

**Agentivity versus Auxiliary Choice:
Evidence from Pronominal Binding in German Acl-constructions**

Vera Lee-Schoenfeld

University of California, Santa Cruz

December 2003

Vera Lee-Schoenfeld

University of California, Santa Cruz

Department of Linguistics

1156 High Street

Santa Cruz, CA 95064

vls@ucsc.edu

Abstract

This paper is a response to Frey's (1993) and Haider's (1985) accounts of pronominal binding in German Accusativus cum Infinitivo (AcI)-constructions. AcIs occur as complement of permissive or causative *lassen* 'let, allow, have' or perception verbs and can be headed by transitive, unergative, or unaccusative infinitives. While I agree that the pronominal binding facts are a reflection of unaccusativity, I argue, contra Frey and Haider, that unaccusativity cannot reliably be diagnosed by auxiliary choice. Instead, I propose that unaccusativity is directly linked to agentivity, and that it is the structural correlate of agentivity, namely the presence or absence of a functional verbal projection, which determines the pronominal binding possibilities.

Agentivity versus Auxiliary Choice:
Evidence from Pronominal Binding in German Acl-constructions

1. Introduction

In configurational theories of binding, the distribution of pronominals and anaphors can provide evidence regarding clause structure. This paper exploits this possibility in connection with German Accusativus cum Infinitivo (Acl)-constructions embedded under permissive or causative *lassen* ‘let, allow, have’ and perception verbs like *hören* ‘hear’.

The Acl-constructions in (1) and (2), for example, present an interesting puzzle regarding the pronominal binding facts.

- (1) Martin_i hört [Acl_i den Mann_j über sich_{i/j}/ihn_{i/*j} reden].

Martin hears the.ACC man about self/him talk.INF

‘Martin hears the man talk about himself/him.’

- (2) Der kleineJunge_i lässt [Acl_i den Stein sich_i/ihm_{*i} auf den Kopf fallen].

the little boy lets the.ACC rock self/him on the head fall.INF

‘The little boy lets the rock fall on his head.’

The non-reflexive pronoun (henceforth pronominal) can be coreferent with the matrix subject in (1), but not in (2). Thus, while the pronominal *ihn* in (1) may be bound by *Martin*, *ihm* in (2) may not be bound by *der kleine Junge*. In both cases, the anaphoric element and the matrix-clause antecedent are separated by the left edge of the Acl.

In previous work (see Frey 1993 and Haider 1985), this difference in binding facts has been attributed to the unergative/unaccusative distinction. More specifically, the claim is that, in an AcI with an unaccusative infinitive, a pronominal bound by the matrix subject is ungrammatical (see (2)). An AcI with an unergative or transitive infinitive, on the other hand, constitutes a domain in which a pronominal bound by the higher subject can be free and is thus grammatical (see (1)). Although I agree that the pronominal binding facts in AcI-constructions are a reflection of unaccusativity, I argue against the use of auxiliary choice as a reliable diagnostic for the unergative/unaccusative distinction. Thus, unlike Frey and Haider, I do not take selection of the perfect auxiliary *sein* ‘be’, as opposed to *haben* ‘have’, to be a sure sign of unaccusativity. The fact that the AcI-infinitive *fallen* ‘fall’ in (2), for instance, is a *sein*-selecting verb does not automatically mean that it is unaccusative. This view finds support in recent work by Sorace (2000) and Keller & Sorace (2003), who are concerned with identifying the cross-linguistic parameters of auxiliary selection and note that the unergative/unaccusative distinction is significantly less clear than often assumed.

As an alternative to previous accounts, I propose here that the puzzle concerning the binding facts in (1) and (2) is linked directly to the agentivity of the AcI-subject, and that agentivity is the crucial factor in unaccusativity, not auxiliary choice (see also Levin & Rappaport 1995). In particular, I will show that the use of an AcI-embedded pronominal to corefer with the matrix subject is licensed by an agentive AcI-subject. Recent work makes it possible to give a purely phrase-structural account of binding while still appealing crucially to agentivity. Following Hale & Keyser (1993), Chomsky (1995), and Kratzer (1996), I propose a structural analysis of agentivity and identify an agentive subject with the presence of a functional vP-layer projected by the lexical verb. This proposal is the primary focus of section 3 of the paper. Leading up to it, I give a brief introduction to AcIs (1.1) and revisit previous accounts of pronominal binding (2.1-2.2).

1.1 *Accusativus cum Infinitivo (AcI)*

Examples of typical AcI-constructions are given in (3).

- (3) a. Die Studenten hören [_{AcI}den Professor reden].
- the students hear the.ACC professor talk.INF
- ‘The students hear the professor talk.’
- b. Der Professor lässt [_{AcI}die Studenten den Artikel zusammenfassen].
- the professor lets the.ACC students the.ACC article together-grasp.INF
- ‘The professor lets/has the students summarize the article.’
- c. Das Kind lässt [_{AcI}den Stein ins Wasser fallen].
- the child lets the.ACC rock into-the water fall.INF
- ‘The child lets the rock fall into the water.’

AcIs are embedded under permissive or causative *lassen* ‘let, allow, have’ or perception verbs like *hören* ‘hear’, *sehen* ‘see’, and *fühlen* ‘feel’, so-called “semi-functional restructuring” predicates (see Wurmbrand’s (2001) typology of restructuring predicates). AcIs minimally consist of an accusative-marked nominal followed by an infinitive. This minimal structure is illustrated by the intransitive AcI in (3a). A transitive AcI, like (3b), can have two accusative-marked nominals, the AcI-subject, here *die Studenten*, and the direct object, here *den Artikel*. Lastly, there are intransitive AcIs, such as (3c), with an unaccusative infinitive, where the accusative-marked AcI-subject, here *den Stein*, is not the external¹ argument of the infinitive.

