

Csontos Tamás

Passivisation in German: a Syntax First Alignment approach

0 Introduction

The subject of the present paper is the analysis of two passivising constructions in German in the light of Syntax First Alignment, adopting the idea of late lexical insertion, following Newson (2010), and Newson and Szécsényi (2012). In the first section, I would like to present the data, discussing the two constructions mentioned above, viz. the so-called *Zustandspassiv* and *Vorgangspassiv*. In the second section, I am going to introduce the framework I am working in. In section 3 I deal with the distribution of *sein* and *werden* and introduce the features and constraints which determine the insertion of these auxiliaries. In addition, I will attempt to account for the fact that an external argument – as traditional syntactic theories refer to it - is optional in these constructions, as opposed to active sentences. It is a well-known fact that in German more verbs allow passivization than in English; for instance, intransitive verbs can be passivized. Finally, the present analysis of the passive – as we will see - necessitates some smaller changes in our model. I will discuss them where the problems would arise if we did not make these modifications.

1 Two passivising constructions in German

In German we distinguish *Zustandspassiv* from *Vorgangspassiv*. The former is constructed by the dummy auxiliary verb *sein* ‘be’ and the past participle, while the latter is formed by using the auxiliary *werden* ‘become’ and the past participle – see example (1) and (2), respectively.¹

- (1) Die. Tür ist jetzt geöffnet
the door is now opened
‘The door is opened now.’

¹ I will refer to *Zustandspassiv* as *sein*-passive and *Vorgangspassiv* as *werden*-passive in the remaining of the paper for the sake of convenience.

- (2) Die Tür wird jetzt geöffnet
 the door becomes now opened
 ‘The door is being opened now.’

In German the *sein*-passive denotes a state that has resulted from a previous action.² The *werden*-passive on the other hand denotes a dynamic process. This semantic difference will play an important role later when we discuss the distribution of the two auxiliaries in section 3.

In addition, there is an interesting restriction on the use of the *sein*-passive. According to Helbig & Buscha (1999), process-result verbs (category 1) like *bauen* ‘build’, *brechen* ‘break’, *öffnen* ‘open’, *schließen* ‘close’, *schreiben* ‘write’ and *zerstören* ‘destroy’ allow both with *sein*- and *werden* passive. However, passivisation with *sein* is impossible with process verbs (category 2) like *brauchen* ‘need’, *hören* ‘hear’, *sehen* ‘see’ or *verstehen* ‘understand’, which allow passivisation only with *werden*.

- (3) a Der Brief wird geschrieben. (process)
 the letter becomes written
 b Der Brief ist geschrieben. (state)
- (4) a Der Mann wird gesehen. (process)
 the man becomes seen
 b * Der Mann ist gesehen. (state)

The approach that I adopt can give a straightforward explanation to this observation as well.

An important difference between the German and the English (*werden*) passive is that the range of verbs that can be passivised in German is wider than in English. It is well-known that in English only transitive verbs can appear in passive constructions. In German however certain real intransitive verbs, i.e. verbs that do not require either a dative, or a genitive or a prepositional object³, can be passivized. Consider (5) and (6):

² It has to be noted that the sentence *Die Tür ist offen* ‘The door is open’ is also possible in German, but it is slightly different from example (1). The *sein*-passive (e.g. *die Tür ist geöffnet*) can be converted into the *werden*-passive, but the adjectival predicate (e.g. *die Tür ist offen*) cannot: *Die Tür ist geöffnet worden* vs. **Die Tür ist offen worden*. In other words, the *sein*-passive is of verbal and not adjectival nature.

³ It is important to make this clarification, because in Helbig & Buscha (1999) verbs that subcategorize for a dative object - for example, *helfen* ‘help’ - are also classified as intransitive, simply because they do not require an accusative object. However, we would miss the real difference between English and German verbs if we regarded these verbs as

- (5) a Es wurde (von Hans) getanzt.
it became by Hans danced
'Hans danced.'
*It was danced by Hans.
- b Es wurde getanzt.
it became danced
'There was some dancing.'
*It was danced.
- (6) Es wurde (von den Zuschauern) geklatscht.
it became (by the audience) clapped
'The audience clapped.'
*It was clapped by the audience.

As can be seen in (5) and (6), the external argument can be present in the passive. This is possible only if it is preceded by *von* (German for *by*), otherwise the sentence is ungrammatical.

- (7) Der Brief wurde von meinem Vater geschrieben.
the letter became by my father written
'The letter was written by my father.'
*Der Brief wurde meinem Vater geschrieben.

