Parasitic Gaps in the Germanic Languages

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1. Introduction

The parasitic gap construction is a syntactic phenomenon which has been analysed and debated considerably in recent literature. It was first noticed in Ross (1967), and was subsequently examined in works such as Taraldsen (1979), Chomsky (1982) and Engdahl (1983). In this paper, the distribution of this construction will be examined in relation to three Germanic languages — English, Dutch and German. Moreover, the principal analyses which have appeared in the literature to account for the construction will be investigated, and tested for their adequacy as regards the three languages involved. An initial example of the construction is given in (1) below:

(1) Who did you like t after meeting e?

It is generally accepted that parasitic gaps are a low frequency construction which may result in marginality in all of the languages in which they occur. The Logical Problem of Language Acquisition therefore causes us to pose the following question: how are adults able to produce and understand the construction in question, given that they are unlikely to receive any direct evidence concerning the specific properties of parasitic gaps during acquisition? In light of this query, we must assume that no construction-specific stipulations should exist in any language in which parasitic gaps occur. Instead, the principles of Universal Grammar, interacting with more general properties of particular languages, should account for the distribution. Consequently, the differences in the distribution of the construction in the three Germanic languages mentioned above should be derivable from characteristics specific to these languages, which are motivated independently of the parasitic gap construction. Indeed, this is what we will see to be the case.

The construction that has been referred to as a ‘parasitic gap construction’ is so called due to the fact that it contains an empty category, which is licensed only by the appearance of another empty category with which it does not stand in a c-command relationship. The empty category licensed by the presence of another is therefore considered to be dependent or ‘parasitic’ on this second empty category. The sentences in (2) show English examples of the phenomenon under consideration:

(2) a. This is the article, Sophie filed t, without reading e.
   b. Which book, did Jane consider buying t, after reading a review of e?
c. Who did Padraic persuade t, that we should visit e?  
d. Wendy is a girl, who, people who meet t, always like e.

The paper will proceed in the following way: section 2 will investigate the four main theories which have been proposed to deal with the construction. In section 3 we will provide a detailed description of the distributional differences which exist between English, Dutch and German. Following this, section 4 will attempt to reconcile this cross-linguistic variation with properties which are specific to these languages, and which are motivated independently of the parasitic gap construction. Finally, in section 5, conclusions will be drawn.

2. The Principal Analyses

Four main analyses have been proposed in the literature to account for the parasitic gap construction in terms of the Principles and Parameters framework. These are (i) The Multiple Variable Binding Approach proposed in Chomsky (1982) and Engdahl (1983), (ii) The Connectedness Condition of Kayne (1983), (iii) The Across-The-Board Movement Theory in Huybregts and Van Riemsdijk (1985) and Williams (1990), and (iv) The Chain Composition approach of Chomsky (1986). While it will become clear that the second of these analyses is the most adequate theoretically, yet empirically, no current theory can account for all the possible parasitic gap constructions in English, Dutch and German. We will now outline each of the theories in turn.

2.1 Multiple Variable Binding

This approach to the parasitic gap construction assumes that both the licensing gap and the parasitic gap are variables, where a variable is defined as an element which is: “locally A’-bound, and in an A-position” (Chomsky, 1981, 1982), meaning that the variable is situated in an argument position, yet it is bound from a non-argument position. These variables are then both bound by the antecedent, or operator. Essentially, it is proposed that the parasitic gap is merely the phonologically null variant of a pronoun which can also occur in this position. The relevant licensing conditions are stated in Chomsky (1982, p. 66) as follows:

(3) In the construction (A), where order is irrelevant and we assume α, t, e to be co-indexed, the parasitic gap e is licensed if and only if (B):

(A) \[ \alpha \ldots t \ldots e \ldots \]

(B) (i) \[ \alpha \text{ c-commands } t \text{ and } e \]

(ii) \[ t \text{ does not c-command } e \text{ or conversely} \]

(iii) \[ \alpha \text{ does not head the chains } (\alpha, t) \text{ and } (\alpha, e) \]

(iv) \[ e \text{ is governed } (#\text{PRO}) \text{ and heads a chain with a } \theta \text{-role} \]

This analysis assumes that the parasitic gap is base-generated in the position in which it appears at surface structure, and that therefore it is not subject to island constraints of any
type, as these only restrict empty categories which are the result of movement. This assumption poses a major problem for the theory, given the fact that parasitic gap constructions can be found which do seem to be sensitive to island constraints of some sort, as the following examples show:

(4) a. Which girl did you admire because you had pictures of e?
b. *Which girl did you admire because you had seen pictures that were taken of e?