¹ In the traditional Principles & Parameters framework, the terms “external” and “internal” argument refer to the verb’s grammatical relations at deep structure. The argument that ends up in subject position at surface structure is then not necessarily the external argument. Within the theoretical framework introduced in section 3, the term “external” is less problematic because argument and phrase structure are collapsed (see e.g. Chomsky 1995).

Unlike other German infinitive constructions (namely those introduced by “non-restructuring” and “lexical restructuring” predicates), AcIs lack the infinitive maker *zu* ‘to’ and cannot be extraposed. Thus, in an embedded clause, where the finite verb is expected to be phrase-final, the AcI needs to precede the matrix verb, as in (4a). The AcI cannot occur to the right of the matrix verb, as in (4b).

- (4) a. ..., dass die Studenten [_{AcI}*den Professor reden*] hören.
 b. *..., dass die Studenten hören [_{AcI}*den Professor reden*].
 ‘...that the students hear the professor talk.’

For comparison, if the matrix verb is the lexical restructuring predicate *versuchen* ‘try’, as in (5), which takes a non-AcI infinitival complement with *zu* ‘to’, extraposition is possible.

- (5) a. ...dass die Studenten [*den Professor zu verstehen*] versuchen.
 b. dass die Studenten versuchen [*den Professor zu verstehen*].
 ‘...that the students try to understand the professor.’

Getting back to the internal structure of AcIs, there is clearly no IP (see Wurmbrand’s (2001) discussion of semi-functional restructuring predicates), but, as I argue in section 3, AcIs are potentially bigger than a bare VP.

2. Pronominal Binding

2.1 Previous accounts

Consider the AcI example shown in (1), here repeated as (6). Both reflexive and pronominal can be used to refer to the matrix subject *Martin*, but, unlike the reflexive, the pronominal only has one possible antecedent. It cannot be bound by the closer nominal, the AcI-subject *den Mann*.

- (6) Martin_i hört [Acl den Mann_j über sich_{i/j}/ihn_{i/*j} reden].

Martin hears the man about self/him talk

‘Martin hears the man talk about himself/him.’

According to Chomsky’s (1986) Condition B, a pronominal must be free in its minimal governing category, where a governing category of an element α is a Complete Functional Complex (CFC) containing the governor of α and a “subject”². “Subject” basically stands for Spec IP and Spec DP here. A CFC, in turn, is defined as a maximal projection with a lexical head in which all the grammatical functions compatible with that head are assigned.

To explain Acl-constructions like (6), Frey (1993) and Haider (1985) appeal to the notion CFC (though Haider does not use this terminology) and claim that a pronominal must be free in the minimal CFC that contains a “subject”, where “subject” is defined as external argument³. In (6), the Acl constitutes the relevant minimal CFC because both θ -roles of the infinitive *reden* are assigned within the Acl, and since the Acl-subject *den Mann* is the external argument, namely the agent, of *reden*, it qualifies as subject in the desired sense. The pronominal *ihn*, is then free as long as it does not have an antecedent within the Acl. It follows from Frey’s and Haider’s assumptions that derived subjects (i.e. internal arguments) are not subjects in the desired sense. In unaccusative Acls, the Acl is then not the minimal

² To be more precise, Chomsky (1986) states his Condition B in terms of “BT-compatibility”. “BT-compatibility is defined as follows: “The indexing I and the pair (α, β) are *compatible* with respect to the binding theory if α satisfies the binding theory in the local domain under indexing I.” Thus, Condition B says “I is BT-compatible with (α, β) if α is a pronominal and is free in β under I” (Chomsky 1986:171).

³ Frey’s (1993) exact definition of “subject” is as follows: “Unter dem Begriff SUBJEKT werden jene syntaktischen Repräsentanten einer externen Argumentstelle, welche in eine Bindungsbeziehung mit einer DP eintreten können, und Domänen abschließende Elemente zusammengefasst.” ‘The cover term SUBJECT stands for domain-closing elements and those syntactic representatives of an external position which can enter into a binding relationship with a DP.’

CFC in which the pronominal must be free because there is no agent, or more generally, no external argument in this domain. In this scenario, the minimal subject-containing CFC is the matrix clause, and if the pronominal is bound by the matrix subject, it is not free. This CFC-based binding account makes the right prediction for examples like (7).

- (7) a. $\text{Hans}_i \text{ lässt sich}/\text{ihm}^*_i \text{ einen Stein auf den Kopf fallen.}$

Hans lets self/him a rock on the head fall
 ‘Hans lets a rock fall on his head.’

(Frey 1993: 116)

- b. $\text{Hans}_i \text{ lässt } [\text{Acl}\text{den Stein sich}/\text{ihm}^*_i \text{ auf den Kopf fallen}].$

Hans lets the rock self/him on the head fall
 ‘Hans lets a rock fall on his head.’

The pronominal *ihm*, with the given coindexation, is indeed impossible here. Frey’s explanation is that the infinitive *fallen* is unaccusative, does not have an external argument, and therefore disqualifies *einen Stein* as subject. Since this means that the whole sentence is the minimal CFC in which the pronominal must be free, *ihm* cannot be bound by the matrix subject *Hans*. This holds for both (7a), taken from Frey, and (7b), where the Acl-subject immediately follows the matrix verb, as in the other Acl-examples discussed thus far (see (1)-(3)).