Also, we can observe that the external argument preceded by *von* in *werden*-passive constructions is normally optional in German (just like in English), though there are some exceptions. In case of the *sein*-passive on the other hand the external argument preceded by *von* must normally be absent; however, it may be present under special circumstances – see (8) and (9):

- (8) * Die Tür ist von Hans geöffnet.
Die Tür ist geöffnet.
- (9) Der Brief war (von dem Chef) geschickt.
the letter was (by the boss) sent
'The letter was sent by the boss.' (state)

My analysis will account for the optionality of external arguments in general,

intransitives, since *help* can be passivized in both languages, unlike intransitive *dance* or *clap*, whose German counterparts allow passivisation.

but unfortunately, it will not be able to explain why they are obligatory or optional in certain specific cases.

The word order is not peculiar in these passive constructions: it follows the same pattern as in any other case: in main clauses the inflected verb takes the second position, while the non-finite verb is the last element. In embedded clauses the finite verb takes the last position immediately following the non-finite verb. Besides the external argument, internal arguments and adjuncts can be topicalized and, thus, fronted. For a detailed explanation for these phenomena within the framework of Alignment Syntax see Csontos (2012) and Newson (2013).

2 The framework

Syntax First Alignment (SFA) is an OT-like model which utilises a set of conflicting constraints which are hierarchically ranked. There are only two types of constraints in SFA: alignment and faithfulness constraints. Faithfulness constraints are violated if an input element is missing in the output. Alignment constraints can align two single elements to each other – see (10):

- | | | |
|------|-----------------------|--|
| (10) | aPb ‘a precedes b’ | violated by b...a order |
| | aFb ‘a follows b’ | violated by a...b order |
| | aAb ‘a adjacent to b’ | violated by every CU which intercedes between a and b |

It is also possible to align a single element to a domain. The concept of a domain in Alignment Syntax was first introduced by Miklós Gáspár (2005). This notion is useful if we wish to determine the position of an element with respect to more than two elements. It is important to note that domains are not made up of just any kind of element. Newson (2010) defines them as “sets of input elements which share a given property”⁴. However, the plural form of *element* in this definition seems misleading, because domains do not necessarily have to contain more than one element. For example, the argument domain consists of all the arguments which are associated with the same predicate. In case the verb is intransitive, there is only one argument and then this argument alone will constitute the argument domain. Tableau (11) shows how single elements can be aligned to domains:

⁴ In section 3.1 I will explore the possibility of giving a more restricted definition of a domain.

- | | |
|--|--|
| (11) aPD _y ‘a precedes domain y’ | violated by every member of domain y which precedes a |
| aFD _y ‘a follows domain y’ | violated by every member of domain y which follows a |
| aAD _y ‘a is adjacent to domain y’ | violated if a does not appear at the edges of domain y |

In addition to the above, there are also anti-alignment constraints with respect to a domain. For example, a*PD_x says that *a* cannot precede domain *x*. Therefore, this constraint is violated if *a* precedes all the members of domain *x*. Similarly, a*FD_x requires *a* to follow all the members of domain *x*.

In SFA input elements, following Newson and Szécsényi (2012), are taken from a universal stock of basic units, called conceptual units (CUs). We distinguish between two kinds of conceptual units: *roots* with descriptive semantic content make up what are traditionally called nouns, adjectives and verbs depending on where they are positioned in an expression. For instance, a root aligned to a determiner will be realised as a noun (Newson, 2010). *Functional units*, on the other hand, carry functional content, e.g. person, number or tense. In other words, the input elements are not actual lexical elements or words (unlike in GB theory, for instance): they are just abstract mental representations. As the input carries all the information which is necessary for the interpretation of expressions, it is the input where semantic interpretation takes place.

GEN⁵ imposes linear orderings on input elements without being allowed to add non-input elements to a candidate and these orderings will constitute the candidate set. The constraints introduced above evaluate this candidate set. Vocabulary insertion takes place only after the optimal candidate has been selected.

The process of vocabulary insertion is determined by different principles. The Superset Principle says that the best fitting match for a sequence of features is that vocabulary item which is associated with all the features which can be found in that sequence. It is not a problem if that vocabulary item contains other features as well which cannot be found in the sequence. According to the principle of Minimal Vocabulary Access, as many conceptual units as possible have to be spelled out with one vocabulary item.

⁵ In Optimality Theory the generator can add elements which are not part of the input to a candidate but doing so results in faithfulness violations. Therefore, the candidate set is potentially infinite, which is often regarded as a weakness of the theory. In SFA, however, GEN is limited only for ordering and deletion, thus the candidate set will always be finite. Faithfulness constraints are violated only if there is an input element missing from the output (see above).

The third principle requires that only contiguous sequences can be spelled out by a single vocabulary item. Lastly, Newson and Szécsényi (2012) assume that vocabulary insertion is ‘root centric’. This means that anything which can be spelled out with the root will be. Other conceptual units will be spelled out separately. We will see that these conditions and principles play a crucial role in my analysis.

