

RESEARCH

This is personal: Impersonal middles as disposition ascriptions

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We develop an analysis of impersonal middles which capitalizes on the observed similarities between personal and impersonal middles, and on Lekakou's (2004; 2005a) treatment of the former as disposition ascriptions. The following questions are addressed: (i) What is the disposition ascribed to in impersonal middles? (ii) What is the function of the obligatory subject pronoun? (iii) Why is a modifier needed, in addition to the manner/evaluative adverbial? By having a closer look at what types of additional modifiers are acceptable in impersonal middles, it is argued that the disposition in impersonal middles is ascribed to an event(uality), rather than an event participant. This is done via the non-omissible *it*-type pronoun that functions as the syntactic subject of the clause. We argue that this pronoun in impersonal middles is also the semantic subject, and that it indirectly refers to the event denoted by the verbal predicate, via an association relation with the vP. Impersonal middles, then, are not truly impersonal: they, too, feature a referential subject. The only difference between personal and impersonal middles relates to what the dispositional subject is: an event participant, or the event proper. We also show that the additional modifier is required for pragmatic reasons, namely in order to restrict the generalization made by the generic operator present in impersonal middles.

Keywords: (Impersonal) middles; implicit Agent; dispositional sentences; events

1 Introduction: (Im)personal middles

The topic of this paper is the impersonal middle construction (henceforth *IM*) in German and Dutch. The construction, exemplified in (1), is deemed impersonal because it features what is considered a non-referential pronoun in subject position. Furthermore, IM canonically involve an intransitive verb, and in German, but not in Dutch, a weak reflexive pronoun. Finally, IM include a manner/evaluative adverb, such as *easily*, and what we will refer to in this paper as an “additional modifier”, which in (1) is the locative PP *in this chair*.

- (1) a. *German*
Es sitzt sich angenehm auf diesem Stuhl.
it sits REFL comfortably on this chair
'One sits comfortably on this chair.'
- b. *Dutch* (Broekhuis & Corver 2015: 456)
Het zit gemakkelijk op deze stoel.
it sits easily on this chair
'One sits comfortably in this chair.'

The limited literature on IM takes them to belong to the same family as the more familiar middle construction, namely personal middles (PM; see (2a) and (2b) from German and

Dutch respectively), on which most research has focused (among others, see Fagan 1992; Hoekstra & Roberts 1993; Ackema & Schoorlemmer 1994; 2006; 2015; Steinbach 2002; Lekakou 2005a; Pitteroff 2014; Broekhuis & Corver 2015). PM feature a referential DP in subject position and are based on a transitive verb (or, more neutrally, a verb with a transitive variant). PMs also feature a manner/evaluative adverb (though see Lekakou 2005a; 2006 and references therein for discussion of cases where the manner/evaluative adverb seems to be missing). No additional modifier is required.

- (2) a. *German*
 Das Buch liest sich leicht.
 the book reads REFL easily
- b. *Dutch*
 Dit boek leest gemakkelijk.
 the book reads easily
 ‘The book reads easily.’

The similarities that have been highlighted between PM and IM are the following. First, although they are based on eventive verbs, both PM and IM behave as derived statives. Stative predicates cannot occur as the complement of verbs of perception, nor as answers to questions like *What is happening?* or *What are you doing?*. As Ackema & Schoorlemmer (A & S henceforth) (2006: 141) show, PM cannot appear as complements to perception predicates, nor as replies to an episodic question like *What is happening?*; the relevant data appear in (3a) and (3b) respectively. The same observations can be made for IM, witness (4a) and (4b).

- (3) *Dutch* (A & S 2006: 141)
- a. *Ik zie het boek moeilijk lezen.
 I see the book with-difficulty read
 ‘I see the book reads with difficulty.’
- b. Wat gebeurt er? #De baby verschoont moeilijk.
 what happens there? the baby cleans with-difficulty
 ‘What is happening? It is difficult to change the baby’s nappies.’
- (4) *Dutch*
- a. *Ik voelde het lekker zitten op deze stoel.
 I felt it comfortably sit on this chair
 ‘I felt this chair sits comfortably.’
- b. Wat gebeurt er? #Het zit lekker op deze stoel.
 what happens there? it sits comfortably on this chair
 ‘What is happening? It is comfortable to sit on this chair.’

Second, both PM and IM lack a syntactically represented external argument, at least in German and Dutch.¹ For example, no agentive *by*-phrase is licensed, as shown in (5) and (6) from Dutch. German behaves identically.²

¹ The situation is different in other languages, such as for instance French (Authier & Reed 1996) and Greek (Tsimpli 1989; Lekakou 2002; 2005a). Ackema & Schoorlemmer (2006) distinguish between Type-I and Type-II middles; see also Marelj (2004).

² Throughout the paper we will sometimes, for brevity’s sake, illustrate our points in one language only. Unless explicitly stated otherwise, this means the two languages pattern alike.

- (5) *Dutch* (Broekhuis & Corver 2015: 455)
 Vers brood snijdt moeilijk (*door Jan).
 freshly.baked bread cuts not.easily by Jan
 ‘Freshly baked bread doesn’t cut easily (*by Jan).’
- (6) *Dutch* (A & S 2006: 145)
 a. *Door ouden van dagen zit het lekker op deze stoel.
 by old of days sits it comfortably on this chair
 (Intended: ‘Elderly people can sit comfortably on this chair.’)
 b. *Het rijdt prettig op deze fiets door lange mensen.
 it rides nicely on this bike by tall people
 (Intended: ‘Tall people can rid this bike nicely.’)

Third, the same morphological marking (or lack thereof, as in the case of Dutch) appears in both PM and IM. As pointed out earlier, both PM and IM require the weak reflexive pronoun *sich* in German, and disallow *zich* in Dutch (Lekakou 2005b; A & S 2006; 2015; Schäfer 2008; Broekhuis & Corver 2015, among others). Related to this is a fourth similarity: IM pattern with PM in terms of auxiliary selection (A & S 1994: 83): both select *have* rather than *be*, as illustrated in (7) below for German.

- (7) *German*
 a. Dieses Buch hat/*ist sich gut gelesen.
 this book has/ is REFL easily read
 ‘This book has read easily.’
 b. Es hat/*ist sich in diesem Bett gut geschlafen.
 it has/ is REFL in this bed well slept
 ‘One has slept nicely in this bed.’

Given the above considerations, a unified analysis of IM and PM is desirable. Yet, an obvious difference mentioned already is that PM but not IM are derived from (or, more neutrally, feature) a verb with a transitive variant. Thus, while the subject of a PM corresponds to the object of this transitive variant, this does not apply to IM. A unified approach to IM and PM will need to take this into account.

The analysis of IM that we develop in this paper builds on Lekakou’s (2004; 2005a) approach to PM. Lekakou argues that PM are disposition ascriptions to a Patient or Theme argument. If IM are similar to PM, and thus dispositional statements, the obvious question arises: what is the disposition ascribed to in IM? Related to this is the question about the function of the expletive/non-referential *it*-type pronoun that surfaces in the subject position of IM. We propose that, like PM, IM are dispositional sentences (in the sense of Lekakou (op.cit.)), but unlike PM, IM do not ascribe a disposition to an event participant; rather, IM are disposition ascriptions to an event(uality). We thus suggest that the “expletive” pronoun in IM is not non-referential: it is the syntactic and semantic subject of the sentence. *Het/es* is base-generated in the specifier of a projection hosting the dispositional generic operator, and takes as its associate the vP. It is through this association relation that the pronoun refers to the event denoted by the verbal predicate, thus making the event(uality) the dispositional subject.

A third question we will tackle concerns the role of the additional modifier which appears in IM. Even though we will show that the term “additional modifier” is a misnomer, we will be using it throughout for ease of exposition. At first sight, this modifier appears to be obligatory in IM, as shown in (8a) and (8b) from German and Dutch respectively:

- (8) a. *German*
 Es sitzt sich angenehm *(auf diesem Stuhl).
 it sits REFL comfortably on this chair
- b. *Dutch*
 Het zit gemakkelijk *(op deze stoel).
 it sits easily on this chair
 ‘One sits comfortably in this chair.’

We will show that the requirement for the additional modifier is not syntactic, but rather semantic/pragmatic in nature: the modifier is required in order to restrict the generalization expressed by IM. In other words, we will contest the status of sentences like (8) without the modifier as *syntactically* ill-formed.

The paper is structured as follows. In section 2, we provide a background on the syntax and semantics we assume for PM, focusing especially on the dispositional approach proposed by Lekakou (2004; 2005), and the phrase structure of PM in German (and Dutch). In section 3, we discuss previous analyses of IM and point to their shortcomings. In section 4, we outline our own proposal, which is based on the idea that IM involve a disposition ascription to an event. Section 5 addresses the status of agentivity in middles. Section 6 summarizes and concludes.

2 A closer look at PM

2.1 PM as disposition ascriptions

In her investigation of the semantics and the cross-linguistic realization of PM, Lekakou claims that the following properties of PM are shared across languages (Lekakou 2002; 2004; 2005a; 2008; see also A & S 2006; 2015):

- (9) a. The syntactic subject is the argument that would normally be realized internally (the understood/notional object).
 b. An otherwise eventive verb becomes a derived stative, and more precisely receives a generic interpretation.³
 c. The Agent is demoted and receives an arbitrary/generic interpretation.

Lekakou (2004; 2005; 2008) argues that we can reduce the properties in (9) to a single one, which amounts to a characterization of PM as disposition ascriptions, as in (10); cf. Cohen (this volume) for a characterization of PM as passive dispositions:

- (10) PM ascribe a disposition to the Patient/Theme.

Since the notion of a disposition ascription is taken as central for the semantics and the syntax of PM, we briefly present how Lekakou (op.cit.) treats disposition ascriptions, and how the proposal applies to PM. In section 2.2. we turn to the morphosyntax of PM in German and Dutch.

³ An anonymous reviewer suggests that the evidence for the genericity of PM is not conclusive. Indeed, the tests employed in (3) and (4) diagnose stativity, not genericity *per se*. It seems to us that the claim that PM are generic, made by the bulk of the literature on PM (see also Condoravdi 1989a for a semantic proposal along these lines) holds some merit; it captures the intuition that PM express a generalization or a general property, rather than referring to a particular event, and it explains how an otherwise eventive verb behaves as stative (given that generics pattern with statives in a number of ways, see Krifka et al. 1995). Whether Lekakou’s proposed treatment of dispositionality as a sub-type of genericity is on the right track ultimately relates to what the proper treatment of genericity is – an issue that is beyond the scope of this paper.

Building on literature that investigates the semantics of generic sentences (see e.g. Krifka et al. 1995), Lekakou (2004; 2005a) identifies disposition ascriptions (DA) as a type of generic sentence, or an interpretation that generic sentences may receive. Crucially, this interpretation is distinct from the habitual one.⁴ Sentences such as the ones in (11), from Krifka et al. (1995) (see also Menéndez-Benito 2013 for more recent discussion) for instance, are ambiguous between a habitual reading, which involves quantification over events, and a dispositional interpretation, which states the *potential* for the subject referent to act in the manner stated by the predicate. In contrast to the habitual interpretation, on the dispositional reading, the truth of the sentence does not require that such events have (regularly) taken place. For instance, in (11a) it is not the case that the regular or habitual speed of the car is 160 mph, and (11b) can be true in the absence of any mail from Antarctica, solely on the basis of Mary's job description.