A second problem with this analysis is the fact that it entails an Anti-C-Command requirement between the licensing gap and the parasitic gap (see B (ii) above). However, it quickly becomes clear that the Anti-C-Command condition is somewhat deficient, given the fact that examples of parasitic gap constructions which possibly violate this requirement can be found. The following example is used by Contreras (1984 (1)):

(5) Which articles did John file without reading e?

A number of other problems exist with the Multiple Variable Binding analysis. These include the fact that resumptive pronouns seem to license parasitic gaps in certain languages (see Engdahl, 1983), and the incorporation of the Bijection Principle of Koopman and Sportiche (1982, p. 146) — a principle which clearly has many problems. (See Postal, 1993 for further discussion.)

The Multiple Variable Binding analysis of the parasitic gap construction is evidently not the way to go. It faces many difficulties which, although not unusual given its status as the first major theory of parasitic gaps, are not desirable in a framework which strives to minimalise the stipulations in any grammar.

2.2 The Connectedness Condition

This analysis derives directly from the Empty Category Principle (ECP) of Chomsky (1981), which was devised to account for certain asymmetries existing between movement out of subject and object positions. Kayne (1981), among others, noted that some deficiencies existed with this principle. His attempts to explain the asymmetries that led to the formulation of the ECP give rise to the Connectedness Condition, which he assumes to account for parasitic gap constructions. The central notion is that all empty categories must possess an antecedent (it is irrelevant whether this antecedent properly governs the empty category or not), and that a path must be formed between the gap and the antecedent. This path is termed a g(overnment)-projection.

These paths begin at the governor of the gap, and proceed in a strict fashion. That is, the governor of the gap must govern it canonically (where the canonical government configuration for an SVO language like English is governor-governee, and for an SOV language like Dutch or German is governee-governor) in order for the path to proceed to the first maximal projection it meets. This maximal projection (and each one after it)
must also be canonically governed. If the g-projection manages to proceed successfully in this way to the antecedent, the gap is licit.

In the case of a parasitic gap construction, two g-projections must be formed: one from the governor of each gap to the antecedent. It is a feature of this type of construction that only one g-projection must actually reach the antecedent; this is the g-projection of the licensing gap. The parasitic gap may be licit if its g-projection connects to the g-projection of the licensing gap. This connection takes place at a level where points on each g-projection are sisters to each other.

The structure in (6) shows the licensing of a parasitic gap under the Connectedness Condition. The paths of the g-projections are shown by the arcs, the arrow indicates where the g-projections connect:

Many revisions have been made to Kayne’s (1983) Connectedness Condition. Among these are Longobardi (1984, 1985), Bennis and Hoekstra (1985) and Haverkort (1986). These revisions have only slightly altered the original work of Kayne in order that the Connectedness Condition might account for a wider range of data. Nevertheless, it can be seen that some data still remains unexplained under this analysis.
For example, considering again the sentences in (4) above, it is clear that no element of the Connectedness Condition can account for the difference between (a) and (b). Also, the Connectedness Condition is unable to predict the fact that constructions such as (2d) are grammatical. Instead, it predicts ungrammaticality as there is no point at which the two g-projections can connect.

2.3 Across-the-Board Movement

In this analysis the parasitic gap is considered to be the result of a type of well-documented movement (see, for example, Williams, 1978), termed ‘Across-the-Board (or ATB) Movement’. Essentially, this refers to the movement of two or more elements simultaneously. Williams (1978) was one of the first to talk of this type of movement, and his article lays out the foundations and basics very thoroughly. A typical example of a construction resulting from Across-the-Board movement can be seen in (7) below:

(7) Who did Ray ask t, and Andy convince t,?

In this type of structure, the two empty categories are marked as t (unlike the parasitic gap construction). The antecedent ‘who’ is thought to have been moved from both of these deep structure positions to give the surface structure seen above. This, then, in contrast to the previous two theories, is what can be termed a ‘movement’ theory of parasitic gaps, where not only the licensing gap, but also the parasitic gap is deemed to be the result of a movement process. If this is the case, the term ‘parasitic’ would seem to be redundant, as the second gap is no longer dependent on the first.