In SFA we assume late vocabulary insertion. It means that vocabulary items do not enter the system as input elements but are chosen on a ‘best fit’ basis only after the winning candidate has been found. The vocabulary entry of an item X contains its phonological form and the different features associated with it, such as its root content which is given as part of the human conceptual system in units (represented as \sqrt{X})⁶, its event structure, i.e. the type of events they denote (see below) and other syntactic features like person and number or tense (between square brackets).

3 Sein-passive and werden-passive in the light of Syntax First Alignment

3.1 What do werden and sein spell out?

In order to understand why *werden* is selected in passives which denote processes while *sein* is used in passives which denote resultant states, we have to build the idea of semantic decomposition into our theory. According to Newson and Szécsényi (2012), who follow Grimshaw (2005), predicate meanings consist of their ‘root content’ and their ‘event structure’ (these terms are from Levin and Rappaport Hovav (2005)).

Newson and Szécsényi (2012) analyse English dummy auxiliaries in a similar vein and come to the conclusion that *do*, *have* and *be* have null root content. *Have*, for example, is used in a number of different contexts, so it is hard to get its ‘core’ root content. Compare (12a-f):

- (12) a Tom has a house
b Jim had a cigarette
c Emily had a shower
d I had to leave
e They had breakfast
f I had Kelly water the flowers.

⁶ Note that \sqrt{X} is not a lexical element or word, but an abstract mental representation. So, for example, $\sqrt{\text{HOUSE}}$ means ‘a building where people can live’. $\sqrt{\text{RUN}}$ means ‘to move somewhere fast using your legs’.

The conclusion is that the content of *have* is thus undefined and its root content is fixed by context. *Be*, which is the English counterpart of German *sein*, is similar to *have* in this respect. For instance, it can even be omitted in Small Clauses, which indicates that it does not contribute much to the meaning of the clause. In other words, the root content of *be* seems to be empty as well:

- (13) a I consider him (to be) a gentleman (= He is a gentleman)
b I find my homework (to be) difficult (= My homework is difficult)

Have, *be* and *do*, however, differ in their event structure. *Be* does not express a verbal content and it is used in verbless contexts where a relationship holds between two elements, such as a subject and an adjectival predicate. Secondly, as opposed to a lot of verbs with simple content, *be* can never be used as a ‘light verb’ - using Jespersen’s (1942) terminology:

- (14) a He had a shower
b He did a dance
c She takes a walk
d *He is a shower, *He is a dance, *She is a walk.

Such light verb usage adds aspectual or other event related meanings to an expression. Newson and Szécsényi (2012) conclude that since *be* cannot be used as a light verb, it is not associated with such aspect of meaning. Based on these observations, it can be claimed that *be* has no root content and no event structure. Therefore, *be* is the minimal possible verb which should be used as a dummy in situations where little or no verbal content is to be spelled out. On the other hand, *have* and *do* have more event structure, which is supported by the fact that both of them can be used as light verbs – see (14a) and (14b). Further details do not concern us here as they are irrelevant in my present analysis.

I assume that *werden* has more complex event structure than *sein*, simply because it involves a process: a process of change. *Werden* differs from *sein* in that it has an additional conceptual unit which is responsible for the fact that *werden* can denote a process (unlike *sein*), abbreviated as [proc]. Here I am borrowing Dowty’s (1979) idea of lexical decomposition. He assumes that there is a single homogeneous set class of stative predicates and the different aspectual properties of the various kinds of verbs can be created by adding three or four sentential operators and connectives. For instance, we can get *die* by the addition of the operator BECOME to the stative predicate *not alive*.

In addition, I assume that *werden* has only minimal root content (possibly

a little bit more than English *have*, *do* and *be*). One piece of evidence in favour of this proposal is that both *sein* and *werden* can be used in similar contexts; for instance, with an adjective or noun complement:

- (15) a Es war/wurde dunkel.
 It was/became dark
 'It was/got dark.'
- b Er war/wurde Arzt.
 He was/became doctor
 'He was/became a doctor.'

So it seems that the interpretation of *werden* in the examples above is not less vague than the interpretation of *sein*. *Werden* in (15a) and (15b) expresses a change from one state to another state. Interestingly, its meaning is even less specific and less restricted than the English *become*. Where English would use verbs like *get* (e.g. get tired), *go* (e.g. go mad) or *turn* (e.g. she turned red etc.), *werden* is possible in German: *wird müde*, *wird verrückt* and *sie wurde rot* respectively. Furthermore, *werden* can be used as an auxiliary in passive constructions (16a), to express future (16b), to express future perfect (16c).

- (16) a Es wird gebaut
 it becomes built
 'It is being built.'
- b Er wird kommen
 he will come
 'He will come.'
- c Er wird gespielt haben.
 He will played have
 'He will have played.'

The fact that *werden* can be found in so many unrelated contexts leads us to the conclusion that it has minimal root content.