- (11) a. My car goes 160 mph.
 b. Mary handles the mail from Antarctica.
 c. This machine crushes oranges.

Lekakou (op.cit.) argues that PM pattern semantically with dispositional generics. She notes that in English, non-episodic passives and PM are not semantically identical, despite their apparent similarity in terms of their non-episodic nature, as well as the similar argument structure realization. Lekakou (2005a: 99) suggests that non-episodic passives in English only receive a habitual interpretation, and PM the dispositional interpretation. She illustrates with the pair of examples in (12), which are not paraphrases of each other: (12a) states that in general people do not recycle plastic cups easily, and (12b) states that plastic cups have a property that makes recycling them difficult.

- (12) a. Plastic cups are not recycled easily.
 b. Plastic cups do not recycle easily.

Since PM and passives do not make the same meaning contribution, conjoining the two as in (13) does not lead to a contradictory statement (Lekakou 2005a: 100):

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

Lekakou argues that the two constructions have a different semantic structure (and, for languages like English, a different syntactic structure, too). For habituals, a quantificational treatment is adopted that employs a covert sentence-level operator with quasi-universal force, which quantifies over possible worlds (cf. Krifka et al. 1995). In line with the Kratzerian semantics for modal operators, this generic operator is restricted to quantify over worlds in the modal base, and the worlds quantified over are ordered with respect to an ordering source (see Kratzer 1981; 1991 and Krifka et al. 1995 for details). For PM, and dispositional generics more in general, Lekakou proposes that a different generic operator is involved, whose semantics is modeled on the semantics proposed by Brennan (1993) for dynamic *will*. We provide here the gist of Brennan's analysis, taken over by Lekakou. For the details, the interested reader is referred to the original works (Brennan 1993; Lekakou 2005a: Chapter 2).

⁴ For similar distinctions within the class of sentence-level genericity, see Laca (1990); van Geenhoven (2003) among others. See also Cohen (2001); Greenberg (2003) for an investigation of subtypes of NP-genericity. Greenberg in particular applies Brennan's (1993) proposal (which we briefly review in the main text) for a subtype of NP-genericity, namely singular indefinites. On the other hand, Boneh (this volume) argues for an analysis of habituals as dispositions; see Cohen (this volume) for a rejection of this view, based on the claim that habituals are not modal, which is a necessary condition for dispositionality.

Brennan (1993) distinguishes dynamic modals (namely, ability *can* and dispositional *will*) and epistemic modals semantically and syntactically. Whereas epistemic modals are sentence-level operators, dynamic modals relate properties and individuals and, as such, are VP-modifiers. Ability *can* and dispositional *will* realize VP-level operators (the former existential in force and the latter universal). An additional difference between epistemic and dynamic modals lies in the nature of their respective modal bases: whereas S-level operators are restricted by propositions (introduced by *in view of*, as in Kratzer's original proposal), VP-level operators are restricted by properties of the subject introduced by 'in virtue of'. An example of a conversational background which restricts a VP-level operator (in this case, by making reference to the subject's physical properties) is given in (14) (from Brennan 1993: 65):

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

Directly related to the proposal that VP-level operators are restricted by properties of the subject is the fact that dynamic modals are subject-oriented. The main evidence presented here on this point is the distribution of *in virtue of* phrases (IVOs) with different kinds of modals.

IVOs in general need not be subject-oriented, as shown by example (15). The sentences in (16) show that, when combined with S-level modals (e.g. epistemics), IVOs *cannot* be subject-oriented. By contrast, when combined with VP-level operators, IVOs are *obligatorily* subject-oriented. The pairs in (17) and (18) illustrate this.

- (15) They denied him the prize in virtue of his reputation.
- (16) a. *In virtue of being a graduate student, Joan may be intelligent.
b. *In virtue of winning a Guggenheim, Joan must be intelligent.
- (17) a. Joan can sing arias in virtue of her natural ability.
b. In virtue of her patience, Joan will listen to anything.
- (18) 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.

Lekakou suggests that what Brennan argues for dynamic modals carries over to PM (and to dispositional generics in general). The intuition, in other words, is that the generalization made by PM, as in e.g. (12b), relies on properties inherent in the subject referent. Concretely, Lekakou's proposal is that the generic operator in middles is a VP-level operator with semantics identical to that of dispositional *will*; in this case too, the modal base comprises properties of the subject. The semantics of the VP-level operator, abbreviated here as DISP, is modeled on Brennan's proposal for so-called "property-level" *must* and *will*, and is given in (19) below:⁵

⁵ In (19), h_x is the conversational background restricting the operator (as in (14) above), and $j(w)$ is the stereotypical ordering source, familiar from the Kratzerian analysis of modals. Brennan's original proposal also includes relativizing accessibility to individuals (in line with the subject-orientedness of the sentences in question) as in (i), where P is the property-denoting expression restricting the modal:

(i) *Accessibility keyed to an individual:*
Accessible for d : a world w' is accessible from a world w for an individual d , $\langle w, d \rangle R w'$, iff $\langle w', d \rangle \in P$.

- (19) *DISP* denotes that function v of type schema $\langle \hat{IV}, IV \rangle$ such that for any index w , any assignment g , any conversational backgrounds h_x, j , and any expression \hat{P} of type $\langle s, \langle e, t \rangle \rangle$,
- $$[[v(\hat{P})]]^{w,g,h_x,j} : D \Rightarrow 2.$$
- For any $d \in D$ $[[v(\hat{VP})(d)]]^{w,g,h_x,j} = 1$ 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 evidence for the proposed similarity between dynamic modals à la Brennan (1993) and the generic operator of middles, Lekakou notes the subject-orientedness of IVOs in PM:⁶

- (20) Crime novels read easily...
- a. (in virtue of the way they are written).
 - b. (# in virtue of my reading skills).
- (21) Cottons shirts wash easily...
- a. (in virtue of properties of the fabric).
 - b. (# in virtue of my washing skills).

If PM are DAs and as such involve a VP-level generic operator, the three core properties identified above fall out.⁷ First, since dispositionality is a type of genericity, the generic nature of middles follows. Second, if DAs are subject-oriented, it follows that a DA to an internal argument will only be possible if that argument appears in subject position. Third, since there can only be one subject, the Agent is obligatorily demoted in PM. Its interpretation seems to also be linked to the genericity of the sentence. Lekakou suggests that the Agent in PM is an inherently generic indefinite, in the sense of Condoravdi (1989b); for instance, it cannot be anaphorically bound by a previously mentioned set of individuals. Consider the following context: Imagine you are a lecturer of linguistics. The MA students this year have virtually no background in semantics, and are for the most part non-native speakers of English. In this context, the implicit agent of the PM in (22) cannot be interpreted as referring to the previously mentioned set of students, but can only refer to people in general.

- (22) I am looking for an introductory semantics textbook that reads easily.

Summing up, on this approach to middles, the key component is their dispositionality as a particular flavor of genericity. In the following section, we look more closely at the (morpho-)syntax of PM in the languages under consideration.

2.2 The syntax of PM in German (and Dutch)

Based on the syncretism in the morphological marking of anticausatives and middles, Schäfer (2008) proposes that middles are syntactically identical to marked anticausatives. We briefly illustrate what this means for German, where anticausatives come in two types:

⁶ Related observations have been made by van Oosten (1977) and Dowty (2000), who claim that PM are subject to a condition, such that the subject must be construed as responsible for the action denoted by the verb (the so-called Responsibility Condition). Lekakou (2005a) argues that the dispositional treatment yields these properties automatically, so that the Responsibility Condition does not have to be stipulated.

⁷ See Lekakou (2005a: 84) for the claim that the three properties identified for PM also hold in what she calls “canonical disposition ascriptions”, i.e. sentences involving explicit mention of a disposition (cf. Fara 2001), such as *Sugar is disposed to dissolve when put into water*.

(reflexively-)marked (23b) and unmarked (23a). As (23c) shows, PM are formally identical to marked anticausatives.

(23) *German*

- | | | |
|----|---|------------------------------------|
| a. | Die Vase zerbricht
the vase breaks
'The vase breaks.' | (unmarked anticausative) |
| b. | Die Tür öffnet sich.
the door opens REFL
'The door opens.' | (reflexively marked anticausative) |
| c. | Das Buch liest sich leicht.
the book reads REFL easily
'The book reads easily.' | (PM) |

Syntactically, (23a) is straightforwardly unaccusative; the sole argument is base-generated as the internal argument and surfaces as the subject of the sentence. Semantically, the marked anticausative in (23b) patterns just the same: no Agent is involved, and the structural subject realizes the Theme argument. In line with a configurational theta-theory, this entails that the subject in (23b) is base-generated as the internal argument (but see e.g. Koontz-Garboden 2009 for a different analysis). The difference in the morphological marking between (23a,b), Schäfer argues, correlates with a syntactic difference: while unmarked anticausatives lack the projection that introduces the external argument (v*P or VoiceP, see e.g. Kratzer 1996), this projection is present in marked anticausatives, and hosts the reflexive pronoun in its specifier. Thus, marked anticausatives instantiate a syntax-semantics mismatch: while they are semantically intransitive, they project two argument positions in the syntax (Spec, VoiceP and V, DP) and can therefore be called syntactically transitive. To account for the semantic absence of the Agent in marked anticausatives, despite the syntactic presence of an external argument position, Schäfer (2008) introduces a subtype of Voice head: expletive Voice. Expletive Voice (in German) projects a specifier, but, unlike agentive Voice, does not assign a theta-role to it. In other words, Voice_{EXPLETIVE} is semantically vacuous (i.e., it denotes the identity function; see also Wood 2015; Wood & Marantz 2017), and Schäfer argues that a reflexive pronoun, due to its referential defectiveness, is the only element that can legitimately occupy this non-thematic argument position.

Turning to PM in (23c), Schäfer proposes that just as in the case of (marked) anticausatives, the structural subject is interpreted as the Theme, and is consequently base-generated as the internal argument (pace Fagan 1992; A & S 1994; 1995; 2006; Lekakou 2005a; 2005b). Furthermore, it is a well-known fact that although an Agent is implied in PM, its status is quite different from the status of the implicit Agent of passives. As already mentioned in section 1, for example, only the latter licenses *by*-phrases (see (24)), or controls into purposes clauses (as in (25)).

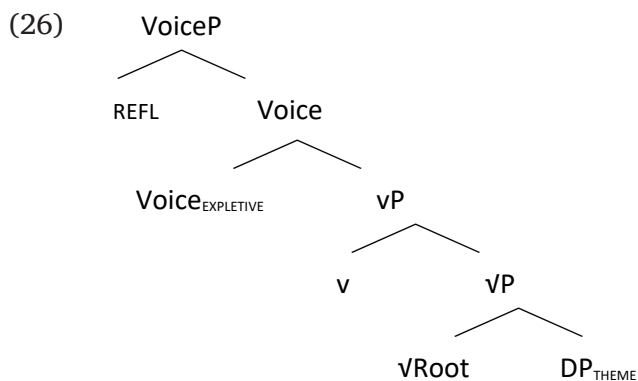
(24) *German*

- | | | |
|----|--|-----------|
| a. | Das Buch wurde (von kleinen Kindern) gelesen.
the book was by small children read
'The book was read (by small children).' | (passive) |
| b. | Das Buch liest sich (*von kleinen Kindern) gut.
the book reads REFL by small children well
'The book reads well (*by small children).' | (middle) |

- (25) a. Das Buch wurde gelesen (um sich auf eine Prüfung vorzubereiten). (passive)
 the book was read to REFL on an exam to.prepare
 ‘The book was read (in order to prepare for an exam).’
- b. Das Buch liest sich gut (*um sich auf eine Prüfung vorzubereiten). (middle)
 the book reads REFL well to REFL on an exam to.prepare
 ‘The book reads well (*in order to prepare for an exam).’