This theory might seem at first glance to be quite attractive as it not only reduces the construction in question to another independently motivated type of structure, but also explains the sensitivity shown by certain parasitic gaps to island constraints. However, many problems can be seen to arise.

Firstly, in an ATB construction, the two conjuncts from which elements are moved must be identical. In (7) above this is the case. However, in many parasitic gap constructions, the ‘conjuncts’ are quite different either semantically or syntactically (or both). Consider (8) below, an example used by Engdahl (1983, (2)):

(8) This is the kind of food you must cook t, before you eat e.

Here, the parts being considered as conjuncts are [you must cook t] and [before you eat e]. Clearly, these conjuncts are not syntactically identical, as the second contains the conjunction ‘before’.

Another problem is the fact that the conjunction in certain parasitic gap constructions is, in fact, a subordinator, not a coordinator. In this case, it must, given its nature, be situated inside one of the conjuncts, which is never the case for a coordinator (it must be in a position outside both conjuncts). In (8) above this is the case with the
conjunction ‘before’. Huybregts and Van Riemsdijk (1985) propose that subordinating conjunctions must be re-analysed as coordinators in order to fulfil the requirements of an Across-the-Board structure. However, this would seem highly implausible given the position of a subordinating conjunction.

Thirdly, a parasitic gap can be replaced by a full Noun Phrase without loss of grammaticality. This, however, is not the case for either of the gaps in an ATB structure. These facts are illustrated in (9) and (10) below:

(9) Which articles did Mary file t, without reading more than their titles?

(10) *Who did you say Ray asked t, and Andy convinced her sister?

Many more problems can be seen to exist with this type of analysis of the parasitic gap. Constraints on space do not allow us further to examine these here. The reader is referred to Haverkort (1986) and Postal (1993) for further discussion; suffice to say that we may conclude that the Across-the-Board analysis of the parasitic gap construction is far from convincing.

2.4 Chain Composition
The Chain Composition approach to parasitic gaps was first proposed in Chomsky (1986). Again, this is a movement theory, which has as its central notion the idea that parasitic gaps are much like the empty categories resulting from wh-movement. They are bound by an operator, but unlike wh-movement, the operator is empty (represented by O). This empty operator binds the parasitic gap, while the antecedent binds the real, or licensing, gap.

A chain is formed by any binding relationship, i.e. between the binder and the bindee. Therefore, in a parasitic gap construction, two chains must be formed; one between the antecedent in the specifier position of the matrix CP and the licensing gap, and the other between the empty operator, O, situated in the specifier position of the embedded CP, and the parasitic gap. In order for the parasitic gap to be licit, a composed chain must be created, which is a union of these two chains. The following rule of Chain Composition is assumed to account for this union:

(11) If $C = (\alpha_1, \ldots, \alpha_n)$ is the chain of the real gap, and $C' = (\beta_1, \ldots, \beta_n)$ is the chain of the parasitic gap, then the ‘composed chain’ is $(C, C') = (\alpha_1, \ldots, \alpha_n, \beta_1, \ldots, \beta_n)$.

(Chomsky, 1986, p.56)

The answer to the question of when a parasitic gap can be licensed must be linked to the conditions under which such a rule can operate. However, many problems result from this theory due to the fact that these conditions cannot be determined. Chomsky proposes four possibilities, none of which is without problems.
Firstly, he assumes Binding Condition C to hold of composed chains. However, this would entail the Anti-C-Command requirement, which was seen in section 2.1 above not to hold. A condition on A-chains is then proposed. Such a proposal cannot be upheld, as the chains that occur in the licensing of a parasitic gap would have to be A’-chains, not A-chains, given Chomsky’s (1981, 1982) definition of a variable (see section 2.1 above). Indeed, the empty operator which binds the parasitic gap is situated in an A’-position - Spec/CP.

He thirdly proposes that a 1-Subjacency requirement is in order. However, violations of this requirement can be found:

(12) What, [t, [v, frightened Mel [p, before [O [ he saw e]]]]]

Two barriers intervene between the head of the parasitic gap, O, and the foot of the licensing gap, t, (namely VP and PP), which is not permitted under 1-Subjacency. He then derives 0-Subjacency from 1-Subjacency. This is also deficient as parasitic gap constructions which violate this requirement can also be created:

(13) Who, did Mel frighten t, [p, before [O [ he met e]]]

Here, one barrier, namely PP, intervenes between the foot of the licensing chain, t, and the head of the parasitic chain, O. 0-Subjacency does not allow this.