After analysing these two auxiliaries let us now turn to the contexts they are used in. It is claimed (see above) that *werden*-passives denote a process; *sein*-passives on the other hand denote a state which is the result of a previous process. I have already mentioned in section 1 that process-result verbs (category 1) allow passivisation with both *sein*- and *werden*, unlike process verbs, which allow passivisation only with *werden*. It is also a fact that there are no verbs which can be passivised with *sein* but not with *werden*.

My assumption is that process-result verbs have a specific root content⁷ that is their interpretation is specific as well as the arguments related to them and have the conceptual units [proc] and [res] as they can be used in constructions which denote events with a resultative character, viz. in *sein*-passive. The event structure of process verbs is smaller, because they lack the result conceptual unit, [res]. This is the reason why they cannot be used as result verbs and consequently they do not allow *sein*-passivisation, only *werden*-passivisation. I propose the following vocabulary entries for process-result verbs, e.g. *schreiben* 'write', and process verbs, e.g. *sehen* 'see':

(17) schreiben ↔ √SCHREIBEN[proc][res]⁸

(18) sehen ↔ √SEHEN [proc]

Normally these conceptual units are spelled out by the root vocabulary item and therefore they seem to have no effect at all. However, I assume that in the presence of a passive morpheme, they can be separated from the root and, hence, cannot be spelled out along with it. I claim that they are attached to the inflectional element and are realised by one of the dummy auxiliaries discussed above. In this case, the presence/absence of these conceptual units does have a visible impact (see below).

Before we take a look at concrete examples, it is necessary to illustrate the effect and consequences of the Superset Principle and the principle of Minimal Vocabulary Access introduced in section 2. As we said the Superset Principle allows a lexical item to spell out sequences of features that are smaller than that lexical item as long as it is associated with all the features present in that sequence. Therefore, for example, if the sequence which has to be spelled out is <x,y,z> and the possible vocabulary items that can spell it out are <x,y>, <x,y,z,w> and <y,z>, the best fitting match will be <x,y,z,w> although it contains an extra *w* feature.

The principle of Minimal Vocabulary Access guarantees that the best

⁷ I am not going to discuss the root content of verbs in any detail, because it is not relevant for my analysis.

⁸ The symbol to the left of the arrow which can be pronounced as 'associated with' represents the phonological form of *schreiben*; however, for the sake of convenience I used the orthographical form. √SCHREIBEN, to the right of the arrow, represents the root content and has a meaning something like 'to make letters on a surface, especially using a pen or pencil'. [proc] and [res] are event structure features. The number, person and tense features are omitted in the vocabulary entry as they are not relevant at this point but they would follow the 'event features'. When there are no 'event features', they come after the symbol representing root content: e.g. *am* ↔ √∅ [-past][+1][-2] (Newson and Szécsényi (2012, p. 108).

fitting match is that lexical item which can spell out the most features. So it is better to spell out the sequence $\langle x,y,z \rangle$ with $\langle x,y,z \rangle$ rather than with $\langle x,y \rangle$ and $\langle z \rangle$ separately. This way we can explain why the past tense of *give*, for example, is realized as *gave* and not *give+d* assuming that $give \leftrightarrow \sqrt{GIVE}$ (omitting its event structure), $-ed \leftrightarrow [past]$ and $gave \leftrightarrow \sqrt{GIVE} [past]$ that is irregular verbs are listed in the lexicon as one unit.

In order to identify the constraints involved here, we have to draw some conclusions based on what we can observe in (3) and (4) repeated here as (19) and (20):

- (19) a Der Brief wird geschrieben. (process) = [proc]
 the letter becomes written
 b Der Brief ist geschrieben. (state) = [proc][res]
- (20) a Der Mann wird gesehen. (process) = [proc]
 the man becomes seen
 b * Der Mann ist gesehen. (state) = [proc][res]

In (19a) the [res] feature is missing, and it seems that the [proc] feature is spelled out, along with the inflectional element, by *werden*. By contrast, in (19b) both features are present, and *sein* – without root content and event structure – can spell out only the inflectional element. This shows that [res] and [proc] must be spelled out along with the root. The observation that both features get spelled out by the root vocabulary item if both of them are present can be explained by the following constraints:

- (21) [proc] P[res] > [proc] A [res] > [res] F $\sqrt{}$ > [res] A $\sqrt{}$

The first two constraints require that the [proc] feature precede and be adjacent to the [res] feature respectively. The second two – lower ranked - constraints require that the [res] feature follow and be adjacent to the root. These constraints are violated if [res] precedes the root and is violated by every feature intervening between [res] and the root. The following tableau demonstrates the interaction between the constraints in (21):

(22)⁹

| | [proc] P [res] | [proc] A [res] | [res] F √ | [res] A √ |
|------------------|----------------|----------------|-----------|-----------|
| [proc] √ [res] | | * (!) | | |
| [res] √ [proc] | * (!) | * | * | |
| [proc] [res] √ | | | * (!) | |
| √ [res] [proc] | *(!) | | | |
| ☞ √ [proc] [res] | | | | * |
| [res] [proc] √ | *(!) | | * | * |

