Swart (1998) has argued for habituality in English. Although I cannot go into the details of her proposal, what is crucial for our purposes is that coercion is a contextually triggered operation which is not encoded morphosyntactically. As de Swart notes, "the main difference between grammatical operators and coercion is that coercion is syntactically and morphologically invisible: it is governed by implicit contextual reinterpretation mechanisms triggered by the need to resolve aspectual conflicts" (de Swart, 1998, 360). The view of coercion as a mechanism that delivers an aspectual interpretation for which the language has no explicit markers is entirely compatible with the claim made here, namely that genericity/habituality is not morphosyntactically encoded in English.[12]

The conclusion drawn on the basis of (215) is that English does not encode the generic-nongeneric distinction morphologically. In our own terms, English does not satisfy (213), repeated below.

(216)   A language encodes **Gen** in imperfective morphology iff in at least one tense it has two distinct verb forms for generic and nongeneric uses, i.e. iff genericity $\implies$ imperfectivity.

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[12]An alternative to coercion is the view that the verbal forms in English and Germanic more generally are underspecified for aspect. Either option will do for us, though see de Swart (1998) for arguments in favour of coercion and against underspecification.

An objection to this claim may be advanced in the form of examples like the following, where genericity seems to be expressed by the Progressive, which is considered an imperfective aspect, and the Present Perfect:

(217)   a. Linguistics students are working harder and harder these days.

        b. John has always left for work at 8 am.

Upon closer inspection these sentences do not encode habituality, and the existence of such cases does not render either the Progressive or the Present Perfect 'generic tenses'. To start with, the possibility of interpreting the Progressive and the Present Perfect in a 'generalizing' context is obviously due to the quantificational adverb *always* and to the temporal frame adverbial *these days* respectively, whose presence overrides the general incompatibility between the Progressive and habituality.[13] Genuine (imperfective) markers that encode genericity do not necessitate the presence of quantificational adverbs or the like in order to achieve a generic interpretation. Recall that it was precisely these circumstances that enabled the perfective in French to yield a 'quantificational' reading, and that it was argued above that this does not qualify as an instance of genericity. In other words, the sentences in (217) are iteratives in the sense explicated earlier in connection to French, and hence do not threaten the generalization that English lacks morphosyntactic encoding of **Gen**.[14]

3.4.2   Dutch and German

The conclusion we reached for English extends to Dutch and German, which also have no morphologically realized generic operator. I start with German. Table 3.2 gives the tense distinctions available in German. Our criterion is repeated in (218).

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[13]Moreover, the comparative adverbs that appear in the sentence might also have an effect. Such adverbials are present in the well-known cases where a stative appears in the Progressive:

 (i) John is resembling his father more and more each day.

[14]The suspicion that what is at stake in the examples above is iterativity in the sense of Doetjes (2002) or Lenci and Bertinetto (2000), but in any event not genericity, is strengthened by the following observation. Singular indefinites cannot be interpreted generically when combined with a progressive or present perfect construed 'quasi-habitually', cf. (i) and (ii) below, where the indefinite can only be interpreted existentially. This is entirely mysterious if the Progressive and the Present Perfect can contribute a generic operator.

 (i) *A linguistics student is working harder and harder these days. (on the relevant reading)

(ii) *A linguistics student has always worked at night. (on the relevant reading)

Tenses	
Present	ich kaufe 'I buy'/'I am buying'
Simple Past	ich kaufte 'I was bying/'I bought'
Present Perfect	ich habe gekauft 'I bought'/'I have bought'
Past Perfect	ich hatte gekauft 'I had bought'
Future	ich werde kaufen 'I will buy'
Future Perfect	ich werde gekauft haben 'I will have bought'

Table 3.2: The German tense system

(218) A language encodes **Gen** in imperfective morphology iff in at least one tense it has two distinct verb forms for generic and nongeneric uses, i.e. iff genericity $\implies$ imperfectivity.

German has no morphosyntactic encoding of **Gen**. The sentences that show this are given immediately below. I illustrate with the past tenses, which can appear in both episodic and nonepisodic sentences. In German, the present perfect and the simple past can perform both duties (although there is dialectal variation here; simple past tenses are virtually nonexistent in the South):

(219) a. John ging gestern   nachmittag zu Fuß zur   Schule.
John went yesterday afternoon   on foot to.the-DAT school

b. John ist gestern   nachmittag zu Fuß zur   Schule gegangen.
John is yesterday afternoon   on foot to.the-DAT school gone
'John went to school yesterday afternoon on foot.'

(220) a. Als Jugendlicher ging John zu Fuß zur   Schule
as   youngster   went John on foot to-the.DAT school

b. Als Jugendlicher ist John zu Fuß zur   Schule gegangen.
as   youngster   is John on foot to-the.DAT school gone
'In his youth, John went to school on foot.'

The same applies to Dutch. As we can see in table 3.3, Dutch makes the same tense distinctions as German:

Tenses	
Present	ik kook
	'I cook'/'I am cooking'
Simple Past	ik kookte
	'I cooked'/'I was cooking'
Present Perfect	ik heb gekookt
	'I cooked'/'I have cooked'
Past Perfect	ik had gekookt
	'I had cooked'
Future	ik zal koken
	'I will cook'
Future Perfect	ik zal gekookt hebben
	'I will have cooked'

Table 3.3: The Dutch tense system

As in German, the Simple Past, and also the Present Perfect in Dutch can be episodic or habitual/generic:

(221) a. Jan las   gisteren   veel   boeken.
          Jan read yesterday many books
          'Yesterday, John read many books.'

       b. Jan las   als tiener   veel   boeken.
          Jan read as teenager many books
          'As a teenager, John read many books.'

(222) a. Jan heeft gisteren   veel   boeken gelezen.
          Jan has   yesterday many books   read
          'Jan read many books yesterday.'

       b. Jan heeft als tiener   veel   boeken gelezen.
          Jan has   as teenager many books   read
          'Jan read many books as a teenager.'

One difference between English on the one hand and German and Dutch on the other is that only in the latter is it possible to interpret the present tense as progres-

sive.[15] But it is not clear that this a problem for us. As far as our criterion in (216) is concerned, genericity is not morphosyntactically realized in German or Dutch. The maximal underspecification of, for example, the simple tenses does not argue in favour of the existence of a generic operator encoded morphologically.

Interim Summary

In this section, I have argued that genericity has no morphosyntactic reflex in English, German or Dutch. By (218), English, German and Dutch do not have a morphosyntactic **Gen**. Given (198), it follows that middles in these languages cannot have a syntactically active ONE*, since its licensor is a generic operator which is not morphosyntactically realized. I now turn to the derivations that give us the desired results for the languages we have been examining.

3.5   Derivations

In the remainder of this chapter, I will be concerned with how exactly it comes about that the middle interpretation is conveyed across the two language-types that have been identified—Greek and French vs. English, Dutch and German. In particular, the aim of this section is to show how the morphosyntactic encoding of genericity and the lack thereof results in a passive and an unergative structure respectively for the middle interpretation. I briefly summarize the gist of the analysis immediately below, and I then devote my attention to each of the two structures employed. I will start with the passive-type middle, and then go through the derivation for the unergative-type middle. In section 3.5.3 I explain why the latter is not available in Greek/French. Section 3.5.4 addresses the question of whether a passive middle is available for English, Dutch and German.

The dispositional semantics that I argued in the previous chapter best characterizes the middle requires that the internal (Patient/Theme) argument be realized in subject position. Given this, languages have two options: the argument bearing the

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[15]There are in addition periphrastic means to express 'progressivity' available to in fact all the languages we have been discussing (with the exception of Greek). I am not sure to what extent these periphrastic means can be considered grammaticalized aspectual operators; the Dutch strategy, for example, is the so-called *an het* construction, which involves a preposition, *an* 'on', and a nominalized infinitive introduced by *het*. I leave this type of construction out of consideration here.

Patient/Theme role can be base-generated in subject position or it can be moved there. The first option will result in a presyntactic derivation and an unergative-type middle, the latter in a syntactic derivation and a passive-type middle. In reality, there is no choice: the level of representation at which the internal argument 'reaches' subject position is the level of representation at which **Gen** is inserted in a given language.

The morphosyntactic realization of the generic operator and the unergative/ unaccusative derivation of middles are linked in the following way. Universally, the agent in middles is a generic indefinite, ONE*. Recall that ONE* needs to be licensed immediately:

(223)   ONE* needs to be licensed at the level at which it is expressed.

(223) states that the generically interpreted indefinite corresponding to the external argument will project to syntax only if the generic operator that licenses it is itself present in the morphosyntax; otherwise, it is generically bound presyntactically and left unprojected. So, in languages without imperfective morphology to encode **Gen**, licensing of ONE* has to take place at an early stage of the derivation, prior to syntax proper. The way the internal argument is mapped onto the external position is discussed in section 3.5.2. The unaccusative derivation of middles, which obtains in languages with imperfective aspect, is much more straightforward, as we will see immediately below.

I should clarify that I am assuming a model of grammar in which semantic information is available pre- and post-syntactically. Lexical items come with lexical semantic information; this information is relevant at the level of conceptual structure, which precedes syntax. Concepts cannot combine with each other, of course. The combinatorial mechanism is syntax proper. LF then interprets the syntactic structure. This is a fairly uncontroversial system to assume. See the discussion in Reinhart (2000) for the relation between concepts, the syntax and LF.

Let me note here that the requirement of immediate licensing that is imposed on ONE* does not hold for the lexical item *one*, which is obviously present syntactically even though I am claiming that in Germanic languages there is no operator in the syntax that licenses it. The generic operator in this case is only present at LF. The reason for this discrepancy between ONE* and *one* is that the latter is generic as a matter of its lexical semantics, whereas ONE* is an interpretation (of for instance a piece of morphology, such as nonactive voice in Greek) which is granted through the presence of the licensing generic operator. In other words, I am assuming that ONE*

comes about as an interpretation through a rule such as (224):

(224)   Op x → Op ONE*.

In (224), x comes to be interpreted as ONE* in the context of the generic operator (Op). It is impossible to state this rule of interpretation without refering to the operator itself. This is tantamount to immediate licensing.

This is the main idea of the proposed account. The sections to follow concern its implementation, which can vary substantiatally, depending on one's conception of the structure of the presyntactic level and of its interface with syntax proper. The idea pursued here, that it is the encoding of genericity that makes the difference, should be intelligible to different frameworks.

3.5.1   The passive-type middle

The two basic tenets my proposal appear summarized below:

(225)   a. The agent in middles is a generic indefinite, ONE*.

b. ONE* needs to be licensed at the level at which it is expressed.

(225b) implies that ONE* can only be licensed in the syntax if its licensor is present at that level. In the previous sections I demonstrated that the aspectual system of French and Greek makes the distinction between perfective and imperfective, and that **Gen** is encoded in imperfective morphology. In other words, Greek and French have the means to satisfy syntactic licensing of ONE*. The implicit argument corresponding to the external theta role will be able to be realized syntactically. As we saw in chapter 1, this is exactly what happens: Greek and French middles involve a syntactically active implicit Agent. Having discussed the semantics of middles in chapter 2, I established that disposition ascriptions are linked to the subject position. Passive formation independently involves movement of the internal argument to that position. We have every reason to expect that imperfectively marked passives are the independently available vehicle for the middle interpretation in these languages.

There exists a variety of different theories of passive in the literature. As far as I can see, for my purposes the choice of framework is immaterial. Because middles in the languages under consideration here share with passives certain properties, namely syntactic behaviour of the verb and of its implicit argument, as long as the analysis that derives passives is employed for middles, it makes little difference what the analysis is.

There is one restriction: the analysis of passives I am assuming assigns the external role to a syntactic position. For the sake of concreteness, I will illustrate with a GB-style derivation, according to which the external theta role is assigned to passive morphology. As long as the external argument is represented in the syntax of passives, updating these derivations in the spirit of more recent developments should not be problematic.[16] The only analysis of passive that is incompatible with my approach is the one according to which the argument structure of the passive differs quantitatively from the argument structure of the active, in that the passive has no syntactically represented external argument (Grimshaw, 1990). I believe there are strong empirical reasons to reject such an analysis (independently of middles).

Let us make the derivation of passives, episodic and generic, more explicit. According to Jaeggli (1986), Roberts (1987), Baker et al. (1989), Tsimpli (1989) and Ackema (1995), passive verbs project all of the corresponding active verb's arguments in the syntax. The difference is that in passives the external theta role is assigned to passive morphology (henceforth PM), which also receives accusative case.[17] For Baker et al. (1989), PM is base-generated under INFL, and can therefore only receive the external theta role. Tsimpli assumes the same for passive/middle PM (but she argues that in the case of inherent reflexives PM appears inside the VP and is assigned the internal theta role). Therefore, the internal argument has to move to the subject position, to receive (nominative) case.[18] PM is a clitic-like argument that affixes (cliticizes) to the

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[16]Under current assumptions, the external argument is not assigned by VP, but is introduced by a little *v* or a Voice head, and it is situated in the specifier of this projection. See Embick (1998), Alexiadou and Anagnostopoulou (2004) and Anagnostopoulou (2003) for discussion.

[17]There are differences in the execution of this idea. For instance, PM is assumed for some to form a chain with an empty category in the canonical subject position. The tail of the chain can be (optionally) realized as a *by*-phrase, resulting in a 'long' passive. Long passives are thus like clitic doubling structures.

[18]I am abstracting away from the fact that in some languages, among which Greek, it is possible for the internal argument to receive nominative in situ, which suggests that the movement is not Case-driven. This is not freely available, at least in Greek: postverbal subjects are only allowed in episodic contexts (Alexiadou, 1996, 1999; Roussou and Tsimpli, 2003). We have already seen in chapter 1 that in middles SV order is obligatory. It is therefore more likely a factor having to do with the stativity of middles that makes movement necessary in their case. According to Alexiadou (1999), this movement targets a Topic projection. Alexiadou and Anagnostopoulou (1998) claim that SV order in fact involves no movement, but is a base-generated order. Even so, we have to assume that the subject/topic DP is coindexed with an element that is situated in the thematic (VP-internal)

verb. I assume the same derivation for passive-*se*. In other words, I take this instance of French *se* to be a passivizer, much like Roberts (1987) did. (In fact, it seems that the analysis of passives in e.g. English was modeled on the view of *se* as a passivizer.) For the view that passive *se* realizes the external theta-role and related discussion see Roberts (1987); Kayne (1988); Pesetsky (1995); Authier and Reed (1996); Sportiche (1998); McGinnis (1999). (226) schematically illustrates the derivation assumed for passives. The verb presumably moves to I, which I am disregarding here.

(226)

```
                      IP
                     /  \
                 NP_i     I'
                        /   \
                      I       VP
                      |      /  \
                   se/PM   V    NP
                               |
                              t_i
```
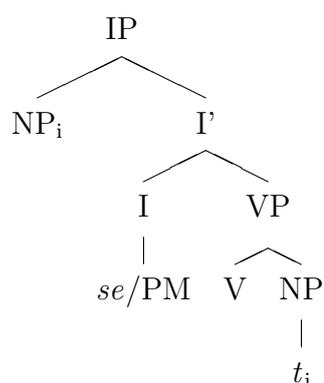
Let's see in prose what happens with episodic and generic passives in French and Greek.

(227) Derivation of episodic passives

- A verb with passive morphology and perfective aspect is taken from the lexicon.
- Passive morphology on the verb receives the verb's external theta role and its accusative case.
- The verb's internal argument thus moves to a position where it is assigned nominative case.

As for the semantics of passives, I assume that the existential operator contributed by perfective aspect in Greek and French binds the verb's event (or time) variable, and possibly the variable corresponding to the external argument.

Structurally, nothing is different in the case of a generic passive on the middle interpretation (modulo the requirement for a preverbal subject, which is enforced by the stative nature of the derived generic predicate):

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position.

(228) Derivation of generic passives/middles:

- A verb with passive morphology and imperfective aspect is taken from the lexicon.

- Passive morphology on the verb receives the verb's external role and its accusative case.

- The verb's internal argument moves to a position where it is assigned nominative case.

Semantically, however, things are different. The external theta role assigned to PM is interpreted as ONE*, which requires **Gen** in order to be licensed. The imperfective aspect on the verb contributes the licensor, morphosyntactic **Gen**. The event argument is also bound by the generic operator encoded in imperfective morphology. Since the licensor is a morphosyntactic creature, ONE* (as an interpretation of PM) can be syntactically present. The syntactic activity of the agent follows straightforwardly.

3.5.2 The unergative-type middle

In chapter 1, I presented the arguments concerning the syntactic inactivity of the Agent in English, Dutch and German middles. Although syntactically inert, this argument is semantically present (i.e. it is represented at LF). I argue that, given the model I am assuming, the Agent is present at a presyntactic level of representation, which contains (among other things) information of a lexical semantic nature, and becomes demoted in the mapping from this presyntactic level to syntax proper.[19] In recent years, a number of researchers have proposed systems of mapping between this level of lexical semantics and syntax where the level of presyntactic representation is not monolithic, but comprises different levels or tiers. In chapter 2 we were exposed to the two-tiered Conceptual Structure of Jackendoff (1990), which was adopted by Ackema and Schoorlemmer (1994, 1995). Grimshaw (1990), Sadler and Spencer (1998), Levin and Rappaport-Hovav (1998) among many others have also explored the structure of argument structure. In what follows I will freely borrow insights from the literature to explicate how middle formation proceeds in English-type languages. I will illustrate with English, but this is the derivation that applies to Dutch and German alike. The

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[19]In section 3.6, I will argue that the adverb in Germanic is crucial in recovering this implicit argument. In a sense, the adverb will be argued to be the means through which the presyntactically represented implicit argument is recoverable at LF.

exposition will basically be in the style of Neeleman and van de Koot (2003). After showing how middles are derived in this type of language, I will briefly discuss Reinhart's framework (Reinhart, 2000, 2003; Reinhart and Siloni, 2004), which is the frame within which the recent proposal of Marelj (2004) is made.

Let the term 'conceptual structure' refer holistically to the level of presyntactic representation which interfaces with the syntax, and where projectability of arguments onto syntactic positions is regulated. The level of conceptual structure encodes three kinds of information, structured along three sublevels which map onto each other—see Neeleman and van de Koot (2003) for the arguments in favour of such an organization. There is a level of lexical semantics, a level of argument structure, and a level of theta structure (the theta grid of a predicate). Concomitantly, the notion of 'argument' is relativized as to the particular level in which it appears (in a way reminiscent of the relativization of the notion of 'subject' in Williams (2003)). The level of lexical semantics represents information of semantic nature; this is where the difference between, say, 'swim' and 'dance' is expressed. Argument structure encodes little (or no) semantic information, and is the intermediate step between the level that contains semantic information and the level which is concerned with syntactically relevant information about a predicate, the theta grid. (Theta structure might be a misnomer, because nothing like theta-assignment takes place at this level; only the distinction between external and internal projection is actually encoded and relevant at theta-structure.) In other words, the system is such that semantic information is minimized on the way to projection to syntax, and this is to be expected, as certain aspects of semantics are not relevant for the syntax. For an argument to map onto the syntax, it must be represented in the theta grid. Arguments that do not occupy a theta-slot will not be represented syntactically. But such arguments may be represented at levels prior to theta-role structure. We have thus the possibility of mismatches among the three different levels. In what follows, I will argue that middles in this type of language are an instance of a mismatch, and in particular that they are derived at the mapping between lexical semantics and argument structure.

Neeleman and van de Koot (2003) concentrate on cases of mismatches between argument structure and theta structure, and argue that unaccusative formation takes place at the mapping between argument structure and theta structure. I will briefly review their proposal about unaccusatives, before turning to middles.

Let us start with transitives. (229) illustrates the system I have been describing

with reference to transitive *cut*. The statement of its lexical semantics is from Hale and Keyser (1986). The notation of the argument structure and the theta grid is along the lines of Neeleman and van de Koot (2003) (although my representations gloss over certain aspects), with the underlining used to indicate the external argument, as is standard practice.

(229)   **Conceptual Structure of transitives:** *cut*

  a. Lexical semantics:

   "x produce linear separation in material integrity of y by sharp edge coming into contact with latter"

  b. Argument structure:

   $[_e \ x \ [_s \ y]]$

  c. Theta grid:

   $(\underline{\theta}, \theta)$

Argument structure represents information on what Neeleman and van de Koot call 'embeddings' of the predicates they distinguish, namely states, events, and interrelations; (229b) roughly says that x is the Initiator of an event e which is causally linked to y being in a state s. The permitted embeddings have to respect the following two rules (which are viewed as meaning postulates):

(230)   a. In $[_e \ x \ [_{s/r} \ ... \ y \ ...]]$, x affects y with the result that y obtains the property expressed by s/r.

  b. In $[_{s1} \ x \ [_{s2} \ ... \ y \ ...]]$, x experiences y as having the property expressed by $s2$.

In addition, it is illicit for a predicate to occur without an argument. (This reflects the nonexistence in language of zero-argument predicates.)

According to these authors, what happens in the case of unaccusatives is essentially that the Initiator of the event is not mapped onto the theta grid, and hence does not project in the syntax. Since unaccusatives semantically involve a one-place predicate, their lexical semantics makes no reference to an Initiator. However, there is a level of representation, namely argument structure, where it occupies a slot. This follows from well-formedness conditions on that level. In particular, in order to reflect the change of state interpretation of unaccusatives, argument structure employs the embedding of a state predicate under an event predicate. Representing the event layer itself makes

representing the Initiator argument obligatory. I illustrate below with unaccusative *break* using the notation employed in Neeleman and van de Koot (2003):[20]

(231)   **Conceptual Structure of unaccusatives: *break***

   a.   Lexical semantics:

        "y ends up in a state of being broken"

   b.   Argument structure:

        $\lambda y \; \exists x \; [_e \; x \; [_s \; y]]$

   c.   Theta grid:

        (θ)

In the terminology of Neeleman and van de Koot, the otherwise external argument undergoes suppression, which in their system is essentially the replacement of a lambda operator by an existential operator. (Note that the term 'suppression' is used in a different sense than in Reinhart's system, on which more presently.) The existentially bound variable does not map onto theta structure, which only sees lambda-bound variables. In fact, Neeleman and van de Koot (2003) claim that there exists a one-to-one correspondence between lambda bound variables and theta roles. What ensures that the single argument of monadic unaccusatives that projects starts out as an internal and not an external argument is the following principle:

(232)   Only the most prominent argument variable is linked to an external theta-role.

Because the most prominent argument variable is bound at argument structure by an existential operator, the single argument of unaccusatives is generated internally.

   It should be fairly obvious already that the case of middle formation has to be different. Contrary to what we saw above for unaccusatives, in middles the Initiator (an Agent) is semantically present, therefore it has to be represented at the level of lexical semantics. More specifically, its interpretation is that of a generic indefinite, our ONE*. ONE* has to be bound by a generic operator. What is more, it has to be licensed immediately. Recall that I am assuming a correlation between the realization of ONE* and the realization of **Gen**:

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[20]The lexical semantics description I give from now on will be very schematic. Since lexical semantics contains information on the lexical meaning of predicates, (231a) should explicate the meaning of 'break', in the fashion of the elaborate paraphrases that Hale and Keyser (1986) coined (see the previous example); I have not done this.

(233)   a. The agent in middles is ONE*.

      b. ONE* needs to be licensed at the level at which it is introduced.

Since syntactic **Gen** is not available in English, ONE* can only be licensed presyntactically, as dictated by (233a) and (233b). Therefore, it is introduced at the level of lexical semantics and licensed immediately by dispositional **Gen**, introduced at that level.[21] What derives the unergativity of Germanic middles is that ONE* is not mapped onto argument structure, which only represents a single lambda bound variable within a state predicate. This has the immediate effect that middle-*read* is treated at argument structure as a stative for the purposes of mapping to the theta grid. Stative verbs feature a base-generated subject, and are thus unergative (see Neeleman and van de Koot (2003) for discussion of the syntactic properties of different classes of stative predicates).

(234)   **Conceptual Structure of middles: *read***

      a. Lexical semantics:

        "x is such that one reads x"

      b. Argument structure:

        $\lambda y\ [_s\ y]$

      c. theta grid:

        ($\underline{\theta}$)

That the understood external argument is present at the level of lexical semantics is a welcome feature of this analysis, given that Germanic middles involve a semantically present implicit Agent. That they have the same syntax as statives is also well-motivated, given their interpretation. One question that needs to be addressed is what permits us to omit the event layer in the representation of the argument structure of middle-*read*. For this, I need to assume that 'early' binding by **Gen** is what is relevant. More concretely, the assumption is that if **Gen** is introduced at the level of lexical semantics, it becomes unnecessary to represent the event predicate of the original, transitive verb. Since the mapping from one level to the next involves essentially 'discharging' of semantic information that will not be relevant for the syntax, the fact

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[21]Note that the existence of a presyntactic generic operator is not unheard of, cf. Chierchia (1995a). Chierchia entertains this possibility for individiual level predicates, and discards it not on reservations against having a lexical **Gen**, but for reasons independent of our concerns here.

that the event layer does not have to be represented in this case means that it will not be represented. Given the minimization of semantic information on the way to theta structure, the option offered by early insertion of **Gen** is enforced.

Further indications against an unaccusative derivation   The analysis presented above has the effect of deriving an unergative syntax for middles. It is important to appreciate that the unaccusative derivation, i.e. the derivation whereby the syntactic subject of a middle is base-generated internally, can be ruled out independently of the system employed here. In what follows, I will briefly introduce Reinhart's framework, in order to show how the impossibility of an unaccusative derivation of middles in Germanic follows from empirical generalizations concerning argument-structure changing operations.

Reinhart (2000) introduces two operations on lexical entries: reduction and saturation. Reduction essentially removes a theta role from a predicate's theta grid and from the (lexical) semantics, whereas saturation is essentially variable binding by an operator. Saturation thus does not inflict the radical elimination that reduction does.[22] Reinhart argues that unaccusatives are derived from transitive entries via application of reduction to the otherwise external argument. That middles cannot be the output of reduction but rather a type of saturation is already assumed by Reinhart ((Reinhart, 2000, 7)) and fleshed out in Marelj (2004), who proposes an account of middles within Reinhart's system.

The crucial fact is that there is a generalization to the effect that Reinhart's reduction cannot apply to animate/volitional arguments. In other words, such arguments can never be totally eliminated from a verb's theta grid. Reinhart decomposes traditional theta role labels such as 'Agent', 'Patient', 'Goal' etc to feature clusters. The two features which are taken as primitives and for which theta roles decompose into are [+/−c], for [Cause Change], and [+/−m], for [Mental State Involved]. An Agent thus differs from a Cause in that the former is decomposed into [+c,+m], whereas the latter is [+c,−m]. A unary role like [+c] designates an argument whose interpretation is compatible with both a negative and a positive specification for [/m] (though not at

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[22]Marelj (2004) explicates Reinhart's saturation in a way that suggests that the saturated variable does not correspond to a syntactic position. Since Reinhart claims that passives are the output of saturation, this means that for her the external argument in passives is not syntactically represented. This is not the view endorsed here.

the same time). Now, Reinhart shows that unaccusative-reduction obeys the following principle (among others), which is motivated on the basis of facts unrelated to middles:

(235)   A thematic role specified as [+m] cannot be reduced.