This is the major obstacle faced by the analysis of Chain Composition. Many other problems with this theory can be seen; however limitations of space do not permit us to further investigate these here. For discussion, see Haverkort (1986) and Jones (1987).

We can therefore conclude this section by stating that the four principal analyses which have been put forward in the literature to explain the parasitic gap construction all face problems of one type or another. Theoretically, the Connectedness Condition of Kayne (1983) (including all its modifications) would seem to be superior, yet many empirical facts show that it cannot account for all parasitic gap constructions.

3. Cross-Linguistic Variation

As was mentioned briefly in section 1, the parasitic gap construction is marginal in all of the languages in which it occurs. Judgements vary greatly from speaker to speaker. In fact, the question has been raised as to whether parasitic gaps exist at all in languages such as German and Dutch (Huybregts and Van Riemsdijk, 1985, James McCloskey, personal communication). However, it will become clear in this section of the paper that this is not an accurate viewpoint. The parasitic gap construction is clearly available to most native speakers of the three languages under discussion.

3.1 English

In English, parasitic gaps can occur in three different types of clauses: complement clauses, relative clauses, and adjunct clauses. It seems that the adjunct clause type of
parasitic gap is the type that most frequently occurs in English. The data in (14) illustrate these three contexts:

(14) Complement Clause:  Who did you tell [that we would meet on Sunday]?
Relative Clause:  Which car do people [who drive] love?
Adjunct Clause:  Which book did Annica return to the library [before anyone else could read]?

It should be noted that the example used above for adjunct clauses contains a tensed adjunct clause. However, a parasitic gap is equally acceptable in English in an infinitival adjunct clause, as (15) shows:

(15) Which house did you buy [without having seen]?

3.2 Dutch
The distribution in Dutch is slightly more limited. Parasitic gaps are permitted in complement clauses, as in English, but not in relative clauses. Adjunct clauses exhibit a further asymmetry, as only the tenseless variant permits parasitic gaps in Dutch. These facts are illustrated with translations of (14) and (15) above, in (16):

(16) Complement Clause:  Wie heb je gezegd [dat wij op zondag wilden ontmoeten]?
Relative Clause:  *Welk auto hebben mensen lief [die drijven].
Adjunct Clause:  Tensed:  *Welk boek heeft Annica teruggebracht naar de bibliotheek [voordat anderen het konden lezen]?
Tenseless:  Welk huis heb je gekocht [zonder gezien te hebben]?

3.3 German
The contexts in which a parasitic gap is allowed in German appear to be more restricted again. Only tenseless adjunct clauses permit parasitic gaps in this language. Again, translations of the data in (14) and (15) can be used to indicate this:

(17) Complement Clause:  *Wem hast du gesagt [daß wir am Sonntag treffen]?
Relative Clause:  *Welches Auto, mögen Leute [die fahren]?
It is clear from the data in (14) to (17) that the variation which exists between the three languages is not random, but relates specifically to the contexts in which the construction arises. Therefore, the restrictions in these languages which rule out the construction in question should be the result of more widespread independent restrictions. We will examine what these might be in the following section.

4. **Language Specific Properties**

A discussion of the properties of English, Dutch and German which give rise to the differences seen in the previous section is now in order. It is clear that of the three languages involved, English has the widest range of possible parasitic gap constructions. It is therefore logical to use English as our base, and attempt to understand why Dutch and German have a more limited distribution. In other words, we must look at the properties of Dutch and German which do not exist in English.

4.1 **Selection of Complements**

Any phrase can contain not only a head, but also one or more complements. The position of these complements in relation to the head of the phrase determines many features of a language, including its word order. However, it can also be seen to influence (indirectly) the distribution of the parasitic gap construction.

English heads all select their complements to the right; it is a head-initial language. Certain Dutch and German heads also precede their complements. In Dutch, V and I follow their complements, and P can either follow or precede its complement (*i.e.* there are both prepositions and postpositions in Dutch). German Vs and Is also follow their complements, while all other heads precede them (P included). These directionality facts can be seen in (18) to (20) below:
(18)

English

(19)

Dutch
The direction in which heads select their complements affects the direction of government in any language. Based on the facts above, it is clear that German and Dutch are SOV languages \(iv\) (at least underlyingly), and therefore have the canonical government configuration governee-governor (\(i.e\). the opposite to English). In relation to the parasitic gap construction, this explains two facts about Dutch and German.