The problem with this account is that auxiliary choice is taken to be a reliable diagnostic for unaccusativity. More specifically, all verbs that select the perfect auxiliary *sein* ‘be’, as opposed to *haben* ‘have’, are considered unaccusative, i.e. are predicted to disallow the use of the pronominal referring to

the matrix subject. This is incompatible with the Acl-construction in (8), for instance, which is another example taken from Frey but presented here with my judgments⁴.

- (8) Der König_i lässt [Acl den Gefangenen_j vor sich_i/ihm_i niederknien].

the king has the prisoner before self/him down-kneel

‘The king has the prisoner kneel down before him.’

Unlike Frey (1993), who marks coreference between the pronominal *ihm* and the matrix subject *der König* as ungrammatical, I find it perfectly acceptable. Assuming the judgments given in (8), Frey’s account leads to a paradox. Given that the pronominal can be bound by the matrix subject, i.e. is free, the Acl-subject *den Gefangenen* ‘the prisoner’ should be the external argument of the Acl-infinitive *niederknien* ‘kneel down’, and if it has an external argument, this infinitive should be unergative, not unaccusative, as Frey assumes based on the fact that *niederknien* is a *sein*-selecting verb. Another example of an intransitive Acl with a *sein*-selecting infinitive is given in (9). The binding facts here are based on neither Frey’s nor my judgments. The example is taken from Reis (1973), and it is safe to assume that most native speakers of German would agree on her empirical generalizations. Both the reflexive *and* the pronominal can be bound by the higher subject.

- (9) Hans_i lässt [Acl die Männer über sich_i/über ihn_i herfallen].

Hans lets the men upon self/upon him over-fall

‘Hans lets the men attack him.’

(Reis 1973: 522)

⁴ I verified my own native-speaker judgments with 10 other native speakers (mostly from Northern Germany) by conducting an informal questionnaire-based study (see appendix). Participants were asked to rate coreference relations between anaphoric elements and their antecedents on a scale from 1 (perfectly grammatical) to 5 (absolutely ungrammatical).

It is thus apparent that auxiliary choice does not correlate with unaccusativity in the way Frey suggests. As discussed in section 3, instead of auxiliary choice, I propose pronominal binding as a more reliable diagnostic for the unergative/unaccusative distinction. Furthermore, I will show that the pronominal binding domain can be defined phrase-structurally without reference to CFC and external versus internal argumenthood. The following subsection motivates the proposed account of pronominal binding by establishing the role of agentivity.

2.2 *Reconsidering the facts*

According to Frey (1993), none of the pronominals in (10)-(13) should be acceptable because the Acl-infinitives (given in bold face) are all *sein*-selecting verbs. While it is true that the reflexive is generally preferred here, the pronominals in the (b)-examples are not judged to be impossible; they are clearly more acceptable than in the corresponding (a)-examples.

- (10) a. Der kleine Junge_i lässt [Acl*den Stein sich_i/ihm**_i auf den Kopf **fallen**].

the little boy lets the rock self/him on the head fall

‘The little boy lets the rock fall on his head.’

- b. Die Großmutter_i lässt [Acl*den Wellensittich sich_i/ihr_i* auf den Kopf **fliegen**].

the grandmother lets the parakeet self/her on the head fly

‘The grandmother lets the parakeet fly onto her head.’

- (11) a. Willi lässt [Acl*die Chance sich_i/ihm**_i nicht durch die Finger **gleiten**].

Willi lets the chance self/him not through the fingers glide

‘Willi doesn’t let the chance slip through his fingers.’

- b. Maja_i lässt [Acl die Katze sich_j/ihr_j nicht ins Haus **kommen**].

Maja lets the cat self/him not into-the house come

‘Maja doesn’t let the cat enter her house.’

- (12) a. Der Bauarbeiter_i sieht [Acl das Gerüst auf sich_j/ihn_j* **niederstürzen**].

the construction-worker sees the scaffolding on self/him down-crash

‘The construction worker sees the scaffolding crash down on him.’

- b. Der König_i lässt [Acl den Gefangenen vor sich_j/ihm_j **niederknien**].

the king lets the prisoner before self/him down-kneel

‘The king lets the prisoner kneel down before him.’

- (13) a. Britta ließ [Acl den Ball auf sich_j/sie_j* **zurufen**].

Britta let the ball on self/her to-roll

‘Britta let the ball roll toward her.’

- b. Die Demonstrantin_i sah [Acl die Polizisten auf sich_j/sie_j **zukommen**].

the demonstrator.FEM saw the policemen on self/her to-come

‘The demonstrator saw the policemen come toward her.’

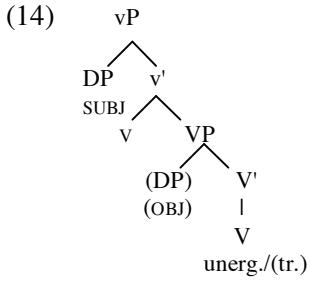
The generalization that these minimal-pair-like examples establish is that the pronominal binding possibilities are determined by the agentivity of the Acl-subject rather than auxiliary choice of the Acl-infinitive. The infinitives all select *sein*, but they appear to differ in whether or not they assign an agent role to the Acl-subject. The rock in (10a) and the ball in (13a), for example, are clearly non-agentive Acl-subjects, and it is in these contexts that the pronominal is bad, or at least strongly dispreferred. The

question to be answered in section 3 is what the notion of agentivity correlates to syntactically. I propose a purely phrase-structural analysis in which agentivity of the Acl-subject is structurally encoded.