In lexicalist frameworks, this difference has often been captured by a presyntactic middle-forming operation that blocks the Agent from projecting into the syntax (see e.g. Fagan 1992; A&S 1994; 1995; 2006; Lekakou 2005a; b; among others; also section 3.1). In Schäfer’s analysis, the lack of a syntactic Agent in PM follows from the assumption that PM, like marked anticausatives, involve expletive Voice, which does not encode agentivity, and thus blocks the projection of a (potential) thematic external argument. The identical morphological marking between marked anticausatives and middles is straightforwardly captured by this syntactic parallel, since both constructions involve expletive Voice. Finally, Schäfer argues that the presence of the reflexive in Spec,VoiceP is responsible for the fact that PM and marked anticausatives behave syntactically like transitive structures (for example by failing the unaccusativity diagnostics, see below).⁸

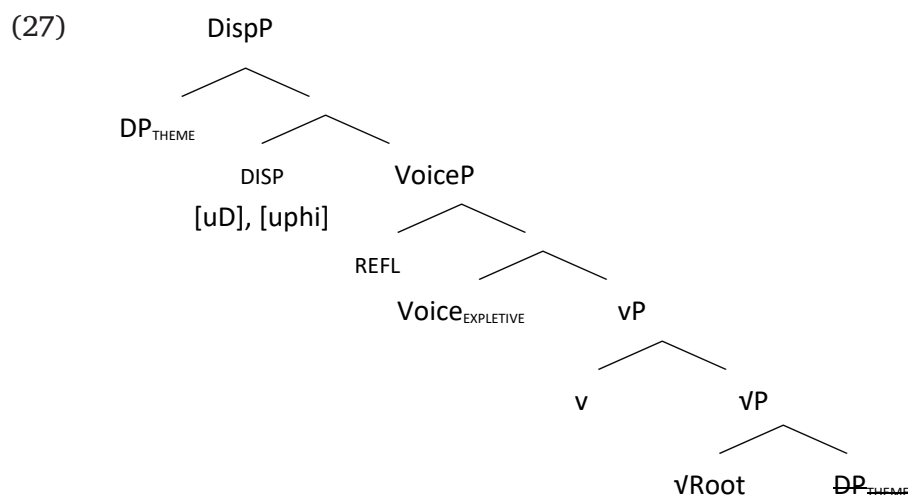
The part of the syntax that is shared by PM and marked anticausatives under Schäfer’s proposal is provided in (26). Following basic assumptions of Distributed Morphology, Schäfer assumes category-neutral roots, which are categorized by dominating functional heads – *v* identifies verbs, *n* nouns, etc. (see, e.g., Marantz 2001). As for the specific decomposition of the verbal layer in the form of a VoiceP-vP split, see Pylkkänen (2008); Harley (2013); Alexiadou, Anagnostopoulou & Schäfer (2015), among others.



On this approach, PM (and marked anticausatives) fail traditional unaccusativity diagnostics, not because they are unergative, but because they are syntactically transitive. In fact, Schäfer (2008) argues that traditional diagnostics such as auxiliary selection and the distribution of prenominal past participles are sensitive to the presence of Spec,VoiceP, rather than the base-position of the structural subject. Since the syntax of PM in (26) contains a filled Spec,VoiceP, the failure of the unaccusativity diagnostics follows. As soon as tests are employed that diagnose the base-position of the structural subject, this DP demonstrably behaves like an internal argument; see in particular Pitteroff & Schäfer (2014) for relevant discussion.

⁸ Schäfer’s assimilation of the syntax of PM to the one of marked anticausatives raises the question of how he derives the fact that the Agent is intuitively felt to be present in middles, but not in anticausatives. We discuss this issue in section 5.

Adopting Schäfer's proposal for the morphosyntax of German PM, we combine it (as he does) with Lekakou's low generic operator, DISP, which, as discussed in section 2.1, creates a dispositional predicate. Unlike Schäfer, we assume that DISP is a transitive head – which means that it projects a specifier (the latter property represented via the selectional [uD]-feature in (27)), and has unvalued phi-features that need to be valued. DISP thus attracts to its specifier the closest active DP with valued phi-features, which then functions as the subject of the dispositional predicate.⁹ We arrive at the structure in (27) for PM in German (with higher functional projections such as TP omitted).



The tree in (27) represents what we assume is the core syntax of German PM. For the moment, we can also assume that (27) is the underlying syntax of Dutch PM, although this raises the question of what occupies Spec, VoiceP_{EXPLETIVE} (recall that Dutch PM disallow a reflexive pronoun). This issue is not directly relevant for an analysis of IM, so we defer discussion to section 4.

2.3 Back to IM

So far we have discussed the semantics and syntax of PM. We can now resume our focus on IM. If IM are similar to PM, and if PM are disposition ascriptions, a number of non-trivial questions arise. The questions, repeated from section 1, are summarized in (28):

- (28)
- What is the dispositional property ascribed to in IM?
 - What is the (syntactic) function and base position of the pronoun 'it'?
 - What is the role of the additional modifier in IM?

In section 4, we provide an analysis of IM that is able to answer these questions. Before doing so, we briefly review previous approaches to IM, highlighting what we take to be their shortcomings.

3 Existing approaches to IM

3.1 Assignment of arbitrary reference to the Agent

Ackema & Schoorlemmer (A & S) (1994) propose a presyntactic derivation of PM in English and Dutch and extend it to IM. Adopting Jackendoff's (1990) system, operations at a presyntactic level, namely the level of Lexical Conceptual Structure (LCS), may affect the

⁹ In Lekakou (2005a), the subject position of the dispositional predicate is Spec,TP. Nothing hinges on the question of what the subject position for the dispositional predicate ultimately is, as our analysis easily translates into a system where DISP does not project and Spec,TP hosts the dispositional subject.

argument-taking properties of predicates in the syntax. Within A & S's set of assumptions, projection from LCS to syntax proper is not obligatory; however, non-projection of arguments is subject to restrictions. One option for an argument in the lexical conceptual structure (lcs) of a verb to not project to syntax proper is that it be assigned arbitrary reference. This is what A & S claim is happening in PM. For these authors, middle formation reduces to (29) (cf. Fagan 1992). (We simplify somewhat by abstracting away from the distinction between Agent and Actor that A & S assume, and illustrate with the more widely assumed notion of Agent.)

(29) **Middle Formation**
Assign ARB to Agent

The effect of (29) is that the Agent is free to not project syntactically. A & S further assume a thematic hierarchy, which regulates in what order arguments that are eligible to project to syntax do so. After the application of (29) to the lcs of a transitive verb, the argument that follows the Agent in the thematic hierarchy projects syntactically to the external argument position. This essentially derives the argument structure properties exhibited by PM. Turning to IM, when (29) applies to intransitive unergative verbs, no argument is left to project externally. A & S claim that in this case an expletive is inserted as a dummy. In other words, for A & S, the subject pronoun in IM is a syntactic, but not a semantic argument of the middle verb.

The proposed analysis is successful in maintaining a uniform analysis of PM and IM in Dutch (and also adjunct middles, which we address briefly in section 6). Moreover, the analysis derives the syntactic behaviour of all middle constructions in Dutch, which, as has been mentioned already, fail canonical unaccusativity diagnostics (A & S 1995 argue that middles in Dutch and English are unergative, but see the discussion in section 2.2 on German). However, several aspects, especially of the semantics of the constructions, do not follow from (29).¹⁰ For one thing, it is difficult to see how the dispositional semantics, which we assume characterizes middles, can be linked to any aspect of the analysis. In connection to this, A&S claim that middles are individual-level predicates, and argue that this aspect of the purported middle semantics can be made to follow from the proposed derivation of middles. However, Lekakou (2005a: Chapter 2) argues that the characterization of middles as disposition ascriptions is superior to one in terms of individual-level predicates; see also Marelj (2004: 104ff) for critical discussion of the relevance of individual-level-hood. Furthermore, and more crucially for IM, the need for an additional modifier remains unexplained under this approach.

3.2 A binding account

Focusing on different occurrences of the reflexive pronoun *sich* in German, Haider (1985) also discusses middles. His analysis is mainly concerned with the syntax of middles, and therefore the semantic properties of this construction (i.e. questions (28a,c)) are not addressed. Regarding the subject pronoun, Haider argues that it is a pure expletive and that its obligatory presence in IM is due to the need of the reflexive pronoun to have a (formal) antecedent (see also Abraham 1987; 1994; Steinbach 2002). Since with one-place predicates no such antecedent can be provided after the agent has been suppressed, insertion of the pronoun prevents a Principle A violation.

This answer to (part of the) question in (28b) suffers from two problems. The first one is that Dutch IM lack a reflexive pronoun, but nevertheless require the subject pronoun (30).

¹⁰ For a critical overview of the analysis in A&S (1994), including the mechanism that derives the syntactic unergativity of middles in these languages, see Lekakou (2005a: Chapter 2).

- (30) *Dutch*
 Op deze stoel zit *(het) gemakkelijk.
 on this chair sits it well
 ‘One sits nicely in this chair.’

If the sole purpose of the pronoun is to provide a binder for an otherwise unbound anaphor, its obligatoriness in Dutch IM is unexpected. This is true even if Dutch, unlike German, has an EPP-feature on T that needs to be checked, and the pronoun in IM is a true expletive inserted to fulfill this function. As we discuss in section 4.1, the pronoun that occurs in IM does not behave like a true expletive, rendering this alternative implausible.

A second problem is that other configurations exist in German, in which there is no apparent binder for the reflexive pronoun, but no Principle A violation occurs. This is illustrated in (31a) for passives of reflexive verbs (e.g. Schäfer 2012), and impersonal *let*-middles in (31b) (see Pitteroff 2014; 2015 for discussion).

- (31) *German*
- a. In diesen Räumlichkeiten wurde sich gewaschen.
 In these facilities was REFL washed
 ‘People washed themselves in these facilities.’
 - b. Hier lässt (es) sich gut tanzen.
 Here lets it REFL well dance
 ‘One dances well here.’
 - c. Einem Obdachlosen hilft *(es) sich leicht.
 a.DAT homeless-person helps it REFL easily
 ‘A homeless person is easy to help.’

Given the acceptability of the examples in (31a) and (31b), it is not at all clear why an expletive must be inserted in IM (cf. (31c)), but not in the other types of constructions.

3.3 *Es as an arbitrary pronoun*

Cardinaletti (1990) develops an account of IM that differs from the analysis by Haider in treating the pronoun as the overt realization of arbitrary *pro*, which functions as the external argument. The generic interpretation of middles follows for her from the external argument receiving arbitrary reference (see also Fagan 1992; A&S 1994; 1995; 2006; Steinbach 2002 for different implementations of this idea). Cardinaletti’s account crucially relies on an alleged difference between PM and IM: whereas the external argument is not syntactically active in the former, it is syntactically projected – as arbitrary *pro/ es* ‘it’ – in the latter.