So these constraints guarantee that the order will be √ [proc] [res] irrespective of whether they are in an active or passive sentence. Note that if there is no [res] feature at all in the input (e.g. with *werden*-passive), these constraints become vacuous and the position of the [proc] feature will be determined by other lower-ranked constraints. The observation is that only if the passive morpheme is present, does [proc] get separated from the root and appears with the inflection. Thus it seems that both the passive and the inflection have a part in determining the position of [proc]. This suggests that they form a domain. Therefore, I introduce the *passive domain* (**D_{pass}**), which comprises the inflectional element [I], the passive feature [pass] and, if present, the perfect feature [perf] in German^{10 11}.

⁹ For convenience, in the remaining of the article I will abbreviate [proc] P [res] > [proc] A [res] as [proc] P/A [res] and [res] F √ > [res] A √ as [res] F/A √

¹⁰ I am not going to give a detailed account of German word order in SFA. However, I would like to highlight some points which may be relevant in my analysis. If we take the standard assumption that in German the word order in embedded clauses is the basic one, then we can see that the order of these elements is: [pass] > [perf] > I:

E.g.: dass es gemacht worden ist
that it make-pass become-perf be-inflection
'that it has been made'

¹¹ This order can be achieved by the following constraints: I F D_{pass} > [perf] F D_{pass} > [pass] F D_{pass}. In matrix clauses, the inflectional element is aligned to the first argument:

e.g. Es ist gemacht worden
it be-infl make-pass become-perf

Newson (2013) claims, there are two high-ranked constraints which are best satisfied if there is some tense (inflectional) element after the first argument: DA*P I. (the argument domain cannot be preceded by tense (inflection)) and DAPI (the argument domain is preceded by tense (inflection)). These seemingly contradictory constraints are exactly what we need to account for second position phenomena. He claims that the complementiser is marked for tense (inflection), so these constraints are satisfied in embedded clause if there is a complementiser. In matrix clauses, however, there is no complementiser; therefore, tense (inflection) is placed behind the first argument to satisfy the constraints. In embedded clauses which lack a complementiser the inflectional element has to occupy the same position as in matrix clauses to satisfy DA*P I and DAPI.

According to Newson (2013), the position of the root is determined by the complex interaction between several constraints. However, for the sake of simplicity and

The problem is that if the passive morpheme is absent, the domain still remains defined, so [proc] will be aligned to the inflectional element irrespective of whether there is a passive feature or not. Clearly, this is not what we want. Also it seems odd that intuitively we can have a passive domain without a passive feature, as it is the passive morpheme which makes a domain a passive domain. Furthermore, it would be problematic to distinguish between the passive domain without the passive conceptual unit and the inflectional domain as their members would be the same. In other words, we could have two names for the same set of input elements.

One way out of this dilemma is to say that the passive domain can be defined only if there is a passive morpheme. That is, the passive morpheme is an obligatory element of **D_{pass}**: If it is not present, the domain is not defined. This proposal, however, was rejected by Newson (personal communication), who claims that the present model would be less explanatory if we could define domains in different ways. Also, the theory would be less restrictive if there were obligatory and optional elements of a domain.

Another possibility is to define domains in terms of dependency relations. For example, let us take a look at the inflection domain, which contains all the inflectional elements related to a given predicate. It is defined by the presence of the morphological root (predicate). Based on this observation, we can conclude that the predicate is the dependency root, which goes against the standard CP/IP assumption.

Alternatively, we assume that the predicate depends on the passive, the passive depends on the aspectuals (if present), the aspectuals are dependent on the inflection and the inflection is dependent on the complementizer. Obviously, in this way a domain cannot be defined as a set of elements which depend on a dependency root. Instead, we can allow dependency relationships in both directions between dependents and elements they depend on, that is, both downward and upward dependency relations. The ‘head’ of the domain is not necessarily an element that other elements depend on, but may be an element which is itself dependent on the elements of that domain.¹² If the

convenience, I just say that the root must precede and be adjacent to the passive morpheme - based on what we can see in the examples above: The relevant constraints are $\sqrt{P}[\text{pass}] > \sqrt{A}[\text{pass}]$ (abbreviated as $\sqrt{P/A}[\text{pass}]$). In English the progressive feature [prog] can also be the member of this domain.