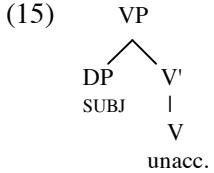
3. Pronominal Binding and Agentivity

In section 2, it was established that the distribution of reflexives and pronominals partially overlaps when the Acl-subject is agentive. In other words, the pronominal can be bound within the same IP as the reflexive, as long as it is contained in a smaller domain that allows it to be free, and this smaller domain is an Acl with an agentive subject. In this section, I define the pronominal binding domain based on the structural correlate of agentivity and thereby present pronominal binding as a diagnostic for the unergative/unaccusative distinction.

Instead of a binding account that relies on CFCs and external versus internal argumenthood, which are concepts that involve both argument and phrase structure, I will cast my account of pronominal binding in a framework that allows for a clear-cut and purely phrase-structural distinction between unergative and unaccusative verbs. Within this theory of phrase-structure, the configurations of unergative versus unaccusative verbs are surface-structurally distinct and thus differ from each other more radically than in the Principles & Parameters system. Following Hale & Keyser (1993), Chomsky (1995), and Kratzer (1996), I assume that the structure of unergative and transitive verbs consists of a lexical VP and a functional vP-projection, as shown in (14). The verb starts out as the V-head and raises to little v. Each of the verbal heads assigns a θ -role to the argument positioned in its specifier. The verb's internal argument then occupies Spec VP, while the external argument is in Spec little vP, i.e. introduced by little v. Crucial to the analysis to be developed here, an agent θ -role can only be assigned by little v.



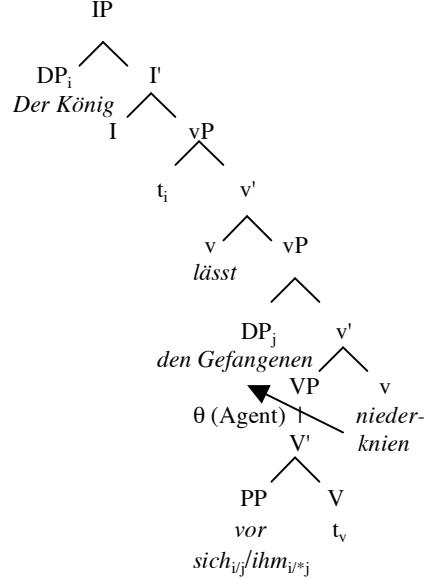
In contrast to this double-layer configuration of unergative and transitive verbs, the characteristic structure of unaccusative verbs is less elaborate. It lacks little vP and thus consists of the lexical VP only. No external argument (including agent) θ-role gets assigned. This is shown in (15).



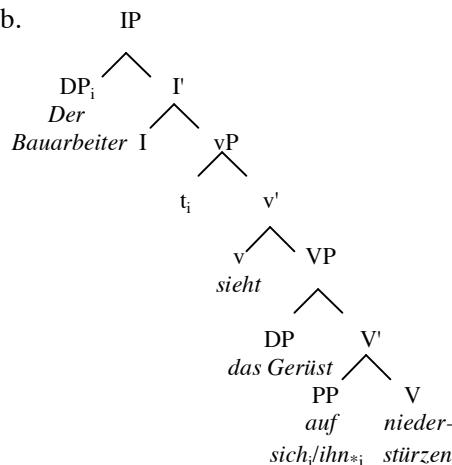
It follows that only subjects of unergative and transitive, not unaccusative verbs can receive an agent θ-role. I assume that either type of verbal structure (vP-VP or bare VP) can occur as complement of Acl-matrix verbs like *lassen* ‘let, allow, have’ and *sehen* ‘see’. Following Wurmbrand (2001), I analyze Acl-introducing verbs as semi-functional v-heads, which are assigned to a functional category but are lexical in that they establish a thematic relation with the argument in their specifier. The tree structures in (16)⁵ show both the unergative and the unaccusative type of Acl-configuration embedded under a semi-functional restructuring predicate. (16a) corresponds to the agentive (b)-example, and (16b) to the non-agentive (a)-example of the minimal-pair-like set in (12).

⁵ I am abstracting away from the position of the matrix verb, the position of I⁰, and V-to-I movement. According to Vikner (1995), verbal heads and I⁰ are phrase-final, and the verb moves via I to C. The subject moves via Spec IP to Spec CP (see Haider 1993 for a different view).

(16) a.



b.



Case and θ-assignment proceed as follows. In both (16a) and (b), the matrix subject checks

nominative case with I, while the Acl-subject checks accusative case with the matrix little v *lässt*. The matrix subject receives a θ-role from *lässt* and moves to Spec IP, leaving a trace in Spec vP. In the unergative Acl-structure (a), the Acl-subject gets an agent role from the embedded little v, whereas in the unaccusative Acl-structure (b), there is no embedded little v, so that no agent role can be assigned to the Acl-subject.

These two types of Acl-structures result in different binding possibilities. The extra structural layer of unergative and transitive Acls, resulting from the presence of little vP (see (16a)), provides a

domain in which the pronominal can be free. The assumption that little v is needed to assign an agent θ-role to the Acl-subject explains the intuition that the pronominal is grammatical as long as it is separated from its antecedent by an agentive subject. As stated in (17), the crucial binding domain for the pronominal should thus be vP.

- (17) A pronominal must be free within the minimal vP containing it.

Applied to the examples in (16), the proposed binding condition can be shown to correctly account for the facts. In (16a), the pronominal *ihm* ‘him’ can refer to the matrix subject *der König* ‘the king’ because it is free in the minimal vP containing it. The Acl-subject *den Gefangenen* ‘the prisoner’ is the intervening agent. If the Acl-infinitive does not include a vP, as is the case in (16b), the minimal vP containing the pronominal is the matrix vP, which also contains the trace of the matrix subject antecedent. Within this higher vP, the pronominal cannot be free and is thus ruled out.