One problem for this account is empirical. Contrary to what is claimed, IM and PM do not differ in terms of the syntactic activity of the Agent, as e.g. signaled by the licensing of depictive secondary predicates, reflexive pronouns, or control into purpose clauses. For reasons of space, we only exemplify the latter. The examples in (32) are taken from Cardinaletti, including her reported grammaticality judgments:

- (32) *German* (Cardinaletti 1990: 43)
- a. *Das Buch liest sich leicht, um sich für die Prüfung vorzubereiten.
 The book reads REFL easily to REFL for the exam to.prepare
 - b. ?Hier tanzt es sich leicht, um sich für die Prüfung vorzubereiten.
 Here dances it REFL easily to REFL for the exam to.prepare

However, neither the native German author of this paper, nor other native speakers we have consulted confirm this contrast in grammaticality: both sentences in (32) are equally unacceptable. The lack of a difference in grammaticality is also true of the other alleged contrasts; we conclude that PM and IM do not differ in the way proposed by Cardinaletti.

A further problem relates to the morphological marking. Cardinaletti takes the reflexive pronoun in German middles to be a morphological marker of subject dethematization. Since the alleged difference between IM and PM is tied to the respective (non-)application of subject dethematization, she predicts that the reflexive pronoun should only occur in PM, and not in IM – contrary to fact.

3.4 *Disposition ascriptions to the (nominal inside the) PP*

A number of researchers (especially Hoekstra & Roberts 1993; Broekhuis & Corver 2015; see also Steinbach 2002; Lekakou 2005a; Pitteroff 2014) have claimed that IM attribute a property to the instrument, location or time referred to by the (nominal inside the) adverbial PP. In other words, these analyses of IM assume that what functions as the logical subject of the middle sentence is what we have called the additional modifier, i.e. the PP, or the NP within it (the different accounts are vague in this regard). According to such analyses, in a sentence like (33), for instance, the logical subject is the PP *in this disco*, or the nominal *this disco*. The meaning of (33), following the dispositional analysis of middles, would roughly be: ‘in virtue of inherent properties of this disco, one dances well there’.¹¹

- (33) *German*
 Es_i tanzt sich gut [in dieser Disko]_i.
 it dances REFL well in this disco
 ‘One dances well in this disco.’

However, if one adopts Lekakou’s approach to middles as dispositional sentences, particularly her analysis of dispositionals as subject-oriented generics, there is an immediate problem: what appears in the subject position of IM is not the purported logical subject, i.e. the PP (or the nominal within it), but an (expletive) pronoun.¹² How is it that what looks like an adjunct functions as the subject of the IM? The answer to this question builds on a relation between the syntactic subject and the purported semantic subject of the sentence: the obligatory pronoun associates with the modifier, thus linking it semantically to the subject position. The claim is that the type of linking mechanism that exists in IM (indicated in (34a) via co-indexation) is the same one found in other contexts, such as extraposition (34b) (Bennis 1986), or certain copula constructions (34c) (see, e.g., Bennis & Wehrmann 1987):

- (34) *German*
 a. Es_i feiert sich gut [in dieser Disko]_i
 it celebrates REFL well in this disco
 ‘One can celebrate well in this disco.’

¹¹ Although neither Hoekstra & Roberts (1993) nor Broekhuis & Corver (2015) make reference to the notion of a disposition, we take it that their assumptions about the meaning of IM are compatible with a dispositional approach. Lekakou (2005a) and Pitteroff (2014) do assume a dispositional semantics for middles. Our argumentation against this type of approach applies to all aforementioned authors.

¹² The issue does not arise in Steinbach (2002), where it is not subjecthood but topichood that determines the logical subject of the disposition ascription. His account of the obligatory expletive pronoun *it* is therefore different. Steinbach follows Haider (1985) in proposing that the expletive is present only to provide the reflexive pronoun with an antecedent; as we saw in section 3.2, this is problematic.

- b. Peter bereut (es_i), [dass er sich von Maria getrennt hat]_i.
Peter regrets it that he REFL from Mary separated has
'Peter regrets having split up with Mary.'
- c. ...weil *(es_i) schön ist [in Salzburg]_i
because it nice is in Salzburg
'...because it is nice in Salzburg.'

This analysis of IM has two advantages. Firstly, the presence of the pronoun and the obligatory additional modifier are treated as two sides of the same coin, since both are present to license the disposition ascription. Through the association relation, the pronoun, i.e. the syntactic subject, enables the (nominal inside the) PP to function as the semantic subject, and, on Lekakou's terms, to be ascribed the dispositional property. Secondly, the syntactic mechanism that links the pronoun and the modifier appears not to be middle-specific, being independently required by the grammar (34b,c). However, as we will see in this section, this kind of approach faces a number of problems, which suggests that an alternative should be sought for.

The first problem for this type of approach is that it predicts semantically implausible subjects for the dispositional sentence. Consider for instance (35). The predicted meaning of (35) is as follows: 'in virtue of some inherent property of blankets, one sleeps well *in their absence*'. It seems, however, odd to ascribe a disposition to an entity, which only manifests itself in the absence of that particular entity. After all, dispositions are defined as precisely those properties that are attributed to entities in virtue of their inherent make-up; it is hard to imagine how this sort of disposition could exist, since it would be a statement about the very absence of the dispositional subject.¹³

- (35) *German*
Ohne Decke schläft es sich gut.
Without blanket sleeps it REFL well
'One sleeps well without a blanket.'

A second, related problem is that it is not only (locative) PPs that can appear in IM; other syntactic categories, such as AdvPs and AdjPs can also occur as the "additional" modifier. This is illustrated by the examples in (36) which feature a manner adverbial, a time adverbial and a depictive secondary predicate (predicated of, presumably, the implicit Agent).¹⁴

¹³ One solution would be to take the dispositional subject to be the implicit Agent, which would also be the subject of the secondary predicate 'without blanket'. This faces two problems, as far as we can see: one, which we return to in the main text, is that this leads to a non-uniform treatment of IM and in particular of the subject of the disposition. The second problem is that, as several researchers have shown (e.g., Condoravdi 1989a; Fagan 1992; A&S 1994; 1995; 2006; 2015; Abraham 1994; Steinbach 2002; Marelj 2004; Lekakou 2005a among others), there is no evidence that the implicit Agent is syntactically projected in middles, personal or impersonal (cf. the discussion of Cardinaletti 1990 in section 3.3; cf. Stroik 1992; Hoekstra and Roberts 1993 for a different view; and Zribi-Hertz 1993; A & S 1995; 2005; 2016 for a refutation of these latter views).

¹⁴ This is a non-trivial matter. Although it has been argued that the presence of depictives is not indicative of the syntactic nature of the implicit argument (Pitteroff & Schäfer 2017; pace Collins 2017), the question of how secondary predication is licensed in the absence of an agentive VoiceP is left open. Crucially, this is not an exclusive property of IM, as PM are also compatible with agent-oriented depictives:

- (i) *German*
Dieses Buch liest sich sogar betrunken gut.
this book reads REFL even drunk well
'This book reads well even when one is drunk.'

We leave this issue for future research. See section 5 for discussion of agentivity in middle constructions in general.

The examples are given in two versions to further illustrate that the additional modifier is not restricted to occur preverbally.

(36) *German*

- a. **Leise** streitet es sich einfach schlecht. /Es streitet sich **leise**
Quietly fights it REFL just badly. It fights REFL quietly
einfach schlecht.
just badly
'It is just difficult to fight quietly.'
- b. **Nachts** schreibt es sich am Besten. /Es schreibt sich eben **nachts**
At.night writes it REFL at.the best it writes REFL just at.night
am Besten.
at.the best
'One writes best at night.'
- c. **Aufgeregt** singt es sich schlecht. /Es singt sich eben **aufgeregt** schlecht.
Nervous sings it REFL badly it sings REFL just nervous badly
'One does not sing well when nervous.'

It is unlikely that such modifiers can act as the dispositional subject, given that they do not introduce an event participant that could be construed as the target of the dispositional ascription. It is therefore unclear what the semantic subject would be in cases such as (36).

A third problem arises from the claim that the mechanism linking the modifier to the subject position via the pronoun is not middle-specific. For example, even if the modifier in the examples in (36) could in some way function as the dispositional subject semantically, the linking mechanism involved must be different from the one in e.g. copula constructions. As (37) shows, modifiers of the type involved in (36) cannot function as the semantic subject in copula constructions.

(37) *German*

- a. Es ist schön leise.
it is nice quiet
'It (= some contextually specified entity/activity) is nicely quiet.'
- b. Es ist schön aufgeregt.
it is nice nervous
'It (= some contextually specified entity/activity) is nicely anxious.'

The pronoun *es* in (37) must have an entity-referring interpretation (as indicated in the translation). This is clearly a different use of the pronoun than the one found in IM, and it would have to be explained why this difference exists, if the same linking mechanism is involved. As an anonymous reviewer points out with regard to (37a), this sentence does have an additional impersonal reading (meaning something like *It is nicely quiet there*). On this reading, however, a covert locative pronoun (*there*) is implied, which functions as the (implicit) associate of the pronoun *es*. The question therefore remains, why, if the same mechanism is involved, the associate in a copular construction cannot be, say, a manner adverb, while this is possible in IM. Note finally, that if one were to assume, based on (37), that the pronoun cannot associate with e.g. manner adverbials in IM either, the middles in (36) would remain without a semantic subject.

The parallel with extraposition (cf. (34b)) is also problematic. Generally, in extraposition the presence of the pronoun blocks extraction out of its associate, arguably because the latter occurs in an adjunct position and therefore constitutes an island (Bennis 1986;

Haider 2010; Wood 2012; Fischer 2016). This is shown in (38): the pronoun is in principle optional (see (38a)), but when extraction occurs, it has to be absent (see (38b)):

- (38) *German*
- a. Hans hat (es) versprochen, Flüchtlinge aufzunehmen.
John has it promised refugees up.to.take
'John promised to host refugees.'
 - b. Wen hat Hans (*es) versprochen, ~~wen~~ aufzunehmen?
Who has John it promised up.to.take
'Who did Hans promise to host?'

Turning to IM, we see that extraction from a sentential complement is licit (39). This is despite the fact that the pronoun, unlike in (38b), cannot be omitted.

- (39) *German*
- a. Vermutlich verspricht *(es) sich leicht, Flüchtlinge aufzunehmen (wenn
probably promises it REFL easily refugees up.to.take if
man kein eigenes zuhause hat).¹⁵
one no Own home has
'I believe that it is easy to promise hosting refugees (if one doesn't have a
home).'
 - b. Wen verspricht *(es) sich leicht, ~~wen~~ aufzunehmen?
Who promises it REFL easily up.to.take
'Who can one easily promise to host?'

The contrast between (38b) and (39b) suggests that the association procedure in IM differs from canonical cases of extraposition: (39b) indicates that the complement clause is not an adjunct in IM, but occupies an A-position (i.e. the complement position of the verb). As a consequence, the linking mechanism involved in (38) and (39) must be different. What is more, the data above indicate that the linking mechanism would have to be non-uniform across IM, sometimes targeting adjuncts, and sometimes arguments. This latter point is also illustrated by other cases of IM, such as the ones in (40), which involve a lexically case-marked internal argument. As shown in (40b), the pronoun is obligatory even in these cases – and no additional modifier is required. Under the approach discussed in this section, this would mean that the pronoun in (40) links an argument to subject position, in contrast to what happens (i) in extraposition or copula constructions, and, even more importantly, (ii) in other instances of IM, such as (33) or (36).