(235) states an empirical generalization which is based on what kinds of verbs participate in the causative–inchoative alternation and on Experiencer derivations. Unaccusative-type reduction applies only to [+c] arguments, not to [+c,+m] ones, viz. to predicates whose external argument can be interpreted as a Cause or as an Agent, but crucially not to predicates whose external argument is obligatorily an Agent. For example, verbs like 'read', which select an obligatorily human/volitional argument as their external argument—[+c,+m]—do not have an unaccusative alternant. Transitive 'break', by contrast, can take as subject both animates and inanimates, which means that the external role is [+c], hence a valid input to unaccusative-reduction. Although 'break' feeds both unaccusative and middle formation, there are verbs which feed the latter but not the former, precisely because their external argument is [+c,+m], hence an Agent (and not simply a [/+c] argument): 'read' is our prime example. Since unaccusative reduction cannot apply to 'read' precisely because of the nature of its external argument, it cannot be the case that its middle variant is the output of such an operation.

There is an independent reason for why middles cannot be derived via reduction, which has been alluded to already. The semantics of reduction do not match the targeted middle semantics: reduction effects the identification of two arguments and the elimination of one. The middle interpretation involves no such identification. To be more precise, in later work (Reinhart and Siloni, 2004; Reinhart, 2003) Reinhart assumes that there are two types of reduction with different semantic effects. Reflexivization/Bundling, which is the operation that derives reflexives across languages, involves semantic bundling, i.e. identification of two theta roles. Syntactically the process eliminates the internal argument and hence gives an unergative output crosslinguistically. On the other hand, unaccusative-reduction, or Expletivization, eliminates the external role without effecting identification of arguments. In this respect, Reinhart no longer follows Chierchia (1989/2004), to whom the idea that unaccusatives are semantically 'reflexive' originally belongs. Still, the semantics of Expletivization is different from that of middle formation, because in middles the external argument survives semantically, whereas in unaccusatives it does not.

Interim Summary

These considerations independently suggest that middle formation has to be of a different nature than reduction. The analysis I proposed has that result. Moreover, it brings out one of the most curious characteristics of 'the middle alternation'. Middle formation, if one assumes it to be an arity operation, is a very strange one as such: it effects not only suppression of an argument, but also a change in the 'lexical' aspect of the predicate, from eventive to stative/generic. In the proposal I have presented, this is a consequence of assigning to ONE* the Agent role and licensing it by a presyntactically available generic operator. What was required in order to ensure this was, on the one hand, the stipulation that ONE* is inherently generic. This was introduced in the previous chapter, where I also suggested, however, that the generic interpretation of ONE* can be made to follow from the dispositional semantics that characterizes middles. If future research on disposition ascriptions offers independent support for this claim, then any qualms about the inherent genericity of ONE* can be successfully addressed. A further assumption made was that the presence of **Gen** in lexical semantics is a sufficient reason for not mapping the event layer of the original verbal entry. I have suggested that this follows from the way in which semantic information is minimized across the levels, an issue ultimately having to do with the organization of the system assumed here.

3.5.3 Unergative-middle for French and Greek?

Having seen the two kinds of derivations, corresponding to the passive-middle and the unergative-middle, I now turn to the question of whether these derivations are the only possible ones for the two language groups. In other words, is either derivation freely available for each of the two language types? The answer is negative. In this section I explain why the unergative middle is not available in languages like Greek and French. In the following section I discuss the possibility of a passive for the middle interpretation in Germanic.

The core of my proposal concerning the immediate licensing relation between **Gen** and ONE* is repeated below:

(236)   ONE* needs to be licensed at the level at which it is represented.

(236) states that the level at which ONE* is expressed is the level at which its licensor

is available. An unergative middle in a language like Greek would involve presyntactic **Gen**, which would license a presyntactic ONE*. In order to exclude this possibility, we need, alongside (236), an additional but fairly natural, almost unavoidable assumption.

The extra assumption is that, if in a language a piece of morphology expresses a certain meaning, the language cannot express that meaning without making use of the means in question. At the risk of belabouring an obvious point, let me illustrate what this amounts to. All of the languages examined here distinguish past from non-past tenses. The assumption introduced here says that past tense meaning cannot be conveyed unless a past tense form is used (modulo the 'historical' present, which arguably involves somewhat different semantics).[23]

In connection to our concerns, Greek and French encode genericity exclusively in imperfective aspect, i.e. the use of imperfective aspect is obligatory in order to express genericity. The languages in question cannot not use the means available to them for the purpose of expressing genericity, but have to employ impeferctive aspect, viz. morphosyntactic **Gen**. For the unergative middle to obtain in these languages, Greek and French would have to resort to a presyntactic **Gen**. This violates the assumption concerning the obligatoriness of using the designated means available to them for expressing a particular piece of semantics. Note that there is nothing that excludes this presyntactic **Gen** (if it is indeed available in Greek and French) from associating with perfective aspect. In other words, if we assume that presyntactic **Gen** can be employed in Greek and French, we make the false prediction that middles in these languages can employ perfective aspect.

I conclude that since Greek and French encode genericity in imperfective morphology, the option of presyntactic middle formation is not available to them. Their middles are derived morphosyntactically, in that they involve inflectional morphology (imperfective aspect) and a passive derivation (syntactic movement). In a language of this type, it is impossible for anything else to occur.

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[23]The assumption I am making can be thought of as a kind of Elsewhere principle. If past tense forms are marked as encoding [+past], they are more specific with respect to other tense forms, which are not marked as [+past]. Therefore, they will always be preferred to express pastness.

3.5.4 Passive for middle in Germanic?

In this section, I explore the possibility that the converse situation obtains. The question is: can generic passives convey the middle interpretation in English, German and Dutch? If they do, then it is not clear that we can have as restricted a typology of middle formation as I have been implying. What is more, if the middle interpretation can arise with nonepisodic passives in Germanic, then it is not clear that the aspect story developed thus far actually does much work for us. In this subsection, I will show that nonepisodic passives do not convey the same interpretation as do middles in Germanic languages (contra Lyons (1995)), and that therefore the account I have developed is not at risk.

The principal claim made in this section is that generic passives in English, Dutch and German can only express descriptive generalizations, that is, habitual sentences that report a pattern of (regularly) recurring events. In chapter 2, I argued in favour of distinguishing such sentences from dispositionals, and proposed to treat the middle as a disposition ascription. Since nonepisodic passives in these languages can only encode habituality and not dispositionality, they are not 'middles'.

The picture is rather clear in Dutch. The following sentences are slightly odd and can only be interpreted as habituals, i.e. as generalizing over events. The ascription of a dispositional property to the subject requires addition of the modal 'can':

(237)　a.　? Dit　boek　wordt　gemakkelijk gelezen.
　　　　　　　this book　is　　　easily　　　read

　　　　b.　　Dit　boek　kan　　　gemakkelijk gelezen worden.
　　　　　　　this book can-3SG easily　　　read　　be-INFIN

(238)　a.　? Bureaucraten worden gemakkelijk omgekocht.
　　　　　　　bureaucrats　　are　　easily　　　bribed

　　　　b.　　Bureaucraten kunnen　gemakkelijk omgekocht worden.
　　　　　　　bureaucrats　　can-3PL easily　　　bribed　　be-INFIN

(239)　a.　? Jonge kinderen worden gemakkelijk bang　gemaakt.
　　　　　　　young children　are　　easily　　　afraid made

　　　　b.　　Jonge kinderen kunnen　gemakkelijk bang　gemaakt worden.
　　　　　　　young children can-3PL easily　　　afraid made　　be-INFIN

(240)　a.　? Adolescenten worden niet gemakkelijk geamuseerd.
　　　　　　　adolescents　　are　　not easily　　　amused

    b.   Adolescenten kunnen niet gemakkelijk geamuseerd worden.
             adolescents   can-3PL not easily   amused   be-INFIN

(241)   a.   ? Dit brood wordt niet gemakkelijk gesneden.
                this bread is   not easily   cut

        b.   Dit brood kan   niet gemakkelijk gesneden worden.
              this bread can-3SG not easily   cut   be-INFIN

(242)   a.   ? Katoenen overhemden worden gemakkelijk gewassen.
                cotton   shirts   are   easily   washed

        b.   Katoenen overhemden kunnen gemakkelijk gewassen worden.
              cotton   shirts   can-3PL easily   washed be-INFIN

(243)   a.   ? Katoen wordt gemakkelijker gestreken dan linnen.
                cotton is   more easily   ironed   than linen

        b.   Katoen kan   gemakkelijker gestreken worden dan linnen.
              cotton can-3SG more easily   ironed   be-INFIN than linen

The situation is slightly different in English, where the equivalents of the sentences above are apparently acceptable on the middle interpretation:

(244)   a. This book is (easily) read (easily).

        b. Bureaucrats are (easily) bribed (easily).

        c. Young children are (easily) frightened (easily).

        d. Adolescents are not (easily) amused (easily).

        e. This bread isn't (easily) cut (easily).

        f. Cotton shirts are (easily) washed (easily).

        g. Cotton is (more easily) ironed (more easily) than linen.

However, as noted in Lekakou (2002), generic passives are compatible with root modals, whereas middles only tolerate epistemic modals. This fact about middles had already been observed by Roberts (1987). The data that illustrate this follow: whereas the sentences in (245) readily receive a root modal interpretation, those in (246), to the extent that they are good, only admit the epistemic one. This is not expected if generic passives equal middles.

(245)   *Root modals with generic passives*

        a.   This book can be (easily) read (easily).

        b.   Bureaucrats can be (easily) bribed (easily).

     c.   Young children can be (easily) frightened (easily).

     d.   Adolescents cannot be (easily) amused (easily).

     e.   This bread cannot be (easily) cut (easily).

     f.   Cotton shirts can be (easily) washed (easily).

     g.   Cotton can be (more easily) ironed (more easily) than linen.

(246)   *Root modals with middles*

     a.   * This book can read easily.

     b.   * Bureaucrats can bribe easily.

     c.   * Young children can frighten easily.

     d.   * Adolescents can amuse easily.

     e.   * Cotton shirts can wash easily.

     f.   * Cotton shirts can iron more easily than linen.

Furthermore, if middles and the corresponding nonepisodic passives are identical in meaning, we expect that conjoining a middle with a negated nonepisodic passive will lead to a contradiction. However, this prediction is not borne out, as shown by the well-formedness of the following example:

(247)   This book reads easily, but it isn't easily read.

The fact that (247) is not a contradiction shows that the middle and the generic passive convey distinct interpretations. There are several things going on in (247). First of all, there seems to be an 'aspectual' difference between the two conjoined elements (where aspectual should be understood as pertaining to Aktionsart-aspect). The middle part tells us that the *process* of reading the book is easy; the passive part tells us that what is not easy is for the process to reach its endpoint; in other words, in the passive what is said to be not easy is for the book to be finished. (247) could thus be uttered successfully about a very long book, which nevertheless is very well written.

A second difference between the two conjuncts in (247) relates directly to the analysis of middles as disposition ascriptions developed in the previous chapter. Specifically, native speakers detect a difference regarding the entity whose properties are crucial for the generalization made. In the middle conjunct, what is crucial is properties of the book which make the process of reading it easy. On the other hand, in the case of the generic passive what is relevant is not only properties of the book but also properties of the reader(s)and of the circumstances more generally, which might facilitate (or

not) events of reading the book. This intuition is captured by the distinction between dispositionals and habituals.

The second characterization of the difference between middles and nonepisodic passives has been defended already, albeit without recourse to a dispositional semantics. Fellbaum (1986) considers the following paradigm:

(248) a.   This car handles stiffly.

      b.   This oil pours without spilling.

(249) a. ?? (Any)one handles this car stiffly.

      b. ?? (Any)one pours this oil without spilling.

(250) a. ?? People, in general, handle this car stiffly.

      b. ?? People, in general, pur this oil without spilling.

(251) a. ?? This car is handled stiffly by people, in general.

      b. ?? This oil is poured without spilling by people, in general.

Fellbaum claims that the active and passive sentences in (249)–(251) are not synonymous to the middles in (248). According to her,

> 'In the middles, the (successful) outcome of the action is due largely, if not entirely, to properties of the patient. [...] In the active and passive sentences, however, this interpretation is difficult to obtain. [...] In fact, it is impossible to read the adverbial in [(249)–(251)] like those in the corresponding middles, and the sentences are therefore not true paraphrases.' (Fellbaum, 1986, 19)

The explanation for the fact that generic passives sometimes seem to contribute something very close, but not identical, to the middle reading lies in the interference of independent factors. Most notably, the presence of the adverb *easily* in a generic passive makes it very hard to distinguish the resulting reading(s) from the one conveyed by the middle. My claim is that in Germanic, the generic passive *per se* is unable to encode the middle interpretation.

Let us see what *easily* may contribute. There are at least two different readings associated with *easily*, which have been pointed out by Fellbaum (1986). These two readings correlate with the position of the adverb. Fellbaum (1986) observed that *easily* has distinct interpretations when appearing in a middle than when it surfaces with a

generic unaccusative. In the former case it means 'with ease', 'with no difficulty'. In the latter case it means 'at the slightest provocation', 'without much causation'. Sentence-final position of the adverb makes both interpretations available; sentence-medially, *easily* can only have the latter reading. It is an independent fact about English middles that the adverb can only appear sentence-finally, although (generic and episodic) unaccusatives admit an adverb in either position. It follows that sentence-final *easily* with a verb that has both middle and unaccusative variants is ambiguous between the middle and the unaccusative reading. Fellbaum illustrates with the following pairs:

(252)   a. The door closes easily; you just have to press down. (middle)

        b. The door closes easily; it only takes a gust of air. (unaccusative)

(253)   a. These garden chairs collapse easily; just unhinge them. (middle)

        b. These garden chairs collapse easily; please don't seat your German shepherd on them. (unaccusative)

Related to these remarks is a possibly additional interpretation that *easily* makes available, which can arise when *easily* appears in a generic sentence, and, I believe, when it appears 'high' in the sentence. (On this reading, therefore, if it is in fact distinct from the ones noted above, *easily* is quantificational.) Our generic passive *this book is easily read* may, in addition to the interpretations noted above, be telling us that it is easy for events of reading the book to occur, or come about. In that sense, it seems that the adverb is telling us something about the circumstances leading up to a certain event. This is the reading we get in (254):

(254)   Our household can easily run out of coffee, now that I am writing my dissertation.

(254) seems to be saying something about how easily it *can come about* that our household is in a state of having run out of coffee.

Having seen the interpretations that *easily* makes available, let us return to middles. Additional, and perhaps more concrete support in favour of the view that generic passives do not convey the middle interpretation, and that *easily* is to be held responsible for the apparent similarities comes from cases when *easily* is omitted. For some (albeit few) speakers the result is acceptable, and (255) is possible:

(255)   Poetry doesn't translate.

Such cases will be discussed more extensively in section 3.6. The interpretation of (255) involves a modal dimension, such that the sentence is felt to mean something like 'it is impossible to translate poetry'. Omitting the adverb from a generic passive results in a reading which is clearly distinct from the middle one, in that it does not involve any modal dimension. In (256) we are dealing with a purely habitual sentence. (Another difference of course relates to the fact that the requirement for modification in the middle is much more pressing than it is in generic passives.)

(256)   Poetry isn't translated.

Evidently, the adverb is the source of any modal flavour detected in a generic passive; as soon as it is omitted, we are left with a descriptive generalization over events. Moreover, if we substitute *easily* with an adverb that does not so readily induce modal nuances, such as *quickly*, the modal flavour disappears:

(257)   The book is (quickly) read (quickly).

(257) says that reading events involving the book generally (habitually) proceed quickly, but it cannot mean that the book has certain properties that make reading it quick.

Given the above considerations, I conclude that generic passives in Germanic are different in meaning from middles, in that they express descriptive generalizations. (I speculate on why this should be immediately below). It is the presence of *easily* which gives rise to the opposite illusory impression. Earlier in this chapter I argued that genericity is not morphosyntactically realized in these languages. Since **Gen** is not present in the morphosyntax, the prediction is that syntactic ONE* will fail to be licensed not just in middles, but also in generic passives. This seems to be true. Even though generic passives in English of course have a syntactically represented external argument, this argument cannot receive the interpretation it has in middles. ONE* is illicit in generic passives, unless *easily* or some other, overt modal operator like 'can' is there—recall the Dutch generic passives that we saw in the beginning of this section. In the examples below that show this, I have included *anyone* in the examples below in view of the fact that *one* generally does not occur in nonsubject positions.

(258)   This book is $^{?*}$(easily) read by (any)one.

(259)   Bureaucrats are $^{?*}$(easily) bribed by (any)one.

(260)   This bread is $^{?*}$(easily) cut by (any)one.

(261)   Cotton shirts are $^{?*}$(easily) washed by (any)one.

The sentences show that ONE* is not a reading available for passive morphology in English. This finding corroborates the analysis I have proposed, according to which ONE* is represented syntactically only if it is licensed by something which itself is represented morphosyntactically.

I am inclined to believe that the reason why generic passives only realize the habitual **Gen** has to do with the aspectual properties of the passive periphrasis. In Greek and French, the passives on which middles are parasitic are synthetic, whereas in Germanic passives are analytic.[24] What is needed is to establish the aspectual value of the auxiliaries and of the participle. Moreover, more needs to be said about the necessary and sufficient conditions of disposition ascriptions, as the subject restriction argued for in the previous chapter will obviously not do: all passives, periphrastic and synthetic alike, meet this requirement. The literature on genericity is of little help on this point, as it almost exclusively concerns sentences featuring an active verb. The aspectual characteristics of auxiliaries have, to the best of my knowledge, not been studied from this perspective.[25] These tasks cannot be undertaken here, but will have to await future research.

I have been arguing that in the Germanic languages under consideration, generic passives do not encode the interpretation that middles do. In doing so, I have been relying on arguments that bear on the role that the adverb plays in the two cases. This naturally leads us to the issue of adverbial modification in middles. This topic is taken up in the following section.

3.6   The role of the adverb

As the reader may recall from chapter 1, the two language groups we have identifies with respect to middle formation are also characterized by a difference in the degree to which lack of the adverbial modification usually present in middles is tolerated. It is fair to say that languages like English, Dutch and German impose a stringent requirement

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[24]As for periphrastic passives in French (as opposed to the synthetic reflexive passives) recall that they are dispreferred in generic contexts; in any case, my prediction is that they are unable to express anything but habituality, similarly to periphrastic passives in English.

[25]With respect to the aspectual value of the participle, Iatridou et al. (2002) is of relevance. In their exploration of the meaning and form of the present perfect across languages, these authors focus on the contribution of the participle. Greek participles are only built with the perfective verb stem. The aspectual value of English particles is also perfective (unless the verb is progressive).

that Greek and French do not, to the effect that their middles feature an adverb like *easily* (or *well*). In the absence of 'manner' modification, middles in English, Dutch and German are ungrammatical. The relevant examples appear below, repeated from chapter 1. (263a) is from Ackema and Schoorlemmer (2002) and the sentences in (264) are from Fagan (1992).

(262)   a.   * Bureaucrats bribe.

      b.   * Pine saws.

      c.   * This book reads.

(263)   a.   * Zo'n   stuk zingt.
            such.a piece sings

      b.   * Dit boek leest.
           this book reads

(264)   a.   * Das Buch liest   sich.
           the book reads REFL
           'The book reads.'

      b.   * Der Stoff   wäscht sich.
           the fabric washes REFL
           'The fabric washes.'

      c.   * Der Wagen fährt   sich.
           the car   drives REFL
           'The car drives.'

At the same time, it has been claimed by Roberts (1987), Condoravdi (1989b) and Ackema and Schoorlemmer (1995, 2002) that such sentences can be rescued if there is a modal, focus or negation in the sentence. I will argue that this claim is not entirely correct. The data (and judgments) below are taken from Ackema and Schoorlemmer (2002):

(265)   a.   Bureaucrats may bribe, but you never know.

      b.   Pine SAWS/DOES saw after all!

      c.   This book doesn't read.

(266)   a.   Dit vlees snijdt niet.
           this meat cuts   not
           'This meat won't cut.'

      b.   Die   aardappels ROOIEN, niet te geloven!
           those potatoes   dip.up,   not to believe

'I can't believe how easy to dig up those potatoes are.'

Finally, to make matters a bit more complicated, there are cases of adverbless middles in English, Dutch and German reported in the literature which do not require stress, negation or a modal to be acceptable, and on which acceptability judgments are in fact not that difficult to elicit (contrary to examples like (265) and (266) above):

(267)   a. This silk washes.

       b. This dress buttons.
         McConnell-Ginet (1994)

(268)   Deze jurk ritst dicht.
      this   dress zips shut
      'This dress zips up.'

(269)   Dieses Kleid knöpft sich   zu.
      this   dress buttons REFL PART
      'This dress buttons.' (Fagan, 1992)

The situation is different in Greek and French, where the lack of an adverb does not hinge on the availability of emphatic stress, or negation, or a modal, and in fact adverbless middles are not infrequent or deviant at all, contrary to what is going on in Germanic (French data from Fagan (1992)):

(270)   a. Ce papier se lave.
        this papier SE wash-3SG
        'This paper is washable.'

       b. Le papier se recycle.
        the paper SE recycle-3SG
        'Paper is recyclable.'

       c. Cette racine se mange.
        this   root   SE eat-3SG
        'This root is edible.'

       d. Cette solution se discute.
        this   solution SE discuss-3SG
        'This solution is debatable.'

(271)   a. To nero   edo pinete.
        the water-NOM here drink-3SG.NONACT.IMPERF.
        'The water here can be drunk.'

       b. To γiali   anakiklonete.
        the glass-NOM recycle-3SG.NONACT.IMPERF

        'Glass is recyclable.'

   c. Afta   ta   manitaria   trogonde.
      these the mushrooms eat-3PL.NONACT.IMPERF
      'These mushrooms are edible.'

   d. Afto sizitiete.
      this discuss-3SG.NONACT.IMPERF
      'This can be discussed.'

This difference between English-type and Greek-type middles has not gone unnoticed; both Fagan (1992) and Steinbach (2002) have pointed it out (see also Ackema and Schoorlemmer (2002), but their accounts fall short of explaining it. In fact, Fagan's proposal is that English and German middles subcategorize for an adverbial, whereas French middles do not.[26] I take the adverb-related cross-linguistic discrepancy to relate to the principled cross-linguistic variation in middles that has been the topic of this dissertation. In this section I will show that it can be made to follow from the way in which middles are derived in the two types of languages.

Let's take stock of the problems at hand. We have two sets of questions to answer: why is adverbial modification required? In particular, why is the requirement stronger in some languages than in others? And why is it stronger in some cases than in others even within the same more 'stringent' languages? The second question concerns the sort of adverbs that are admissible as middle-modifiers. These two issues are in principle separate, although they are related in that the answer to why adverbial modification is required in Germanic middles informs the issue of what sort of modifiers are appropriate. In a nutshell, I will argue that the adverb is required in languages whose middles do not have a structurally represented Agent, viz. in English, Dutch and German, because the adverb is the means to recover the implicit argument. Languages with grammatical aspect for genericity, i.e. French and Greek, do not need any support in the form of adverbial modification, because in these languages the implicit Agent

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[26]Interestingly enough, both Fagan and Steinbach point out in connection to the leniance of Greek/French middles that in these languages, middles 'need not be eventive'. In my terms, this means that Greek/French-type middles are parasitic on (reflexive) passives, and passives themselves can of course be episodic (or habitual; or dispositional, as in the case of the middle). Fagan further points out that episodic copula passives generally do not require adverbial modification; but that does not amount to an explanation, because middles could still, for whatever reason, require adverbial modification, even if episodic passives don't. As I suggest in this section, the fact that middles in French are parasitic on reflexive passives is, of course, relevant.

is syntactically represented. From this reasoning, it follows that only adverbs which can serve the purpose of recovering the implicit argument are licit in middles; such adverbs are those that have an implicit argument themselves, which is identified with the implicit Agent of the verb. But that is not all: the adverb must not clash with the dispositional semantics associated with middles, i.e. it cannot refer to properties of the suppressed Agent. The question of what sort of adverbials are permissible in middles is addressed in section 3.6.2. In the following section I give evidence that the role of the adverb is to aid the recoverability of the implicit argument.

3.6.1 Why is modification necessary?

There have been, broadly speaking, two main positions defended in the literature concerning the reason why adverbial modification is required in middles. On the one hand, there is a syntactic or structural account, defended by Roberts (1987) and Hoekstra and Roberts (1993). According to these authors, the adverb is required in order to identify the suppressed argument in middles. On the other hand, there are accounts which attribute the requirement for modification to conditions on the semantic well-formedness of sentences. This position has been advocated most notably by Condoravdi (1989b) and McConnell-Ginet (1994). A related view is expressed in Ackema and Schoorlemmer (1994), Fagan (1992) and Steinbach (2002), where the claim is that it is pragmatic informativity that makes modification necessary in middles. As mentioned already, I will essentially side with the 'structural' approach (although there are certain aspects of the analyses of Roberts (1987) and of Hoekstra and Roberts (1993) that I do not adopt), and I will reject the view that the modification is required for semantic/pragmatic reasons as an explanation for the adverb-effect, at least in languages like English, Dutch and German.

For Condoravdi (1989b) and McConnell-Ginet (1994) the adverb is required in middles in order to provide the scope for the generic operator. The generic operator is taken to induce a tripartite structure, consisting of restrictor and nuclear scope. The scope is the core of the assertion, and hence cannot be left empty (nor contextually specified, in most cases). The semantic structure proposed by Condoravdi for *This book reads easily* is repeated below:

(272) Gen: e [read(e) & Book(Theme,e)] [easy(e)]

Therefore, the sentences in (262)–(264) are ungrammatical because the scope of the

generic operator is empty. However, middles can do without an adverb just in case something else contributes the scope for the operator. This is, according to this approach, what happens in examples like (273) and (274), which McConnell-Ginet (1994) discusses. The reasoning of course applies to (267)–(269) above. What happens in these cases is that the context makes it possible for the verb, which would normally form part of the restritor of the generic operator, to end up in its scope, thus satisfying semantic wellformedness:

(273)   This silk washes.

(274)   This dress buttons.

(275)   This car HANDLES.

What McConnell-Ginet suggests for (273) and (274) is that "the main verb is not needed as the restrictor because context has provided restriction via implicit contrast among different modes of doing something, the main verb then being free to designate one such mode (serving then to give content to the scopal element)" (McConnell-Ginet, 1994, 247). Put differently, the context refers to modes of cleaning silk, and fastening dresses. The verb contributes a manner modification of sorts, in that its contribution is to specify the manner in which this silk is cleaned, namely by washing, and this dress is fastened, namely by buttoning. As for (275), things are not very different, as McConnell-Ginet suggests that *handle* is like *behave*, in that it subcategorizes for an adverb. If an adverb is not present in the sentence, something like *well* is nonetheless understood. The sentence, according to her, "seems to presuppose events of driving or something like that and asserts that such events are also events where the car is successfully "handled" " (McConnell-Ginet, 1994, ibid.).

This sounds reasonable enough. But note that what we are saying is that there *is* adverbial modification in examples like (273) and (274), although not contributed by an adverb, but by the verb itself. (Note that McConnell-Ginet says that in the case of (275), 'well' is implicitly present.) There remain the cases of adverbless middles where it is the presence of focus, negation or a modal that apparently makes the lack of an adverb tolerable. The semantic approach can easily tackle the facts reported in the literature concerning focus. It has been generally acknowledged that focus interacts with the partition of a clause into restrictor and scope. It thus follows for the semantic account that stress/focus on the verb is one of the factors which can rescue an adverbless middles, since focus on the verb means that it is mapped onto the scope of the operator.

A similar effect would have to be attributed to negation and modals. One would need to show that negation and modals can rescue adverbless middles because they induce a different partition than the illegitimate, 'empty scope' one, in fact they place the verb in the scope of **Gen**. (To the best of my knowledge, this has not been demonstrated yet.)