A desired consequence of the proposed analysis is that pronominal binding facts may but auxiliary choice cannot be taken as a reliable probe for unaccusativity. The fact that motion verbs, for example, select *sein* ‘be’ as their perfect auxiliary does not necessarily mean that they are unaccusative. Agentivity and thus the presence of an external argument is only one of the factors that influence auxiliary selection. Although agentivity and control are cross-linguistically associated with HAVE-selection, there are other factors like change of location, which, combined with agentivity, may lead to BE-selection (see Sorace (2000)). The point is – and this point will be made more precise in section 4 – that unaccusativity dynamically depends on the subtleties of sentence interpretation rather than on auxiliary choice.

To sum up sections 1 through 3, the pronominal binding domain is defined rigidly as vP. Since unergative and unaccusative Acls are surface-structurally distinct, there is no need for reference to CFCs and argument structure (as separate from phrase structure). Thematic relations, including agentivity, are

encoded in the phrase structure. Furthermore, I have shown that binding possibilities in AclIs reflect whether or not the infinitive has an agentive Acl-subject and thus, in the given framework, serve as a diagnostic for unaccusativity. The following section corroborates the non-correlation of agentivity and auxiliary choice.

4. Agentivity versus Auxiliary Choice

In conjunction with recent work by Sorace (2000) and Keller & Sorace (2003), who argue that the unergative/unaccusative status of a verb is not lexically fixed, the analysis proposed in section 3 makes the following prediction. Depending on the agentivity of the Acl-subject, it should be possible for certain Acl-infinitives (such as *fallen* ‘fall’ in (18)) to project either a bare VP or a double-layer vP-VP structure. As shown in (18a) and (b), this prediction is born out if **binding but not auxiliary choice is taken as diagnostic of unaccusativity**.

- (18) a. Der kleine Junge_i lässt [Acl den Stein sich_j/ihm*_i auf den Kopf fallen].

the little boy lets the rock self/him on the head fall

‘The little boy lets the rock fall on his head.’

- b. James Bond_i lässt [Acl die junge Frau sich_j/ihm*_i in die Arme fallen].

James Bond lets the young woman self/him in the arms fall

‘James Bond lets the young woman fall into his arms.’

The verb *fallen* invariably selects *sein*, but the possibility of coreference between the matrix subject and a pronominal in the Acl varies depending on the agentivity of the Acl-subject. In my terms, this is evidence that *fallen* may indeed project either just a VP (corresponding to a non-agentive interpretation)

or both a VP and a little vP-layer (corresponding to an agentive interpretation). Thus, if *fallen* is used in a context where the act of falling can be interpreted as happening on purpose, it occurs in the structural configuration I attribute to an unergative verb. Although the pronominal in (18b), where the Acl-subject is *die junge Frau*, is not judged as readily acceptable⁶, it is certainly better than the pronominal in (18a), where it is clear that the Acl-subject *den Stein* could not have fallen on purpose.

Sorace explains exactly what needs to be said to account for cases like (18a) and (b). She points out that the addition of the parameter CONTROL to CHANGE OF LOCATION verbs like *fall* does not change auxiliary choice – the auxiliary is always *BE* – but makes the syntactic status of the verb unstable. In terms of the present paper, which aligns with the ‘Constructional Model’ of unaccusativity that Sorace discusses, it is the presence or absence of an aspectual functional head that determines unergativity versus unaccusativity. If this aspectual head (which corresponds to the agent-role-assigning little v discussed in section 3) is present, the verb has unergative status. If it is not present, the verb has unaccusative status.

Sorace (2000) and Keller & Sorace (2003) are concerned with identifying the cross-linguistic parameters that determine auxiliary selection for monadic nonreflexive intransitive verbs. They propose the hierarchy shown in (19), a structural hierarchy of verb types, defined by aspectual and thematic parameters.

(19) Auxiliary Selection Hierarchy (ASH):

CHANGE OF LOCATION	selects <i>BE</i> (least variation)
CHANGE OF STATE	
CONTINUATION OF A PRE-EXISTING STATE	
EXISTENCE OF STATE	
UNCONTROLLED PROCESS	
CONTROLLED PROCESS (MOTIONAL)	
CONTROLLED PROCESS (NONMOTIONAL)	selects <i>HAVE</i> (least variation)
(Sorace 2000: 863)	

⁶ Coreference relations marked with ‘?’ were given an average rating of 3 (“possible but doesn’t seem quite right”) in the questionnaire (see appendix).

Cross-linguistically, verb classes which fall at the extreme ends of the hierarchy are predicted to show least variation with respect to auxiliary selection. The further away from the extremes, the greater the variation in auxiliary selection of a verb gets. Parameter sensitivity of verb classes (which are not at either end of the hierarchy) differs from language to language, and even within a verb class of one language, from verb to verb.

Verbs in the category CONTROLLED MOTIONAL PROCESS, for example, behave differently from language to language. In Dutch, a motion verb can select either *HAVE* or *BE* depending on telicity. It selects *BE* when the context provides an endpoint, but it selects *HAVE* when there is no endpoint (see e.g. Zaenen 1993). In German, on the other hand, virtually all motion verbs select *BE*, regardless of telicity. The verb *laufen* ‘run’, for instance, is used with *sein* ‘be’, whether the person denoted by the subject was running home or jogging for exercise.