¹² It is essential to discuss domains that have been made use of in Alignment Syntax and see if it is possible to have a dependency-based approach to them as well. First, by definition, inflection domains are made up of all the functional elements which modify a given predicate, including the inflectional element, the progressive and the perfect feature. It is the presence of the predicate which defines this domain, as the inflectional element can be absent (as in *I watched the ice being melted*), as well as the perfect feature and the progressive feature. So the ‘head’ of the domain is the predicate. It can be assumed that the

‘head’ is absent, the domain is not defined. According to this new definition, the ‘head’ of the passive domain can be the passive morpheme as this element is dependent on the inflection, and the aspectuals. In active sentences, which lack the passive morpheme, the domain is not defined, so [proc] will not be aligned to the inflection but will be spelt out along with the predicate root, so its presence is invisible.

I propose that in *werden*-passives [proc] is aligned to the inflectional element, which precedes the passive domain and is adjacent to it. Thus the inflectional element and [proc] will be spelled out by *werden*. When the passive domain is not defined, i.e. there is no passive feature, this constraint will be inapplicable, and thus, two lower-ranked constraints, namely **[proc]F**√ and **[proc]A**√, govern the distribution of [proc]:

$$(23) [\text{proc}] P D_{\text{pass}} > [\text{proc}] A D_{\text{pass}} > [\text{proc}]F \sqrt{ } > [\text{proc}] A \sqrt{ }^{13}$$

To sum up, we have the following constraints:

$$(24) [\text{pass}]FD_{\text{pass}} > [\text{proc}]P/A[\text{res}] > [\text{res}]F/A\sqrt{ } > \sqrt{ }P/A[\text{pass}] > \\ [\text{proc}]P/AD_{\text{pass}} > [\text{proc}]F/A\sqrt{ }$$

Table (25) and (26) illustrate how these constraints can yield the desired ordering which I am going to work with. The tableau in (25) is for ‘*Der Brief wird geschrieben*’ (19a) and (27), as well as ‘*Der Mann wird gesehen*’ (20a) and (28). Tableau (26) illustrates ‘*Der Brief ist geschrieben*’. I do not include in these tableaux the constraints which determine the position of the inflectional element and I focus only on main clauses. However, these constraints are valid in case of embedded clauses as well.

root of the dependency is the inflectional element, which along with the elements dependent on it, namely the progressive and perfect feature, forms the inflection domain.

The argument domain only consists of only arguments associated with a given predicate, so the predicate is excluded. This domain is defined by the presence of the predicate simply because there are no arguments without a predicate. Note that all the arguments associated with a predicate are also dependent on it. Again, the dependency-based approach works here as well.

When the notion of the extended predicate domain (see Csontos (2012)) was introduced, the definition was already based on a dependency-based approach: “this domain is made up of all the dependents of the verb, i.e. arguments and adverbs.” This domain is similar to argument domains, because its ‘head’ is not part of them although it cannot be absent for the same reason discussed above.

¹³ For the first two constraints I will use the notation [proc] P/A D_{pass} and [proc]F/A √ for [proc]F √ > [proc] A √.

Although there is no exact match between the vocabulary items and the features they have to replace, according to the Superset Principle, *geschrieben* can spell out $\sqrt{\text{SCHREIBEN}}$ [pass] and *wird* can spell out [proc] and the inflectional element (third person singular). The reason why *wird* is selected is that it is associated with the [proc] feature and it has the smallest amount of extra content of those vocabulary items that can potentially spell out the sequence [proc] I. Recall that we argued that *werden* has only minimal root content. In (20b) **I** is spelled out by *sein*:

$$(20) \quad \text{b' } \dots\dots \mathbf{I} \dots\dots \sqrt{\text{SCHREIBEN}} \text{ [proc] [res] [pass]}$$

$$\quad \quad \quad \underbrace{\hspace{1.5cm}}_{\text{geschrieben}}$$

$$\quad \quad \quad \underbrace{\hspace{0.5cm}}_{\text{ist}}$$

An important consequence, which is correctly predicted by our analysis, is that we can explain why verbs that lack the [res] feature, e.g. *sehen* ‘see’, can never appear in *sein*-passive constructions. As there is no [res] feature, the constraints [proc] P/A [res] and [res] F/A $\sqrt{\hspace{1cm}}$ are irrelevant, and [proc] P/A D_{pass} will always align [proc] to **I**. In other words, due to the inapplicability of the first two constraints, **I** can never ‘stand alone’ and be spelled out by *sein*.

3.1 The external argument

Jaeggli (1986) discusses the behaviour of the external argument in passive constructions. He claims that the external θ -role of the predicate is absorbed by the passive suffix: “this suffix functions as the recipient of the external θ -role of the predicate.” The reason for this is that the suffix is an argument and hence needs a theta role. Jaeggli (1986) also adds that the external argument can be present if it is preceded by *by*. “The passive suffix is crucially involved in transferring the external theta-role onto the NP in the *by*-phrase in a passive sentence”.