A serious problem for this approach is the fact that the requirement for an adverb, viz. for a nonempty scope, will have to be relativized to English, Dutch and German, in view of the Greek and French data in (270) and (271). We would, however, probably not want to parameterize the existence of a condition on semantic well-formedness. Put differently, the fact that Greek and French can afford to not satisfy the constraint imposed on their Germanic counterparts strongly suggests that the constraint in question is not a semantic one. The same critique applies to the closely related, pragmatic explanation of the adverb-effect.

On the pragmatic account of adverbial modification in middles, adverbless middles are odd, because they are uninformative. Our knowledge of the world dictates that books are and can be read, clothes can be washed, doors can be closed etc. It is therefore hopelessly uninformative to utter middles which simply state this, without making reference to the manner in which such common actions can or are generally performed. This is the sort of account that Ackema and Schoorlemmer (1994) and Steinbach (2002) defend (the semantico-pragmatic approach is also embraced by Marelj (2004)). The pragmatic account is close to the semantic account, because on both the adverb is the core of the assertion.[27] The first problem with this conception of the role of the adverbial is the one just mentioned: the fact that we would be forced to say of Greek and French that they obey different pragmatic principles. The second problem with the pragmatic account is that it doesn't actually correspond to native speakers' intuitions.

If we look beyond middles, it seems true that sentences like the ones in (276)–(278) are uninformative. In other words, habitual active and passive sentences without adverbs (with and without a modal) require a suitable context, otherwise they are pragmatically odd, but of course not ungrammatical.

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[27]See for instance Fellbaum (1986), who claims that the adverb contributes the most important information in middles; it is the focus of the utterance, and hence it occurs in the sentence-final position, where it receives neutral stress. However, when the verb contributes something 'newsworthy' itself, the adverb is no longer needed.

(276)   a. One reads/can read books.

        b. Books are (generally) read.

        c. Books can be read.

(277)   a. One washes/can wash clothes.

        b. Clothes are washed.

        c. Clothes can be washed.

(278)   a. One drives/can drive cars.

        b. Cars are driven.

        c. Cars can be driven.

The pragmatic approach predicts that the corresponding adverbless middles yield the same reaction: they are not ungrammatical, they are just uninformative and hence pragmatically odd. But in actual fact, native speakers do not treat adverbless middles as uninformative and pragmatically deviant, but as simply extremely difficult to process (as middles). Native speakers of English, Dutch and German systematically resist adverbless middles, no matter how much stress is placed on the verb, and irrespective of the presence of negation or a modal. One is hard-pressed to find speakers who even marginally accept sentences reported in the literature as grammatical.

Instead of the middle interpretation, middles with no adverb yield an object-deletion reading, i.e. a reading where the surface subject is the Agent of the action and the Patient is implicit. In some cases, such as (279) and (280), this makes no sense, since inanimate entities such as books and shirts cannot be Agents; the sentences are deemed ungrammatical. The object-deletion reading is possible for (281), which contains an animate subject.

(279)   * This book READS.

(280)   * The shirt WASHES.

(281)   * Bureaucrats BRIBE. (ok on the object-deletion reading)

This strongly suggests that the adverb has something to do with recovering the implicit agent, which in these languages is not syntactically represented. Such an approach to the adverb fits the cross-linguistic variation we have been discussing rather well: English, Dutch and German middles lack an Agent in the syntax. Moreover, in English, Dutch and German, no morphology appears on the verb that could signal

that the agent has been suppressed.[28] In these languages, the adverb is required in order for the middle interpretation to obtain. By contrast, languages like Greek and French, which thanks to the nature of their aspectual system resort to passives to encode the middle semantics, do not need any assistance in the form of an adverb, in order to convey the middle interpretation: since they have a structurally represented Agent, there is no need for an adverb to aid in recovering it. For these languages, the pragmatic account might be tenable. (This would make sense, as it is standardly pragmatic/contextual factors that disambiguate a multiply ambiguous form, such as the Greek imperfective passive, and the French *se*-construction.) For English, Dutch and German middles, my claim is that there is always manner modification of sorts, and that there are in fact no grammatical middles without manner modification, because the requirement for an adverb is a structural one.

There have been two proposals made in a similar spirit. Roberts (1987) has argued in favour of viewing the requirement on adverbial modification as a means of identifying the implicit argument. Middles involve a *chômeur* Agent.[29] *Chômeur* θ-roles are theta roles that are unassigned in the syntax, but associate with the verb throughout the derivation. A thematic role becomes chômeur when "some lexical rule changes its realization without deleting it" (Roberts, 1987, 188). Roberts' view of such arguments fits in with what I have argued happens to the implicit Agent in Germanic middles: it gets bound by the generic operator at a presyntactic level. Although it is not present syntactically, its presence is felt semantically, and in that sense it survives throughout the derivation.

We assume, following Roberts, that the implicit argument of middles is not the only such argument: object-drop verbs also contain a *chômeur* theta role. Rizzi (1986)

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[28]The fact that German middles require the reflexive *sich* is not a problem. I will show in the following chapter that this element is not a passivizer, in the sense that it does not signal suppression of the Agent. Consequently, German middles too involve no morphology that corresponds to the external argument.

[29]This is, very briefly, how this comes about. According to Roberts, middles are derived statives. Stative verbs are those which are not coindexed with the governing Infl. Because Roberts ties the stative-nonstative interpretation of a verb to the assignment of its structural theta roles, the stative reading of a verb is linked to the nonassignment of an Agent theta role. If a verb has an Agent, it will coindex with Infl, and the result will be an eventive reading. If coindexation between Infl and verb fails, no Agent theta-role can be had. (The Agent-Event is a one-way implication.) Since middles are derived statives, both V-INFL coindexation and assignment of the Agent role fail.

has argued that object drop in English does not involve a syntactically represented argument, but is the result of saturation at a presyntactic level. The operator which effects saturation in this case too is the generic operator. The difference between the two *'chômeur'* roles is that only the one corresponding to the middle Agent needs to be identified in the syntax by an adverb.[30] This, however, could be very well due to an asymmetry between external and internal thematic roles. In fact, there seems to exist a hierarchical effect which suggests that this might be on the right track. As Rizzi (1986) noted, in English indirect internal roles, i.e. dative arguments, can be dropped much more easily than direct internal roles, i.e. accusative objects. In middles, which involve suppression of an external argument, the latter cannot be eliminated from the syntax unless something else guarantees its recoverability.

How does the adverb do this? Hoekstra and Roberts (1993) have also defended the idea that the modification is a means to identify the implicit Agent.[31] According to Hoekstra and Roberts, middle-modifiers are adverbs that have an implicit Benefactor/Experiencer argument themselves. This argument is identified with the implicit argument of the middle verb. The upshot is that only adverbs with an appropriate thematic structure are compatible with middles: admissible middle-modifiers are dyadic adverbs, that take an Experiencer and an event argument. I will follow these authors in claiming that the adverb effects an identification process between the two implicit arguments, and therefore its presence rescues the targeted middle interpretation, which will not arise otherwise. This is summarized below:

(282)   a. In Germanic middles, the adverb is required in order for the implicit Agent to be recoverable.

          b. The implicit middle-Agent is recovered via identification with the implicit

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[30]Roberts is aware of the problem which in his terms amounts to the fact that Tense is an adequate licensor in object drop cases, but not in middles. He makes a very tentative suggestion, which is not worked out: middles are kind-level predicates in the sense of Carlson 1977 (and thus involve a modal generic operator), whereas passives and object drop verbs are stage-level.

[31]As was mentioned in the first chapter, these authors argue in favour of representing syntactically this argument. I do not endorse this aspect of their proposal. The view that the Agent in Germanic middles is syntactically represented is highly problematic. I therefore agree with Ackema and Schoorlemmer (1995)'s criticism of Hoekstra and Roberts' account. However, I do not believe that the obligatoriness of the adverbial in Germanic middles reduces to pragmatics, and in this I follow Hoekstra and Roberts. Pitz (1988) has also proposed an account of the adverb along similar lines in a paper I have been unable to find.

adverb-Experiencer/Benefactor.

My addition to this story is that, due to the dispositional semantics associated with middles, certain dyadic adverbs are excluded, because any adverbs that make reference to properties of the implicit Agent itself will cause a clash with the disposition ascription, which targets the internal argument. I will elaborate on this in the following section.

There are two empirical challenges that this view of the role of the adverb faces, and in the rest of this section I will deal with these in turn.

First, we must answer the question of what happens with middles which do not have a manner adverb. There are two subclasses involved. One comprises the examples discussed above in connection to the semantic approach to middle-modifiers. I suggested there that the proposed treatment of cases like *This dress buttons* and *This silk washes* implies that there is a manner component in the sentence, albeit not in the form of an adverb, but in the form of a manner component in the meaning of the verb. So this kind of example does not threaten the proposed account.

The second class of cases is more interesting. These are the cases where focus, negation or a modal seem to rescue a middle in the absence of the adverb. As Ackema and Schoorlemmer (1994) observe, even if *easily* and *well* could be said to have an implicit argument of their own, which helps recover the suppressed middle Agent, this surely cannot be true of negation or focus (disregarding modals). I will show that the account can deal with these cases as well. I will argue that adverbless middles which appear to be rescued by focus or negation are really rescued (to the extent that they are) by an implicit adverb. The claim is that there *is* a manner adverbial, but it is implicit. This will explain why such sentences are extremely difficult for speakers to accept: not only has the Agent being suppressed, but the very element that would help recover it is also missing. On this view, if focus, negation and modals have any effect at all, it relates to the recoverability of the implicit adverb.

Although defending a pragmatic account of the adverb, Steinbach (2002) provides the following quite interesting examples, which give a first indication that there is an implicit adverb and which argue in favour of the above approach. (The examples used are impersonal middles, but that is not relevant here.)[32]

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[32]The paraphrase in (283) is mine, on the basis of Steinbach's comments about the meaning of the sentence. The second example appears unchanged from Steinbach (2002).

(283) Hier tanzt sich's.
      here dance REFL   it
      'Dancing here is good.'

(284) Hier lebt es sich,   sagt der Zander.
      here lives it REFL, says the pikeperch
      'The pikeperch says this is a nice place to be.'

(283) means, not that one can dance here, but that one can dance well here; and similarly for (284), as Steinbach's gloss suggests.

    The same point applies to the Dutch example from Ackema and Schoorlemmer (2002), repeated from above.

(285) Die   aardappels ROOIEN, niet te geloven!
      those potatoes   dip.up,   not to believe
      'I can't believe how easy to dig up those potatoes are.'

The authors' gloss suggests that the sentence involves adverbial modification by an implicit *gemakkelijk*, 'easily'. What seems to contribute the implicit adverb is the phrase *niet te geloven*, 'not to believe' (along with heavy stress on the verb). Note that this is something standardly associated with this expression, cf. its contribution in the following examples:

(286)   a. Jan zingt ARIA's, niet te geloven!
             Jan sings arias   not to believe
             'I can't believe how well Jan sings arias.'

        b. Jan ZINGT, niet te geloven!
             Jan sings   not to believe
             'I can't believe how good a singer Jan is.'

    More generally, the interpretation that adverbless middles receive indicates that there is an adverb involved, albeit an implicit one. One of the very few 'adverbless' middles that native speakers of English accept involves the verb 'translate':

(287) This poem doesn't translate.

(287) can only be used to attribute to a book the property of not translating well (or easily), but not the property that it is literally impossible to translate. We can see that if we construct the following scenario. We have discoverd a book of poems that is written in Martian, which we have unfortunately not managed to decipher yet. (287) cannot be used in this context. This applies to all of the examples from the literature

of adverbless middles with focus or negation. To the extent that they are good, they always also have an implicit *well* or *easily* as part of their meaning. To give another example, the sentence in (288), which Condoravdi (1989b) brings up, cannot be used about a rock which resists cutting altogether, but only about a rock which presents difficulties for anyone who tries to cut it.[33]

(288)   This rock does not cut.

Consider finally the example in (289) from Steinbach (2002). The context involves the speaker walking into a bar and wondering which beer she should order. (289) does not mean that this beer (alone) is literally drinkable; as the context suggests, it means that it is the only beer, compared to the rest, which drinks *well*.

(289)   DIESES Bier trinkt sich. Die anderen schmecken furchtbar.
        this   beer drinks REFL The others   taste   awful
        'THIS beer drinks. The others taste awful.'

The second problem that the account of the middle adverbs defended here faces relates to an objection raised by both Condoravdi (1989b) and Ackema and Schoorlemmer (2002). The problem is that middles fail to fully parallel tough constructions when it comes to the adverb. The reason why tough constructions in particular are relevant is that they seem like a natural paraphrase of middles, as in (290). Moreover, the view of the adverb as the means of recovering the implicit Agent by supplying an Experiencer/Benefactor argument leas, according to Condoravdi, to the prediction that "the class of adverbs appearing in the middle should be coextensive with the class

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[33]The relevance of these considerations was originally brought to my attention by Sabine Iatridou (personal communication) in reaction to the claim advanced in Sioupi (1998) that adverbless middles involve an ability modal operator (instead of the generic operator, which appears whenever there is an adverb). The situation with the Greek equivalents of these sentences is not clear, as different speakers give different judgments, and in fact appear to be very unsure of their judgments. So it is difficult to determine at this point whether there is an implicit adverb in Greek as well. There is one case on which speakers's intuitions are strong and unanimous, namely the oddity of the example below. The sentence cannot be used on the literal impossibility reading, which is the one favoured by our world knowledge (that Linear A has not been deciphered).

(1)   ?? I   gramiki A de   diavazete.
         the linear   A NEG read-3SG.NONACT.IMPERF
         (int.)'It is impossible to read Linear A.'

of adverbs having a benefactive role" (Condoravdi, 1989b, 20). Condoravdi then points out that the paraphrase of (291a) in (291b) fails:

(290)   a. This bread cuts easily.

          b. This bread is easy to cut.

(291)   a. Das Buch liest sich gut.

          b. It would be good for anybody to read this book.

Ackema and Schoorlemmer (2002) also point out that the set of eligible middle modifiers is not coextensive with the set of adjectives that appear in tough constructions. They give the following examples:

(292)   a.   This book is impossible to read.

          b. * This book reads impossibly.

(293)   a.   This meat cuts just like that.

          b. * It's just like that to cut this meat.[34]

However, it is unclear that this objection constitutes a real problem, and it is unclear that the prediction made by this approach to the adverb is the one identified by Condoravdi and Ackema and Schoorlemmer. The tough-construction frame requires an adjective, whereas the middle requires an adverb. A tough-construction therefore independently cannot admit phrases like *just like that*, (or the Dutch *als een trein*, 'like a train' in *Dit boek leest als een trein*, 'This book reads like a train'), because the phrase does not fit the frame, since it is not an adjective. Moreover, since there independently exist differences between related adverbs—*good* and *well*, *impossible* and *impossibly*—we expect the parallel to break down in precisely those cases.

The crucial similarity between the two constructions which failed to be noticed is that the implicit argument of the adjective in tough constructions and of the adverb in middles is necessarily construed as identical to the implicit argument of the verbal predicate. This has been known for tough constructions since at least Berman (1973). The following examples illustrate this, taken from Berman (1973, 265):

(294)   a.   For his children to be worrying about money is unpleasant for Joe.

          b.   It is unpleasant for Joe for his children to be worrying about money.

          c. * Money is unpleasant for Joe for his children to be worrying about.

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[34]The more relevant example would be **This meat is just like that to cut.*

(295) a.   For Sally to take German would be good for her.

      b.   It would be good for Sally for her to take German.

      c.   * German would be good for Sally for her to take.

(296) a.   For Max to publish theat rebuttal will be tough for Joe.

      b.   It will be tough for Joe for Max to publish that rebuttal.

      c.   * That rebuttal will be tough for Joe for Max to publish.

Similarly to the facts noted above, *This book reads easily* cannot mean that it is easy for x for y to read the book. In other words, the implicit argument of the middle-adverb is obligatorily coreferential with the implicit argument of the verb, and this is paralleled by the coreferential relation holding between the implicit argument of the adjective and of the verb in the tough-construction. Assuming that the differences that Condoravdi (1989b) and Ackema and Schoorlemmer (2002) observe between the two constructions are independent, this similarity suggests that the account of middle-modifiers proposed here is on the right track.[35]

The point of this last part of the discussion was to suggest that the objections to

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[35]Although I will not undertake the project of correlating the two structures, I would like to note the following. Sabine Iatridou (personal communication) has suggested to me that tough-constructions and middles might be the outcome of the same operation, with the difference that it applies at different levels. This would preserve the intuition that they are very similar semantically and at the same time explain the differences between them—for example, Ackema and Schoorlemmer (2002) point out that the restrictions on the input to middle formation do not apply to tough-constructions. See Massam (1992) for an account that relates the two structures derivationally at the cost, however, of postulating a phonologically null reflexive for English middles. In chapter 1 I suggested that this cannot be upheld. In the next chapter, I will extensively discuss Dutch *zich*, whose illicitness in Dutch middles constitutes one of the main arguments against a null reflexive for English middles. Roberts (1987) has convincingly argued against such a move, which was already advanced by Keyser and Roeper (1984). As Roberts shows, positing an empty reflexive for English middles cannot explain the differences that exist between them and Romance middles, because the differences simply fail to relate to whether the reflexive has or lacks phonological content. Nonetheless, it is conceivable that the project of relating middles to tough constructions does not a priori necessitate postulating a null reflexive for English and Dutch. Obviously, given the overall approach to middles as a particular interpretation that has been advocated in this thesis, an analysis along those lines would be highly desirable, and in fact superior to the one provided here—as long as middles and tough-constructions can be shown to be identical semantically. In the course of this dissertation, we have seen already various instances of structures presumed to be synonymous with middles, which upon closer inspection turn out not to be semantically identical to them.

a structural account of the middle adverb are not very strong, especially in view of the rest of the evidence provided in this section, and the shortcomings of a semantico-pragmatic approach to the adverb. In the following subsection, I will sketch how the class of legitimate middle modifiers can be derived on the basis of the proposed account of their role.

3.6.2 Delimiting the set of appropriate modifiers

The question of which are the permissible middle modifiers is far from being resolved in the literature, and I cannot hope to offer here an analysis that will capture all the data. I will pursue the hypothesis that adverbs in middles are there to enable the implicit argument to be identified, by being event-modifiers that provide an implicit argument themselves, but without clashing with the semantics of middles as disposition ascriptions. So in what follows I will concentrate mainly on the kinds of adverbs that this approach predicts to be disallowed. Toward the end of the section, I will review Condoravdi's proposal about the set of eligible middle adverbs and I will show that her problems with approaches similar to the one pursued here are not as devastating as she suggested. Although her proposal in fact is the only serious alternative view, and is attractive for a number of reasons—for example, it deals particularly well with the cases that the view defended thus far does not capture—it will not be pursued here.

The issues that adverbial modification is implicated in are very broad and the research that has been carried out in this empirical domain is again massive (see the seminal work of Jackendoff (1972) and Cinque (1999), among many others). I will keep the discussion centered around middles. To start, we need a basic classification of adverbial modifiers. In what follows, I will employ Parsons (1990)'s classification. Partially relying on Jackendoff (1972), Parsons lists the following five categories of adverbial expressions.

(297) **Classification of Adverbial Modification**[36]

    a. Speech-Act Modifiers, e.g. *fortunately*

    b. Sentence Modifiers, e.g. *necessarily*

    c. Subject-Oriented Modifiers, e.g. *rudely*

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[36]In this system, temporal modifiers constitute a separate category, which comprises adverbials that cut across the following five categories, for example *twice*, *never*, *soon*, *at midnight*, etc.

    d. VP Modifiers, e.g. *gently*

    e. Other: *merely, just, only*

Speech-Act modifiers, according to Parsons, have the following effects. In a sentence like 'Fortunately, Mary arrived on time', two things are asserted, that Mary arrived on time (so Speech-Act modifiers are factive), and that this fact is fortunate. The adverbs that are included in this category are further subcategorized into four classes, but this need not concern us here. (See Geuder (2000) for this point.) Sentence modifiers are proposition-taking adverbials: they "operate on structures that are already full-fledged formulas of English" (Parsons, 1990, 63). Subject-oriented modifiers relate entities to propositions. In that sense, Parsons suggests, they are similar to sentence modifiers. 'John rudely departed' on the subject-oriented reading means that it was rude of John to depart.[37] VP modifiers are mainly adverbials of manner, instrument, location etc.[38] The adverbs that appear in the category 'other' are not discussed in Parsons (1990).

The account of the role of adverbial modification in middles that I have been defending has it that the adverbial modifiers that are appropriate in middles are adverbs with dyadic argument structure (Hoekstra and Roberts, 1993): they are 'low', event modifiers which have an implicit Experiencer/Benefactor argument.[39] This excludes right from the start 'higher' adverbs, which are not event modifiers. The first three categories, corresponding to the 'higher' adverbs, are either fact- or proposition-taking adverbials (see Parsons (1990) for the distinction between facts and propositions). Out of the aforementioned categories, therefore, only the VP modifiers involve candidates which will be considered for middle modification. This is correct:

(298)   * (Fortunately) This book reads (fortunately).

(299)   * This shirt (necessarily) washes (necessarily).

(300)   * Bureaucrats bribe rudely.

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[37] The adverb has a 'manner' reading as well, which is preferred when the adverb appears sentence finally. On this latter reading, the adverb belongs to the family of VP modifiers. I will suggest below that this reading is also 'subject-oriented' (or Agent-oriented) in a sense.

[38] Nilsen (2000) uses the term 'circumstantial adverbials', a category which comprises more kinds of adverbs than does Parsons' category.

[39] These are the adverbs that the Davidsonian event semantics was built on. I have been employing event variables in several places, although I believe it is not crucial for me to decide whether or not we need events in our semantic ontology, and if the admissible adverbs are VP operators instead of event modifiers.

(301)   * These potatoes merely peel.

Not all 'low' adverbs can occur in middles. This is because the dispositional semantics that characterizes the middle interpretation dictates that it is properties of the 'dispositional subject' that are crucial with respect to the generalization that the middle states. Properties of the implicit argument are irrelevant. In fact, any adverb that is Agent-oriented in the general sense of invoking or ascribing properties to the implicit argument will not be tolerated. This sort of explanation, although not using the notion of a disposition ascription, has been employed by Fellbaum (1986) in order to rule out 'Agent-specific' adverbs, like *with feeling* or *intuitively* in middles. Fellbaum suggests that in middles what is important is properties of the Patient, not of the Agent, hence any adverb that refers to properties of the Agent is illicit:

(302)   * This little flashlight plugs in expertly.

(303)   * Red wine spots wash carefully.

(304)   * Cotton irons cautiously.

Adverbs like *expertly, carefully, cautiously* attribute a property to the Agent of the action denoted by the verb, namely they specify that the Agent has some sort of expertise, is (being) careful and cautious respectively.[40] The ascription of these properties is incompatible with the interpretation that middles target, according to the generalization made is not restricted by properties of the implicit Agent.

The number of manner adverbs which do not combine well with middles precisely because of this clash with the dispositional semantics is larger than one would at first sight expect. Some further examples are given below. The meaning these sentences target is one where the adjective corresponding to the adverb would be predicated of the implicit argument:

(305)   * This soup eats hungrily.

(306)   * Complaint letters write angrily.

(307)   * Meat doesn't cut elegantly.

(308)   * Old ladies don't startle proudly.

Geuder (2000) gives the following nonexhaustive list of agentive adjectives (p.113). All of the corresponding adverbs are illicit as middle-modifiers:

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[40] See Geuder (2000) for an analysis of the relation between manner and agentive readings of adverbs. Geuder argues that the manner reading of adverbs like *stupidly* is derived from the agentive reading.

(309) intelligent, wise, stupid, clever, skillful, clumsy, careless, reckless, cautious, careful, absentminded, forgetful, lavish, generous, callous, diplomatic, (im)polite, tactful, thoughtful, rude, ruthless, bold, ...

There seems to be a close connection between agent-oriented adverbs and prescriptive modality. In a language like Greek, agent-oriented adverbs are not disallowed, cf. (310), but the resulting interpretation is either a purely habitual, or a prescriptive one.

(310) Afto to komati   pezete   me sinesthima/prosektika.
      this the piece-NOM play-NONACT.IMPERF.3SG with feeling/carefully
      'This piece is played with feeling/carefully.'

This is not surprising, given that in Greek the middle is just one of the interpretations available for imperfectively marked passives. In other words, for the same reasons that obtain in English, having to do with the dispositional semantics, agent-oriented adverbs preclude the middle interpretation in this language too. The middle as a disposition ascription cannot qualify properties of the generically understood implicit argument.[41]

Condoravdi (1989b) rejects the view of the adverb that I have been arguing for (Roberts (1987) and Pitz (1988)), and makes in my view a very interesting and promising alternative proposal. She suggests that only rate adverbs are good middle-modifiers: "if the middle is about the way an object determines the progress of an event it participates in, the admissible adverbs must be those which specify something about the

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[41]The same range of interpretations is available for English generic passives. The fact that middles in English, Dutch and German are never associated with prescriptive modality, but passives can be suggests that there is a link between prescriptive modality and a syntactically represented implicit argument, the bearer of the obligation. Middles are thus of potential relevance to the issue of the argument structure of (deontic) modals; perhaps the bearer of an obligation needs to be syntactically represented, which obtains in passives but not in unergative-type middles (though, see Bhatt (1998) and Wurmbrand and Bobaljik (1999) for arguments against such a view of deontic modals). In fact, generic unaccusatives do not have deontic readings, as there is no Agent present:

(1) To kokino krasi   katharizi   me alati.
    the read   wine-NOM clean-ACT.IMPERF.3SG with salt
    'Red wine comes off with salt.'

(1) is a generic unaccusative, which lacks a genuine deontic reading, although of course it could be employed as an instruction in virtue of the generalization it expresses. Note that middles can be used in the same way, but do not have deontic readings; e.g. a sentence like *This toy assembles with a medium-sized screw driver* can be used to correct someone who about to assemble the toy with a large screw driver, but the sentence does not of course express that one *should* assemble the toy with a particular sort of screw driver.

mapping of events onto time, or about the amount of change effected by an event over time" (Condoravdi, 1989b, 21). This fits in particularly well with the view that Condoravdi takes of the restriction on middle formation as being a restriction to Incremental Themes. This notion is discussed in the following section.

Although it may in the future be shown to be empirically more adequate, for the time being this suggestion raises a number of unanswered questions. For one thing, Condoravdi introduces a category of adverbials for which a definition is still to be offered. It is not clear which adverbs are rate adverbs. Condoravdi points out that time-span adverbials like *in a jiffy* and *in three hours* can be accommodated within her approach to middle modification much more easily than in the one I have been defending here—these phrases have been analyzed as denoting measure functions over events, see Krifka (1998); but there are other cases of adverbs which do not seem to be rate adverbs (of course, given that the notion of rate adverbs was not actually defined, I might be mistaken). For example, in what sense are adverbs like *beautifully*, *well*, *nicely*, and the like specifying the progression of the event?[42]

In fact, the most convincing argument in favour of Condoravdi's approach, namely time-span adverbials, might not be as strong as it seems. For one thing, *in a jiffy* does not really specify the time it takes for something to be done, but means something like 'easily' (as Sabine Iatridou has suggested to me). Moreover, even adverbials which more clearly indicate a time span are involved in contrasts of the following kind:

(311)   (Uttered about a thin book of short stories)

    a.   This book reads in a day.

    b. ?? This book reads in a month.