Firstly, the canonical government configuration of Dutch and German is not obeyed in relative clause type parasitic gaps. This fact accounts for their ill-formedness. Looking at the relevant structure of the relative clause example in (17) above ((16) will have the same structure), it becomes clear that the g-projection of the parasitic gap is blocked from proceeding any further at the level of the embedded CP, due to the fact that it is not in a canonical government configuration (\(N'\) cannot govern as it is an intermediate projection). Although the g-projection of the licensing gap can reach the antecedent, there is no point where the two g-projections can connect, and ungrammaticality ensues.

(21)

Welches Auto

```
N\[k\]          V' \\
Spec. N'            I \\
       N' CP Spec. V' \\
             N Spec. C' \\
                 N Spec. C \\
                     NP_k  \\
                      mogen \\
```

```
V' \\
I \\

I \\

V' \\
I \\

V' \\
I \\

C' \\
I \\

C \\
I \\

I \\

V' \\
I \\

V' \\
I \\

die \\
NP_k  \\
Spec.

```
Leute
If we recall the English relative clause type parasitic gaps, it seems that the structural implications are the same. That is, the Connectedness Condition cannot predict their grammaticality, as was mentioned in section 2.2 above. According to the Connectedness Condition, English should not be allowed to permit such parasitic gap constructions for the same reason they are illicit in Dutch and German. The g-projection of the parasitic gap will also be blocked at N’-CP in English, and will not be able to attach to the g-projection of the licensing gap. This is a major problem for the Connectedness Condition.

The second fact we can now explain is that tensed adjunct clauses do not allow parasitic gaps in either Dutch or German. Again, this falls out from the difference between the canonical government configuration of these two languages on one hand, and of English on the other. Consider the structure of the tensed adjunct clause of (16) as an example:

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(22)  CP
     /   \\  Welk boek
     |     | /
     IP  C'  \
     /\   /\  \
   Annica I'  \
   /\   /\  \
  VP I  \
  /\   /\  \
 V' t_j  \
 /\   /\  \
 V' PP  \
 /\   /\  \
 V Spec. P'  \
 /\   /\  \
 V Spec. P  \
 /\   /\  \
 P P Spec. CP  \
 /\   /\  \
 P naar N' Spec. C'  \
 /\   /\  \
 de N' IP  \
 /\   /\  \
 andere bibliothek mensen  I'  \
 /\   /\  \
 VP I  \
 /\   /\  \
 t_m V'  \
 /\   /\  \
 e V t_n  \
```
Although the g-projection of the licensing gap may proceed unhindered to the antecedent, the g-projection of the parasitic gap is blocked at the level of the embedded CP, as this is not canonically governed (the governor follows the governee). The two g-projections may not connect, and the ill-formedness of this type of construction is therefore completely predictable. In English, this problem does not arise, as the canonical government configuration is governor-governee, and is therefore obeyed at the level of P-CP.

It was seen above that an asymmetry exists between tensed and untensed adjunct clauses in Dutch and German as far as parasitic gaps are concerned. This can now be explained if we follow Bennis and Hoekstra (1984, 1985) and Bennis (1987) in assuming that the preposition which introduces a tenseless adjunct clause is not situated in the head of PP, but in the head of CP. Such a reasoning is not unmotivated, considering the history of English prepositions such as ‘for’.

Thus, the PP which causes the problem in g-projection formation in (22) above is absent and it is possible for the two g-projections to meet, resulting in grammaticality.

4.2 Preposition Stranding
In English, a preposition phrase does not have to remain intact at Surface Structure. One can observe a movement process, whereby the preposition is ‘stranded’ and only its complement moves from where it was base-generated. The following examples illustrate this process:

(23) a. With whom did you go to the party?
b. Who did you go to the party with?

In Dutch, a special class of words, such as ‘waar’ and ‘er’ (meaning ‘where’ and ‘there’ respectively), termed ‘R-words’, are found. These words are so called due to the fact that they contain the phoneme [r]. They do not seem to exist in any other languages. R-words appear in the complement position of a postposition, never as the complement of a preposition:

(24) a. Jan heeft er op gerekend.
J. has there on counted
→ Jan has counted on it.
b. *Jan heeft op er gerekend.
(Bennis 1987 (19))

These facts affect the P-stranding process in Dutch in the following way. In Dutch, postpositions can be stranded while preposition stranding is always impossible. Therefore, R-words are the only complements which can be extracted from a PP, as is shown in the following data:
In German, there are no postpositions, as we mentioned in the previous sub-section. However, preposition stranding is also prohibited in this language. This results in the fact that no extraction at all is possible from PPs in German:

(26) a. Hans spricht über das Thema.
    H. talks about the topic
    → Hans talks about the topic.

b. *Das Thema spricht Hans.

As a consequence of these facts, it is clear that any parasitic gap which is dependent on a gap caused by extraction of a PP complement will be acceptable in English (given that it is in one of the three contexts mentioned above in section 3.1). In Dutch, such parasitic gaps will be less widespread, and in German they will not exist at all.

4.3 Movement Processes

Dutch and German permit a Move-α process which does not occur in English. Although different terms have been used in the literature, it does appear to be essentially the same process. It also has an impact on the distribution of parasitic gaps. In Dutch and German, parasitic gap constructions can be found which are illicit in English:

(27) [Du.]: Jan heeft die boeken, [zonder e, te bekijken] weggelegd.
    J. has these books without inf. to-look-at put-away
    → Jan has put these books away without looking at them.

[Ger.]: Jan hat diese Bucher, [ohne e, zu pr,fen] weggelegt.

These sentences appear to contain parasitic gaps without the required licensing gaps. It is clear that the English counterpart of these sentences is only acceptable when a pronoun (‘them’) is inserted into the position of the parasitic gap. This is not unsurprising when we consider the movement rule allowed in Dutch and German, but not in English.

In Dutch, the process has been referred to as Object Shift (see Bennis and Hoekstra, 1984, 1985, and Zwart, 1997b). It results in the movement of the object leftwards from its base position (adjacent to the verb). This movement will then leave a trace (or real gap) which can license the parasitic gap. In German, the rule, which has been referred to (by, for example Felix, 1985) as X’-Preposing, has the same effect. The object moves leftwards to an A’-position, is then co-indexed with a trace next to the verb, and the
parasitic gap in the adjunct clause can be licensed. Such a process is absent in English, which means that there is no trace to license the parasitic gap.

We can conclude this section now by reaffirming the fact that many of the differences in the distribution of parasitic gaps between the three Germanic languages we are concerned with can be explained in terms of other language-specific facts which are motivated independently of the construction in question. This is the outcome we expected. However, a general analysis of the parasitic gap construction should interact with these properties to account for all of the data we have seen.

5. Conclusion
This paper has examined the parasitic gap construction in three Germanic languages. We firstly introduced the principal analyses which have been put forward in the literature to account for the parasitic gap construction in terms of more universal properties of language. We then looked at the empirical facts in English, Dutch and German, followed by a discussion of some of the properties specific to these languages that limit the distribution of parasitic gaps in any way.

It is now clear that the facts we see in these languages are not accountable for in terms of any of the four analyses seen in section 2. Even the Connectedness Condition, which seems to be the most comprehensive analysis from a theoretical viewpoint, fails to predict many of the distributional facts that we see. Nevertheless, a certain conclusion can be arrived at; that is, a new analysis is required if we are to explain the parasitic gap construction in English, Dutch and German (and other languages also). This paper has shown that different distributions exist, some facts of which can be derived from independent features of the specific languages, but that no theory which has been put forward in the literature at this point in time can interact with these language-specific features to result in complete explanatory adequacy. Therefore, this work has come some way at least in, if not resolving the problems of the parasitic gap construction, making them clearer. The ideas that have been mentioned here are expanded on in Parker (1999).

BIBLIOGRAPHY


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1. \( t \) (trace) is used to refer to the licensing gap, while \( e \) indicates the position of the parasitic gap.
2. * indicates the ungrammaticality of a sentence, while ? shows that a sentence is considered marginal.
3. \( t \) indicates the position that an element has been moved from, while \( e \) represents a base-generated empty category.
4. Although see Haegeman (in preparation) and Zwart (1997a, 1997b) for arguments against an SOV analysis of Dutch.
5. The reader is referred to Harris and Campbell (1995, chapter 4) for further discussion.
6. Van der Wilt (1985, p. 146) refers us to the archaic English word ‘whereon’. 