- (40) *German*
- a. Peter hilft alten Damen.
Peter helps old.DAT ladies
'Peter helps old ladies.'
 - b. Alten Damen hilft/*helfen *(es) sich leicht.
old.DAT women helps/help it REFL easily
'One helps old women easily.'

Summing up, the approach to IM that takes the additional modifier as the semantic subject of the sentence, linked to the subject position via an association relation with the

¹⁵ As far as we are aware, middles of control predicates have not been discussed in the literature on control. Crucially, if middles lack a syntactically projected agent, the question arises as to how the control relation is established. If control involves predication (Williams 1980; Chierchia 1984; Pearson 2013; 2016), the issue raised by data such as (39) is identical to the one mentioned in fn. 14, concerning the acceptability of depictives, and should ideally find the same explanation.

subject pronoun, is problematic both semantically and syntactically. Semantically, it predicts implausible subjects for the dispositional predicate, and syntactically it relies on a mechanism that on the one hand is middle-specific, and on the other hand fails to provide a uniform analysis for all instances of IM, once one considers examples that go beyond the ones involving a spatial PP.

4 IM as disposition ascriptions to events

As a first step towards our analysis, we would like to point out that all the shortcomings discussed in the last section arise from the particular choice of the associate, rather than from the linking mechanism as such. Therefore, we will take over the assumption that the pronoun is an anaphoric pro-form that takes some constituent as associate. We will sidestep the issues mentioned above, however, by proposing that the dispositional subject of IM is not an event participant.

To motivate this move, let us return to examples such as (35), (36) and (40b), repeated below as (41).

- (41) *German*
- a. Ohne Decke schläft es sich gut.
without blanket sleeps it REFL well
'One sleeps well without a blanket.'
 - b. Leise streitet es sich schlecht.
quietly fights it REFL badly.
'It is difficult to fight quietly.'
 - c. Nachts schreibt es sich am Besten.
at night writes it REFL at.the best
'One writes best at night.'
 - d. Aufgeregt singt es sich schlecht.
nervous sings it REFL badly
'One does not sing well when nervous.'
 - e. Alten Damen hilft/*helfen *(es) sich leicht.
old.DAT women helps/help it REFL easily
'One helps old women easily.'

As we saw in the previous section, on an approach attributing the disposition to an event participant, these sentences are hard to unify, since the dispositional subject varies in each case: it is an event participant occupying an adjunct position in (41a), an adverbial in (41b–d), or an event participant occurring in an argument position in (41e). This is problematic if one wants to maintain a uniform approach to IM. To solve the problem, we propose to abandon the idea that the target of the disposition ascription in IM is an event participant. Instead, we propose that the dispositional subject in IM is, in fact, the event(uality) itself. (Cf. Kroll this volume, who analyzes the progressive in terms of a disposition of events.) On this approach, (41a) is not a statement about blankets, but about sleeping events, namely ones that take place without a blanket. The same holds of all other examples: (41b) is about fighting events, (41c) is about writing events, (41d) is about singing events and (41e) is about helping events.

The consequences of this idea will be developed in the following sections. In 4.1 we show that the subject pronoun involved in IM is not an expletive, but refers to an event. On the assumption that dispositions can be attributed to events, the pronoun is the syntactic *and* semantic subject of the sentence. We assume that the reference of the pronoun

is determined by an association relation between it and its associate. In IM, the associate is the syntactic locus of the event description, namely the vP. This approach leaves the additional modifier with no syntactic role to play. In section 4.2, we show that this is in fact a positive result, as the modifier has a semantic/pragmatic function only, namely to restrict the generalization made. It is this semantic/pragmatic function that derives the modifier's (near-)obligatoriness.

4.1 The syntax of IM as disposition ascriptions to events

In the literature on existential constructions, it has frequently been proposed that the expletive involved (typically (a variant of) the *there*-type expletive) is not a pure expletive, but functions as an overt realization of the event/spatio-temporal argument (e.g., Heycock 1994a; Ramchand 1996; Felser & Rupp 2001 among others).¹⁶ We propose that the *it*-type expletive which surfaces in IM has a comparable function in so far as it relates to the event(-uality) denoted by the main predicate; this enables it to function as the semantic and syntactic subject of the middle. Unlike *there* expletives in existential constructions, however, we claim that *it* in IM only refers to the event anaphorically, i.e. via an association relation with the verbal domain. In that regard, then, the pronoun in IM is comparable to the one found in extraposition contexts or certain copula constructions (see section 3.4), the sole difference being the (semantic) type of its associate. Our proposal can roughly be represented as in (42), where coindexation indicates the association relation (we use an embedded sentence to prevent the V2 requirement from affecting word order).

- (42) *German*
 weil_i es_i sich gut in dieser Disko [_{vP} tanz_i].
 because it REFL well in this disco dances
 'because one dances well in this disco.'

Informally, (42) thus attributes to a dancing event that takes place in a specific disco the dispositional property of being a *good* dancing event. Following Pitteroff & Schäfer (2017), we assume that the subject pronoun inherits the semantic type of its associate via the association relation that links the two (see also Ruys 2010, who claims that the pronoun is a variable that is operator bound by its associate). While in the case of extraposition, the pronoun stands in for something propositional, via its association relation with the vP in IM, its interpretation is that of an event (comp. the (neo-) Davidsonian treatment of verbs as predicates of events).

Our proposal makes certain predictions about the behavior and the nature of the pronoun involved in IM. First, this pronoun is correctly predicted to be obligatory in IM (43b), and therefore to behave fundamentally different from the one found in impersonal passives, which, being a true expletive, is barred from a sentence-internal position (43a).

- (43) *German*
 a. Hier wird (*es) getanzt. (Impersonal passive)
 here is it danced
 'Dancing takes place here.'
 b. Hier tanzt *(es) sich gut. (IM)
 here dances it REFL well
 'One can dance well here.'

¹⁶ See Barbiere & Rooryck (1998) for an analysis of *there*-existentials according to which *there*, in Spec,TopP, takes the FocP as its associate, i.e. a much larger constituent than is assumed in other accounts.

The obligatory presence of the pronoun in IM illustrated in (43b), then, suggests that it behaves like a quasi-argument, rather than a true expletive (which in German is restricted to sentence initial position). Dutch provides further support for this view. In Dutch, unlike in German, the true expletive and the quasi-argument are distinct in form, the former being realized as *er*, the latter as *het*. As (44) shows, it is the quasi-argument that surfaces in IM (Hoekstra and Roberts 1993; A & S 1994; Lekakou 2005a; Pitteroff 2014 among others). As noted already, the same pronoun appears in the context of extraposition and the relevant copula constructions (see Bennis and Wehrmann 1987).

(44) *Dutch*

- a. Het/*er fietst lekker op het fietspad.
it/ there cycles nicely on the bikeway
'It is nice to cycle on the bikeway.'
- b. Het/*er eet niet prettig in een hoog tempo.
it/ there eats not pleasantly in a high speed
'It is not pleasant to eat at a high speed.'

Following Bennis (1986); Vikner (1995); Ruys (2010), we assume that *het*-type pronouns differ from expletive *er* in being argumental and fully specified for phi-features (e.g., Cardinaletti 1990; Richards & Biberauer 2005; see Deal 2009 for an analysis in which expletives also have phi-features, albeit unvalued ones). Recall from section 2.2 that our analysis of PM in German involves movement of the dispositional subject to Spec,DispP, with subsequent phi-feature valuation of DISP. Due to its nominal nature and its phi-specification, the pronoun that occurs in IM can value the unvalued phi-features on DISP, occupy its specifier, and thus function as the dispositional subject. The question now arises whether the subject pronoun in IM is base-generated in Spec,DispP, or is moved there. We will approach this question by eliminating potential positions.

Since we assume with Schäfer (2008) that the external argument position in German middles is occupied by the reflexive pronoun, this is not a possible base position for the subject pronoun in IM, given that both elements obligatorily co-occur (45).

(45) *German*

- Hier tanzt *(es) sich gut.
here dances it REFL well

There is in principle the option of merging the pronoun in the object position under a pseudo-transitive analysis of IM (e.g. Haider & Rindler-Schjerve 1987; see Dobrovie-Sorin 1998; Cabredo-Hofherr 1999; 2006 for a pseudo-transitive analysis of impersonal passives). This might seem reasonable, since most of the predicates that occur in IM optionally license (cognate) objects.

(46) *German*

- a. Peter tanzt den Walzer.
Peter dances the waltz
- a'. Es tanzt sich gut hier.
it dances REFL well here
- b. Er schläft den Schlaf der Gerechten.
he sleeps the sleep of.the just
- b'. Es schläft sich gut hier.
it sleeps REFL well here

Yet, as shown in (47), exceptions can be found, which renders a pseudo-transitive analysis of IM implausible (see also Pitz 1988). Particularly (47c) appears problematic for this possibility, given that an internal argument is already present and co-occurs with the pronoun. (Although NOM-ACC-DAT verbs do exist in German, *helfen* is not one of them. It is therefore unlikely that *es* in (47c) is merged as a second internal argument).

(47) *German*

- a. Hans liegt (*das Bett).
John lies the bed
- a.' Es liegt sich gut auf diesem Sofa.
it lies REFL well on this sofa
- b. Hans sitzt (*den Stuhl/?den Schneidersitz).
John sits the chair the tailor-seat
- b.' Es sitzt sich angenehm hier.
it sits REFL pleasantly here
- c. Einem Obdachlosen hilft es sich leicht.
a.DAT homeless.person helps it REFL easily
'Helping a homeless person is easy.'

An anonymous reviewer points out that the verbs in (47a) and (47b) allow resultative constructions with spurious *sich* (48a, b).

(48) *German*

- a. Hans liegt sich den Rücken wund.
John lies REFL the.ACC back sore
'John's lying down causes his back to become sore.'
- b. Hans sitzt sich den Hintern platt.
John sits REFL the.ACC bottom flat
'John sits so much that his backside becomes flat.'

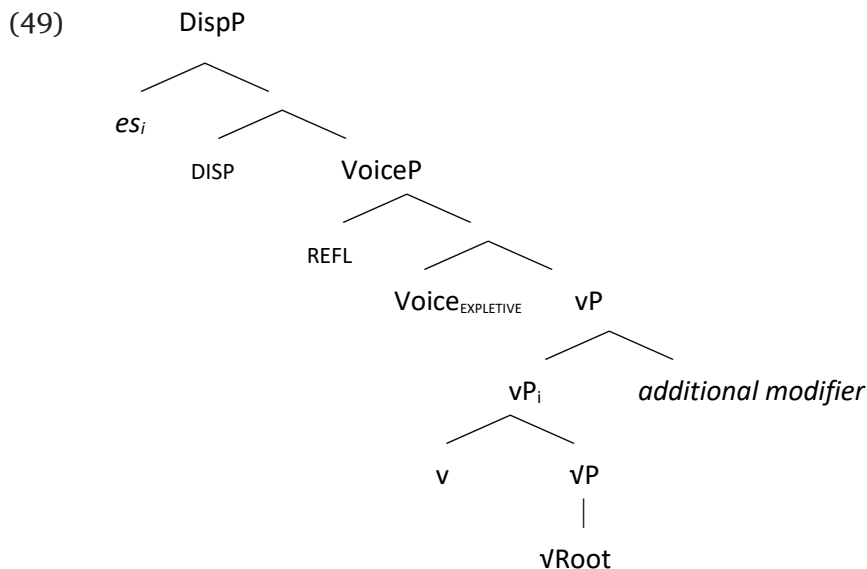
As (48) shows, such a resultative construction licenses a reflexive pronoun, as well as an additional, accusative-marked argument (the latter possibly functioning as the subject of a small clause complement). One could thus suggest that IM have a similar syntax, so that the subject pronoun can be base-generated VP-internally as the subject of the small clause. Yet, such a structural similarity is implausible given the lack of a semantic motivation for it: the IMs in (47a'), (47b') are not interpreted as resultatives (thanks to Marcel den Dikken, p.c., for pointing this out to us). There is thus no evidence for a small clause in IM that could host the *it*-type pronoun.