(312)   (Uttered about a very uncomplicated tent)

    a.   This tent assembles in seconds.

    b. ?? This tent assembles in a week.

What would alleviate the problem in (311b) is to use it about an enormous book

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[42]Another example of an adverb which does not seem qualify as a rate modifier is *safely*. Condoravdi in fact uses it as an argument against Roberts (1987) and Fellbaum (1986). She claims that the ungrammaticality of (i) is mysterious for these accounts:

 (i) *This rock shatters safely.

According to the speakers I have consulted, however, (i) is not ungrammatical, but merely requires some effort to contextualize.

which nonetheless is an easy read due to the way it is written. Similarly (312b) is better if it is uttered about a different kind of tent, one which is so elaborate that we expect setting it up to take normally more than a week. But this suggests that time-span adverbials are acceptable only to the extent that they can be construed as expressing the ease with which the action denoted by the verb is carried out. (What is noteworthy about these examples is therefore that ease is apparently measurable in units of time.) In this section, I have argued that the reason adverbial modification is necessary in Germanic, contrary to Greek and French, is structural: the admissible middle-modifiers are required in order for the middle-Agent to be recoverable via identification with the Experiencer argument contributed by the adverb. I have examined the alternative, semantico-pragmatic account of adverbial modification in middles, which faces the problem of the crosslinguistic variation and of the status of apparently adverbless middles in Germanic. I have also countered the objections to the account I defend, and have shown how the specific proposal for the role of the middle-adverb and the dispositional semantics more generally make predictions with respect to the set of admissible modifiers.

3.7   Concluding remarks

In this chapter I proposed an analysis of the variation in middles that relies on a dichotomy of languages: those that encode genericity in the morphosyntax, namely Greek and French, and those that do not, i.e. English, Dutch and German. I proposed to treat the demoted Agent in middles as an inherently generic indefinite, ONE*, which needs to be licensed by a generic operator at the level at which it is expressed, as stated in (313).

(313)   ONE* needs to be licensed at the level at which it is represented.

Greek and French have syntactically derived middles in virtue of having a morphosyntactically realized generic operator to license a syntactically active ONE*. Middles in these languages are thus parasitic on imperfective passives. The Germanic languages under consideration here lack a morphosyntactically encoded **Gen**, and so ONE* is introduced and licensed presyntactically. The implicit Agent does not map onto a syntactic position and the verb is unergative, in virtue of the nature of **Gen** binding ONE* at the level of lexical semantics. I further proposed to treat the requirement for

adverbial modification in Germanic as a means of recovering the implicit argument, building on existing proposals along those lines.

The empirical generalization that emerges from my treatment of the variation in middles and its origin is the following:

(314)   A language will employ an unaccusative structure to convey the middle interpretation iff **Gen** is encoded in imperfective morphology.

In closing the discussion, I would like to consider how this proposal extends to languages whose middles are not examined in this dissertation. Sabine Iatridou (personal communication) has raised the question of what predictions are made by this approach with respect to languages which employ distinct forms for progressive and habitual. Hindi, for example, has an imperfective which is progressive and a separate marker for habituality. In this respect, Hindi is different from French and Greek, which collapse progressive and habitual in one imperfective form. But with respect to our criterion this does not matter: as long as there exists a particular form in a given language which expresses genericity and which is incompatible with an episodic (i.e. bounded) interpretation, the language has morphosyntactic encoding of **Gen**, regardless of whether this form can present the event as ongoing or not. So the prediction with respect to Hindi and similar languages is clear: they should pattern with Greek and French with regards to middle formation.

A rather obvious extension of the analysis presented here would involve other Romance languages, e.g. Italian and Spanish, and moreover Slavic languages. All these languages encode morphosyntactically the perfective/ imperfective distinction. We need to ascertain whether genericity is expressible only by imperfective aspect in the aforementioned languages; if so, the prediction is that middles will be unaccusative. If it turns out that genericity is also compatible with perfective, as has been claimed by Filip and Carlson (1997) at least for Czech, the prediction is that middles will be unergative.

The predictions generated by the approach defended here are thus clear; what might not be so clear is what the relevant evidence is. It has emerged from our discussion that sorting out generic statements from sentences which involve some sort of quantification over events without being generic is crucial. This has been done independently for e.g. Italian (cf. the references in section 3.3.2), but it is not clear to me that the relevant distinction (between iteratives and habituals) is made by Filip and Carlson (1997).

Slavic aspect is a notoriously murky area of research as it is, but as the discussion of French and English has shown, we cannot properly assess a language with respect to the (un)availability of morphosyntactic **Gen** without being rigorous about what counts as relevant data.

There is evidence for at least some of the aforementioned languages. Marelj (2004) treats Polish, Serbo-Croatian and Italian as having unaccusative middles. This leads me to expect that in these languages genericity is encoded in imperfective aspect. We have seen already that the claims made for the relation between imperfective aspect and genericity in French have been made for Italian, which means that Italian is well-behaved with respect to (314).[43] A further challenge is Russian, for which the unaccusativity diagnostics deliver rather inconclusive results. Quite independently of middles, Reinhart (2000) considers Russian a 'Lexicon' language, which (possibly) means its middles should be unergative. Even on this assumption, Russian is not a well-behaved Lexicon language, because its middles employ morphological marking, which according to Marelj (2004) is criterial of a syntactic derivation. In Reinhart's framework, the crosslinguistic variation in middles is attributed to the Lexicon/Syntax Parameter, a macro-parameter which concerns the level of application of arity operations.[44] The explanation of the variation that I have been pursuing is different. I have been arguing in favour of the relevance of the aspectual paradigm. In the following chapter, I discuss the import that the nature of the reflexive paradigm has, in particular in accounting for the discrepancy between Dutch and German with respect to the (il)licitness of a reflexive element in middles.

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[43]A complication arises with the admissibility of *by*-phrases. Marelj claims that in Polish and Serbo-Croatian, middles do not admit a *by*-phrase. Note that Marelj argues that this applies to reflexive passives more generally in these languages, and moreover that she does not consider French middles to be compatible with a *by*-phrase, contrary to what I have been assuming.

[44]The operations that are subject to this parametrization are middles, reflexives and reciprocals. Note that Reinhart's analysis of reflexives (and presumably reciprocals) has it that they are unergative across languages, so in effect the Lexicon/Syntax parameter relates to the syntactic behaviour only of middles. However, as pointed out by Marelj (2004), there is nothing in Reinhart's Theta System that forces 'lexically' derived middles to be unergative.

Appendix

A   What's in a good middle? Restrictions on middle formation

In this part, I focus my attention on the restrictions that are operative in middle formation in English, Dutch and German. Greek and French are again more liberal, in that the middle interpretation is available for predicates which do not have a (personal) middle counterpart in Germanic. It is still unclear what the relevant constraint is in Greek and French (if there exists one). I will concentrate on the case of Germanic middles, the restrictions on which have received much more attention in the literature, but I will offer some data and discussion of the lenience of Greek and French in a later section. I will be concerned with the restrictions on personal middle formation and leave impersonal and adjunct middles out of consideration here. This is a rather conservative strategy, in line with the focus of the dissertation on personal middles and justifiable on the grounds of the variation within Germanic in this respect. The Germanic languages examined here do not all have adjunct and impersonal middles: Dutch has both, German seems to only have impersonals, and English only has personal middles. The factor responsible for this discrepancy is in all likelihood independent of middles, but as long as the factor remains ill-understood, it makes more sense to first deal with personal middle formation in English, Dutch and German, which seem to be subject to the same restrictions, and leave impersonal and adjunct middles aside.

The contrast between personal middles in Germanic and in French/Greek which has been observed in the literature and which will be discussed in this appendix urges us to address the deeper question of why middle formation should be subject to any restrictions at all, a question that seems to have been overlooked in the quest for descriptive adequacy.[45] It is reasonable to hypothesize that the difference between the two language-types derives from the different mechanisms that make the middle interpretation available in each case. In other words, the fact that middle formation in Germanic takes a more restricted input than in Greek/French relates in all probability to the fact that in the former kind of language, the task of conveying the middle

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[45]I take it that the deeper question is not addressed if what we do by way of explaining the constraint is ensure that its formulation is compatible with our conception of the essence of middle formation.

interpretation is assigned to unergative structures, whereas in the latter case it is passives that can perform this role. I have been unable to make this idea bring about the desired results, so the discussion in this section will be essentially descriptive. I hope nonetheless that it will inform future explorations of the issue, which will eventually enable us to understand why Germanic middle formation is restricted in general and in particular by the specific constraints that I will argue are operative.

The problem of defining the bounds of the class of eligible verbs has been notoriously difficult.[46] Quite generally, the proposals that have been advanced concerning the restrictions on middle formation in English fall into one of three categories. There are proposals that refer to constraints on the input verb, which have been claimed to be aspectual in nature, in that only certain Aktionsart classes of verbs are eligible for middle formation (Roberts, 1987; Fagan, 1992). Fagan's proposal about English and German personal middles is stated below:

(315) Only (transitive) activities and accomplishments can undergo middle formation.

A different line of research has it that it is properties of the surface subject of middles (the internal argument)—for example whether it is affected—that determine whether the corresponding predicate will be a good middle candidate. Finally, Ackema and Schoorlemmer (1994) propose that middle formation amounts to suppression of an Agent (Actor, in their terminology), and so they suggest that all and only verbs with Agent subjects can undergo the process.

As emphasized by Ackema and Schoorlemmer (2002), the different constraints that have been proposed overlap on a number of cases, not least because they make reference to properties of predicates that are not unrelated to each other. What is more, none of these constraints is without exceptions. As a result, it is unclear that we can isolate a single constraint as the 'right' one. For some researchers (Fagan, 1992; Ackema and Schoorlemmer, 2002) the conclusion has been that we might need more than one constraint; but even then, there might exist cases that remain unaccounted for. As Ackema and Schoorlemmer (2002) observe, "middle formation is sometimes possible when one of these factors is not complied with, and it is sometimes impossible even when all of them are" (Ackema and Schoorlemmer, 2002, 41).

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[46]Part of the difficulty lies in the fact that, as observed by Tenny (1992) and Hale and Keyser (2002), judgments on middles exhibit significant inter- and intra-speaker variability. Some middles which sound relatively bad on a first encounter improve with exposure, while others seem to remain resolutely unacceptable.

In what follows, I will claim that the correct generalization concerning the restrictions on middle formation is a combination of two proposals: we need a modified Actor Constraint and in addition the constraint suggested by Condoravdi (1989b), which states that the argument promoted under middle formation corresponds to an Incremental Theme.

A1   The Actor constraint

Ackema and Schoorlemmer (1994) propose that the constraint on middle formation should make reference to properties of the verb's external argument. Because middle formation is treated as a process which targets the external argument, the Actor, good middle candidates are all and only verbs which have such an argument. A summary of this proposal is provided below. (317) is formulated in this way in Ackema and Schoorlemmer (2002).

(316)   Middle formation is the assignment of an arbitrary interpretation to the Actor argument.

(317)   The logical subject in a middle must be an Actor.

Recall that Ackema and Schoorlemmer adopt Jackendoff (1990)'s distinction between Actor and Agent. The Actor role is defined as the first argument of the AFFECT function which characterizes the Action tier.

(318)   AFF[Actor,Patient]

The diagnostic for whether a DP denotes an Actor is whether it can substitute for X in "what X did was *verb* Y"; correspondingly, the diagnostic for Patienthood is if the corresponding DP can successfully stand in for X in the phrase "what happened to X is that Y *verb*-ed X". The Actor role roughly corresponds to Reinhart's Agent, in other words Actors are volitional Causers. Ackema and Schoorlemmer (1994) suggest that the reason why (317) should hold is the following. Because Actors are Agents (i.e. Causers in Reinhart's terms), an Actor argument will be represented at both the Action and the Thematic tier. This is hypothesized to facilitate its recoverability.

It seems that the restriction on middle formation can be stated without making reference to the Actor role specifically, but to a Causer more generally. In other words, all we need to specify is that the input to middle formation is a causative predicate (for which Jackendoff's Agent would suffice). The reason is that there is evidence which

shows that it is a property of arbitrary subjects in general that they are interpreted as human. See among others Jaeggli (1986), Cinque (1988), Condoravdi (1989a), Chierchia (1995b), and Cabredo-Hofherr (2003). This means that the [+human] specification of ONE* is built into its interpretation, and we can thus get this feature of the implicit argument in middles for free. This requires a relatively minor adjustment of the constraint proposed by Ackema and Schoorlemmer (but note that now their explanation of it cannot be used), which to my understanding is made also by Marelj (2004). The adjustment is reflected in our modified Actor constraint in (319):

(319)   The logical subject in a middle must be a Causer.

The question we need to pose is, can the constraint in (317)/(319) single-handedly capture the data? At first sight, the empirical coverage of Ackema and Schoorlemmer (1994)'s account is impressive. The authors manage to capture the data not only from personal middles, but also from impersonal and adjunct middles as well. In fact, this is the major advantage their account has over alternative approaches. The constraint in (317) is obeyed even in the case of adjunct and impersonal middles—one can easily check this by subjecting the verbs below to the Jackendoffian test for Actors. These data cannot be captured by any other proposed constraint. The examples that follow are from Ackema and Schoorlemmer (2002).

(320)   *Impersonal middles*

    a. Het loopt prettig   op deze schoenen.
        it   walks comfortably on these shoes
        'These shoes are comfortable to walk in.'

    b. Het zit prima in deze stoel.
        it   sits fine   in this chair
        'This chair is fine to sit in.'

    c. Het breit lekker met deze naalden.
        it   knits nicely with these needles
        'These needles are nice to knit with.'

(321)   *Adjunct middles*

    a. Deze schoenen lopen prettig.
        these shoes   walk comforatably
        'These shoes are comfortable to walk in.'

    b. Deze stoel zit prima.
        this chair sits fine

'This chair is fine to sit in.'

   c. Deze naalden breien lekker.
      these needles knit   nicely
      'These needles are nice to knit with.'

Impersonal middles exist in German as well, but the language does not generally allow adjunct middles, modulo some very few examples (see also Steinbach (2002) for some discussion).

(322) Es lebt sich gut als Sekretärin in Bonn.
       it lives REFL well as secreatry in Bonn
       'Living as a secretary in Bonn is good.'

(323) Über dumme Fehler   schimpft sich es leicht.
       over dumb   mistakes grumbles REFL it easily
       'Grumbling over stupid mistakes is easy.'

Ackema and Schoorlemmer (1994) propose an account of adjunct middle formation which implies that even adjunct middles are personal middle constructions. They show that what is promoted under 'adjunct-middle formation' is always a DP within an *argumental* PP. That not any PP can participate in the process is supported by contrasts like the following:

(324) a.   Het rijdt niet prettig   met grote haast.
            it   rides not comfortably with great hurry
            'It's not comfortable to drive in a great hurry.'

      b. * Grote haast rijdt   niet prettig.
           great hurry drives not comfortably

(325) a.   Het werkt lekker met een muziekje   op.
            it   works nicely with a   music-DIM on
            'It's nice to work with a little music on.'

      b. * Een muziekje   werks lekker.
           a   music-DIM works nicely

Ackema and Schoorlemmer (2002) suggest that the crosslinguistic variation is due to whether or not a language allows the applicative-like process that derives DP-subjects from such argumental PP's. Apparently, the process is available in Dutch, but not in German. English has even fewer options than German does, as it disallows impersonal middles as well as adjunct middles.[47]

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[47]On the basis of the evidence from this admittedly limited set of languages, one can surmise that

As mentioned at the outset, I propose to leave impersonal and adjunct middles out of consideration for the time being. Note that, although the data above are well-behaved with respect to the restriction in (317), it is not clear that we can use them as an argument in favour of this proposal. In the absence of an explanation for the impossibility of English impersonal middles, (317) overgenerates, because it predicts that such cases should be attested.

Let us return to personal middles. There are cases of personal middles that evade the generalization in (317). The following middles, corresponding to verbs with Actor-subjects, have not been deemed acceptable by native speakers:

(326)　a.　* The finish line reaches easily.

　　　　b.　What John did was reach the finish line.

(327)　a.　* The park does not enter easily.

　　　　b.　What John did was enter the park.

(328)　a.　* One's enemies do not invite easily.

　　　　b.　What John did was invite his friends for dinner.

(329)　a.　* Such mistakes don't forgive easily.

　　　　b.　What John did was forgive Mary.

(330)　a.　* Such mistakes don't avoid easily.

　　　　b.　What John did was avoid working.

(331)　a.　* Such mistakes don't justify easily.

　　　　b.　What John did was justify his behaviour.

(332)　a.　* Disguised spies don't recognize easily.

　　　　b.　What John did was recognize his father despite the disguise.

(333)　a.　* High summits don't reach easily.

　　　　b.　What John did was reach the finish line.

(334)　a.　* Dissertation deadlines don't meet easily.

　　　　b.　What John did was meet his dissertation deadline.

(335)　a.　* Certain issues don't discuss easily (with one's own children).

there exists the following implication: if a language has adjunct middles, it has impersonal middles as well (but not vice versa). In turn, the existence of impersonal middles may be related to the existence of impersonal passives. Dutch and German both have such passives, but English does not.

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      b.   What John did was discuss the issue with his wife.

The problem with the examples above is that they involve achievement verbs, and Ackema and Schoorlemmer (1994) have no way to ensure that such verbs are not input to middle formation, because at least the achievements given here have Actor arguments. The same criticism applies to Marelj (2004), who reformulates the Actor constraint in Reinhart's framework. Note that achievements are ruled out in Dutch and German as well:

(336)   a.   * Diese Krankheit erkennt   sich   nicht leicht.
               this   disease   recognizes REFL not   easily
               (int.) 'This disease is not easy to recognize.'

      b.   * Deine Unsicherheit bemerkt sich   unschwer.
               your   uncertainty notices   REFL not.difficult
               (int.) 'Your uncertainty is not difficult to notice.'

(337)   a.   * Dat herkent   gemakkelijk.
               that recognizes easily.
               (int.) 'That is easy to recognize.'

      b.   * Frans   verwerft gemakkelijk.
               French acquires easily
               (int.) 'French is easy to acquire.'

Ackema and Schoorlemmer (2002) recognize the fact that counterexamples to the Actor-constraint are not difficult to come by. To account for these problematic cases, they appeal to the responsibility condition (RC), which I repeat below, and conclude that "the RC appears to be needed next to whichever other conditions on middle formation might hold" (p.40).

(338)   The subject of a middle (the logical object) must have properties such that it can be understood to be responsible for the action expressed by the middle predicate.

What needs to be demonstrated is that (338) can successfully account for the ungrammaticality of the examples above. The authors make a very good case for the ungrammaticality of the example in (326a) as being explainable on the basis of (338): a finish line cannot have properties that make reaching it difficult or easy. It might be that the distance between starting point and finish line is too big, but that is not be a property of the finish line itself. However, the rest of the ungrammatical cases

do not readily invite such an explanation. (It would, after all, be very bizarre if the RC were what consistently excludes achievements from undergoing middle formation.) For instance, it is perfectly plausible that in virtue of their very nature some issues are difficult to discuss with one's children; why does the middle fail? Similarly, why should (333a) be bad? The height of a summit is one of its inherent properties, and one that is relevant for reaching it. (331a) is bad, even though it is conceivable that the nature of some mistakes makes forgiving them difficult.

The failure of the RC to account for the counterexamples to (317) suggests to me that the RC is in actual fact not doing us any work at all in explaining even part of the restrictions on middle formation. Even though the RC as it stands hardly has any predictive power, researchers have embraced it as a principle that regulates grammaticality, but note that its services are requested only when we are faced with facts about which what we already know about middles can say nothing. The most widely used example of a contrast that the RC can allegedly explain is the one between *buy* and *sell*, illustrated in (339) (Fagan, 1992).

(339)   a.   This book sells well.

      b.   * This book buys easily.

The contrast is mysterious for everyone: *buy* and *sell* are aspectually identical and they both have an Actor. With the exception of Steinbach (2002), the contrast in (339) has been unanimously accepted as real and has served as evidence for the RC. But it is not actually entirely certain that we are dealing with a real grammatical contrast, instead of a difference in the contextualization possibilities. In view of examples like the following, the latter option seems more likely:[48]

(340)   a.   Prospects that come from referrals are shown to buy more easily and quickly with fewer objections.

      b.   NetBenefit buys easily for 2.5m.

      c.   In *Monopoly*, houses buy more easily than hotels.

As I suggested in the previous chapter, to the extent that the RC is contentful, it reduces to the dispositional semantics that I have argued best characterizes middles. More precisely, I have treated middles are generalizations whose truth depends on

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[48]The first two examples were found on the Internet. Native speakers of English have deemed all three of them acceptable.

inherent properties of the subject-referent. A disposition ascription makes little sense unless contextual/pragmatic factors enable us to recover the 'in virtue of' property. This is what fails, for example, in (342): (at least in our world) redness isn't a property of cars that is implicated in the ease with which they are parked, nor does it relate to any other property that could be so implicated.

(341)   Small cars park easily.

(342)   ?? Red cars park easily.

What then of achievement predicates? If the RC does not prohibit them from undergoing middle formation, we need to look for a different constraint. The exclusion of achievements is the principal reason for supplementing the modified Actor constraint with one that makes reference to Incremental Themes, which I discuss in the following section. The result will be that personal middle formation in Germanic takes as input not just a causative verb, but a causative verb whose internal argument is an Incremental Theme.

A2   Incremental Themes

The view that what is implicated in the restriction on middle formation is the property of being an Incremental Theme was proposed by Condoravdi (1989b). In this section I will explore how Condoravdi's suggestion fares with respect to the data. This view of the restriction is summarized in (343).

(343)   Personal middle formation in English, Dutch and German 'promotes' Incremental Themes.

Incremental Themes were introduced by Dowty (1991) and Krifka (1992) (see also the earlier references in these papers), and have attracted much attention in the literature on argument structure and its interaction with both Aktionsart and grammatical aspect—see for instance Tenny (1992); Jackendoff (1996); Ramchand (1997); Hay et al. (1999) among many others. Incremental Themes on their initial conception are the arguments which stand in a homomorphic relation with respect to the event denoted by the verb, in that subparts of the event correspond to subparts of the complement of the verb. This is how Dowty (1991) explains the notion of an Incremental Theme:

>   The meaning of a telic predicate is a homomorphism from its (structured) theme argument denotations into a (structured) domain of

> events. [...] In the case of telic predicates, [...] if x is part of y,
> then if a telic predicate maps y (as Theme) onto event e, it must map
> x onto an event e' which is part of e. (Dowty, 1991, 567)

The example employed by Dowty (1991) to illustrate this is *mow the lawn*. In an event of mowing the lawn, one can see how much of the event has occurred by observing the state of the lawn; the portion of the lawn that is short (i.e. has been mowed) mirrors the portion of the event that has taken place, and the event reaches its endpoint when all the lawn is short. Krifka (1992) introduces the notions of Mapping to Events (MAP-E) and Mapping to Objects (MAP-O) as properties that hold of such homomorphisms. A thematic role assigned by the verb to its complement satisfies the property MAP-E if every subpart of the event corresponds to a specific subpart of the entity denoted by the complement. Conversely, the thematic role satisfies MAP-E if every part of the entity undergoing the action denoted by the verb corresponds to a part of the event.[49]

I will briefly backtrack here in order to explicate the notion of telicity. The distinction between telic or nonhomogeneous and atelic or homogeneous predicates is one of the most important ones in the domain of Aktionsart aspect. The standard test for diagnosing this property is compatibility with adverbials of the type 'in an hour' vs. 'for an hour'. States and activities differ from accomplishments and achievements in that the former are atelic whereas the latter are telic predicates. In virtue of their atelicity, activities and states have the subinterval property: if John loved Mary for an interval of three years, it is also true for any subinterval of that three-year interval that he loved Mary. Similarly for an activity like *swim*, if I swim for two hours, any subinterval included in that two-hour period will be characterizable as involving swimming on my part. Atelic predicates are compatible with *for an hour* (durative) adverbials. Achievements and accomplishments, on the other hand, are non-homogeneous, telic predicates, because they involve a change of state (instantaneous and protracted, respectively). Because of the change of state encoded in their meaning, such predicates do not have the subinterval property. Say I built a house in two years; if we consider a subinterval of that two-year period, for example the final three months of the first

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[49]For the formalization of the properties MAP-O and MAP-E the reader is referred to Krifka (1992, 1998). Ramchand (1997) provides a thorough and accessible exposition of his framework, and discusses in depth a number of issues that I have been glossing over in order to keep our sight on middles.

year, it is not true that I built a house during that subinterval. Telic predicates are compatible with *in an hour*-type (time span) adverbials.

An important observation that dates back to at least Verkuyl (1972) is that the nature of telicity is compositional, in that it is not the verb alone that determines its (a)telicity; the nature of its complement plays an important role. If the complement of a verb like *drink* denotes an entity of specified quantity, for instance *a bottle of wine*, the verb phrase *drink a bottle of wine* will be of telic aspect. If, however, the complement is mass (or a bare plural), e.g. *wine* (or *coctails*), the result is an aspectually atelic verb phrase *drink wine*.[50] In Krifka's framework (Krifka, 1992, 1998), Verkuyl's notion [+/− SPECIFIED QUANTITY] corresponds to the distinction between quantized and cumulative reference of objects. The entity denoted by the DP *wine* has cumulative reference, because if one puts together two things that count as 'wine', one still ends up with something describable as 'wine'. This property does not hold of objects denoted by DP's of the type *a bottle of wine*, which has quantized reference, because no subpart of 'a bottle of wine' is also 'a bottle of wine'. Krifka's work builds on earlier observations (see Bach (1986) and references therein) concerning the close connection that exists between the domain of events and the domain of objects. 'Running' is like 'wine', in being cumulative, and 'writing a letter' is like 'a bottle of wine' in being quantized.

The initial conception of Incremental Themes that Dowty explains has that, for certain thematic relations, properties of internal arguments determine properties of the VP which contains them. Therefore, the implicit assumption, shared by many researchers, is that only Incremental Themes are crucial in determining telicity. The more recent line of research cited above has revealed that the initial Dowty and Krifka conception of Incremental Theme is not wide enough to encompass the broad range of data which are involved. Before going into the additional data, let us first see how far Dowty's characterization can take us with respect to middles.

Dotwy considers the following categories of verbs as taking Incremental Theme arguments. First, he shows that effected objects, 'destroyed' objects, and objects entailed to undergo what Dowty (1991) describes as a 'definite' change of state are incremental. The verbs that represent each category are taken from Dowty (1991).

(344)   *Effected objects*: build a house, write a letter, perform a sonata[51]

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[50]In view of this finding, Fagan's proposal in (315) does not make much sense. I will return to the cases which prompted her to include activity verbs at the end of this section.

[51]It has been claimed that middle formation cannot promote effected objects, see for instance

a. Houses build more easily today than in the past.

b. Linguistics books don't write easily.

c. Othello doesn't perform easily. (Tenny, 1992)

(345) *Destroyed objects:* destroy a presidential finding, eat a sandwich

a. Small villages destroy easily.

b. Making food eat as well as it reads is difficult stuff. (*The Observer* on Sunday)

(346) *Objects undergoing a 'definite' change of state:* paint a house, polish a shoe, proofread an article

a. The wall paints well.

b. Leather shoes polish easily.

c. Well-written papers proofread easily.

The second category Dowty considers comprises what he deems Representation-Source Themes, examples of which we see in (347). Dowty argues that the direct objects in the examples in (347) are Incremental Themes. The corresponding middles in (348) are grammatical.