However, this analysis is not unproblematic. First of all, Jaeggli does not say in what way the passive suffix is like an argument. Secondly, it is extremely odd that an argument-like element can relinquish its theta-role and it is able to pass it on to another element: generally, arguments cannot do it. Although there are problems with Jaeggli’s theory, I am going to accept the claim that there is a direct link between external theta-role absorption and the presence of the passive morpheme. This assumption will be incorporated into my analysis, which can be done by claiming that in these cases the presence of the passive feature leads to this phenomenon.

First let us take a look at an example in which the external argument is present. As I have already mentioned above, this is possible only if it is

preceded by *von* (German for *by*), otherwise the sentence is ungrammatical. I repeat example (7) below:

- (31) Der Brief wurde von meinem Vater geschrieben.
 the letter became by my father written
 ‘The letter was written by my father.’
 *Der Brief wurde meinem Vater geschrieben.

In order to answer the questions why *von* is obligatory and what it spells out, we have to discuss the argument structure of verbs within our framework. Newson (2010:15) claims ‘that there are thematic type functional conceptual units which licence the related arguments, by providing something for arguments to be aligned to and which themselves are aligned with respect to the root’. For instance, the verb *break* would be $\langle \text{cause} \mid \sqrt{\text{BREAK}} \mid \text{themel} \rangle$. The unit $\langle \text{cause} \mid \dots \rangle$ then licences the external argument which will be the ‘subject’.

I assume that the functional conceptual unit θ_{ext} ¹⁴, which is related to the verbal root, gets separated from the root if the passive morpheme is present and it is this feature that is spelled out independently by the vocabulary item *von*.¹⁵ This can be captured by the following ranking:

- (32) $[\text{pass}] \text{ F/A } \sqrt{} > \text{ arg}_{ext} \text{ P/A } [\text{pass}] > \theta_{ext} \text{ P } [\text{pass}]$

The order of the features involved will be $\theta_{ext} \text{ arg}_{ext} \sqrt{} [\text{pass}]$.

(33)

| | $[\text{pass}] \text{ F/A } \sqrt{}$ | $\text{ arg}_{ext} \text{ P/A } [\text{pass}]$ | $\theta_{ext} \text{ P } [\text{pass}]$ |
|---|---|--|---|
| $\theta_{ext} \text{ arg}_{ext} \sqrt{} [\text{pass}]$ | | * | |
| $\theta_{ext} \sqrt{} \text{ arg}_{ext} [\text{pass}]$ | *(!) | | |
| $\theta_{ext} \text{ arg}_{ext} [\text{pass}] \sqrt{}$ | *(!) | | |
| $\text{ arg}_{ext} \sqrt{} [\text{pass}] \theta_{ext}$ | | * | *(!) |
| $\theta_{ext} \sqrt{} [\text{pass}] \text{ arg}_{ext}$ | | *(!) | |
| $[\text{pass}] \theta_{ext} \text{ arg}_{ext} \sqrt{}$ | ***(!) | ** | * |

¹⁴ θ_{ext} is a thematic type of functional unit which is similar to what is called little ν in structural accounts. It adds event structure to the verb and licences the external argument (arg_{ext}). I use the term external argument, because it covers all the thematic roles that a subject can bear, e.g. agent, causer, experiencer, etc.

¹⁵ Note that *von* has a meaningful usage as well – just like *werden*. The reason why *von* is selected is that it has the smallest amount of content of those vocabulary items specified for the feature (Superset Principle). Due to lack of space however I am not going to discuss what this content can be. For the time being, I will refer to it as \sqrt{x} . Thus, the vocabulary entry for *von* is $\theta_{ext} + \sqrt{x}$: $\text{von} \leftrightarrow \theta_{ext} \sqrt{x}$.

θ_{ext} is thus separated from the root and will be realised independently.

- (34) $\underbrace{[\text{proc}] \text{ I}}_{\text{wurde}} \dots \dots \underbrace{\theta_{ext}}_{\text{von meinem Vater}} \underbrace{\text{arg}_{ext} \sqrt{\text{SCHREIBEN}}}_{\text{geschrieben}} [\text{pass}]$

When the passive morpheme is absent, the constraints introduced above have no effect. The distribution of θ_{ext} is therefore entirely at the mercy of other lower-ranked constraints which align it to the root. Consequently, this feature will be spelled out by the root vocabulary item in active sentences.

However, this cannot be the whole story, as in most passive constructions the external argument can be missing, as demonstrated by the following example:

- (35) Der Brief wurde geschrieben.
 the letter became written
 ‘The letter was written.’