Since no position for the pronoun is available inside the narrow verbal domain (i.e. Voice and below), we propose that the pronoun in IM is directly merged in Spec,DispP, i.e. as the subject of the dispositional predicate.¹⁷

¹⁷ In conjunction with the frequently made assumption, which we endorse, that *it*-type "expletives" require a theta-role (e.g., Ruys 2010; see Bolinger 1973 for the claim that all instances of *it* are referential, which would also require them to be assigned a theta-role), the question may arise how the subject pronoun is theta-licensed. Following Heycock (1994a; b); Rothstein (2001); Landau (2009), we assume that predication itself may license arguments. It is thus the dispositional predicate (created via the low generic operator, DISP) that licenses the pronoun via predication. One piece of evidence advanced in support of the view that predication may license arguments in the absence of theta-role assignment comes from the so-called copy raising construction (i).

(i) I read the letter where Julia told me about her new pets. Her cat sounds like it must have been very expensive.

The syntactic structure we propose for German IM is given in (48). Note that in the tree we omit representation of the evaluative/manner adverb *easily*, which is not directly relevant for our current concerns (it can, for instance, be an outer adjunct). For the sake of simplicity, we also abstract away from V-to-C movement. Thus, the tree in (49) does not represent how the structure is linearized, which is (also) a PF-issue, and thus not entirely determined in narrow syntax.



As in the case of (marked) anticausatives and PM, the syntax of IM involves expletive Voice, which hosts the reflexive pronoun in its specifier and blocks the introduction of a potential thematic external argument. Since IM are generally based on unergative predicates (see the end of this section for some refinement), IM differ from anticausatives or PM in that no internal argument is projected. In other words, while marked anticausatives and PM are syntactically transitive, IM are syntactically intransitive, and, in fact, unergative (due to the reflexive pronoun in Spec, VoiceP). As a consequence, IM are correctly predicted to fail the unaccusativity diagnostics: for instance, they select *have* and cannot form prenominal past participles.

We wish to stress at this point that under the proposed analysis, IM is actually a misnomer: what we call IM are, via the pronoun in subject position, just as personal as “canonical” instances of PM. In other words, since the disposition always has to be assigned to something, subjectless middles do not exist; every instance of a middle involves a referential subject and is therefore personal. Support for this view comes from the distribution of implicit control. Pitteroff & Schäfer (2017) show that there is a systematic correlation between languages that allow implicit control with *try*-type matrix predicates (implicit predicative control (50b); see Landau 2015) and languages that license impersonal passives (50a). Furthermore, they show that all languages in their investigation allowed implicit control with *decide*-type matrix predicates (implicit logophoric control) in (50c):

- (50)
- | | | |
|----|----------------------------------|--------------------------------|
| a. | *It was danced. | (impersonal passive) |
| b. | *It was tried to open the door. | (implicit predicative control) |
| c. | It was decided to open the door. | (implicit logophoric control) |

In (i), the DP *the cat* cannot be interpreted as the perceptual source, and therefore, as being thematically related to *sound*. It must then be the case that it is licensed via predication.

Although the details need not concern us here, we would like to stress the contrast between (50a) and (50c). Pitteroff & Schäfer argue extensively that the matrix passive in (50c) cannot be an impersonal passive, as otherwise the unacceptability of (50a) and (50b) could not be explained. These authors therefore conclude that (50c) involves a personal passive, and since personal passives are acceptable in all languages under investigation, the fact that implicit logophoric control is possible does not come as a surprise. Pitteroff & Schäfer consequently argue that the subject pronoun in (50c) is not expletive, but argumental and theta-marked, so that its movement to subject position derives a personal passive, completely in parallel to “canonical” cases like *This issue was decided yesterday*. They further show that the pronoun starts out as the internal argument and stands in an association relation with the infinitival clause, from which it inherits its semantic type – it is thus of the same sort as the pronoun we argued is involved in IM, the sole difference being the semantic type of the associate (proposition vs. event). Therefore, IM are personal in the same way the passive in (50c) is.

Turning now to Dutch, the question is whether the structure in (49) carries over to this language too. Recall that Dutch IM (and PM alike) disallow the weak reflexive *zich*. This raises the following question: does expletive Voice also exist in this language, and, if so, what lexicalizes it?

With respect to this question, Schäfer (2008) points out that, due to its semantic vacuousness, an expletive VoiceP without any overt realization of either its specifier or its head creates learnability issues: a structure with such an “empty” expletive Voice would effectively be indistinguishable from a structure that lacks VoiceP altogether. He therefore proposes that Dutch PM also involve expletive Voice, but unlike in German, the internal argument moves to its specifier, thereby licensing it. This movement does not violate the Theta-Criterion because the target position is non-thematic, and allows Schäfer to maintain the same underlying structure for German and Dutch PM, which is, furthermore, in line with a configurational theta theory, as the Theme argument is base-generated VP-internally in *both* languages. Finally, in addition to giving content to expletive Voice, the movement to Spec, VoiceP could potentially be implicated in the claimed unergative behavior of Dutch middles (on which see Fagan 1992; A&S 1994; 1995; Broekhuis & Corver 2015).

Even if we were to assume Schäfer’s solution for Dutch PM, extending this kind of approach to Dutch IM is problematic. Since we propose to base-generate the subject pronoun in Spec,DispP, and since there is no (other) argument projected in IM, the specifier of expletive Voice is left empty (recall that the pseudo-transitive analysis of unergatives is untenable). We will briefly consider two potential ways how to reconcile IM with Schäfer’s analysis of PM. It will turn out that each one has its own problems.

One option is to base-generate the subject pronoun as an internal argument in Dutch IM. This may appear initially plausible, given the claim in Broekhuis & Corver (2015) that Dutch IM license locative, but not directional PP-modifiers as in (51):

- (51) *Dutch* (Broekhuis & Corver 2015: 496)
- a. De trampoline springt lekker.
the trampoline jumps nicely
Available reading: ‘It is nice to jump on the trampoline.’
Impossible reading: ‘It is nice to jump onto the trampoline.’
 - b. Het_i springt lekker [op de trampoline]_i.
it jumps nicely on the trampoline
Available reading: ‘It is nice to jump on the trampoline.’
Impossible reading: ‘It is nice to jump onto the trampoline.’

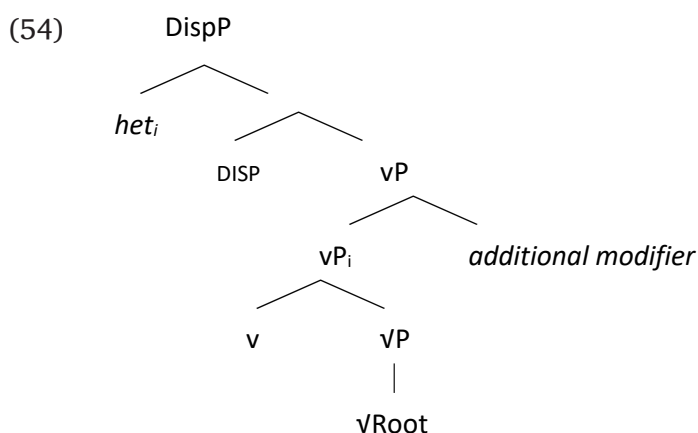
Hoekstra & Mulder (1990) propose that structures containing directional PPs are unaccusative: the PP functions as the predicate of a small clause complement to the verb, taking the single argument of the verb as its subject. If, now, the subject pronoun in IM was base-generated as an internal argument, too, it would be in complementary distribution with the small clause that introduces directional PPs.¹⁸ As it turns out, however, the empirical claim made by Broekhuis & Corver (op.cit.) is not correct: the directional interpretation is available in other examples involving spatial PPs such as (52) and (53) (Hedde Zeijlstra, p.c., and Olaf Koeneman, p.c.):

- (52) *Dutch*
 Het klimt lekker op dat dak.
 it climbs easily on that roof
 ‘It is easy to climb on the roof.’
 ‘It is easy to climb onto the roof.’
- (53) a. Het springt makkelijk over deze rivier (heen).
 it jumps well over this river to
 ‘One jumps over this river easily.’
 b. Via de A2 reist het lekker naar Amsterdam.
 via the A2 travels it well to Amsterdam
 ‘One travels to Amsterdam easily via the A2.’

There is thus no evidence in favour of merging the pronoun in Dutch IM as an internal argument.

A second possibility is to have Spec,VoiceP host the subject pronoun (which subsequently would move to Spec,DispP). This makes possible an otherwise uniform syntax for IM in the two languages, as both would involve expletive Voice. Note, however, that this comes at the cost of a difference between German and Dutch *it*-type pronouns in IM (i.e. the former are base-generated in Spec,DisP, the latter in Spec,VoiceP) for which no independent evidence is (at this point at least) available.

There is an obvious alternative to consider, namely that Dutch middles lack expletive Voice. This would be consonant with the fact that Dutch systematically does not employ *zich* in any “valency-reducing” structures (such as anticausatives, PM, or IM) — see Steinbach (2002); Lekakou (2005a; b); Schäfer (2008) for relevant discussion. On this alternative, the syntax of IM in Dutch is as in (54):



¹⁸ In German, directional and locative PPs are formally distinguished in terms of case-marking (accusative vs. dative respectively; see Haselbach & Pitteroff 2015; Haselbach 2017 for discussion), which effectively disambiguates examples such as (51b) morphologically.

We consider the option in (54) more in keeping with the evidence currently available. Given that we treat IM as belonging to the same family as PM, it becomes pertinent to address the issue of whether PM in Dutch also do not involve expletive Voice (contra Schäfer 2008). The investigation of this question goes beyond the limits of this paper, and we therefore leave it open for future investigation.

Before we proceed to the discussion of the additional modifier, let us briefly consider a concern expressed by an anonymous reviewer. He points out that nothing in our account of IM so far blocks the co-occurrence of *it* with a transitive predicate (55).

(55) *German*

*Ich glaube, dass es sich einen Roman leicht liest.
 I believe that it REFL a.ACC novel easily ready
 'I believe that reading a novel is easy.'

What derives the fact that IM must be based on intransitive predicates? It seems to us that the answer must rely on the empirical generalization that a language with IM also has PM (but not the other way round) and that a PM has to be derived where possible, i.e. the possibility of a PM blocks the derivation of an IM. A reason for this could be case. It has been argued that case assignment is determined at the VoiceP-level (Sigurðsson 2000; 2003; Schäfer 2008; 2012). Adopting a dependent case approach (see Marantz 2000 for the original formulation), the assignment mechanism works as follows. The argument that has valued the phi-features on Voice receives nominative, the one that has not receives dependent accusative case (unless it is specified for lexical case). Since the reflexive pronoun has unvalued phi-features itself (cf. Burzio 1991; Kratzer 2009; Schäfer 2012 for similar proposals), it cannot value the phi-features on Voice. Therefore, any internal argument that is eligible for structural case will enter an Agree-relation with Voice and value its phi-features. As a consequence, this DP will surface with nominative case, deriving a PM. An IM such as (55), with a transitive predicate and an accusative-marked internal argument, can therefore simply not be generated.