(347) a. photograph a scene

b. copy a file

c. memorize a poem

d. read a book

(348) a. Mary photographs well.

b. The file copies easily.

c. Short poems memorize easily.

Fellbaum and Zribi-Hertz (1989) and more recently Zwart (1998). The claim does not seem to be true, in view of examples like the following, uttered about an unfinished house.

(i) I thought that building this summer house would be a piece of cake, but it turns out that this house doesn't build quite that easily after all.

The issue is discussed in more detail in Ackema and Schoorlemmer (2002), where the authors consider the role played by generic vs. nongeneric subjects of middles with respect to this kind of data. The conclusion reached there is that the constraint of the Anti-effectedness of the syntactic subject of middles does not seem to be empirically correct after all.

     d. Your thesis reads like a novel.

Furthermore, Dowty (1991) discusses the *spray/load* alternation, exemplified below in (349), and argues extensively that the Incremental Theme in each of the two cases below corresponds to the internal argument DP, and not the PP. For instance, in (349a) the Incremental Theme is the hay: subevents of loading map onto subparts of the hay and the event is over when all the hay has been loaded, irrespectively of whether the truck is filled. By contrast, in (349b) it is the truck which constitutes the Incremental Theme, because subparts of the truck correspond to subevents of loading, and the event is over when the truck has been loaded full. The proposal in (343) predicts that both arguments should be promotable under middle formation. This is exactly what we find, cf. (350):

(349)   a. Mary loaded the hay onto the truck.

         b. Mary loaded the truck with hay.

(350)   a. Hay loads easily.

         b. Trucks load more easily than cars.

The cases above contrast with nonalternating verbs, like *fill*; *fill* is unlike *load* in that it does not allow the alternation illustrated in (349). As Dowty argues, *fill* is incremental with respect to its direct object, and not to the PP. It follows that only the former can be promoted under middle formation, an expectation which is met.

(351)   a.   Bill filled the tank (with water).

         b.   Small tanks fill easily.

         c. *Bill filled water (into the tank).

         d. *Water fills easily.

(352)   a.   Bill covered the table (with a bedspread).

         b.   Round tables cover more easily than square ones.

         c. *Bill covered a bedspread (over the table).

         d. *Bedspreads cover easily.

Next, consider the contrast between Subject-Experiencer verbs like *love*, *admire*, *hate* and Stimulus-Subject verbs like *bore*, *frighten*, *anger* (the labels are due to Dowty). The former are regular stative verbs. On the other hand, the Stimulus-subject verbs have an inchoative (change of state) interpretation. The Experiencer object of the

transitive version of e.g. *frighten* is an Incremental Theme, according to Dowty, because the experiencer undergoes a (definite) change of state. It follows that middles can be built on the basis of the latter, but not the former category of verbs. The prediction is borne out. English, Dutch and German middles cannot be formed on the basis of the stative, Experiencer-subject verbs, cf. the English examples in (354) below. But middle formation can target the Stimulus-Subject verbs, because the experiencer object is an Incremental Theme in this case, cf. (353).[52]

(353)   a.   Politicians anger easily.

   b.   This colt frightens easily.

   c.   Overprotective mothers worry easily.

   d.   ? Children bore easily.

(354)   a.   * John loves easily.

   b.   * Politicians hate easily.

   c.   * Physicists admire easily.

Since Dowty's Incremental Theme is a role which determines telicity, if we were to stop here, (343) would amount to a constraint on telic predicates, cf. Tenny (1992); Hulk and Cornips (2000). Fortunately, research has independently shown that we need to expand the system so as to allow for mappings between the eventual and the objectual domain that are not mediated by MAP-O and MAP-E. In particular, Ramchand (1997), Hay et al. (1999), Kennedy and McNally (2004) have shown that there are good reasons to enrich the inventory of properties that determine homomorphisms.

For example, Ramchand (1997) has argued in favour of the existence of three kinds of Incremental Theme roles, only one of which is implicated in defining the telicity of the VP. This particular Incremental Theme role, which she calls Patient-Partition role, corresponds to the Krifka (and Dowty) original Incremental Theme. It satisfies MAP-O and MAP-E and is assigned by verbs of creation and consumption. Recall that for these predicates, subparts of the event correspond to subparts of the object. The two other roles she defines do not partake in these mappings, because the change effected by the action denoted by the verb applies to the whole of the object.

The two additional roles are called Patient-Move role and Patient-Change role and are assigned by verbs of motion/change of location, like *push*, and verbs of change of

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[52]This is one domain of empirical overlap: stative verbs also lack an Actor subject.

state, like *dry* and *yellow* respectively. Both Patient-Move and Patient-Change exhibit the property deemed Object Integrity (INTEG-O). This property says that "if an object is related by the role in question to an event, then the very same object (not a physical subpart or superpart of it) is related to all the subevents of the event" (Ramchand, 1997, 117). (This property is obviously not satisfied by Patient-Partition roles.) In addition, the Patient-Move Incremental Theme also satisfies the relation Mapping to Locations, MAP-L, which associates the progress of the event with a different location of the object. The complement of *push*, for example, undergoes incremental movement along a spatio-temporal path. Patient-Change roles do not satisfy this MAP-L relation, but a third property, namely that of Mapping to Properties, MAP-P, which establishes a correspondence between the progression of the event denoted by the verb and some property of the object; what changes over time is thus the degree to which some property of the bearer of the Patient-Change role holds.The latter two incremental roles defined by Ramchand, Patient-Move and Patient-Change, do not determine telicity themselves, but other factors, linguistic and contextual may do so. The context of use, directional adjuncts, adjuncts such as 'completely' or 'thoroughly', and also resultative predicates can induce a telic interpretation (on predicates that are presumably underspecified in this respect). Table A1 schematizes the types of Incremental Themes that Ramchand discusses.

	Patient-Partition	Patient-Change	Patient-Move
MAP-P	no	yes	yes
MAP-L	no	yes	yes
INTEG-O	no	yes	yes
MAP-O	yes	no	no
Telicity Inducing	yes	no	no

Table A1: Incremental Themes

What this buys us is that middle formation is not restricted to apply to telic predicates, in other words to the verbs with the Dowty/Krifka Incremental Theme (Ramchand's Patient-Partition role); it can apply to other incremental roles, Patient-Change and Patient-Move:

(355)   Patient-Move promoted:

    a. This car drives well.

    b. Kleine winkelwagentjes duwen gemakkelijk.
       small   shopping carts   push   easily

    c. Dieses Auto fährt sich   gut.
       this   car   drives REFL well

(356) Patient-Change promoted:

    a. This metal pounds/hammers easily.

    b. Linguistic horizons don't broaden easily (but a visit to Utrecht has always helped).[53]

As Øystein Nilsen (personal communication) has pointed out to me, the following data should be dealt with separately.

(357) a. This piano plays beautifully.

      b. This pipe smokes nicely.

(358) a. I played the piano for an hour/*in an hour.

      b. I smoked the pipe for an hour/?in an hour.

Let us consider (357b) first. It can be argued that *smoke a pipe* involves the object-to-event homomorphism that is characteristic of incremental arguments in a certain sense. Note that the pipe is actually the measure here, in much the same way as a bottle is in *I drank a bottle of wine last night*, where the claim is not that I literally drank a bottle, but the content of it, namely the quantity of wine that is contained in (measured by) a bottle. *Drink* is incremental with respect to its direct object. The pipe arguably performs the same measure function, so *I smoked the pipe last night* actually means I smoked the contents of the pipe, the quantity of tobacco that the pipe holds. The verb *smoke* also takes an incremental object: my smoking proceeds by consuming the cigarette or the contents of the pipe gradually, and the event is over

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[53]A few remarks about this example are in order. It has been ensured that the sentence makes available the middle interpretation—the unaccusative reading of *broaden* is of course also possible. Moreover, the verb is interpreted as atelic, presumably due to the fact that speakers conceptualize the broadening of horizons as an open-ended experience. (If its interpretation were telic, *broaden* would simply fall into Dowty's 'definite-change' denoting predicates, see above.) See Hay et al. (1999); Kennedy and McNally (2004) for discussion of the so-called degree-achievements, which exhibit variable behaviour with respect to the telicity diagnostics. *Broaden* belongs to this class of predicates, in other words, in a different context it can have a telic interpretation.

when the cigarette/tobacco is over. The only (relevant) difference between *smoke* and *drink* is that the latter cannot perhaps take the measure as internal object, as in **I drank a bottle* (unless the bottle is still a measure and the 'substance' left implicit is anaphorically linked to previous discourse, a possibility which does not affect the point at hand), whereas *smoke* can. This difference is most likely related to the fact that smoking is stereotypically linked to tobacco, whereas for drinking the possibilities are more varied.

Turning now to (357a), the status of the sentence is not unequivocally that of a middle. Recall that middles do not combine with ability modals, but adding such a modal to (357a) does not induce any (comparable) ungrammaticality, cf. (359). Moreover, a direct object is not altogether excluded, cf. (360). These facts suggest that (357a) is not really a middle, but an instrument-subject sentence. Ackema and Schoorlemmer (2002) discuss the differences between the two (one of them being the admissibility of an object).

(359)   This piano can play beautifully.

(360)   This piano used to play Beethoven sonatas beautifully, but since we haven't tuned it in years it's useless.[54]

The constraint in (343) takes care of the major empirical problem of the Actor constraint: achievements. Due to their temporal structure, achievements never have incremental objects. Recall that achievement verbs denote instantaneous changes of state. Since achievement predicates in general do not have a (non-trivial) subeventual structure, a homomorphism between properties of the object and the progression of the event (i.e. mapping to subevents) is not possible. In other words, the complement of achievements does not qualify as a Patient-Partition, or a Patient-Move or a Patient-Change role. This correctly predicts that it will not be promotable under middle formation:

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[54]*Play* is an interesting case. Alongside examples like the ungrammatical middle in (i), there exist grammatical ones such as the attested examples in (ii) and (iii):

(i) ?*This sonata plays easily.

(ii) Not every film of 1959 plays this well today.

(iii) As a whole, it plays a lot better at home than it did at the cinema.

The contrast, to the extent that it is a real one, is surprising. Note that the subjects in all three examples are Incremental Themes.

(361)   * Disguised spies don't recognize easily.

(362)   * Friends who've moved to a different continent don't invite easily.

(363)   * High summits/Relatives who live abroad don't reach easily.

(364)   * Dissertation deadlines don't meet easily.

Another reason why appeal to Incremental Theme is attractive has to do with the way in which middle formation is treated in this thesis, which is essentially a semantically motivated variant of Williams (1981)'s Externalize(X). Roberts (1987); Hoekstra and Roberts (1993); Ackema and Schoorlemmer (2002) have criticized such a conception of middle formation, because it has not been possible to characterize X in a way that generalizes over all the types of argument that is promotable under middle formation, as the following examples illustrate:

(365)   Old people scare easily. (Experiencer)

(366)   This truck loads easily. (Goal?)

(367)   Hay loads easily. (Theme)

By contrast, I have argued that it is possible to generalize over all of these examples, which share an important feature: the argument promoted is an Incremental Theme. Allowing the restriction on middle formation to make reference to Incremental Themes thus makes it possible to specify middle formation as a disposition ascription to a designated argument, namely the Incremental Theme.

Given the overlap in empirical coverage of the Actor constraint and the Incremental Theme constraint, it is reasonable to ask whether one is more basic than the other. My conclusion in the previous section was that the modified Actor constraint is insufficient and needs to be supplemented by another restriction. In this section, I have argued that the restriction in question is (343). It does not seem possible that we can choose one over the other at this stage. The reason why (319) has to be supplemented with (343) is the exclusion of achievement verbs. At the same time, (343) cannot be the sole constraint, as it does not guarantee that the input to middle formation is the transitive version of a change of state verb; in other words, if we only stick to the restriction in (343), we cannot exclude monadic unaccusative predicates with Incremental Theme arguments to be targeted by the process (see Ackema and Schoorlemmer (2002, 2004) for arguments that middle formation does not apply to unaccusatives). In other words, we cannot make sure that the input verb will have a Cause argument.

In sum, I propose that the proper characterization of what constrains the input to personal middle formation in Germanic is a combination of two constraints, which gives the following generalization:

(368) Personal middle formation in Germanic applies to causative verbs which take an Incremental Theme.

A3 Greek and French

The conclusion reached above with respect to English, Dutch and German does not extend to French and Greek. First, achievements can undergo middle formation, which suggests that the constraint on Incremental Themes is not operative in these languages:

(369) French (Fagan, 1992):

a. Pierre se   reconnaît à son nez rouge.
    Pierre REFL recongizes by his nose red
    'Pierre is recognizable by his red nose.'

b. La saleté   des   rues   de New York se   remarque facilement.
    the dirtiness of.the streets of New York REFL notices   easily
    'The dirtiness of the streets of New York can be noticed easily.'

c. Le français s'acquiert   facilement.
    the french   REFL ACQUIRES easily
    'French is easy to acquire.'

(370) Greek:

a. Tetia sfalmata den anagnorizonde   efkola.
    such mistakes not recognize-3PL.NONACT.IMPERF easily
    'Such mistakes are not easy to recognize.'

b. To rafi ine poli psila ke   de ftanete   efkola.
    the shelf is   too high and not reach-3SG.NONACT.IMPERF easily
    'The shelf is too high and is not easy to reach.'
    (Tsimpli, 2004)

c. Ta elinika den kataktonde/
    the greek   not conquer-3PL.NONACT.IMPERF./
    mathenonde   efkola
    learn-3PL.NONACT.IMPERF. easily
    'Greek is not easy to acquire/learn.'

Furthermore, the Actor constraint is apparently not relevant in Greek and French, in view of the fact that stative verbs also seem to make available the middle interpretation

in these languages, contrary to what we have already seen is going on in English, Dutch and German.[55]

(371) English:

    a.   * The poem understands easily.

    b.   * The Eiffel Tower sees easily.

    c.   * One's own children love easily.

    d.   * Ungrateful people hate easily.

(372) German:

    a.   * Die antwoorden weten gemakkelijk.
        the answers   know easily

    b.   * Zo'n dingen haten vreselijk.
        such things hate   terribly

(373) Dutch:

    a.   * Die Welt kennt sich   nicht leicht.
        the world knows REFL not   easily

    b.   * Ein BMW besitzt sich   nicht leicht.
        a   BMW owns   REFL not   easily.

(374) French

    a.   Ce poème se   comprend   facilement.
        this poem   REFL understands easily
        'This poem can be understood easily.'

    b.   La Tour Eiffel se   voit facilement de me fenêtre.
        the Eiffel Tower REFL sees easily   of my window
        'The Eiffel Tower can be seen easily from my window.'

    c.   La sirène s'entend   de   loin.
        the siren   REFL hears from far
        'The siren can be heard from afar.'

    d.   Les impérialistes, ça   se   déteste facilement.
        the imperialists   that REFL hates   easily
        'Imperialists easily get hated.'

    e.   Les mouchards, ça   se   méprise facilement.
        the informers   that REFL despise easily
        'Informers easily get despised.'

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[55]Recall that middles formed from statives also violate the Incremental Theme constraint.

(375)   Greek:

    a.   O   Janis ine poli distropos, den agapiete   efkola.
         the Janis is   very difficult   not love-3SG.NONACT.IMPERF easily
         'Janis is a very difficult person, he's not easy to love.'

    b.   Aftes i   tenies vleponde   efxarista.
         these the movies watch-3PL.NONACT.IMPERF. with pleasure
         'These movies can be watched easily.'

    c.   Afto pu   de legete   me ta logia
         that which not say-3SG.NONACT.IMPERF. with the words
         niothete   me tin texni.
         feel-3SG.NONACT.IMPERF. with the art
         'What can't be put into words can be felt (communicated) through art.'
         (Tsimpli, 2004)

    d.   I   agnomones anthropi misiunde   efkola.
         the ungrateful people   hate3PL.NONACT.IMPERF. easily
         (lit.) 'Ungrateful people are easy to hate.'

The status of these examples is not very clear. First of all, it seems that in general, Greek allows statives in this context more readily than French does; for some speakers, the French examples above, which are adapted from Fagan (1992), are quite marginal. If the discrepancy between French and Greek is real, it could relate to the following facts. At least for the Greek data given above, the stative verbs have an inchoative interpretation, i.e. they are interpreted as involving a change of state. Sabine Iatridou (personal communication) points out that inchoative readings are in some languages associated with statives when the latter appear with perfective aspect. The Greek counterpart of 'John loved (perfective) Mary in 1981' is interpreted as reporting that John fell in love or started loving Mary in 1981 (Iatridou et al., 2002). What is remarkable is that the examples in question of course involve imperfective aspect, so we need to explain what gives rise to the inchoative interpretation. Now, if there exists a difference between Greek and French middles formed from statives, it may well relate to the fact that, according to Valentine Hacquard (personal communication), in French the combination of a stative verb with perfective in e.g. the French equivalant of 'He loved Mary', *Il a aimé Marie*, does not yield an inchoative reading, but a 'bounded state' instead; the sentence means that for some period in the past he loved Mary (with the implicature that he doesn't love her anymore).

In all, there is no doubt that middle formation in Greek and French is more liberal than in Germanic, although it might not be true that the process is entirely free. The nature of the relevant constraint remains unclear. To the extent that statives are acceptable on the middle interpretation, and assuming that the stative verbs involved are interpreted inchoatively, it might be that the constraint on Greek/French middle formation has to make reference to a change of state.

An interesting question that arises in connection to this, at least for Greek, is the following. There exist passives in Greek which make available the middle or a habitual interpretation, but which lack an episodic variant.[56] Examples of the discrepancy are given immediately below, from Tsimpli (2004). There are many more examples of this pattern, which suggest that the problem with episodic passives does not lie in some sort of phonological abnormality of the relevant verbal forms.

(376) a. I   elinikes tenies   de vleponde   apo oles tis
           the greek movies-NOM not watch-3PL.NONACT.IMPERF by all the
           ilikies.
           ages
           'Greek movies can't be watched by all age-groups.'

       b. *I   elinikes tenies   den idothikan   apo oles tis
           the greek movies-NOM not watch-3PL.NONACT.PERF by all ages
           ilikies.

           (int.)'Greek movies weren't watched by all ages.'

(377) a. To krasi afto   pinete   kathe xrono to Pasxa.
           the wine this-NOM drink-3SG.NONACT.IMPERF every year   the Easter
           'This wine is drunk every year on Easter day.'

       b. *To krasi afto   piothike   fetos   to Pasxa.
           the wine this-NOM drink-3SG.NONACT.PERF this year the Easter
           (int.)'This wine was drunk this year on Easter day.'

Sabine Iatridou (p.c.) points out that, for the generalization to hold water, it has to be shown that such passives are out also on the progressive reading of the imperfective because the progressive also makes reference to a single event (recall that I have not

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[56]Alexiadou and Anagnostopoulou (2004) mention that in Greek the passive is not as productive as in other languages, for reasons that are ill-understood. What I take their observation to relate to is in effect episodic passives.

used episodic in a way as to cover progressive). This seems to be true: the examples above are bad on the progressive reading:[57]

(378) ?* To 'Blade Runner' vlepete   afti ti   stigmi.
        the Blade Runner watch-3SG.NONACT.IMPERF this the moment
        (int.) '*Blade Runner* is being watched right now.'

(379) ?* To krasi afto   pinete   afti ti   stigmi.
        this wine this-NOM drink-3SG.NONACT.IMPERF this the moment
        (int.) 'This wine is being drunk right now.'

The facts noted above are intriguing in their own right, and readily invite a closer inspection of the relation between aspect and (passive) voice; there might in addition exist an independent factor which is implicated in the restricted occurrence of *by*-phrases.

A4   Summary

I would like to conclude this section by reiterating the points made in the introduction to it. It is my conviction that what is responsible for the restrictions I argued exist is the nature of the level at which the process takes place in Germanic.

A caveat is in order. By appealing to the level of application I do not mean that middle formation is more productive if it is done in the syntax, and less so if it takes place in the lexicon. This line of thought is suggested by Reinhart (2000). But it has been quite convincingly argued by di Sciullo and Williams (1987) that productivity is not an intrinsic and exclusive property of syntactic processes; a process can be 'lexical' and at the same time 'productive'. What gives the impression of nonproductivity is the imprecise delimitation of the input set. As soon as the input of a (lexical) rule is properly defined, the rule can apply quite generally and hence 'productively' to the members of the input set. This is the case also with presyntactically derived middles; as long as we guarantee the right kind of input, the process applies freely. In other words, personal middle formation is not a quirky idiosyncrasy of (the lexicon of) English, Dutch and German; if it were, there would actually only be a few grammatical middles

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[57]I have used the same examples as above, in order to be consistent. Although it could be argued that the ungrammaticality of (378) is due to the stativity of the verb and the general incompatibility between the progressive and stativity, this explanation does not cover (379), which features *pino*, 'drink', a nonstative verb.

with no systematic commonalities in the base form, and we could rest the case. But that is not what is going on.

The appeal to the level of application of middle formation is made with the following rationale. As we have seen in the course of this chapter, English/German/Dutch and French/Greek differ with respect to how they 'do' middles. In the former case, the process that yields the middle interpretation is one whereby an internal argument is base-generated in subject position, and the otherwise external argument is not mapped onto the syntax. In other words, presyntactic middle formation involves noncanonical mapping of the internal argument to subject position. It is to be expected that not all predicates will allow this. The constraint on middle formation in English should reduce to a constraint on what sort of argument can be mapped onto the external position and at the same time be interpretable as an internal argument. On the other hand, the fact that Greek and French resort to passives to convey the middle interpretation, i.e. the fact that Greek/French middles are syntactically passives, warrants the expectation that the middle will not face any constraints more severe than the ones applying to passive formation itself. The expectation for these languages is that the middle interpretation should be freely available whenever the passive structure is permitted.

Chapter 4

Reflexive morphology in middles: German vs. Dutch

4.1 Introduction

In the previous chapter, I proposed an account of the unergativity of middles in English, Dutch and German on the basis of the way in which genericity is encoded in these languages. Throughout the discussion up to this point, I have been abstracting away from the difference that exists between Dutch and German middles with respect to the issue of morphological marking in the form of a reflexive element. It is my aim in this chapter to provide an account for the contrast between these two closely related languages, which is illustrated in (380).[1]

(380) a. Dit boek leest (*zich) makkelijk.
          this book reads REFL   easily

       b. Dieses Buch liest *(sich) leicht.
          this   book reads REFL   easily
          'This book reads easily.'

The reason why English is not relevant for the discussion is that English lacks the (weak) reflexive that could surface in middles. In other words, I do not endorse the view advanced by Massam (1992) and adopted by Steinbach (2002) that English middles have a phonetically null weak reflexive. The issue was discussed in chapter 1 (section 1.7), where I explored the possibility that middles are parasitic on inherent

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reflexives. The strongest argument that this cannot be right comes from Dutch, which possesses an (overt) weak reflexive, *zich*. But, as (380a) shows, *zich* is ungrammatical in middles. Even if it could be shown independently that English has a null reflexive, it would be ad hoc to postulate such an element for Dutch middles. English middles simply employ no marking, and the same applies to Dutch.

To account for (380) is, to a large extent, to be able to predict when middles will (not) employ morphological marking. The question posed by (380) has been largely ignored, or else not been dealt with satisfactorily. Fagan (1992) concludes that the presence of *sich* in German middles "will have to be simply stated in the subcategorization frame of a middle" (Fagan, 1992, 171). Steinbach (2002), which represents one of the very few attempts at a unified theory of 'argument' and 'nonargument' *sich*, leaves Dutch middles unaccounted for. The contrast in (380) is independent of the syntactic behaviour of the middle verb itself. German middles are unergative and are thus derived presyntactically, but they employ the reflexive *sich*. Therefore, German provides evidence that a presyntactic derivation of middles does not go hand in hand with lack of marking. This relates to the weak correlation that Ackema and Schoorlemmer (1994) hypothesize between lack of marking and a presyntactic derivation, and to the stronger position taken by Marelj (2004), according to whom morphological marking is criterial of a syntactic derivation.[2] Providing an answer to the more general question of when to expect morphological marking in middles will therefore be an additional goal pursued in this chapter.

The presence of *sich* in structures like middles indicates that the reflexive in German can function as a marker of argument structure manipulation. Steinbach (2002) provides an extensive discussion which shows that German *sich* can be a canonical reflexive anaphor occupying a non-nominative argument position and receiving a thematic role, but it can also function as a marker of valency reduction. It is the latter instance of *sich* that we encounter in middles, but also in anticausatives and inherent

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[2]In particular, Reinhart (2000); Reinhart and Siloni (2003); Marelj (2004) take German to be a 'Syntax' language, which in effect means that it will pattern with Greek and Romance, and not English and Dutch, with respect to middles. As mentioned previously, for these authors morphological marking is one of the criteria of a syntactic derivation. However, in the preceeding chapters we have seen substantial empirical evidence, some of which will be repeated presently, that German middles pattern not with Greek or Romance middles, but with their English and Dutch counterparts. There are further objections to treating German *sich* on a par with Romance *se/si*, which will be pointed out in the course of the discussion.

reflexives. The data below (Steinbach, 2002, 129) exemplify the two uses of *sich*.

(381) Argument reflexive:

Der Kanzler   liebt sich   mehr als   alles andere in der Welt.
the chancellor loves REFL more than all   else   in the world

'The chancellor loves himself more than anything else in the world.'

(382) Nonargument reflexive:

  a. Middle:

Dieser Käse   schneidet sich   sehr gut.
this   cheese cuts   REFL very well
'This cheese cuts very well.'

  b. Anticausative:

Die Tür öffnete sich   ein bißchen.
the door opened REFL a   bit
'The door was opening a bit.'

  c. Inherent reflexive:

Hans schämt sich   unheimlich.
Hans shames REFL incredibly
'Hans is incredibly ashamed.'

According to Steinbach, both argument and nonargument *sich* occurs in object position. This is based on word order facts, which apparently do not discriminate between argument and nonargument reflexive. The differences that exist between argument and nonargument *sich*, having to do with fronting, co-ordination and focus, are argued to follow from the fact that only argument *sich* is linked to a semantic argument of the verb (i.e. receives a theta-role from the verb), whereas on its nonargument persona the reflexive is a valency reduction indicator. In other words, Steinbach's claim is that there is no syntactic difference between argument and nonargument *sich* (contra Fagan (1992), who considers the latter a sort of clitic). The differences, which are illustrated immediately below, are argued to be of a semantic nature.

Only the argument reflexive can be co-ordinated; in middles and anticausatives, *sich* cannot be co-ordinated with another DP, cf. (383).[3] Additionally, only the argument reflexive can be focused, cf. (384), and questioned, see (385).

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[3]The term 'anticausative' refers to the intransitive variant of a causative change of state verb. I will be using this term instead of 'unaccusative' for reasons to become clear in section 4.3.

(383)   a.   Otto wäscht sich und seine Freunde.
             Otto washes SICH and his   friends
             'Otto is washing himself and his friends.'

        b.   * Das Buch verkauft sich und seinen Autor gut.
             the book sells   SICH and its   author well

        c.   * Die Tür öffnet sich und das Fenster.
             the door opens SICH and the window

(384)   a.   Otto wäscht [sich]$_F$.
             otto washes REFL
             'Otto washes himself.'

        b.   * Das Buch verkauft [sich]$_F$ gut.
             the book sells   REFL well

        c.   * Die Tür öffnet [sich]$_F$.
             the door opens REFL

(385)   a.   Wen   wäscht Otto? Sich!
             who-ACC washes Otto? REFL!
             'Who is Otto washing? He is washing himself!'

        b.   * Wen   hat das Buch gut verkauft? Sich!
             who-ACC has the book well sold?   REFL!

        c.   * Wen   öffnet die Tür? Sich!
             who-ACC opened the door? REFL!