I propose that the input associated with (31) is different from the input associated with (35): the latter does not include the feature θ_{ext} at all. Consequently, it cannot licence the external argument, which will not appear in the output either. The question arises: how is it possible that this input is not uninterpretable when one takes into consideration the fact that active sentences which lack the external argument are uninterpretable? See (36):

- (36) * hat ihn eingeladen.
 have him invited
 * ‘invited him’

The [pass] feature carries a meaning which is similar to θ_{ext} but is more general. Consider the following sentences: *The ship was sunk.* and *The ship sank.* Although the first sentence lacks an agent, it still implies that there must have been someone who *sank* the ship, as opposed to the second sentence. Clearly, the only difference between the two examples is the presence/absence of the passive morpheme. The conclusion is that it is the passive morpheme which is associated with this general external argument role. Note that it does not block the appearance of the more specific θ_{ext} feature introduced above.¹⁶

¹⁶ A similar phenomenon can be observed with implicit arguments of some transitive verbs like read or cook. Take, for example, the sentence I am reading. Obviously, read is not an

The question is how it is possible. Obviously, there are certain conceptual units which block each other. Consider, for example, the sentence **John went to London on Monday on Tuesday*. The two time adverbials are incompatible with each other. However, if we use *at ten o'clock* instead of *on Tuesday*, for instance, the sentence is fully grammatical: *John went to London on Monday at ten o'clock*. The reason for this is that *ten o'clock* is part of *Monday*, so there is a part-whole relationship. I assume that the same is going on with the passive feature and the external argument. As the former has a very general meaning, the external argument must be part of it.

On the other hand, the input which is associated with (36) lacks any element, i.e. the θ_{ext} feature (and consequently arg_{ext}) and the [pass] feature, which expresses the external argument. So the input is uninterpretable and deemed to be degraded.

Lastly, under the present proposal the role of the object is less central in passivisation and it can take place if there is an external argument present to be suppressed. It was also claimed that the passive morpheme introduces a general doer. So passivisation is understood as the absorption of the external argument. The expectation is that passivisation is not possible if there is no external argument. This is exactly what we can find in German: unaccusative verbs cannot be passivised.

4 Conclusion

We have offered an account of the distribution of auxiliaries in two types of passive constructions in German. It has been argued that the presence/absence of [proc] and [res] CUs and their position are responsible for the emergence of *werden* and *sein*. The present work also explains why process verbs can only appear in *werden*-passives. In addition, we have given an explanation of the optionality of external arguments in passive constructions claiming that this is directly related to the presence of the passive morpheme, which has a meaning similar to θ_{ext} but it is more general.

Admittedly, however, we are just scratching the surface of this construction. For example, we need to explain why more verbs can be passivised in German than in English. Another interesting question would be how we can analyse sentences with an expletive *it*, as in German we can say sentences like '*it were a lot of cakes baked*' meaning '*a lot of cakes were baked*'. Clearly, questions like these require further research.

intransitive verb here, as you cannot read without reading something: the object of the verb is implicit. However, we can add specific information to the more general one: I am reading a book. This does not lead to blocking effects either.

References

- Csontos, Tamás. 2012. Nominal and pronominal arguments in German within the framework of Alignment Syntax. In: László Varga (ed.). *The Even Yearbook 10*. Eötvös Loránd University, Budapest. (Available at: <http://seas3.elte.hu/delg/publications/even/2012.html#nm>.)
- Dowty, David R. 1979. *Word meaning and Montague grammar: the semantics of verbs and times in generative semantics and in Montague's PTQ*. Dordrecht; Boston: D. Reidel Pub. Co.
- Gáspár, Miklós. 2005. *Coordination in Optimality Theory*. PhD Dissertation. Eötvös Loránd University, Budapest
- Grimshaw, Jane B. 2005. *Words and structure*. Stanford, Calif.: CSLI Publ.
- Helbig, Gerhard and Joachim Buscha. 1999. *Deutsche Grammatik. Ein Handbuch für den Ausländerunterricht*. Leipzig. Langenscheidt.
- Jaeggli, Osvaldo A. 1986. *Passive*. *Linguistic Inquiry*, Volume 17, Number 4. MIT.
- Levin, Beth and Malka, Rappaport Hovav. 2005. *Argument Realization*. Cambridge. Cambridge University Press.
- Newson, Mark. 2010. *Syntax First, Words After: A possible consequence of doing Alignment Syntax without a lexicon*. In: László Varga (ed.). *The Even Yearbook 9*. Eötvös Loránd University, Budapest. (Available at: <http://seas3.elte.hu/delg/publications/even/2010.html#nm>.)
- Newson, Mark and Krisztina Szécsényi. 2012. *Dummy Auxiliaries and Late Vocabulary Insertion*. In: László Varga (ed.). *The Even Yearbook 10*. Eötvös Loránd University, Budapest. (Available at: <http://seas3.elte.hu/delg/publications/even/2012.html#nm>.)
- Newson, Mark. 2013. *What you can do with a domain and why they are not phrases*. In: Peter Szigetvári (ed.). *VL lxx: Papers presented to László Varga on his 70th birthday*. Eötvös Loránd University, Budapest. (Available at: <http://seas3.elte.hu/vllxx>)

Contos Tamás

*Department of English Linguistics, Eötvös Loránd University
csontostamas82@freemail.hu*