Support for this approach comes from the fact that IM can be based on transitive predicates (where “transitive” means the presence of an external and an internal argument), but only if the internal argument cannot be promoted to subject position, e.g. when it receives lexical case (47c) (repeated here for the sake of convenience).

(47) c. Einem Obdachlosen hilft es sich leicht.
 a.DAT homeless-person helps it REFL easily
 'Helping a homeless person is easy.'

In (47c), the phi-features on Voice cannot be valued, either by the internal argument, which is inactive due to its lexical case, or by the reflexive pronoun in Spec,VoiceP, which lacks valued phi-features. Therefore, Voice agrees with DISP (via cyclic Agree, see Legate 2005), and the pronoun in Spec,DispP values this agreement chain, receiving nominative case.

4.2 The additional modifier

We have so far provided answers to two of the three questions in (28): (i) the pronoun in IM is required because it functions as the syntactic and semantic subject of the disposition ascription; (ii) via the pronoun's association relation with the vP, the disposition is assigned to an event(uality), rather than an event participant. The question that remains unanswered is why IM require the additional modifier, if it is not itself the dispositional

subject. We propose that this modifier is needed for semantic/pragmatic reasons, namely to restrict the generalization made by the sentence. Our approach to the additional modifier is reminiscent of pragmatic analyses of the manner/evaluative modifier in PM (e.g. Goldberg & Ackerman 2001). Although we do not think that a pragmatic approach to “easily” is tenable for PM (see Lekakou 2005a; 2006 for a critical evaluation), we believe that it is correct for the additional modifier in IM.

Let us consider an IM without an additional modifier, as in (56).

- (56) *German*
 (Ich glaube,) #dass es sich gut tanzt.
 I believe that it REFL well dances
 ‘#I believe that one dances well.’

Sentence (56), we argue, is syntactically well-formed, but semantically problematic (whence the #-notation). The sentence expresses that in virtue of their internal make-up, dancing events are such that dancing is good. The generalization made by (56), therefore, is simply too broad – and inevitably false. What is required for (56) to be felicitous is a proper restriction of the generalization made. This restriction is contributed by what we have been referring to as “the additional modifier” (which, recall, can be a PP, but also a secondary predicate, or even an oblique argument). It seems that it is difficult to construe events, in and of themselves, as having inherent properties that can affect the way they are realized. Whereas, for instance, books have several properties that may affect the way they are read (language, style, font size, etc), rendering *This book reads easily* acceptable, events, we contend, cannot easily determine their realization in a comparable way. Yet, once the event is restricted, properties that can affect its realization can be identified. For instance, in (56) the restriction could be to dancing events in a certain location, on a crowded dance floor, to the right kind of music, etc.¹⁹

Our claim about the semantic/pragmatic function of the additional modifier suggests a parallel with non-middle sentences that express, so to speak, a comparably uninformative generalization. The status of IM in (57) is the same as that of the impersonal *man*-construction in (58).

- (57) *German*
 a. Es tanzt sich #(in dieser Disko/betrunken/ohne Schuhe)
 it dances REFL in this disco drunk without shoes
 besonders gut.
 particularly well
 ‘Once can dance particularly well (in this disco/drunk/without shoes).’

¹⁹ Interestingly, our analysis of IM comes very close to what Condoravdi (1989a) proposed for PM. According to Condoravdi, who assumes a quantificational analysis of generics (Krifka et al. 1995, among others), middles involve generic quantification over events, as in (i). The nuclear scope of the generic operator is filled only by the manner/evaluative modifier; everything else, including the verbal predicate, is mapped to the restrictor.

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

This essentially parallels what we claim for IM: the event denoted by the verb, including verbal modifiers which restrict the generalization, occur in the restrictor of DISP (the low generic operator), leaving only the ‘easily’-type modifier in the nuclear scope.

This is consonant with the suggestion made by an anonymous reviewer that the additional modifier functions as a topic and is required in IM because every sentence needs a topic. As a topic, it maps onto the restrictor of the generic operator, essentially fulfilling the function we mention in the text.

- b. Ich glaube, dass es sich #(nackt/in diesem Bett/nachmittags) gut schläft.
I believe that it REFL naked in this bed in-the-afternoon well sleeps
'I believe that one can sleep well (naked/in this bed/in the afternoon).'
- (58) a. Man tanzt #(in dieser Disko/betrunken/ohne Schuhe) besonders gut.
one dances in this disco drunk without shoes particularly well
'One dances particularly well (in this disco/drunk/without shoes).'
- b. Ich glaube, dass man #(nackt/in diesem Bett/nachmittags) gut schläft.
I believe that one naked in this bed in-the-afternoon well sleeps
'One sleeps well (naked/in this bed/in the afternoon).'

In the absence of the PP-modifier or the depictive predicate, the sentences in (58) lack informative content. Crucially, it is the addition of exactly the same type of modifiers that are required in IMs that renders the examples in (58) acceptable. This parallelism between (57) and (58) speaks in favor of our approach to the additional modifier in IM.²⁰

We provide two types of arguments to support our view regarding the function of the additional modifier. The first argument comes from distribution. What we predict is that any type of modifier is licensed in IM, as long as it modifies the event, and is thus able to restrict the generalization made. For purposes of illustration we adopt the classification of modifiers by Maienborn and Schäfer (2011), given in Figure 1. Of the categories listed, the ones that are capable of modifying (and thus restricting) the event are (a) participant-oriented adverbs and (b) verb-related adverbs.

The data in (59) show that it is exactly these categories of adverbs that are licit in IM.

- (59) *German*
- a. Leise streitet es sich schlecht. (verb-related; manner adverbial)
quietly fights it REFL badly.
'It is difficult to fight quietly.'
- b. Unabsichtlich klaut es sich leichter. (verb-related; mental-attitude adverbial)²¹
unintentionally steals it REFL easier
'It is easier to steal unintentionally.'
- c. Mit Flossen schwimmt es sich leicht. (participant-oriented; instrument)
with fins swims it REFL easily
'It is easy to swim with fins.'
- d. Nachts schreibt es sich am besten. (participant-oriented; temporal)
at-night writes it REFL at.the best
'One can write best at night.'

²⁰ It has been observed by Grimshaw and Vikner (1993) that obligatory adjuncts also occur in certain English episodic passives (i). According to Goldberg & Ackerman (2001), (ia) is infelicitous for pragmatic reasons, i.e. its relative uninformative nature.

(i) a. #This house was built.
b. This house was built last year/in Spain/in a hurry.

²¹ It is a novel observation that agent-oriented modifiers are licit in (impersonal) middles. We observe that such modifiers are more likely to be accepted if the evaluative modifier appears in the comparative, rather than the positive degree: (60b) is better than the version with the positive degree of the adverb in (i):

(i) ??Unabsichtlich klaut es sich leicht. (verb-related; mental-attitude adverbial)
unintentionally steals it REFL easy
'It is easy to steal unintentionally.'

We suspect that this effect of the comparative comes about as a result of interaction with the information structure of the middle sentence, and the alternatives created by the comparative.

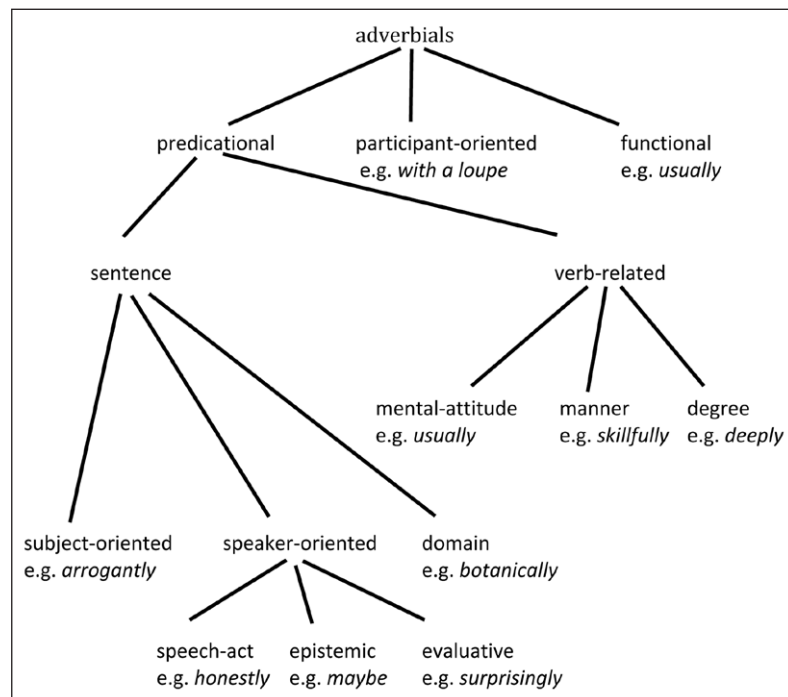


Figure 1: Classification of adverbials (Maienborn & Schäfer 2011: 1402).

- e. Auf dieses Dach klettert es sich leicht. (participant-oriented; directional)
 on this roof climbs it REFL easily
 ‘One can climb well onto this roof.’

We have also seen other examples of modifiers that are acceptable in IM. This is because they can appropriately restrict the generalization made by IM. In (60a), an example of a depictive is repeated, and (60b) illustrates the acceptability of a conditional clause.

(60) *German*

- a. Aufgeregt singt es sich schlecht. (secondary predicates; depictive)
 nervous sings it REFL badly
 ‘One cannot sing well when nervous.’
- b. Wenn man schlecht geschlafen hat, lernt es sich
 if one badly slept has studies it REFL
 schlecht. (conditional clause)
 badly
 ‘When one hasn’t slept well, studying is difficult.’

By contrast, VP-external modifiers (sentence or functional adverbials in Maienborn & Schäfer’s classification) do not restrict the event, and are correctly predicted to be insufficient to render an IM acceptable. Note that if a suitable adverbial were added to the (b) examples below, they would be well-formed.

(61) *German*

- a. Ehrlicherweise mag ich ihn auch nicht. (speech act adverbial)
 honestly like I him also not
 ‘Honestly, I also don’t like him.’
- b. #Ehrlicherweise sitzt es sich gut. IM
 honestly sits it REFL well
 ‘Honestly, one sits well.’

- (62) a. Vermutlich tanzt er wieder. (epistemic adverbial)
presumably dances he again
'Presumably he dances again.'
- b. #Vermutlich sitzt es sich gut. IM
presumably sits it REFL well
'Presumably, one sits well.'
- (63) a. Vielleicht tanzt er wieder. (epistemic adverbial)
maybe dances he again
'Maybe he dances again.'
- b. #Vielleicht schreibt es sich leicht. IM
maybe write it REFL easily
'Maybe it is easy to write (professionally).'
- (64) a. Glücklicherweise tanzt er wieder. (evaluative adverbial)
luckily dances he again
'Luckily he dances again.'
- b. #Glücklicherweise schreibt es sich gut. IM
luckily writes it REFL well
'Luckily one writes well (professionally).'