Steinbach argues that, on its nonargument guise, the reflexive does not introduce an argument variable into the semantic representation of the sentence, but marks (the effects of) arity operations, in the sense of Reinhart (2000). As mentioned in the previous chapter, Reinhart defines two arity operations, reduction and saturation. Reduction in effect eliminates a theta role from a predicate's theta grid, and its application to the external argument of a transitive verb results in the anticausative variant. Saturation effects binding of the variable corresponding to the external theta role by an existential or a (quasi-)universal operator. The former is taken to derive passives, the latter middles.

I follow Steinbach (2002) in granting *sich* a dual status, namely that of an anaphor in argument position and that of a 'marker' of arity operations. In particular, I concur with Steinbach that nonargument *sich* marks the operations that derive middles and anticausatives, although I will propose a different characterization of it which does not

commit us to the view that it is an object expletive.[4] The proposal I put forward is that, contrary to German *sich*, Dutch *zich* does not have a similar dual identity, and more specifically it cannot serve as a valency-reduction morpheme. The claim is that *zich* is restricted to argument positions. This position has also been advanced by Sells et al. (1987) on the basis of evidence that will be examined in what follows. The discrepancy between German and Dutch middles in (380) follows from the distinct potential of *sich* and *zich*.

This view itself generates a new set of questions: why are *sich* and *zich* different in this respect? What determines whether an anaphor will be able to function as a valency-reduction marker, in addition to being an argument reflexive? These questions are addressed in section 4.2, where I provide an account of simplex anaphors as 'markers' (of arity operations) that capitalizes on the structure of the paradigm in which the reflexives belong. The gist of my proposal is that the Dutch anaphoric system differs crucially from the German one, in virtue of having a complex anaphor *zichzelf*, which German lacks. The approach outlined in section 4.2 explains the data in (380) and, as I show in sections 4.3 and 4.4, also makes correct predictions for German and Dutch anticausatives and inherent reflexives. My proposal also makes predictions for Germanic languages which lack weak reflexives, namely Afrikaans and Frisian, and as I show in section 4.5, these predictions too are borne out. There I also discuss the occurrence of *zich* in middles in a dialect of Dutch spoken in Heerlen. Section 4.6 concludes.

In this chapter we will therefore be concerned with a number of related issues, which appear summarized below.

(386)   a. Why can the Dutch weak reflexive, *zich*, not appear with middles?

           b. Why can (and why must) the German reflexive, *sich*, appear with middles?

(387)   Why are *sich* and *zich* different?

(388)   When can we expect middles to employ morphological marking?

Before turning to these questions, I would first like to briefly reiterate the arguments that middles in German are syntactically unergative, and that this follows from the approach to middles advocated thus far. I will repeat the arguments that have been

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[4]My proposal about nonargument *sich* extends to inherent reflexives as well, but inherent reflexives present a complicated case, as there seems to be no single operation that derives them across languages. The issue will be taken up in section 4.4.4.

provided already in the course of the previous chapters. After this brief digression, I will return to the main goals of this chapter, as outlined above.

4.1.1 German according to the aspect hypothesis

Like English and Dutch, German lacks morphosyntactic encoding of genericity. Habitual/generic statements, like the following, employ the same verbal forms as episodic sentences do.

(389) a. John ging gestern nachmittag zu Fuß zur Schule.
John went yesterday afternoon on foot to-the.DAT school
'John went to school yesterday afternoon on foot.'

b. Als Jugendlicher ging John zu Fuß zur Schule
as youngster went John on foot to-the.DAT school
'In his youth, John went to school on foot.'

(390) a. John ist gestern nachmittag zu Fuß zur Schule gegangen.
John is yesterday afternoon on foot to-the.DAT school gone
'John went to school yesterday afternoon on foot.'

b. Als Jugendlicher ist John zu Fuß zur Schule gegangen.
as youngster is John on foot to-the.DAT school gone
'In his youth, John went to school on foot.'

On the basis of the unavailability of a morphosyntactic **Gen** in German, the account developed in the previous chapter predicts German middles to be syntactically unergative, and syntactically active ONE* to be unavailable. The predictions are borne out. With respect to the latter issue, recall the ungrammaticality of *by*-phrases (even when the DP within the PP receives an 'arbitrary' interpretation):

(391) * Dieses Buch liest sich leicht von irgendwem.
this book reads REFL easily by anyone

Middles systematically pattern with unergatives and not unaccusatives. They select *haben* and not *sein*, cf. (392). Like unergatives and unlike unaccusatives, middles cannot form prenominal past participles, as seen in (393). Finally, middles disallow topicalization of the surface subject with the participle; this is only possible with derived subjects (i.e., subjects of unaccusative verbs), see (394).[5]

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[5]I refer to Cabredo-Hofherr (1997) for the application to middles of the full battery of unaccusativity diagnostics available in German, and for discussion of the results and complications.

(392)   a.   John ist/*hat zur   Schule gegangen.
               John is/has   to-the.DAT school gone

            b.   John hat/*ist gesungen.
               John has/is   sung

            c.   Das Buch hat/*ist sich   immer gut gelesen.
               the book has/is   REFL always well read-PART
               'The book has always read well.'

(393)   a.   der zerbrochene Stock
               the broken   stick

            b.   * das gesungene Kind
               the sang   child

            c.   * das sich   gut gefahrene Auto
               the REFL well driven   car

(394)   a.   Ein Stock zerbrochen hat schon einmal.
               a   stick broken   has alredy once

            b.   * Ein Kind gesungen hat schon   einmal.
               a   child sang   has already once

            c.   * Eine Kurzgeschichte gelesen hat sich   schon immer schnell.
               a   short story   read   has REFL always   quickly

The behaviour of nonargument-*sich* structures with respect to the unaccusativity diagnostics will be discussed more extensively in 4.3.

4.2   The proposal: reflexive paradigms

4.2.1 *Sich selbst* is not *zichzelf*, and *sich* is not *zich*

The aim of this section is to show that German *sich* and Dutch *zich* have different properties, due to the differing nature of the respective anaphoric system to which they belong. The account of the difference between *sich* and *zich* is provided in section 4.2.2.

    The principal difference in the anaphoric system of Dutch and German on which the approach is based is that Dutch has a complex anaphor, *zichzelf*, which German lacks. This has been noted by a number of authors, Sells et al. (1987); Fagan (1992); Safir (1996) among many others. For example, Faltz (1985) observes the contrast in

(395); (396) and (397) are provided by Reuland and Reinhart (1995) and Reuland (2000) respectively:

(395)   a. Hans sah sich   (selbst).
            Hans saw REFL SELF
            'Hans saw himself.'

        b. Jan zag *zich/zichzelf.
            Jan saw REFL/REFL-SELF
            'Jan saw himself.'

(396)   a. Max spricht über sich.
            Max speaks over REFL
            'Max talks about himself.'

        b. Max praat   over *zich/zichzelf.
            Max speaks over REFL/REFL-SELF
            'Max talks about himself.'

(397)   a. Johann haßt sich.
            Johann hates REFL
            'Johann hates himself.'

        b. Jan haat   *zich/zichzelf.
            Jan hates REFL/REFL-SELF
            'Jan hates himself.'

Whereas Dutch has to use the complex anaphor *zichzelf* with non-inherently reflexive verbs verbs like 'see', German can express the same coreference relation without the addition of SELF. Moreover, when German employs *selbst* in (395a) above, Faltz reports, the sentence "involves contrast on the object NP, whereas the Dutch sentence [in (395b)] is neutral" (Faltz, 1985, 130). For Dutch, it is the received wisdom that *zich* is used with inherent reflexives, and *zichzelf* for non-inherent reflexives (cf. Reinhart and Reuland (1993); Reuland and Reinhart (1995)), a view I will follow and elaborate on in section 4.4.5.

Steinbach (2002) provides a lengthy discussion of the anaphoric system of German and of the arguments in favour of analyzing *selbst* as a focus particle and not as part of a complex anaphor *sich selbst*. Following this author, I adopt the view that *selbst* is a focus particle. In other words, German does not possess a (grammaticalized) complex anaphor, contrary to Dutch. I will not repeat here the arguments in favour of this treatment of *selbst*, but I would like to mention another indication that suggests the nonidentity of *zichzelf* and *sich selbst*.

Since *zichzelf* is a true complex anaphor in Dutch, it is not surprising that we find it in idiomatic expressions. Although, according to Everaert (1986), most 'reflexive' idioms in Dutch employ the weak reflexive, there are some instances of idioms with *zichzelf*. The following are such cases (Everaert, 1986, 49): *zichzelf niet meer zijn* 'to no longer be oneself', *zichzelf blijven* 'to remain unchanged', *tot zichzelf komen* 'to come to', *buiten zichzelf van woede zijn* 'to be besides oneself with anger', *bij zichzelf denken* 'to think to oneself', *in zichzelf lachen* 'to laugh to oneself', *voor zichzelf beginnen* 'to go independent', *uit zichzelf naar huis komen* 'to decide to go home'. If German *sich selbst* is the counterpart of Dutch *zichzelf*, we expect that it too can partake in idiomatic expressions. However, the counterparts of the Dutch expressions given above feature anything but *sich selbst*. It seems more generally that there are no idioms containing the alleged complex anaphor. On the other hand, there do exist idioms with *sich*, as would be expected: *zu sich kommen* 'to recover', *außer sich vor Wut sein* 'to be besides oneself from anger', *außer sich geraten* 'to go wild', *bei sich denken* 'to think to oneself', *in sich lachen* 'to laugh to oneself' etc. The nonexistence of *sich selbst* idioms is somewhat mysterious on the view that *sich selbst* is a complex anaphor. On the other hand, it is entirely straightforward if *selbst* is a focus particle, since there are no idioms with focus particles. Although this is not in and of itself conclusive evidence for the claim advanced here, in conjuction with the rest of the arguments it strongly suggests that *sich selbst* is not a grammaticalized anaphor in German, in the way that Dutch *zichzelf* is.[6]

The view of the anaphoric system of German adopted here has been challenged by Reinhart and Siloni (2003), according to whom *sich selbst* is a complex anaphor, and *sich* is uniformly a marker of valency reduction, and never a locally bound anaphor. One of their arguments is typological and concerns the well-known correlation between locality of binding and morphological complexity of anaphors: the tendency crosslinguistically is for local binding to involve morphologically complex (as opposed to simplex) anaphors. However, given the other available evidence from German, the correlation cannot be absolute. In particular, we cannot overlook the wealth of empir-

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[6]Safir (1996) claims that "in German it would appear that the word for SELF, *selbst*, is derived from the word for SAME, *selbe*, while in Dutch it would appear that the word for SAME, *zelfde*, is derived from the word for SELF, *zelf*" (Safir, 1996, 555). No evidence is offered in favour of this claim. However, if it can be demonstrated to be true, it provides another indication that the expression *sich selbst* in German is not identical to Dutch *zichzelf*.

ical arguments offered by Steinbach (2002) that *sich* can be a locally bound anaphor, as well as a marker of valency reduction. I repeated above the core data which show that its syntactic behaviour varies accordingly: on its argument guise, i.e. when it is a locally bound anaphor, *sich* can be co-ordinated, topicalized, and focused, all of which is impossible when *sich* functions as a nonargument. If *sich* were indeed uniformly a marker (in particular, a Case-reducer, as Reinhart and Siloni (2003) argue), co-ordination, topicalization and focusing should be impossible across the board, contrary to fact.[7]

It is quite telling that Reuland and Reinhart (1995) in effect grant *sich* the status of *zichzelf*. The possibility of omitting *selbst* in examples like (395)–(397) led Reuland and Reinhart (1995) to propose that German *sich* can have the status of a complex anaphor, comparable to *zichzelf*. The structures the authors propose for pronouns and weak and strong reflexives in general appear in (398). The assumption is that only the head of NP can bear stress.

(398) a. [$_{NP}$ Pronoun/SE [$_{N'}$ e]]

 b. [$_{NP}$ e [$_{N'}$ SELF]]

 c. [$_{NP}$ Pronoun/SE [$_{N'}$ SELF]]

Transposed to Dutch, this system gives us the following:

(399) a. [$_{NP}$ zich [$_{N'}$ e]]

 b. [$_{NP}$ zich [$_{N'}$ zelf]]

For German, the proposal is that *sich* can occupy two structural positions, either the one corresponding to *zich* (the determiner of NP), or the one corresponding to *-zelf* (the head of NP).

(400) a. [$_{NP}$ sich [$_{N'}$ e]]

 b. [$_{NP}$ e [$_{N'}$ sich]]

The claim is that (400b) only obtains in cases of structural case, where the empty determiner position can be properly case-marked. Moreover, the structures are taken to reflect the distinction that these authors posit between stressable and unstressable

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[7]Reinhart and Siloni also raise the issue of dative *sich*, on which see Steinbach (2002) for a refutation of the claims advanced in Reinhart and Reuland (1993); Reuland and Reinhart (1995). See also footnote 8.

sich. When the reflexive is the head of NP, it is capable of bearing stress, and when it occupies the determiner portion, it is necessarily unstressed.[8]

On the basis of the above, and the observation (due to Everaert (1986)) that *zichzelf* can but *zich* cannot be stressed or topicalized, Reuland and Reinhart (1995) claim that the contrast found in Dutch between *zich* and *zichzelf* surfaces in German as the contrast between unstressed and stressed *sich* respectively. Specifically, the claim is that stressed *sich* occurs in German whenever in Dutch we would have *zichzelf*, and unstressed *sich* appears in cases corresponding to those featuring *zich*. As we have seen already, nonargument *sich* (i.e. *sich* that appears with inherent reflexives, middles and anticausatives) cannot be stressed or topicalized, and so qualifies as an instance of unstressable *sich*. We therefore expect to find *zich* in the corresponding contexts, but this expectation is not met. Out of the aforementioned structures, *zich* 'adorns' only inherent reflexives.

4.2.2   The organization of reflexive paradigms

As soon as one acknowledges that *sich selbst* is not the counterpart of *zichzelf*, it becomes less clear that one really expects *sich* and *zich* to be identical. In fact, as suggested by the above considerations, and as will be further demonstrated in the following sections, *sich* and *zich* are quite different. In this section, I examine what the source of this difference is, and in particular I focus on the way in which reflexive paradigms are structured. My aim is to motivate a correlation between the different status of 'simplex' anaphors like *zich* and *sich* and the (non)existence of a complex anaphor in the pronominal paradigm. This will provide the backbone for my main claim in this chapter, which appears summarized in (401):

(401)   a. *Sich* can be an argument or a marker of valency reduction.

         b. *Zich* can only be an argument.

I should stress that the claims advanced in this chapter concern the so-called nonargument uses of reflexive elements. In other words, I will not be concerned with occurrences of the reflexives in indisputably argument positions, such as subjects of complements to

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[8]According to Steinbach (2002), this is actually not true. Reuland and Reinhart (1995) claim that noninherent dative *sich* should always occupy determiner position, which in turn forces *selbst* in the head position. Since determiner position is tied to the impossibility of bearing stress, this type of *sich* should not be stressable without *selbst*. Steinbach provides data that disconfirm this prediction.

ECM predicates, or complements to prepositions. My proposal is in line with the claims made by Sells et al. (1987) about German and Dutch 'weak' reflexives. These authors have claimed for German nonargument *sich* that it does not contribute a syntactic object, and concluded that "the Dutch *zich* differs from the English reflexive in being semantically intransitive (closed), yet transitive in lexical and constituent [syntactic (ML)] structure" (Sells et al., 1987, 184).

According to (401), the relevant instances of *zich*, (i.e. its purported nonargument use) are syntactically transitive. German *sich*, on the other hand, in some cases contributes a syntactic object, and in others it indicates argument structure manipulation; a more precise characterization of nonargument *sich* will be given in section 4.3. Whether or not both possibilities are available for a given anaphor depends on the structure of the paradigm to which it belongs. I will apply Pinker (1984)'s proposal for the principles governing the acquisition of inflectional paradigms to the way in which reflexive paradigms are structured, relatively to the availability of certain distinctions.

The gist of the proposal I will outline here is that the difference between Dutch *zich* and German *sich* reduces to the distinction between a pronominal paradigm that has and a pronominal system that lacks the dimension [+/–Inherently Reflexive], for which I will use the shorthand [+/–Inh.Refl.]. The existence of *zichzelf* in Dutch means that the Dutch paradigm instantiates the dimension [+/–Inh.Refl.]. The lack of a complex anaphor in German means that the system lacks this dimension. The only dimension that exists in German is [+/–Reflexive], which I abbreviate as [+/–Refl.]. I will assume that if an element has a specification for the 'feature' [inh.refl.], negative or positive, it will be restricted to argument positions. In other words, this feature can only apply to argument reflexives, and not to nonargument reflexives, viz. to markers of derived intransitivity. This means that a paradigm in which the dimension [+/–Inh.Refl.] is realized cannot contain any elements that are non-referential, i.e. that can be used as markers of valency reduction. This is a plausible assumption to make, in view of the nature of inherent reflexivity, which I discuss more extensively in section 4.4. There I will argue that inherent reflexivity, i.e. an obligatory coreference relation, amounts to the lack of alternatives to the value denoted by the anaphor. This may be enforced either lexically, as in the case of verbs like *zich schamen*, 'to be ashamed', or contextually, as in the case of verbs like *wassen*, 'wash'. Since the notion of inherent reflexivity implicates (the potential for alternatives to) coreference, it seems plausible to associate it with true anaphors, i.e. argument reflexives, and not with markers of

arity operations, which arguably have no reference.

Let us start with the simplest of paradigms, the one in which no weak reflexive exists. Afrikaans and Frisian instantiate this case. Table 4.1 depicts the pronominal system of Afrikaans. For the sake of convenience, I only give the masculine form of the third person.

	Nominative	Accusative
1	ek	my
2	jy	jou
3	hy	hom
1	ons	ons
2	julle	julle
3	hulle	hulle

Table 4.1: Afrikaans pronominal system

Since there exists no weak reflexive in the language, the system remains as such, and the personal pronouns will not be used as markers of derived intransitivity, but will be restricted to argument positions. The generalization for this type of paradigm which lacks the +/–Reflexive dimension is that the elements in it will always appear in argument positions. This is what happens in Afrikaans and Frisian, as I show in section 4.5.[9]

Now consider what happens in languages which have a (weak) reflexive anaphor. A reflexive anaphor for third person (singular and plural) expands the paradigm by importing an additional dimension, namely reflexivity. This is the situation in German, as depicted in table 4.2 (cf. Steinbach (2002)).

In the absence of reflexive anaphors for first and second person (singular and plural), the personal pronouns are 'dragged along', in that they too acquire the potential of being locally bound by a co-argument (and be thus put to a reflexive use). The paradigm has no [Inh.Refl] dimension, hence nothing excludes both *sich* and the elements in adjacent cells, namely the personal pronouns, from functioning as nonarguments, i.e. as markers of valency reduction, in addition to appearing in argument positions. That it is not only *sich* but personal pronouns as well which have a double

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[9]I am glossing over a fact about the pronominal system of these languages which I will return to shortly.

	Nominative	Accusative	
		-Refl	+Refl
1	ich	mich	
2	du	dich	
3	er	ihn	sich
1	wir	uns	
2	ihr	euch	
3	sie	sie	sich

Table 4.2: German personal and reflexive pronouns

(argument/nonargument) life seems to be true. As observed by Plank (1993), in middles with first and second person subjects the reflexive as a 'marker' agrees with the subject in person and number:

(402) Du   ziehst   dich/   *sich schwieriger an   als   dein Bruder.
       you-NOM dress-2SG youACC.2SG/ REFL harder   PTL than your brother
       'You are harder to dress than your brother.'

Inherent reflexives pattern the same way, and so do anticausatives, although it is extremely difficult to make sure we are actually testing anticausatives and not their transitive, argument reflexive variant. Therefore, in this kind of paradigm, which has the [+/–Refl.] dimension but lacks a further specificification for that dimension, namely [+/–Inh.Refl.], the elements in it are able to surface both as arguments and as markers of arity operations.[10]

In Dutch there is another element in the paradigm, namely *zichzelf*. Complex anaphors of the *-zelf* type are obtained by adding the SELF morph to the weak pronoun. The dimension that SELF adds to the paradigm of Dutch is [+/-Inh.Refl.]. First and second person weak pronouns now become more specified: in nonreflexive contexts, they are canonical personal pronouns. They surface with inherently reflexive predicates, but with noninherently reflexive predicates they require the addition of *zelf*. *Zich* only occurs with inherently reflexive predicates. As mentioned already and as will

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[10]Strictly speaking, therefore, the term 'reflexive' is not entirely appropriate for the dimension in this kind of paradigm, which subsumes two different functions: canonical reflexivity and also marking of valency reduction. We could refer to this dimension as [Refl$^+$]. I will retain the term 'reflexive', in the hope that the discussion makes it sufficiently clear that [Refl] designates [Refl$^+$] in a paradigm with no [Inh.Refl.].

be elaborated in section 4.4, inherent reflexivity amounts to an obligatory coreference relation; *zich* surfaces in cases where no alternatives to its value exist. The relevant parts of the Dutch system are given in table 4.3.

	-Reflexive	+Reflexive,+Inherent	+Reflexive,–Inherent
1	me	me	mezelf
2	je	je	jezelf
3	'm	zich	zichzelf
1	ons	ons	onszelf
2	jullie	je	jezelf
3	ze	zich	zichzelf

Table 4.3: Dutch accusative personal and reflexive pronouns

In this type of paradigm, which possesses the dimension [+/–Inh. Refl.], the distribution of the elements in it is restricted to argument positions. Recall that I am assuming on the basis of the nature of inherent reflexivity that the feature [inh.refl.] only makes sense if it appears on referential elements, i.e. elements that do not double as markers of reduced adicity.[11]

I repeat the main claim I am making about the discrepancy between Dutch and German (weak) reflexives in (403). The approach outlined in this section has sought to derive the generalizations in (403) on the basis of the nature of the anaphoric systems to which the elements in question belong.

(403)   a. *Sich* can be an argument or a marker of valency reduction.

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[11]Peter Ackema (p.c.) raises the following question. The specification given in table 4.3 for *zich* and for *zichzelf* suggests that *zich* is more marked in terms of features than *zichzelf* is. For one thing, this contradicts the anaphors' morphological shape, according to which it is the complex anaphor that is more marked. Note that this reasoning is based on the notion of iconicity, to which counterexamples are known to exist (see for instance Spencer (1991) for discussion). Note also that this problem can be bypassed, if instead of [+/–Inh.Refl.] we use something like [+/–Alternatives]. Ackema also points out that, as things are now, *zichzelf* is a kind of Elsewhere form, which invites the question of why it cannot occur with middles. This is taken care of by the assumption I am making, that specification for [inh.refl.] only occurs on argument reflexives. This assmption would still be required to answer the same question for *zich* this time, if we chose to use [alternatives] as the relevant feature on the anaphors, instead of [inh.refl.]. Finally, I would like to point out that there is evidence from acquisition that *zich* may be semantically more complex than *zichzelf*: as discussed by Ruigendrijk et al. (2002) and Baauw et al. (2004), Dutch children have a lot more problems with *zich* than they do with *zichzelf*.

      b. *Zich* can only be an argument.

(403) relates in an obvious way to our initial question, namely the difference between German and Dutch middles: the only flavour of a reflexive that we can get in middles is the nonargument one, which is only available in German. Therefore Dutch middles cannot feature *zich*. Because anticausatives too are taken to be the output of an arity operation (albeit a different one), the approach developed in this section makes predictions with respect to whether or not they too will feature a nonargument reflexive. All three predictions generated by the analysis are summarized immediately below:

(404)   If REFL occurs with middles, then no SELF-anaphor exists in the language.

(405)   If REFL occurs with middles, then REFL occurs also with anticausatives (more generally than not).

(406)   Personal pronouns can only appear with middles or anticausatives in certain kinds of paradigms, namely the ones that lack the [Inh.Refl.] dimension. In the complement set of these paradigms, personal pronouns in middles and anticausatives are illicit.

I am now in a position to be more accurate about Frisian and Afrikaans, which are relevant for the prediction in (406). I claimed earlier that these languages have the poorest of paradigms, in that they lack the [Refl] dimension. This is not in fact true; there exists a complex, SELF-anaphor in Frisian and in Afrikaans. Moreover, the dimension [Inh.Refl] is presumably also instantiated: bound personal pronouns are used with inherently reflexive predicates while with noninherently reflexive verbs addition of SELF is required. But this makes no difference with respect to the predictions about these languages. Since the Afrikaans/Frisian paradigm looks essentially like the Dutch one, modulo the lack of *zich*, the elements in it can only appear in argument positions, i.e. they cannot be used as markers of reduced adicity.

There is independent support in favour of the correlation in (404), which comes in the form of a seemingly mysterious correlation between the occurrence of reflexives in middles and their ability to support reciprocal readings. It has been brought to my attention by Maaike Schoorlemmer (personal communication) that there exists an empirical generalization, to the effect that, in a language which employs a reflexive in middles, the reflexive can be interpreted as a reciprocal. Dutch middles don't feature *zich*, and Dutch *zich* cannot be interpreted as a reciprocal (even though it can take

plural antecedents). German *sich* can be reciprocal, and it also appears with middles. I state the generalization in (407), where REFL stands for reflexive element:[12]

(407)   *Schoorlemmer's Generalization*

If REFL occurs in middles, then REFL can be interpreted as a reciprocal.

But why should such a correlation exist? It would seem that what lies behind (407) is something like the following: for an anaphor to be able to occur on the middle interpretation of the predicate, it has to be sufficiently bleached of semantic content, i.e. be maximally underspecified with respect to its featural make-up. In that case, it will also apparently be sufficiently underspecified so as to be compatible with a reciprocal reading. This may rightly seem hopelessly vague, but in fact the correlation is much less mysterious, and it can be made to follow from the paradigm-approach. I will now show that the feature with respect to which a middle-/reciprocal-reflexive needs to be underspecified is [Inh.Refl], just as the approach outlined above predicts.

Consider the following observation, due to Safir (1996) (where SIG stands for the 'weak' reflexive in Germanic and Mainland Scandinavian):

(408)   *Safir's Generalization*

SIG-type atoms may be interpreted as reciprocals only if the SIG-type atom is bound locally by a coargument of a non-inherently reflexive predicate. (Safir, 1996, 567)

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[12]Romance reflexive clicics also comply with (407), but there are significant differences between the latter and German *sich*, which disallow treating them on a par, which is what Reinhart and Siloni (2004); Reinhart (2003) essentially propose. First, there is a difference in the status of the two reflexives: *se* is a clitic, *sich* is not. This could in fact be the basic difference which is responsible for the rest. Second, *se*-structures select 'be', *sich*-sentences select 'have'. Third, as shown by Labelle (1992), *se*-anticausatives pattern with unaccusatives and 'plain' anticausatives behave as unergative. As we will see in the following section, the converse is true of German: reflexive anticausatives are unergative, 'plain' anticausatives are unaccusative. Four, there is no passive *sich*; if German and French pattern together, why do reflexive passives exist only in French but not in German? Quite independently of these syntactic differences, the reflexive paradigm of e.g. French is quite similar to the German one, in that there does not exist a complex anaphor that relates to *se*. See Zribi-Hertz (1995) for discussion of *lui-même* (the apparent equivalent of a SELF-anaphor in French) and Safir (1996, 2004) for the differences between the atoms SAME and SELF. Finally, one of the acquisition studies mentioned in the previous footnote, Baauw et al. (2004), brings to the fore the contrast between the acquisition of Dutch and Spanish reflexives. Dutch children face problems with *zich*, but Spanish children have no problem with *se*. It is *si mismo* (the purported complex anaphor) that is more problematic for them. Baauw et al. point out that *si mismo* is already very infrequent in adult language.