In fact, while Sorace’s ASH generally seems to make the right predictions cross-linguistically, German does pose a problem in that auxiliary selection, at least within the Standard (northern) dialect, is largely lexicalized. CHANGE OF LOCATION, CHANGE OF STATE, and CONTROLLED MOTIONAL PROCESS VERBS categorically select *sein*, and all other verbs select *haben*. This holds for the majority of verb class members (see Keller & Sorace (2003) for the empirical facts). The MOTIONAL PROCESS parameter thus has to be reranked, and even if it is reranked, so that all *BE*-selecting verbs fall at the upper extreme of the hierarchy, and all *HAVE*-selecting verbs at the lower extreme, with hardly any categories that show auxiliary choice variation, the ASH does not seem to carry much value for German⁷.

The most important point the ASH makes, however, and this holds for all auxiliary-selecting languages, is that agentivity, which is encoded in Sorace’s CONTROL (i.e. external argumenthood) is not the only factor which determines auxiliary selection. The German examples I present in (18) corroborate

⁷ As discussed in Sorace & Keller (2003), German does have a few cases of auxiliary choice variation, even within the Standard dialect, and the Auxiliary Selection Hierarchy indeed makes the right prediction here. Furthermore, it is certainly true that, cross-dialectically (i.e. comparing northern and southern dialects), it is precisely the verb classes toward the center of the hierarchy that show variation.

the point made by some of Sorace's Italian data: CHANGE OF LOCATION verbs consistently select *BE*, regardless of whether or not CONTROL is involved. While it is clear, then, that agentivity (or CONTROL) does not line up with auxiliary choice, I claim that it does line up with the pronominal binding facts in (18), which, in the structural account of agentivity proposed here, reflect the presence or absence of little vP.

5. Conclusion

To recapitulate, this paper presents a phrase-structural account of both pronominal binding in AcI-constructions and unaccusativity. I have shown that the crucial factor regarding the unergative/unaccusative distinction is agentivity rather than auxiliary choice. Within the theoretical framework assumed here, where thematic relations are encoded in the phrase structure, agentivity correlates with the presence of an extra (functional) layer of verbal structure. Transitive and unergative verbs do, but unaccusative verbs do not project the extra layer. It is precisely this structural difference between transitive and unergative verbs on the one hand and unaccusative verbs on the other hand which leads to the seemingly puzzling discrepancy between the binding facts in AcI-constructions like (1) and (2), headed by different verb types.

Another interesting puzzle, to which the proposed analysis could be extended, concerns the word order of the AcI-subject and the anaphoric element. As shown by one of Frey's (1993) examples, given in (7a), the anaphoric element may precede the AcI-subject. The question is whether all AcIs allow this word order and what the corresponding verbal structure is. The answer to the first question is "no", and I have a hypothesis regarding the second question, but I leave this to be presented in future work.

Appendix

The following shows the questionnaire I used to elicit grammaticality judgments from other native speakers of German. The survey was completed by ten speakers, mostly from northern Germany. In most cases, the sentences were read to the subject. First they heard the sentence with the reflexive, then with the pronominal. After each version of the sentence, they indicated which of the given antecedents they felt the anaphoric element referred to by picking a number from 1 to 5 (**1** = immediately comes to mind; **2** = fine with appropriate context but isn't the first thing that comes to mind; **3** = possible but doesn't seem quite right; **4** = sounds pretty much wrong; **5** = absolutely impossible). The 1-5 evaluation results are shown with respect to the different antecedents, first for the use of the reflexive, then for the use of the pronominal. The speakers are represented by their initials.

Fragebogen: Bindung in Acl-Konstruktionen

Bitte lesen Sie die folgenden Sätze und entscheiden Sie, worauf sich das Reflexivpronomen (*sich*) bzw. das Personalpronomen (*ihn/ihm/sie/ihr...*) bezieht. Sie werden sowohl Mehrdeutigkeiten als auch unmögliche Kombinationen vorfinden. Benutzen Sie die vorgegebene Bewertungsskala und tragen Sie in jedes Kästchen Ihr Urteil, also eine Zahl von 1 bis 5, ein. Dieselbe Zahl kann mehr als einmal pro Satz benutzt werden. Wenn Sie meinen den Kontext genauer erklären zu müssen, fügen Sie bitte einen Kommentar hinzu. Vielen Dank fürs Mitmachen!

Bewertungsskala:

- 1 Ja, kommt mir sofort in den Sinn.
- 2 Ja, mit entsprechendem Kontext; kommt mir aber nicht als erstes in den Sinn.
- 3 Ja, vielleicht, aber kommt mir komisch vor.
- 4 Kaum möglich; hört sich falsch an.
- 5 Nein, eindeutig falsch.

- (1) Der kleine Junge lässt den Stein sich/ihm auf den Kopf fallen.

- *sich* bezieht sich auf:

Der kleine Junge E.S.: **2**, V.S.: **1**, A.M.: **1**, F.S.: **1**, S.F.: **2**, S.K. **1**, P.R.: **1**, R.S.: **2**, M.: **1**, F.S.: **1**

- *ihm* bezieht sich auf:

Der kleine Junge E.S.: **5**, V.S.: **4**, A.M.: **5**, F.S.: **4**, S.F.: **5**, S.K. **5**, P.R.: **4**, R.S.: **5**, M.: **5**, F.S.: **5**
andere Person E.S.: **1**, V.S.: **1**, A.M.: **1**, F.S.: **1**, S.F.: **2**, S.K. **1**, P.R.: **2**, R.S.: **2**, M.: **1**, F.S.: **1**

- (2) Paula lässt die Maus sich/ihr auf die Hand laufen.