A second argument in favour of our proposal comes from the fact that the additional modifier may be omitted if the required restriction is contributed contextually. Consider (65), where the context includes explicit mention of the "additional modifier", namely 'this new disco' in (65a) and 'being naked' in (65b):

- (65) *German*
- a. Was denkst Du über diese neue Disko? Naja, **es tanzt sich ganz gut**,
what think you about this new club Well, it dances REFL quite well
...aber es ist schwierig hinzukommen.
...but it is difficult to.get.there
'What do you think about this new club? Well, one can dance well...but it is difficult to get there.'
- b. Context: John decided to try and live the life of a nudist. After a couple of days, Peter asks him:
Wie ist es so die ganze Zeit nackt zu sein? Naja, **es schläft sich gut**,
how is it so the whole time naked to be Well it sleeps REFL well
...aber die Blicke der Passanten nerven schon.
...but the views the-PL.GEN passers-by annoy.3PL indeed
'How is it to be naked all the time? Well, one can sleep well...but the astonished looks are annoying indeed.'

Although individual speaker judgments may vary, speakers generally accept examples such as the ones in (65). For instance, we included (65a) as a filler item in a questionnaire study and it patterned with the class of fully acceptable test items (raw mean rating: 5.25 on a 7-point Likert scale, with 1 = unacceptable and 7 = fully acceptable; n = 71).

Importantly, under the analysis that treats the additional modifier as the dispositional subject (see section 3.4), the data in (65) cannot be easily explained. If the additional modifier is required because it functions as the dispositional subject, the acceptability of the IM in (65) is unexpected. One would be forced to assume some covert modifier that *it*

associates with and that functions as the semantic subject, which does not seem plausible. Nothing like that is required under our analysis, which effectively predicts the acceptability of such data.

5 Agentivity in middles

Before we conclude, let us briefly comment on an issue that we have touched upon already in section 2.2, namely the question concerning the Agent that is semantically present in IM. As this issue is relevant for PM as well, and there are more analyses of this type of middle, we will illustrate the problem through a discussion of agentivity in PM.

Recall that, unlike the implicit Agent in passives, the Agent in middles fails standard agentivity diagnostics (*by*-phrases, control into purpose clauses).²² Recall also that this behavior of the Agent in middles is captured in lexicalist frameworks via pre-syntactic binding/saturation of the external argument (e.g. Fagan 1992; A & S 1994; 1995; 2006; Lekakou 2005a), and in the syntactic framework of Schäfer via the projection of expletive Voice. While the semantic presence of the Agent comes for free under the former type of approach, due to the presence of the Agent at a pre-syntactic level where the lexical semantics of a predicate is encoded, more needs to be said under Schäfer's analysis, where middles are claimed to be syntactically identical to marked anticausatives, which lack agentivity altogether. In a way implementing Condoravdi's (1989a) claim that the Agent in middles can be had as an "entailment of the lexical meaning of the verb" (Condoravdi 1989a: 19), Schäfer proposes that it is the interplay of three factors that derives the Agent in middles post-syntactically, at the C-I interface: (i) the verbal root must be compatible with an Agent (such that middles of unaccusatives are blocked), (ii) expletive VoiceP must be present, and (iii) the low generic operator must be involved. Adopting a possible-worlds approach to genericity, Schäfer proposes that the ordering source is stereotypical, such that only worlds are considered that are closest to the actual world. Since in the actual world, e.g., a reading event implies the presence of an Agent, the latter can be recovered at a conceptual level.

An alternative syntactic derivation of middles, in which agentivity is more firmly encoded in the semantics (and syntax), is provided by Bruening (2013). Bruening proposes that middles involve a canonical, agentive Voice head that introduces an Agent variable. To form a middle, this Voice head needs to combine with a MiddleVoice head, which strictly s-selects for a projection of the type $\langle e \langle s, t \rangle \rangle$, i.e. a projection where the external argument slot has not been saturated. It is this property in Bruening's system that derives the difference between middles and passives regarding, e.g., *by*-phrases. For Bruening, the latter semantically contribute the external argument and saturate the argument variable introduced by Voice. The addition of a *by*-phrase thus turns the VoiceP into a constituent of type $\langle s, t \rangle$, which cannot combine with MiddleVoice. Unlike MiddleVoice, the Pass head that combines with the VoiceP is type-flexible and semantically selects for a projection of type $\langle e \langle s, t \rangle \rangle$ (in the absence of a *by*-phrase) or $\langle s, t \rangle$ (in the presence of a *by*-phrase). MiddleVoice in Bruening's analysis furthermore existentially quantifies over

²² The attentive reader will have noted examples like (36c), (39a), (59b) or (60a), where middles license Agent-oriented depictives, control into a complement clause, and Agent-oriented adverbs respectively. We believe, however, that this is not inconsistent with the claim that the Agent is syntactically absent in middles. It seems to us that the different agentivity diagnostics are not sensitive to the same thing. While some diagnostics require the Agent to be present only at some level of semantic representation, others require a syntactic realization of the Agent; this may take e.g. the form of a covert pronoun, as in Landau (2010); Legate (2014), or be encoded in a specific syntactic head, as in Bruening (2013); Alexiadou et al. (2015).

the Agent variable introduced by Voice, assigning it arbitrary reference, and introduces generic quantification over events (see Condoravdi 1989a).

Both syntactic approaches just sketched have their shortcomings regarding their handling of agentivity in middles. For Schäfer, the fact that middles license instruments (66a) appears problematic. Instruments require agentivity, as is indicated by the fact that their presence disambiguates (66b) in favor of the middle interpretation (66c). To account for this, Schäfer would be forced to assume that such modifiers can be licensed extremely late in the derivation (at the CI-Interface, to be precise).

- (66) a. This bread cuts easily with a knife.
 b. This door opens easily. (^{ok}middle-reading/^{ok}anticausative-reading)
 c. This door opens easily with a crowbar. (^{ok}middle-reading/*anticausative-reading)

Furthermore, Schäfer's assumption that expletive VoiceP needs to be present in order to provide a syntactic anchor for the conceptually reconstructed Agent seems rather paradoxical, given that the VoiceP-projection involved is expletive, and therefore explicitly lacks agentive semantics. Although it may seem a reasonable assumption from the point of view of a tight syntax-semantics relationship, it seems to us at odds with the claim that the Agent occurs merely as an implicature at C-I interface and is not syntactically represented. A final problem, relating to this assumption, is the following. In principle, nothing rules out dispositional readings of anticausatives, marked or unmarked, i.e. the combination of the low generic operator (which brings in an ordering source compatible with our encyclopedic knowledge) with the relevant roots – this is, after all, why examples such as (66b) are ambiguous. The only difference is that anticausatives do not give rise to the Agent implicature. However, in the case of marked anticausatives, all of the ingredients are in place which on Schäfer's approach deliver the Agent implicature. What explains that marked anticausatives have an agentless interpretation nonetheless?

While Bruening's account can derive the facts involving instruments (due to the presence of canonical agentive Voice), it seems that the contrast with passives can only be derived by brute force, or, in some cases, not at all. As mentioned above, the unacceptability of *by*-phrases in middles in Bruening's analysis is due to the specific MiddleVoice head which, unlike Pass, is not type-flexible. Independently from the fact that the flexibility is problematic in the case of passives (requiring two different Pass-heads, as it were), the behavior of middles is thus hard-wired into a middle-specific head. In other words, Bruening's syntactic analysis postulates a specific middle-forming operation. This goes against analyses of the middle as a notional, rather than a grammatical category, i.e. conceptions of the middle as an interpretation that independently available structures give rise to, as in Condoravdi (1989a); Lekakou (2005a); Pitteroff (2014). Furthermore, there are other differences between the implicit Agent of passives and the one in middles that cannot be captured by Bruening's system: for instance, while the former can control into purpose clauses, the latter cannot. If middles and passives both involve agentive Voice, and the latter allows this type of control relation, the former should in principle do so, too. Obviously, one could imagine modifying the MiddleVoice head further to take care of this issue, but this would just push the analysis further into the direction of a construction-specific syntax. Finally, since Bruening focuses on PM in English, he has nothing to say about the morphological marking found in middles in e.g. German, and the fact that this marking is syncretic with the one of (certain) anticausatives. This syncretism is, under Bruening's analysis, accidental.

As the above has made clear, there is currently no (syntactic) theory of PM that can reasonably derive the ambivalent status of the Agent in middles: while it is clearly present

at (some) semantic level, it is also less active syntactically than the implicit agent of passives. How this intermediate status of the agent in PM, or in IM, is to be derived in syntactic frameworks thus remains an open issue.

6 Concluding remarks

In this paper we have argued that middle sentences in general are best characterized as dispositional generics. Following Lekakou (2004; 2005a), PM involve a disposition ascription to the Patient/Theme. IM, we propose, involve a disposition ascription as well. A close inspection of the types of elements that can appear as the “additional modifier” in IM reveals that it is impossible to identify a particular event participant as the target of the disposition ascription in IM. This has led us to propose that IM ascribe a disposition ascription to the event(uality) itself. Quasi-argumental ‘it’ in IM is base-generated as the subject of the dispositional predicate, taking the vP (namely the syntactic locus of the event description) as its associate. The subject pronoun thus functions as the syntactic and semantic subject of IM. Finally, we argued that the additional modifier in IM is required in order to restrict the generalization expressed by the IM.

If our treatment is on the right track, it follows that there is nothing impersonal about IM: the subject pronoun is not an expletive, but an argument and fully referential. It does not pick out an individual as its referent, but an event description. We therefore suggest that there are no impersonal middle constructions in general, which is a welcome result if one assumes that middles are uniformly characterized as disposition ascriptions. In whatever guise they come, middles always require a (semantic) subject for the dispositional predication.

An interesting upshot of this line of thought concerns so-called adjunct middles, a subspecies of middles possible in Dutch (but not German). In adjunct middles, illustrated in (67), the syntactic subject is a nominal, which in the transitive variant would correspond to a constituent inside a PP-element.

- (67) *Dutch* (A & S 1994)
- a. Deze stoel zit lekker.
this chair sits comfortably
‘This chair is comfortable to sit on.’
 - b. Deze tafel eet prettig.
this table eats pleasantly
‘This table is pleasant to eat at.’

For adjunct middles, A & S 1994 (see also A & S 2006; 2015) argue that they are not really different from PM. A & S argue that the corresponding PP is not an adjunct, but an argument PP, thus an argument present at Lexical Conceptual Structure. Thus, adjunct middles are amenable to more or less the same analysis as the one adopted for PM.

A & S’s approach to adjunct middles is consistent with the generalization that middles are uniformly disposition ascriptions. They may come in two guises: those that ascribe a disposition to an event participant (PM, including adjunct middles), and those that ascribe a disposition to the event itself (so-called impersonal middles).

Many issues have been left open for further research, such as the representation of the Agent in middles (section 5), or the question concerning the presence of expletive Voice in Dutch middles (section 4.1). We have not addressed the question of which languages have IM, i.e. the factor responsible for the availability of IM in a given language. Both German and Dutch, which have IM, have impersonal passives, whereas English lacks both. One could therefore imagine that there is a connection between the two constructions. Lekakou (2005a) has explicitly made this link for French or Greek PM (Type II middles

in A&S 2006), which, she argued, are parasitic on (reflexive) passives; the absence of impersonal passives in Greek, then, correctly predicts the unavailability of IM. How the connection between middles and passives is to be formulated in languages where the former are not parasitic on the latter (Type I middles in A&S 2006; Dutch, German, English), is less straightforward.

Abbreviations

REFL = reflexive pronoun, DAT = dative, ACC = accusative, GEN = genitive, PL = plural

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Competing Interests

The authors have no competing interests to declare.

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