I read (408) as a necessary and sufficient condition on reciprocal interpretations of weak reflexives. In other words, according to (408), if a language has an anaphor designated for inherent reflexives, it will not be used as a reciprocal. The generalization can be made to follow from the logic of reciprocity and inherent reflexivity. Recall that inherent reflexives are predicates which impose an obligatory coreference relation on their arguments: they are obligatorily reflexive verbs. Reciprocity, on the other hand, by definition requires the existence of alternatives (in other words, the possibility of a non-covaluative relation). It follows that if an anaphor is restricted to contexts of inherent reflexivity, it will be unable to convey a reciprocal interpretation. This is the situation with *zich*: since it occurs in contexts where no alternatives to a coreference relation are available, *zich* cannot convey a reciprocal interpretation.[13]

The combination of (407) and (408) yields the following: a reflexive will be employed in middles if it is not restricted to contexts of inherent reflexivity. The correlation can be derived on the approach defended here. in the following way. A [+Inh.Refl.] anaphor necessarily stands in a paradigmatic relation with a [–Inh.Refl.] anaphor. This is the situation in Dutch, where the dimension of (non)inherent reflexivity distinguishes between the two anaphors, *zich* and *zichzelf*. But specification for [+/–Inh.Refl.] can only occur on referential elements, hence the paradigm disallows the anaphors that have a value for this feature to serve as valency reduction markers. Hence their occurrence in middles will be illicit. German lacks a complex anaphor and the relevant dimension, which means that *sich* is not restricted to argument positions and can thus function as a valency reduction marker. And since *sich* is not specified for [Inh.Refl], it is compatible with a reciprocal interpretation.

The remainder of this chapter contains the empirical evidence from Germanic concerning the predictions generated by this approach, in particular the ones in (405) and (406), and moreover the arguments in favour of the second part of (403). In section 4.3, I examine nonargument *sich* and propose a characterization of it which can generalize over all of its instances. In section 4.4 I turn to Dutch and I demonstrate that there is no nonargument *zich*. The prediction in (406) is examined in section 4.5.

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[13]This observation has already been made by Everaert (1986, 94) for Romance. Namely, Everaert notes that only noninherently reflexive verbs allow a reciprocal interpretation in French. His explanation for this also employs the conflicting semantic requirements of inherent reflexivity and reciprocity, although his view on the syntax of inherent reflexives is different from the one developed here.

4.3   German *sich*

As stressed already, German *sich* can function as a canonical argument, cf. the examples in (409), where *sich* receives the internal theta-role. In addition, *sich* can be governed by a preposition, or an ECM-verb, again much like a canonical argument, cf. (410):

(409)   Hans sah/hört/haßt   sich.
        Hans saw/hears/hates SICH
        'Hans saw/hears/hates himself.'

(410)   a.   Max spricht über sich.
           Max speaks over REFL
           'Max talks about himself.'

        b.   Max hört sich   singen.
           Max hears REFL sing-INFIN
           'Max hears himself sing.'

I will have nothing particular to say about argument *sich*. My proposal concerns instances of the nonargument reflexive, as it appears in examples like (411), namely with inherent reflexive, anticausative and middle verbs. My proposal for these cases appears in (412):

(411)   a.   Hans schämt sich.
           Hans shames REFL
           'Hans is ashamed.'

        b.   Der Stock biegt   sich.
           the stick   bends REFL
           'The stick bends.'

        c.   Das Buch liest   sich   leicht.
           the book reads REFL easily
           'The book reads easily.'

(412)   Nonargument *sich* marks the externalization of the internal theta role.[14]

In what follows I show that (412) can successfully generalize over all occurrences of nonargument *sich*. The main evidence in favour of (412) is that inherent reflexives, middles and anticausatives alike feature a base-generated subject, as indicated by their behaviour with respect to the unaccusativity diagnostics. Recall that middles have

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[14]The statement in (412) owes much to Steinbach (2002). I will discuss his account at the end of this section.

already been shown to fail these diagnostics. In the following sections, I will show that the same holds of reflexive anticausatives and inherent reflexive predicates. In other words, German *sich* indicates (or instigates) violations of the UTAH: the internal (Patient/Theme) argument projects directly to the subject position, and does not surface there via movement from the complement position.

4.3.1 Anticausatives

German has two kinds of anticausatives, those which feature the reflexive, and those which do not. In this respect, German is not unlike Greek (Alexiadou and Anagnostopoulou, 2004), French (Labelle, 1992) or Italian (Folli, 2002).

(413) Der Stock biegt *(sich).
      the stick bends REFL
      'The stick bends.'

(414) Die Vase zerbricht (*sich).
      the vase breaks   REFL
      'The vase breaks.'

Reflexive anticausatives are apparently the predominant way of reducing the basic verb's external theta role; 'plain' anticausatives are significantly fewer than reflexive anticausatives. Moreover, newly-coined anticausatives in German, i.e. reduced forms of transitive verbs such as *digitalisieren*, 'digitalize', and *html-isieren*, '*html*ize', employ *sich*.[15] A crucial difference between plain and reflexive anticausatives is that only the former pass the unaccusativity diagnostics. Formally reflexive anticausatives in German are unergative.[16]

First, 'plain' anticausatives select *sein*, 'be'; reflexive anticausatives select *haben*, 'have'.

(415) Die Vase ist/*hat zerbrochen.
      the vase is/has   broken

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[15]I thank Florian Schäfer for supplying the data for these two observations in a personal communication. The issue of what sets the two ways of forming anticausatives apart is especially thorny, and has not been investigated thoroughly thus far, especially from a cross-linguistic point of view. Schäfer (2003) shows that aspectual differences that have been observed for other languages—French, Italian, Greek—between plain and marked anticausatives are not at play in German.

[16]Recall that Labelle (1992) has shown that exactly the opposite is going on in French anticausatives. This is an important way in which German *sich* is different from French *se*, as mentioned in footnote 12.

(416) Der Stock hat/*ist sich   gebogen.
       the stick has/is   REFL bent

Second, only past participles of 'plain' anticausatives can be used as prenominal modifiers; past participles of reflexive anticausatives as prenominal modifiers are ilicit. This, again, indicates that the former are syntactically unaccusative, and the latter unergative.

(417)   * der sich   gebogene Stock
         the REFL bent   stick

(418)   die zerbrochene Vase
           the broken   vase

Finally, topicalizing the surface subject with the past participle yields an almost perfect sentence if the verb does not feature *sich* and ungrammaticality if it does:

(419)   ? Eine Vase zerbrochen ist mir   schon   einmal (in der Küche).
           a   vas brocken   is me-DAT already once   in the kitchen

(420)   * Ein Stock gebogen hat sich   während des   Sturms.
           a   stick bent   has REFL during   the-GEN storm

This evidence suggests that reflexive anticausatives are syntactically unergative, in other words, they involve an internal argument base-generated in syntactic subject position. This follows from the proposal in (412), repeated below as (421).

(421)   Nonargument *sich* marks the externalization of the internal theta role.

4.3.2   Inherent Reflexives

We now turn to inherent reflexives. Contrary to unaccusatives and similarly to unergatives, inherent reflexives select *haben* and not *sein*, cf (422). Moreover, topicalization of the subject with the past participle is impossible, witness (423):

(422)   Hans hat/*ist sich   geschämt.
           Hans has/is   REFL shamed
           'Hans was ashamed.'

(423)   * Ein Kind geschämt hat sich   noch nie.
           a   child shamed   has REFL yet   never

A final piece of evidence that inherent reflexives are unergative and not unaccusative is the fact that they can undergo impersonal passivization (Sells et al., 1987; Plank, 1993). Since this process is only possible for unergative verbs, inherent reflexives cannot

be derived by unaccusative-type reduction, and they are not syntactically transitive (cf. Steinbach (2002)):

(424) a. Es wurde sich geschämt.
           it was   REFL shamed
           'People were ashamed.'

       b. Hier wird sich   täglich gewaschen.
           here is   REFL daily   washed
           'One washes oneself daily here.'

           (Plank, 1993)

       c. Es wurde sich um die alten Leute gekümmert.
           it was   REFL of the old   people care-taken
           'One took care of the old people.'

           (Schäfer, 2004)

       d. Es wurde sich   auf den Fußboden gesetzt.
           it was   REFL on the floor   sat
           'People sat on the floor.'

           (Schäfer, 2004)

The class of formally reflexive verbs that can undergo impersonal passivization is as yet not well defined. Schäfer (2003) suggests that the correct characterization of the set of elibigle verbs involves 'medial verbs' in the sense of Kemmer (1993), as long as their subject can be interpreted as agentive (see also Agel (1997)). According to Kemmer (1993, 58), medial (or middle) verbs are "semantically intermediate between true reflexive events and prototypical one-participant events. [...] Inherent in their meaning is the lack of expectation that the two semantic roles they make reference to will refer to distinct entities". This is compatible with the notion of inherent reflexivity that will be formulated in section 4.4.5.

If the restriction on agentivity accurately describes what constrains German impersonal passivization, we can explain why middles and anticausatives cannot undergo this process, even though I have been arguing that they are unergative: their subjects are never Agents (even animate ones). In Dutch it seems that impersonal passivization applies more freely, and that the relevant restriction is that the suppressed argument be merely animate. The reasons to suspect this are the following. According to Ackema and Schoorlemmer (1995), middles with animate subjects can marginally undergo impersonal passivization in Dutch, as in the following examples (Ackema and Schoorlemmer, 1995, 193):

(425) Er   wordt hier over her algemeen niet gemakkelijk omgekocht.
       there is   here over the general   not easily   bribed

(426) Er   wordt lekker makkelijk gewogen vandaag; het zijn allemaal dikzakken.
       there is   pretty easily   weighed today   it   are all   fatsos

That Dutch impersonal passivization can target nonagentive animate arguments more generally is also suggested by the possibility of the nonagentive unergative verb *rondhangen*, 'to hang around', to passivize:

(427) Hier wordt te   veel rondgehangen.
       here is   too much around.hung
       'People hang around too much here.'

The verb *rondhangen* is considered nonagentive by Everaert (1986) because it cannot be embedded under the causative verb *laten*, cf. (428); its unergativity is supported by the fact that it selects *hebben*, see (429), and that its past participle cannot appear as a prenominal modifier, cf. (430):

(428) a.   Jan laat Piet werken.
             Jan lets Piet work-INFIN
             'Jan has Piet work.'

       b. * Jan laat Karel rondhangen.
             Jan lets Karel hang.around-INFIN
             'Jan has Karel hang around.'

(429) Jan   heeft/*is hier jarenlang rondgehangen.
       John has/is   here years.long around.hung
       'John has been around here for years.'

(430) * de rondgehangen man
         the around.hung   man
         'the man who has been around'

It seems therefore that impersonal passivization is indeed possible with nonagentive predicates in Dutch, as long as they are unergative. This explains why it is possible with middles, contrary to what we have seen for German, where the process applies less freely, in particular only to agentive unergative verbs.

To sum up, in this section we have seen that the proposal in (412), repeated again as (431), makes the right predictions also for inherent reflexives in German, which are as predicted unergative.

(431) Nonargument *sich* marks the externalization of the internal theta role.

This view of nonargument *sich* is very similar to the one proposed by Steinbach (2002), although there is at least one important difference. Steinbach claims that both argument and nonargument *sich* are syntactically objects of the verb, and that therefore any structure featuring the reflexive is transitive in the syntax. The proposal that *sich* is syntactically an object predicts that it should pattern with objects with respect to the relevant diagnostics. At least with respect to impersonal passivization, the prediction is not borne out.[17] Specifically, the fact that certain *sich*-verbs can undergo this process—whatever the exact delimitation of the group of verbs is—is a severe problem for this account. If all *sich*-sentences were transitive, we would expect none of them to be passivizable, which we have just seen is not the case. (In fact Steinbach argues that inherent reflexives are inherent anticausative verbs, i.e. they are derived by unaccusative-type reduction applied to an abstract transitive entry, which again disqualifies them as candidates for impersonal passivization.)

By contrast, my proposal in (431) does not entail that nonargument *sich* is an accusative object. The proposal is that this flavour of *sich* indicates (or enables/instigates) the assignment of an internal thematic role to the external position. The prediction is for all instances of nonargument *sich*-verbs to be unergative. This, as we have seen, is supported by the behaviour of these verbs with respect to the unaccusativity diagnostics. The fact that one unergativity test, viz. impersonnal passivization, only applies successfully to a subset of these verbs, namely agentive medial/inherently reflexive verbs, and not to middles or anticausatives, is explainable on the basis of the restriction that the process may only target arguments that can be interpreted agentively.[18]

There are at least two conceivable alternative analyses of nonargument *sich*, which I would like to briefly consider now before moving on. One could characterize nonargument *sich* as a marker of manipulation of the external argument, either by reduction, which would result in the anticausative output, or by saturation, which would give the middle. What would be solved immediately on this view is the case of impersonal

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[17]In addition, see the discussion in Cabredo-Hofherr (1997), where the conclusion is at least for middle *sich* that it does not behave as a syntactic object.

[18]In fact Steinbach discards the validity of the unaccusativity diagnostics, and the very relevance of a syntactic distinction between unergative and unaccusative, at least for German (see also Fagan (1992)). But this leaves the syntactic facts reported in this section unaccounted for. See Ackema and Schoorlemmer (1994) for a critical examination of Fagan's arguments, and also the critique of Steinbach (2002) in Ackema and Schoorlemmer (2004).

middles, which are derived from an unergative verb, and which feature *sich*. Since there is no internal argument in the base entry, impersonal middles are a problem for (431), but not for this view of nonargument *sich*: what *sich* does in this case is mark (or effect) the saturation of the external argument.[19]

Although this approach succesfully addresses a problem that I will have to leave unsolved for now, it raises several others. First, the derivation of formally reflexive verbs on this approach is not entirely straightforward. It is not clear how the presence of nonargument *sich* (wherever it is situated precisely) blocks the base-generation of the subject-DP in object position. Furthermore, this approach requires essentially positing two distinct *sich*'s: one which is associated with internal theta roles, the argument reflexive, and one which is related to the external theta-role, the reflexive as a 'marker'. The chasm between the two 'kinds' of *sich* is too deep to allow a unification. In fact, it seems unlikely that nonargument *sich* can be exhaustively characterized as associating with the external argument, because of inherently reflexive verbs, which arguably do not involve manipulation of the external argument, or the data from impersonal passives cannot be accounted for. Finally, it is not clear why canonical passive structures employing *sich* are not possible. If the reflexive is really a passivizer of sorts, given its association with the external theta-role, then it is mysterious why it can't give us passives. In view of these considerations, this way of analyzing the nonargument reflexive in German must be dispreferred.

Finally, one could argue that nonargument *sich* is in fact itself assigned the internal theta-role, and transmits it to its binder, the syntactic subject; no violation of UTAH arises, as the internal theta role is assigned canonically to the object position. This solution, however appealing it may seem, makes it impossible to accomodate the data from Dutch, to which we now turn.

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[19]Although I cannot say much about this problem at this stage, the following possibilities come to mind. One could assume that intransitives are really transitive, à la Hale and Keyser (1993), although it is not clear that this would get the semantics of impersonal middles right. There might be a different way to reconcile impersonal middles with what we have said about nonargument *sich*. Given the analysis of *het* as an argument by Bennis (1987), which I mentioned in chapter 2, this pronoun can be associated with other material, the PP in our case. The reflexive could still indicate the externalization of an internal theta role (assigned to *es*), especially given that Ackema and Schoorlemmer (1994) have analyzed adjunct middles as involving the promotion (through an applicative-like process) of a DP from within an argumental PP.

4.4 Dutch *zich*

It is undisputable that the Dutch weak reflexive *zich* can occupy a thematic position, as witnessed by well-known examples like the ones below:

(432) Jan voelde zich   wegglijden.
       Jan felt   REFL slide away
       'Jan felt himself slide away.'

(433) Jan keek   achter zich.
       Jan looked behind REFL
       'Jan looked behind him.'

The question that I will be concerned with is whether *zich* can *only* occupy a thematic position. In other words, can (the relevant occurrences of) *zich* be analyzed as a nonargument, similarly to German *sich*? In section 4.2, I claimed that the answer to this is negative, due to the nature of the paradigm in which *zich* belongs. Recall that one of my main claims about Dutch is the following:

(434) *Zich* can only be an argument.

If *zich* is not restricted in the way stated by (434), and can be a valency-reduction morpheme, it is entirely mysterious why it cannot mark the effects of middle-saturation and unaccusative-reduction and only surfaces with inherent reflexive verbs:

(435) Hans schaamt zich.
       Hans shames   REFL
       'Hans is ashamed.'

(436) * Het metaal buigt zich   onder grote druk.
         the metal   bends REFL under great pressure
         'The metal bends under great pressure.'

(437) * Dit boek leest zich   makelijk.
         the book reads REFL easily
         'The book reads easily.'

In this section I will provide empirical evidence that there is no nonargument *zich*. To this effect, I will argue that cases that have been analyzed as involving a 'valency reduction' *zich* in fact involve transitive syntax.

The claim that *zich* marks reduced verbal entries and that its syntax is concommitantly unaccusative has been defended mainly by Everaert (1986). Strictly speaking, it would be inaccurate to attribute to Everaert the view that *zich* is a voice-marker of

sorts (but see Everaert (2002) and Reinhart (2003)). Everaert's analysis is based on the idea that the weak reflexive rescues the derivation from an ECP violation, which would arise if the trace of NP-movement from object to subject position failed to be properly governed. *Zich* is thus taken to signal unaccusativity in that, whenever it occurs, there has been A-movement to the subject position. However, as we will see presently, *zich*-verbs systematically fail the unaccusativity diagnostics. The data that casts doubt on their unergativity can be explained either on independent grounds, or on the basis that the sentences are transitive.

4.4.1 Everaert's (1986) terminatives

In Dutch, addition of the prefixes *ver-* or *over-* (or of the particle *in*) to unergative verbs makes the presence of *zich* obligatory, cf. (438) and (439). When the original verb is transitive, its direct object becomes an optional prepositional phrase, cf. (440). (Examples are from Everaert (1986).)

(438) a. Hij eet/werkt/schreeuwt.
he   eats/works/shouts.

b. Hij overeet/overwerkt/overschreeuwt zich.
he   overeats/overworks/overshouts   REFL
'He overeats/overworks (himself)/strains his voice.'

(439) a. Hij spreekt/slikt/rijdt.
he   speaks/swallows/drives

b. Hij verspreekt/verslikt/verrijdt   zich.
he   mis-speaks/mis-swallows/mis-drives REFL
'He makes a slip of the tongue/chokes/takes a wrong turn.'

(440) a. Eva at de appel.
Eva ate the apple

b. Eva overat zich   aan de appels/*de appels.
Eva overate REFL on   the apples/the apples
'Eva gorged herself on the apples.'

As Everaert concedes, *ver-* and *over-* are transitivizing prefixes, and it is therefore hardly surprising that an additional argument becomes obligatory. *Zich* is, in this case, a regular object. But what led Everaert to argue that such cases are unaccusative? Note that *zich*-verbs select *hebben*, 'have', and not *zijn*, 'be', contrary to what an unaccusative analysis of such verbs predicts.

Everaert notes that *zich*-verbs, for example 'terminatives' like (442a) and inherent reflexives like (442b) pattern with unaccusatives in disallowing *-er* affixation:

(441)   a.   de werker
              'the worker'

         b.   de eter
              'the eater'

         c.   * de ontganer
              'the escaper'

(442)   a.   * de (zich) overeter
              'the overeater

         b.   * de (zich) vergisser
              'the forgeter'

However, it is possible to attribute the incompatibility of formally reflexive verbs with *-er* affixation with recourse to the *i-within-i* condition (Chomsky, 1986, 174) which states that the coindexation in (443) is illicit. *Er*-affixation based on *zich*-verbs fails, because it corresponds to the ilicit (referential) coindexing in (444a), whereby the reflexive and the NP/DP within which it is embedded have the same reference. (444b) is ungrammatical for the same reason:

(443)   * $[_i...\alpha_i...]$

(444)   a.   * $[_{NP} [_{VP}$ zich$_i$ wass$]$ -er$]_i$

         b.   * $[_{DP}$ een [wasser van zich$_i$]]$_i$
              a   washer of   ZICH

The second argument Everaert brings forward in favour of an unaccusative analysis of *zich*-verbs is their inability to undergo impersonal passivization. Given the aversion of unaccusatives vis-à-vis impersonal passivization, one explanation for this is that *zich*-verbs are unaccusative:

(445)   * Er   wordt gevallen.
         there was   fallen

(446)   Er   wordt gerend.
         there was   run

(447)   Er   wordt gegeten.
         there was   eaten

(448)   * Er   wordt zich   overeten.
          there was   REFL overeaten

(449)   * Er   werd (zich) vergist.
          there was   REFL forgotten

There is, however, a different explanation of the data above. It is not only unaccusatives, but transitives as well that fail to undergo this process. An analysis of *zich* as occuring in the object position would explain the impossibility of impersonal passives just as well.

   In all, there are no convincing arguments in support of *zich* as an unaccusativity inducing (or signaling) morpheme. The data which were offered as evidence of *zich*-verbs being unaccusative are entirely compatible with the proposal that *zich* is an argument. In the following subsections, I look at more environments which feature *zich*, and which have been analyzed as involving derived unaccusative verbs.

4.4.2   Everaert's (1986) inchoatives

Consider the following instances of *zich*, which occur in what looks like the anticausative counterpart of a causative verb:

(450)   a. Hij verspreidde het gerucht.
            he spread   the rumour

        b. Het gerucht verspreidde zich.
            The rumour spread   REFL
            'The rumour spread.'

(451)   a. Zij manifesteerde haar ongenoegen.
            she manifested   her dissatisfaction

        b. Haar ongenoegen   manifesteerde zich.
            her   dissatisfaction manifested   REFL
            'Her dissatisfaction manifested itself.'

(452)   a. De chemicus verbond   de zuurstof met stikstof.
            the chemist   combined the oxygen   with nitrogen

        b. De zuurstof heeft zich   met stikstof verbonden.
            the oxygen   has REFL with nitrogen combined
            'The oxygen combined with nitrogen.'

   The main reason to consider *zich* as a marker of unaccusative-type reduction in these cases is the apparent existence of a verbal alternation. But it is not clear that

the (b) variants do not simply involve the transitive verb: to start with, they do not exhibit syntactic unaccusativity. If the verbs in (b) were unaccusative, they should select *zijn*, instead of *hebben*—a prediction which is not borne out (witness (452b)). Moreover, their past participles should be able to form prenominal modifiers, which is not the case:

(453) *de zich met stikstof verbonden zuurstof
       the REFL with nitrogen combined oxygen

(454) *het zich   verspreide gerucht
       the REFL spread   rumour

The reservations against an unaccusative analysis of the (b) sentences are strengthened, when we consider versions of these sentences with an animate subject:

(455) De agenten   verspreiden zich.
       the policemen disperse   REFL
       'The policemen disperse.'

(456) Zij manifesteerde zich   als een diva.
       she manifestes   REFL as a   diva
       'She presented herself as a diva.'

(457) Zij heeft zich   met Karel verbonden.
       she has   REFL with Karel combined
       'She has commited herself to Karel.'

The interpretation that the subject receives in such cases is agentive, which is at odds with an unaccusative analysis of the verbs in question. For instance, consider the following scenario, which involves an unaccusative interpretation: the policemen are fed into a special teleportation device, through which they then get distributed in an area (where a police investigation is conducted). (455) cannot be used in such a situation. In fact, such sentences tolerate agent-oriented adverbs, like 'deliberately', and the subject can control into a purpose clause:

(458) Zij heeft zich   opzettelijk   met Karel verbonden (om het land   niet
       she has   REFL deliberately with Karel combined for   the country not
       uitgezet   te worden).
       removed.from to become
       'She has deliberately commited herself to Karel (so as to not be expelled from
       the country).'

(458) arguably involves a transitive syntax for the matrix verb, a fact that cannot be accounted for on the unaccusative analysis of *zich*. Since the structural analysis of

these cases would presumably not vary depending on the animacy of the subject, we are forced to conclude that the sentences in (450b)–(452b) also involve transitive syntax. My suggestion for these latter cases, which feature inanimate subjects, is that we are 'presenting' the animate subject as though it were animate. The effect of this is that the truth conditions of the sentence become virtually indistinguishable from the truth conditions of a sentence containing an unaccusative verb. Note that the strategy of presenting inanimate entities as though they were animate is quite common in human language, as witnessed by examples like (459):

(459)   The verb wants to move to the second position of the clause.

It is quite telling that researchers have often observed that Dutch *zich* does not normally surface in canonical causative-anticausative alternations (cf. Sells et al. (1987)). Fagan (1992) observes that in Dutch, the most productive way of forming anticausatives does not employ the weak reflexive (Fagan, 1992, 174). She notes that the reduced forms of newly-coined verbs like *finlandiseren* 'finlandize' and *resocialiseren* 'resocialize' do not tolerate *zich*, cf. (460) and (461). In fact the presence of *zich* becomes licit, if we construe the sentences as involving a volitional subject. Ackema (1995) also makes the claim that the *zich*-alternants of verbs like *oplosen* 'dissolve' are syntactically transitive (see in particular pp.229–235).

(460)   a. Gorbatsjov tracht Roemenië te finlandiseren.
            Gorbachev tries   Rumania to finlandize
            'Gorbachev is trying to finlandize Rumania.'

         b. Roemenië finlandiseert (*zich).
            Rumania finladizes   REFL
            'Rumania is finlandizing.'

(461)   a. De regering   besloot de delinquenten te resocialiseren.
            teh government decided the delinquents   to resocialize
            'The government decided to resocialize the delinquents.'

         b. De delinquenten resocialiseren (*zich).
            the delinquents   resocialize   REFL
            'The delinquents are resocializing.'

Recall that the situation in German is the exact opposite of this: newly-coined anticausatives, and in fact a large part of anticausatives in general, require the reflexive. This is exactly what is expected on the view defended here. Contrary to German *sich*, Dutch *zich* is never a marker of valency reduction, and so *zich* cannot

mark unaccusative-type reduction, and in fact never occurs with true unaccusatives. The cases which feature the weak reflexive are syntactically transitive. The constrast between German and Dutch anticausatives bears out the correlation stated in (405) and repeated below as (462), which we saw in section 4.2.2 derives from the way in which I proposed reflexive paradigms are structured:

(462)   If REFL occurs with middles, then REFL occurs also with anticausatives (more generally than not).

4.4.3   Everaert's (1986) psych-movement verbs

Consider now the following examples, which exemplify another instance of what seems to be a causative–anticausative alternation:

(463)   a. Die uitslag ergert   haar.
            that result   annoys her

        b. Zij ergert   zich   aan die   uitslag.
            she annoys REFL on   that result
            'She gets annoyed at that result.