- *sich* bezieht sich auf:

Paula E.S.: **1**, V.S.: **1**, A.M.: **1**, F.S.: **1**, S.F.: **2**, S.K. **1**, P.R.: **1**, R.S.: **2**, M.: **1**, F.S.: **1**

- *ihr* bezieht sich auf:

Paula E.S.: **4**, V.S.: **2**, A.M.: **3**, F.S.: **4**, S.F.: **4**, S.K. **5**, P.R.: **5**, R.S.: **4**, M.: **3**, F.S.: **3**
andere Person E.S.: **1**, V.S.: **1**, A.M.: **1**, F.S.: **2**, S.F.: **1**, S.K. **1**, P.R.: **1**, R.S.: **2**, M.: **1**, F.S.: **1**

- (3) Der kleine Junge lässt sich/ihm den Stein auf den Kopf fallen.
- *sich* bezieht sich auf:
Der kleine Junge E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1
 - *ihm* bezieht sich auf:
Der kleine Junge E.S.: 5, V.S.: 5, A.M.: 5, F.S.: 5, S.F.: 5, S.K. 5, P.R.: 5, R.S.: 5, M.: 5, F.S.: 5
andere Person E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1
- (4) Paula lässt sich/ihr die Maus auf die Hand laufen.
- *sich* bezieht sich auf:
Paula E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 2, F.S.: 1
 - *ihr* bezieht sich auf:
Paula E.S.: 5, V.S.: 5, A.M.: 5, F.S.: 5, S.F.: 5, S.K. 5, P.R.: 5, R.S.: 5, M.: 5, F.S.: 5
andere Person
- (5) Die Großmutter lässt den Wellensittich sich/ihr auf den Kopf fliegen.
- *sich* bezieht sich auf:
Die Großmutter E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.K. 1, P.R.: 1, R.S.: 2, M.: 1, F.S.: 3
 - *ihr* bezieht sich auf:
Die Großmutter E.S.: 3, V.S.: 2, A.M.: 2, F.S.: 4, S.F.: 4, S.K. 5, P.R.: 2, R.S.: 4, M.: 1, F.S.: 3
andere Person E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 2, S.K. 1, P.R.: 1, R.S.: 2, M.: 1, F.S.: 1
- (6) Willi lässt die Chance sich/ihm nicht durch die Finger gleiten.
- *sich* bezieht sich auf:
Willi E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.K. 1, P.R.: 1, R.S.: 2, M.: 1, F.S.: 1
 - *ihm* bezieht sich auf:
Willi E.S.: 5, V.S.: 4, A.M.: 4, F.S.: 5, S.F.: 5, S.K. 5, P.R.: 4, R.S.: 5, M.: 3, F.S.: 4
andere Person E.S.: 4, V.S.: 5, A.M.: 5, F.S.: 2, S.K. 1, P.R.: 4, R.S.: 2, M.: 4, F.S.: 4
- (7) Andrea lässt die Katze sich/ihr nicht ins Haus kommen.
- *sich* bezieht sich auf:
Andrea E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 5, S.K. 1, P.R.: 1, R.S.: 2, M.: 2, F.S.: 2
 - *ihr* bezieht sich auf:
Andrea E.S.: 3, V.S.: 2, A.M.: 3, F.S.: 3, S.F.: 5, S.K. 5, P.R.: 2, R.S.: 5, M.: 3, F.S.: 2
andere Person E.S.: 2, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 5, S.K. 2, P.R.: 3, R.S.: 2, M.: 4, F.S.: 1
- (8) Willi lässt sich/ihm die Chance nicht durch die Finger gleiten.
- *sich* bezieht sich auf:
Willi E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1
 - *ihm* bezieht sich auf:
Willi E.S.: 5, V.S.: 5, A.M.: 5, F.S.: 5, S.F.: 4, S.K. 5, P.R.: 5, R.S.: 5, M.: 5, F.S.: 5
andere Person E.S.: 5, V.S.: 5, A.M.: 5, F.S.: 1, S.F.: 2, S.K. 2, P.R.: 4, R.S.: 2, M.: 2, F.S.: 4
- (9) Andrea lässt sich/ihr die Katze nicht ins Haus kommen.
- *sich* bezieht sich auf:
Andrea E.S.: 2, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 2, S.K. 1, P.R.: 2, R.S.: 1, M.: 1, F.S.: 1
 - *ihr* bezieht sich auf:
Andrea E.S.: 5, V.S.: 4, A.M.: 5, F.S.: 5, S.F.: 5, S.K. 5, P.R.: 5, R.S.: 5, M.: 5, F.S.: 5
andere Person E.S.: 4, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 3, S.K. 1, P.R.: 2, R.S.: 1, M.: 1, F.S.: 1
- (10) Der Pessimist fühlte den Himmel über sich/ihm einstürzen.
- *sich* bezieht sich auf:
Der Pessimist E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1
 - *ihm* bezieht sich auf:
Der Pessimist E.S.: 2, V.S.: 3, A.M.: 3, F.S.: 3, S.F.: 2, S.K. -, P.R.: 4, R.S.: 3, M.: 4, F.S.: 3
andere Person E.S.: 3, V.S.: 3, A.M.: 3, F.S.: 1, S.F.: 5, S.K. -, P.R.: 3, R.S.: 1, M.: 2, F.S.: 1
- (11) Der Bauarbeiter sah das Gerüst auf sich/ihn niederstürzen.
- *sich* bezieht sich auf:
Der Bauarbeiter E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1
 - *ihm* bezieht sich auf:
Der Bauarbeiter E.S.: 3, V.S.: 4, A.M.: 4, F.S.: 3, S.F.: 3, S.K. 5, P.R.: 5, R.S.: 5, M.: 2, F.S.: 3
andere Person E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1

(27) Die Spieler hören sich/sie die Fans anfeuern.