(464)   a. Deze gedachte interesseert haar.
            this   thought   interests   her

        b. Zij interesseert zich   voor deze gedachte.
            she interests   REFL for   this   thought

(465)   a. Dit argument verbaast haar.

        b. Zij verbaast zich   over dit   argument.
            she surprises REFL over this argument

Unsurprisingly, there is no evidence for an unaccusative syntax for the (b) sentences. Auxiliary selection and the impossibility of prenominal past participles suggest that the (b) sentences involve a base-generated subject, like the (a) variants. Moreover, the impossibility of impersonal passivization again is explained by the fact that *zich* occurs in the object position, and transitive sentences are not input to impersonal passivization.

   This class of verbs is different from the one discussed in the previous section, as the purported reduced variants already feature an animate subject (and in fact obligatorily so, since it is an Experiencer argument). Although at this stage it is unclear to me what the right analysis for these data is, note that similar semantics as the one associated

with the (b) examples is encoded in the sentence in (466), which involves what is normally regarded as a causative verb, *maken*, 'make', and the weak reflexive in object position. An unaccusative analysis of (466) does not seem plausible:

(466) Suzanne maakt zich   vrolijk over   Jans gedrag.
       Suzanne makes REFL   merry about Jan's behaviour
       'Suzanne gets merry about Jan's behaviour.'

Furthermore, it is interesting in this connection to look at languages that lack a weak, *zich*-type reflexive. Afrikaans is such a case. This language employs a bound pronoun in more or less the same cases as Dutch employs *zich*. So in Afrikaans, the equivalents of the sentences under consideration feature a bound pronoun:

(467) Sy verheug haar in die uitslag.
       she rejoices her   in the result
       'She rejoices at the result.'

(468) Sy ontstel haar oor   die houding.
       she upsets her   over the attitude
       'She gets upset about the attitude.'

(469) Hy werk   hom(self) op oor   die opmerking.
       he works him(self) up over the remark
       'He works himself up over the remark.'

(470) Sy verbaas haar oor   die argument.
       she amazes her   about the argument
       'She is amazed with the argument.'

In section 4.2, I argued that in a system without a 'weak' reflexive, personal pronouns cannot be markers of valency reduction and are restricted to argument positions. In section 4.5, I will provide empirical support for this. Let me mention already at this point, however, that anticausatives do not employ a bound pronoun in Afrikaans. Therefore, there are good reasons to believe that the sentences in (467)–(470) above involve transitive syntax. And since in Afrikaans such cases of Experiencer-subject sentences employ transitive syntax, it does not seem implausible that the same analysis applies to Dutch as well.

I should note that in later work (Everaert, 2002) Everaert concedes, following Reinhart (2000), that *zich*-sentences like the ones given in this section are unergative. For these subject-Experiencer alternations, Everaert and Reinhart claim that *zich* marks reduction of an internal theta role, which results in an unergative structure. This solution is closer to what I'm arguing for here than an unaccusative analysis is, witness

Reinhart's somewhat confusing comment that "reduction with *zich* in Dutch entails an unergative realization, since *zich* occupies an argument position" (Reinhart, 2000, 47). If one were to insist that *zich* is a marker of unergative reduction without occupying an argument position (Reinhart and Siloni, 2004), languages like Afrikaans are a problem. A further problem is posed by German. Reinhart claims that the impossibility of impersonal passivization with *zich*-sentences is due to the impossibility of applying two arity operations on the same verbal entry. But we have seen already that in German, (some) formally reflexive verbs can undergo impersonal passivization. The problem does not arise if we treat *zich* as as a canonical argument, instead of a marker of reduction. Finally, I believe that to embrace Reinhart's view on *zich* would make the situation unnecessarily complicated, because we would then be forced to say that *zich* can be an argument, and it can mark argument manipulation: predominantly reduction of an internal theta-role, but also reduction of an external theta-role (as with verbs like *zich schamen* and *oplosen*, 'dissolve', on which see more below).

To summarize, I have argued that in Dutch, the weak reflexive *zich* always occupies an argument position and is never a marker of valency reduction. I have pointed to the paucity of arguments in favour of an unaccusative analysis of verbs featuring *zich*, and to the alternative explanation of the data, according to which sentences featuring *zich* are syntactically transitive. This also applies to the class of verbs which Everaert (1986) deemed 'idioms', to which we now finally turn.

4.4.4 Inherent reflexives

Everaert's major class of *zich*-featuring verbs contains what he deems 'idioms'. The class comprises cases like the following, where the verb is inherently reflexive in the strictest possible sense, i.e. it can only appear with *zich*:

(471) Jan schaamt *(zich)/*Karel.
       Jan shames REFL/Karel
       'Jan is ashamed.'

(472) Zij gedraagt *(zich)/*Karel.
       She behaves REFL/Karel
       'She behaves herself.'

(473) Hij vergist *(zich)/*Karel.
       he forgets REFL/Karel
       'He is mistaken.'

Other verbs belonging to this class of *zich*-verbs do have the ability to take as objects other NP's, but there is a considerable difference in meaning between the transparently transitive and the reflexive variant:

(474) a. Hij roert de soep.
           he stirs the soup

       b. Hij roert   zich.
           he bestirs REFL
           'He makes a fuss.'

(475) a. Hij vergaat iets.
           he forgot   something

       b. Hij vergat zich.
           he forgot REFL
           'He didn't behave appropriately.'

I have mentioned already the pervasive view of inherent reflexives as the output of the same operation that derives unaccusatives (Steinbach (2002) and references, Tanya Reinhart, personal communication). Specifically, for cases like *zich schamen*, the assumption is that there exists an abstract (unattested) causative **schamen*, whose external argument becomes reduced; this predicts an unaccusative syntax. I believe that the cross-linguistic realization of inherent reflexivity cannot reduce to a single operation, be that external or internal reduction. I have presented the evidence against such a universal characterization of the syntax of inherently reflexive verbs already, and will now simply repeat it.

The semantics of inherent reflexivity will be discussed in some more detail shortly. In a nutshell, my view of it is that inherent reflexivity involves the obligatory co-indexation of two thematic roles, as schematically indicated below:

(476) $V(\underline{\theta}_i, \theta_i)$

As for how this semantics is syntactically realized, there is reason to believe that cross-linguistically (476) is not mapped onto identical syntax. There exist three possibilities for the syntax of inherent reflexives: (a) both theta roles are assigned in the syntax, (b) only the external theta role is assigned in the syntax, (c) only the internal role projects to syntax. We have seen evidence for the first two realizations. (The third, which involves unaccusative syntax, seems to be attested in French, see Dobrovie-Sorin (2004) for related discussion and for references.)

More in particular, we have seen already that Dutch inherent reflexives (*zich*-verbs more generally) cannot undergo impersonal passivization, cf. (477), which I have attributed to the fact that *zich* occupies an argument position and that the sentences which feature it are syntactically transitive. On the other hand, German inherent reflexives can undergo impersonnal passivization, and this is arguably because they are syntactically unergative, cf. (478).[20]

(477)   * Er   wordt   zich   geschaamd/vergist/slecht gedraagen.
          there became REFL shamed/forgotten/badly   behaved.

(478)   Es wurde sich   geschämt/gefürchtet.
          it   was   REFL shamed/feared

It seems to me that we would gain no true insight if we tried to account for the diversity attested across languages on the assumption that the syntax of inherent reflexives is uniform.

4.4.5   On a generalized notion of 'inherent reflexivity'

My claim in this chapter has been that the weak reflexive in Dutch cannot be a marker of valency reduction, but is always a canonical argument.(The reader is reminded that this proposal concerns what has been treated as 'nonargument' *zich*, and is not intended to cover ECM-*zich*, for example.) If this is so, then the question that arises is, in which cases can we expect it to appear? The question concerns not only the relative distribution of *zich* and *zichzelf*, but also the contexts which allow what Everaert deemed 'inchoative' and 'psych-movement' *zich*, which are now analyzed as transitive reflexive sentences. I cannot fully address this question here, but I believe it is possible to characterize all occurrences of *zich* that we have encountered as inherently reflexive, as is the traditional view of *zich* (cf. also Reinhart and Reuland (1993), and Safir (2004)). The idea that *zich* appears in contexts of (a generalized notion of) inherent reflexivity is close to a suggestion made by Reuland (2000) with respect to the occurrence *zich* in (479) below: 'the arguments involved become intrinsically unified, yielding, in fact, an argumental counterpart of lexical reflexivity' (Reuland, 2000, 33).

(479)   Jan snijdt zich/zichzelf.
          Jan cuts   ZICH/ZICH-SELF

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[20]Impersonal passivization of some *zich*-taking verbs is also possible in a dialect of Dutch spoken in the Heerlen area, which I discuss in section 4.5.

'Jan cuts himself.'

In what follows I offer some suggestions as to how the project of reducing 'nonargument' *zich* to inherent reflexivity may be pursued.[21]

I would like to propose that there is a common denominator in all the occurrences of the weak reflexive in Dutch that we have been considering: *zich* surfaces when no alternatives to the value denoted by it are available, either because the verb is lexically inherently reflexive (like *zich schamen*), or because the context forces or requires a 'no-alternatives' interpretation. On this, I follow König and Siemund (2000, 48), who suggest that "what *zelf* adds to the meaning of the reflexive is the evoking of alternatives to the value given". Given the affinity of SELF morphs and focus marking (see König and Siemund (2000)), the proposal that the complex reflexive is chosen whenever alternatives to its value are available is not novel, but has been implicit in many accounts in one form or the other, and not just in those accounts which capitalize on SELF as a focus marker. For example, in the context of a very different analysis, Rooryck and Wyngaerd (1997) propose the following generalization:

(480)   Whenever a predicate allows for the interpretation of the antecedent as a 'duplicated', i.e. a spatio-temporally different entity, the complex anaphor *zichzelf* is required.

A radically, as it were, spatio-temporally different entity is quite simply an individual other than the one denoted by the antecedent. In my terms, therefore, *zichzelf* is required, whenever the predicate allows (either lexically or contextually) for alternative values to the one denoted by the anaphor, i.e. when it allows for situations alternative to the one described by a coreference relation. ter Meulen (1998) provides the following formalization of the no-alternatives idea, which she deems 'necessary reflexivity, object oriented' (although she does not argue that the formula in (481) exhaustively characterizes *zich*):

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[21]Although his characterization of the semantic difference between *zich* and *zichzelf* is rather different from my own, Lidz (2001) argues that the two anaphors do not differ syntactically, but only semantically. For a recent proposal that the anaphors (also) differ in their syntax, see Barbiers and Bennis (2003). These authors propose to treat *zichzelf* as occuring in the syntactic object position, but *zich* as the subject of a small clause, whose head is either a prefix or a resultative predicate (the head may also be phonologically null). Note that this proposal in fact denies an analysis of *zich* as a marker of reduced valency, since the subject of a small clause is an argument position.

(481)   λx [R(x,x) & ∀y [R(x,y)→ x=y]]

The view of *zich* as expressing the lack of alternatives relates to focus. Focus presupposes a set of alternatives; the focused element belongs to this set of alternatives. In a sentence like (482), where the object receives narrow focus (indicated by capitals), there have to be alternatives to the referent of the focused element; in the case at hand, the alternatives would be other sciences, for instance chemistry, biology, history, archæology. The focused element belongs to this set of alternatives:

(482)   Hans is studying LINGUISTICS.

(483)   {chemistry, biology, history, archæology, linguistics}

What narrow or contrastive focus does, in very simplified terms, is that it picks one element from a set of alternatives, to the exclusion of the others (assuming that narrow and contrastive focus is exhaustive). But for this to be possible, there have to be alternatives to be eliminated in the first place. Narrow focus is based on the existence of a set of alternatives, from which an element is selected. While narrow focus eliminates alternatives, *zich* expresses the lack of alternatives. The presence of *zich* gives rise to an interpretation, according to which there are no alternatives to the value of *zich*, i.e. the reflexive interpretation that the predicate receives is an obligatory one. This amounts to inherent reflexivity. The observation that contrary to *zichzelf*, *zich* cannot be focused and hence is not stressable is entirely expected.

Consider the verb *wassen*, which is one of the verbs which have been discussed in the literature as being able to take either *zich* or *zichzelf*. In the actual world, since it happens that adults aren't washed by anyone other than themselves (under normal conditions), use of *zich* is appropriate. *Zichzelf* is not excluded in this context. It does not, however, correspond to the description of this 'default', but rather implies the existence of alternatives, namely that the set of 'washables' in this context was not a singleton set. Now, imagine we live in a slightly different world, where it is not customary for people to actually wash themselves; instead, each of us is washed by someone else, and we each wash an individual distinct from our own selves every day. In this context, the weak anaphor is illicit and *zichzelf* is preferred. This recalls the distinction made in König and Siemund (2000) between conventionally other-directed and (conventionally) non-other-directed situations, and also the notion of 'middle verb' that Kemmer (1993) develops (see the quote in section 4.3.2).

It is possible to extend such an explanation to other instances of the weak reflexive. To illustrate how this proposal can be applied to other categories of predicates featuring *zich*, consider one class of such verbs, for example the sentence in (484b), which features one of Everaert's terminatives. As we have seen already, in Dutch, one can derive the verb 'overeat' from 'eat', and the addition of *zich* becomes obligatory:

(484)   a. Eva at de appel.
              Eva ate the apple

         b. Eva overat *(zich) aan de appels.
              Eva overate REFL on the apples
              'Eva gorged herself on the apples.'

There is a sense in which the predicate 'overeat' is inherently reflexive: it is impossible to 'overeat someone else'. In other words, it is impossible to eat to such an extent that someone else becomes full; overeating is something that one can only do to oneself. We predict that use of *zichzelf*, which encodes the existence of alternatives, instead of *zich*, which encodes the absence of alternatives, will be degraded.

A similar reasoning would apply to the rest of the *zich*-taking verbs we have discussed in the preceeding section. For example, Ackema (1995) discusses causative verbs like *oplosen*, 'dissolve', whose anticausative variant seems to optionally take *zich*, and has independently concluded that the alternants with the weak reflexive "are not directly related to the unaccusative alternants, but they are the inherently reflexive variants of the transitive causative counterparts to these unaccusative alternants" (p. 234); in other words, Ackema's view of 'inchoative' *zich* is that it partakes in an inherently reflexive transitive structure. This is in accord with the stance taken here, according to which there are in fact no *zich*-anticausatives, only inherently reflexive variants of the transitive entry.

4.4.6 Interim Summary

To summarize, in this section I have demonstrated that there are no good reasons to extend the view of the dual status of German *sich* to Dutch *zich*, which instead always occupies an argument position. This difference accounts for the (non)occurrence of the reflexive in middles, but also makes correct predictions for anticausatives and inherent reflexives. More generally, the evidence presented in sections 4.3 and 4.4 speaks in favour of the approach proposed in section 4.2. Additional evidence in support of the

account outlined there is provided by other Germanic languages, such as Frisian and Afrikaans.

4.5   More evidence from Germanic

Let us see what happens in languages which lack a weak reflexive altogether. In these languages, the prediction made by the account presented in section 4.2 is the following:

(485)   Personal pronouns can only appear with middles or anticausatives in certain kinds of paradigms, namely the ones that lack the [Inh.Refl.] dimension. In the complement set of these paradigms, personal pronouns in middles and anticausatives are illicit.

It seems to be a tacit assumption commonly made that bound pronouns do not generaly induce or signal valency reduction. (485), however, is in fact generated by the approach presented in section 4.2. There it was argued that personal pronouns always appear in argument positions in paradigms which lack the dimension of reflexivity or the dimension [Inh.Refl.]. It follows that pronouns can never serve as 'valency reduction markers' in those kinds of paradigms, hence they cannot appear with middles or anticausatives. In Afrikaans middles and anticausatives indeed appear 'unadorned', cf. (486b) and (486c):

(486)   a.   Hy het hom misgis.
             he has him mis-guessed
             'He was mistaken.'

        b.   Jy   terg (*jou) so maklik.
             you tease you   so easily
             'You tease so easily.'

        c.   Die metaal buig   (*hom).
             the metal   bends him
             'The metal bends.'

On the other hand, inherent reflexives as in (486a) feature a bound personal pronoun, *hom* (the masculine form for singular accusative). What explains the discrepancy in (486) is that inherent reflexives in Afrikaans, as in Dutch, are syntactically transitive, and are not derived by reduction of the external theta-role. In other words, Afrikaans is another language where the semantics of inherent reflexivity is mapped

onto transitive syntax. The prediction is that (486a), in virtue of involving a transitive verb, cannot be input to impersonal passivization. The prediction is borne out.

(487)   * Daar word   hom (dikwels) misgis.
           there becomes him often   mistaken

(485) applies similarly to Frisian, which also lacks a simplex reflexive anaphor and whose inherent reflexives also feature a bound personal pronoun (Reuland, 2000, 15):

(488)   Pier skammet him.
        Pier shames   him
        'Pier is ashamed of himself.'

(485) predicts that middles and anticausatives will not feature the element *him*, since the bound pronoun cannot be a marker of arity operations. It is clear from the examination of causative–anticausative alternations provided by Abraham (1997) that the bound pronoun does not appear in the reduced, anticausative variant in Frisian. We predict that middles too will not employ the bound pronoun. The prediction is borne out (examples provided by Jarich Hoekstra, personal communication):

(489)   Dit boek lêst   maklik.
        this book reads easily
        'This book reads easily.'

(490)   Dizze skuon dûnsje noflik.
        these shoes dance comfortably
        'Dancing is comfortable in these shoes.'

Before drawing the discussion to a close, I would like to discuss the behaviour of Heerlen Dutch with respect to the predictions that the analysis I have advanced makes. I repeat below the rest of the predictions:

(491)   If REFL occurs with middles, then no SELF-anaphor exists in the language.

(492)   If REFL occurs with middles, then REFL occurs also with anticausatives (more generally than not).

Heerlen Dutch provides additional evidence in favour of (491) (and possibly (492), which I leave aside for now), but I have postponed discussion until now, because of the complexity of the situation.[22]

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[22]I am indebted to Peter Ackema, Sjef Barbiers, Hans Bennis and Leonie Cornips for their help on the issue.

As discussed in Cornips and Hulk (1996) and Hulk and Cornips (2000), Heerlen Dutch employs *zich* in middles and anticausatives. So I expect Heerlen Dutch to lack *zichzelf*. Although some speakers apparently do not use *zichzelf*, the prediction does not seem to be borne out in full. The unclarity could be due to language contact with Standard Dutch. In fact, language contact seems an insufficient term for the case at hand. To the best of my understanding, Heerlen Dutch is treated as a dialect of Dutch, although it really is the product of the dialect's speakers' view of standard Dutch. In other words, 'Heerlen Dutch' is the layer of language variation intermediate between standard Dutch and the dialect spoken in the area of Heerlen. It is therefore very difficult to elicit judgments on the real Heerlen Dutch dialect, instead of what the linguists think is Heerlen Dutch and the dialect speakers think is standard Dutch.

At this point, both the observations due to Safir and Schoorlemmer and the way they relate to the paradigm approach are crucial in clarifying the situation in 'Heerlen Dutch'. Recall that the analysis offered in section 4.2 has enabled us to make sense of Schoorlemmer's Generalization, repatead below as (493).

(493)   *Schoorlemmer's Generalization*
        If REFL occurs in middles, then REFL can be interpreted as a reciprocal.

Heerlen Dutch lacks the standard Dutch reciprocal *elkaar*, 'each other', and uses *zich* instead. Since Heerlen Dutch *zich* is compatible with reciprocal readings, it cannot be an inherently reflexive *zich*, therefore no *zichzelf* is present in the system, as predicted by (491). These considerations suggest that it is indeed language contact and the complexities mentioned above that blur the picture with respect to the existence of *zichzelf* in the dialect.

Sjef Barbiers (personal communication) has suggested that investigation of less complicated local dialects near Heerlen may give a clearer picture, and has provided the data. The dialect of the village Ubachsberg, close to Heerlen, seems to be the right candidate to further test (491) on, as it seems to allow *zich* where standard Dutch would employ *zichzelf*. (Because *zichzelf* belongs in the grammar of the standard language, I cannot expect to find any Dutch dialect which really lacks it, but as long as the dialect allows *zich* in the relevant cases, it is of the right type.) In the Ubachsberg dialect, both middles and anticausatives use *zich*. This lends further support to (491) and to the approach advocated in this chapter more generally.

(494)   Ubachsberg Dutch:[23]

      a. De sneeuw smelt zich   in de zon.
         the snow   melts REFL in the sun
         'The snow is melting/melts in the sun.'

      b. De aardappel schille zich   niet gemakkelijk.
         the potatoes   peel   REFL no   easily
         'The potatoes don't peel easily.'

4.6   Concluding remarks

In this chapter, I addressed the question of the (non)occurrence of the reflexive in Dutch and German middles. The difference between German and Dutch middles was argued to reduce to differences between German *sich* and Dutch *zich*. Specifically, I argued that *zich* always occurs as an argument, albeit in contexts of inherent reflexivity. The sentences which feature it are therefore syntactically transitive. On the other hand, German *sich* can be a canonical anaphor in argument position but also a nonargument; in the latter case, *sich* does not contribute an accusative object (as in Steinbach (2002)), but partakes in an unergative structure and, more precisely, indicates that the syntactic subject is the recipient of an internal thematic role. My proposal was to attribute the dual status of *sich* to the lack of a complex anaphor in German. More generally, the proposed account relates the potential of 'weak' reflexives to the structure of the paradigm in which they belong; it makes predictions not only for middles but also for anticausatives and inherent reflexives; and it accounts for the fact that in languages like Afrikaans and Frisian, neither middles nor anticausatives can employ a bound pronoun and only inherent reflexives do. The data further suggest that a conception of inherent reflexivity as the universal output of unaccusative- (or unergative-) type reduction is empirically inadequate. The largely overlooked contrast between German and Dutch middles raises the more general question, of when to expect reflexive elements to take on a role such as the one deployed by nonargument *sich*. The proposal developed here directly addresses this issue.

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[23]Leonie Cornips (p.c.) informs me that the same pattern obtains in the dialect of Landgraaf, also spoken in an area close to Heerlen.

Chapter 5

Conclusions

This study has explored the semantics of personal middle constructions and the ways in which it is encoded across languages. In chapter 1, I presented evidence from English, Dutch, German, Greek and French which suggests that there exists a dichotomy of languages with respect to the syntax of middles: in the Germanic languages under consideration middles are syntactically unergative and lack a syntactically active Agent. By contrast, in Greek and French, middles are parasitic on generic (reflexive) passives and have a syntactically represented Agent. The variation in middles also relates to the need for modification and to the restrictions that determine the candidates eligible to convey the middle interpretation. I have argued that these differences stem from the way in which the middle interpretation is achieved in the two language types. In the course of the discussion I pointed out the numerous questions that have arisen on a variety of issues, in the hope that they will be elucidated through future research.

In chapter 2, I proposed a novel characterization of the middle semantics, from which I argued that we can derive the core of the properties shared by middles across languages. I proposed to treat the middle as a disposition ascription to the Patient/Theme argument. Disposition ascriptions were treated as sentences expressing 'in virtue of' generalizations: they are subject-oriented generics which employ a VP-level generic operator. The semantics of VP-**Gen** was argued to be very similar to the semantics assigned to dynamic *will* by Brennan (1993). The genericity of middles reduces to the genericity of disposition ascriptions. The subject-orientedness of dispositionals has allowed us to derive the fact that across languages, personal middle constructions feature the understood object in subject position and that the otherwise external argument, the Agent, has to vacate the privileged subject position. The obli-

gatorily generic interpretation of indefinite subjects of middles follows from the level of adjunction of the dispositional generic operator. I moreover claimed that the implicit Agent in middles is interpreted as an inherently generic indefinite, which I dubbed ONE*. ONE* needs to be licensed by a generic operator. Its interpretation was hypothesized to be related to the interpretation of implicit arguments in dispositionals more generally.

In chapter 3, I dealt with the cross-linguistic variation in the syntactic status of ONE* and in the unergativity/ unaccusativity of the verb. I argued that what sets apart the two language groups that have been identified is the (un)availability of imperfective aspect as a means of encoding genericity. Only Greek and French make the distinction between generic and nongeneric statements in the morphosyntax, in the form of the distinction between imperfective and perfective aspect on the verb. The aspectual system of English, Dutch and German, by contrast, does not encode this distinction. I argued for a correlation between the nature of the implicit argument, ONE*, and the generic operator that licenses it, and I proposed an account which captures the unergativity of Germanic middles and the unaccusativity of Greek/ French middles. I further argued that the need for adverbial modification that Germanic middles exhibit relates to the way in which middles are derived: in languages where ONE* is not represented syntactically, it needs to be recovered via identification with the implicit Experiencer that the middle modifier supplies. In the appendix to chapter 3, I discussed the restrictions that constrain the application of middle formation in Germanic. The middle interpretation is available with a wider range of predicates in French and Greek, which I also suggested should be made to follow from the nature of the process that derives middles in these two language types. With respect to the constraints in Germanic, I claimed that one of the restrictions is that the subject of the dispositional predicate be an Incremental Theme.

In chapter 4, I addressed the question posed by the contrast between German and Dutch middles, namely the fact that German middles feature *sich*, but Dutch *zich* is illicit in middles. I proposed an answer to this largely overlooked question which makes reference to the nature of the reflexive paradigm of Dutch and German. In particular, I argued in favour of relating the potential of simplex anaphors to function as markers of valency reduction to the nonexistence of a complex anaphor. The proposal put forward generates a number of predictions concerning languages like Frisian and Afrikaans, which were shown to support it; the predictions also concerned structures

other than middles, in particular inherent reflexives and anticausatives, which were also discussed from a cross-linguistic point of view. We were confronted with the more general question of when to expect reflexives to occur in middles, an issue which the proposed account is in a position to address.

I have pursued an avenue of research which was inspired by the attitude towards middles adopted by Condoravdi (1989b), according to whom the middle should be treated as a semantic notion. That different languages express the middle semantics in different ways does not come as a surprise, as long as the syntax–semantics interface is not assumed to involve a rigid mapping; nonetheless, it requires us to look for the properties of languages which are implicated in the choice of structure. This is what I have sought to do in this dissertation: to relate the attested crosslinguistic variation to more general morphosyntactic properties of languages. Having proposed a semantics of middles that capitalizes on their genericity, I claimed that the locus of the variation is the way in which genericity is expressed across languages.

The outlook on the crosslinguistic variation that I have assumed in this dissertation is in line with the spirit of a genuinely minimalist research agenda, where the ultimate goal is to locate language variation in a narrow part of the lexicon. The proposal to attribute the variation in middles to the morphological means available for the expression of genericity affords us a view of the syntactic differences between middles in Greek and middles in English as differences in the lexical inventory of Greek and English. In this respect, the proposed analysis of middles recalls the lively investigation of the import of the inflectional paradigm for properties of languages having to do with pro-drop, verb movement and word order freedom. I have argued in favour of the relevance of primarily the aspectual paradigm, but have also granted the reflexive paradigm an important role, in my account of the difference between *zich* and *sich*.

We may ask whether there are more phenomena which attract a treatment along similar lines as the middle variation. In the course of this dissertation we have already seen that at least one more empirical domain attests crosslinguistic variation. As discussed in chapters 1 and 4, inherent reflexives do not behave in a syntactically uniform way. In other words, the semantics of inherent reflexivity is not mapped onto uniform syntax across languages. Chapter 1 contained basically morphological arguments. In chapter 4, I employed syntactic arguments to show that inherent reflexives are transitive in Dutch and unergative in German. The conclusion was that we cannot characterize inherent reflexives as the output of the same operation across languages.

It seems that a more fruitful way of approaching the diversity in the syntax of inherent reflexivity is to start from its semantics and then relate the syntactic properties exhibited across languages to the means available to them with respect to encoding this semantics.

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