- *sich* bezieht sich auf:

Die Spieler E.S.: 4, V.S.: 5, A.M.: 5, F.S.: 2, S.F.: 3, S.K. 5, P.R.: 5, R.S.: 5, M.: 5, F.S.: 5
 die Fans E.S.: 2, V.S.: 5, A.M.: 5, F.S.: 4, S.F.: 4, S.K. 3, P.R.: 5, R.S.: 5, M.: 2, F.S.: 5

- *sie* bezieht sich auf:

Die Spieler E.S.: 5, V.S.: 5, A.M.: 5, F.S.: 5, S.F.: 3, S.K. 5, P.R.: 5, R.S.: 5, M.: 5, F.S.: 5
 die Fans E.S.: 5, V.S.: 5, A.M.: 5, F.S.: 3, S.F.: 5, S.K. 5, P.R.: 5, R.S.: 5, M.: 5, F.S.: 5
 andere Leute E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 2, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1

(28) Der Polizist ließ den leblosen Körper auf sich/ihn fallen.

- *sich* bezieht sich auf:

Der Polizist E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1

- *ihn* bezieht sich auf:

Der Polizist E.S.: 4, V.S.: 4, A.M.: 4, F.S.: 4, S.F.: 3, S.K. 5, P.R.: 2, R.S.: 5, M.: 3, F.S.: 2
 andere Person E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 2, R.S.: 1, M.: 1, F.S.: 1

(29) James Bond ließ die junge Frau auf sich/ihn fallen.

- *sich* bezieht sich auf:

James Bond E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 2, M.: 1, F.S.: 1

- *ihn* bezieht sich auf:

James Bond E.S.: 3, V.S.: 3, A.M.: 4, F.S.: 4, S.F.: 3, S.K. 5, P.R.: 2, R.S.: 4, M.: 1, F.S.: 3
 andere Person E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1

(30) James Bond ließ die junge Frau sich/ihm in die Arme fallen.

- *sich* bezieht sich auf:

James Bond E.S.: 1, V.S.: 2, A.M.: 2, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 5, M.: 2, F.S.: 3

- *ihm* bezieht sich auf:

James Bond E.S.: 5, V.S.: 2, A.M.: 3, F.S.: 4, S.F.: 3, S.K. 5, P.R.: 2, R.S.: 1, M.: 5, F.S.: 2
 andere Person E.S.: 1, V.S.: 2, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 2

(31) Aber er ließ den Mann neben sich/ihm untergehen.

- *sich* bezieht sich auf:

er E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1

- *ihm* bezieht sich auf:

er E.S.: 3, V.S.: 2, A.M.: 3, F.S.: 3, S.F.: 3, S.K. 1, P.R.: 1, R.S.: 1, M.: 2, F.S.: 2
 andere Person E.S.: 1, V.S.: 2, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 2, P.R.: 2, R.S.: 3, M.: 1, F.S.: 1

(32) Meine Mitbewohnerin ließ das Essen bei sich/ihr unterm Bett verschimmeln.

- *sich* bezieht sich auf:

Mitbewohnerin E.S.: 1, V.S.: 1, A.M.: 1, F.S.: 1, S.F.: 1, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 1

- *ihr* bezieht sich auf:

Mitbewohnerin E.S.: 3, V.S.: 2, A.M.: 2, F.S.: 2, S.F.: 2, S.K. 2, P.R.: 3, R.S.: 1, M.: 5, F.S.: 2
 andere Person E.S.: 2, V.S.: 2, A.M.: 1, F.S.: 1, S.F.: 2, S.K. 1, P.R.: 1, R.S.: 1, M.: 1, F.S.: 2

References

- Chomsky, Noam. 1986. *Barriers*. Cambridge, Mass: MIT Press.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass: MIT Press.
- Frey, Werner. 1993. *Syntaktische Bedingungen für die semantische Interpretation*. Studia Grammatika 35. Akademie Verlag: Berlin.
- Haider, Hubert. 1985. “Über *sein* oder nicht *sein*: Zur Grammatik des Pronomens *sich*”. In W. Abraham (ed.) *Erklärende Syntax des Deutschen*. Gunter Narr Verlag: Tübingen. 223-254.
- Haider, Hubert. 1993. *Deutsche Syntax Generativ*. Tübingen: Narr
- Hale, Kenneth and Keyser, Samuel. 1994. “On argument structure and the lexical expression of syntactic relations”. In K. Hale & S. Keyser (eds.) *View from Building 20*. 53-109.
- Keller, Frank and Sorace, Antonella. 2003. “Gradient auxiliary selection and impersonal passivization in German: an experimental investigation.” *Journal of Linguistics* 39. 57-108.
- Kratzer, Angelika. 1996. “Severing the external argument from its verb”. In Rooryck, J. & Zaring, L. (eds.) *Phrase Structure and the Lexicon*. 109-137.
- Levin, Beth and Rappaport Hovav, Malka. 1995. *Unaccusativity*. Cambridge, Mass: MIT Press.

Reis, Marga. 1973. "Is there a rule of subject-to-object raising in German?" *CLS* 9: 519-529.

Sorace, Antonella. 2000. "Gradients in auxiliary selection with intransitive verbs". *Language* 76 (4). 859-890.

Vikner, Sten. 1995. *Verb Movement and Expletive Subjects in the Germanic Languages*. New York & Oxford: Oxford University Press.

Wurmbrand, Susi. 2001. *Infinitives: Restructuring and Clause Structure*. Mouton de Gruyter, Berlin & New York.

Zaenen, Annie. 1993. Unaccusativity in Dutch: Integrating syntax and lexical semantics. In Pustejovsky, James (ed.) *Semantics and the Lexicon*. Dordrecht: Kluwer. 129-161.