The Meaning of Structural Case

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1. Introduction
In the framework of generative grammar all NP arguments are assumed to need abstract case in order to be licensed (Stowell, 1981; Chomsky, 1981). Case is treated as a unitary phenomenon, but objects are argued get case from the verb in VP, while the subject must get case in [Spec, IP]. The assumption that the subject and object both get abstract case has led Chomsky (1989, 1993) to propose that only specifier positions external to VP are case positions. Chomsky (1993) therefore adapts Pollock's (1989) proposal that agreement and tense features head separate projections. He suggests that the subject checks the case feature of Tense in [Spec, TP], and must move to [Spec, AgrSP] to check the agreement features of AgrS. The object must move to [Spec, AgrOP] in order to check case and agreement features.

There are a number of facts for which this theory cannot account. The most obvious one is that while the subject does move out of VP overtly in most cases, the object can, and in most cases, must remain overtly in VP. If it moves to [Spec, AgrOP] at all, it must do so at LF. Case assignment thus remains asymmetric. Case assignment also remains asymmetric in the sense that the subject checks case and agreement features in separate projections, a case feature in [Spec, TP] and agreement features in [Spec, AgrSP], while the object checks both case and agreement features in the same projection.\(^1\)

Another problem is that in languages where NPs bear morphological nominative case and the finite verb agrees with the nominative NP, we do not find the expected correlation between agreement and overt movement to AgrP (Moorcroft, 1993, 1995). In Icelandic, on the one hand, definite subjects move to [Spec, AgrSP], and the finite verb moves to AgrS, but the subject which supposedly moves to [Spec, AgrSP] in order to check agreement features often does not have nominative case, and does not agree with the verb which appears in AgrS (Zaenen et al., 1985; Schütze, 1993).\(^2\) In German, on the other hand, where the verb also agrees with the morphologically nominative NP, there is no evidence for overt verb movement in embedded clauses, and an indefinite nominative subject may remain in VP (Moorcroft, 1995). It therefore seems doubtful that the subject moves to [Spec, AgrSP] in order to check agreement features.

An additional problem for such a theory is that in Icelandic the object cannot

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\(^1\)For a view of feature checking that does away with this asymmetry, see Watanabe (1993).

\(^2\)Chomsky (1995) deals with this problem by claiming that both VP and TP have multiple specifier positions, and that the subject checks case in [Spec, TP] and a D feature in a higher [Spec, TP]. The object checks its case feature in the specifier of a higher VP, headed by a light verb with some of the properties of a functional category, and checks its D feature by moving to a higher specifier of this projection. Chomsky assumes that this feature is interpretable but does not specify what the D feature contributes to semantic interpretation. If we assume that it marks the subject as presupposed, the proposal that a D feature rather than agreement is checked in a higher specifier is similar to the theory of case assignment proposed below.
appear overtly in [Spec, AgrOP], unless it can be interpreted as presupposed. The subject, as well, only moves to [Spec, AgrSP] when it can be interpreted in this way. It seems, then, that in a language such as Icelandic, which has structural evidence for an expanded IP, NPs move to [Spec, AgrP] positions in order to check the specific feature which presupposed NPs must have. If all NPs need to move to [Spec, AgrP] positions in order to get case, they must do so at LF. But, since LF is the level of semantic interpretation, this means that NPs which cannot be interpreted as presupposed cannot remain in [Spec, AgrP] at LF. Otherwise they would get the wrong semantic interpretation. This complicates the account of case assignment considerably.

Finally, in Icelandic the morphological case of the subject and object is not predictable from its grammatical function. The morphological case associated with a given grammatical function therefore seems to be determined by the verb, not by any structural position. If we assume that all case features are checked by NPs in [Spec, AgrP] or [Spec, TP], it is difficult to account for this.

But it is possible to deal with these problems in the theory of case developed in Moorer (1995), which I will outline next. I assume that case is compositional, and that what is generally called case actually consists of three components which license three separate properties of NPs. That is, I assume that case licenses not only the grammatical function of a verbal argument, but that it has two other functions: licensing the theta-role of an argument, and licensing presupposed semantic interpretation. In such a theory case would consist of three components, the component which licenses grammatical function, which I will call abstract case or a-case, the component which licenses the theta-role, which I will call t-case, and the component which licenses a specific interpretation, which I will call s-case.

This approach to case is in fact an extension of the theory of NP licensing proposed in Chomsky (1981). He shows there that all verbal arguments need a theta-role and case. Stowell (1981) suggests that case may be needed to license the theta-role as well as grammatical function. The theory which I propose simply adds the idea that case is compositional, and that it also licenses presupposed interpretation. That allows us to distinguish a case component which licenses a theta-role, from the component which licenses grammatical function, and from an additional case component which licenses presupposed interpretation.

If we break case down into three components we can consider the possibility that not all verbal arguments have the same case requirements. It seems reasonable to assume that all verbal arguments need t-case. If t-case licenses the theta-role of an NP, it makes sense to assume that it is assigned by the verb, which also assigns theta-roles. If we assume in addition that this is the only component of case which an object requires, we can account for the fact that the object can remain in VP.

If we assume that only a lexical subject needs a-case, and that finite Tense assigns this component of case, we can explain why the subject generally moves out of the VP to [Spec, TP]. If we assume in addition that only a presupposed NP needs s-case, we can explain why only presupposed NPs can move to [Spec, AgrP] positions. Obviously these positions should be renamed, if that is true. But I will continue to use the labels [Spec, AgrSP] and [Spec, AgrOP] for the positions which license presupposed interpretation, in order to make it obvious that these positions are structurally identical to [Spec, AgrP] positions proposed in Chomsky (1993).

I have argued in Moorcroft (1994, 1995) that t-case is assigned within VP and marked by morphological case in Icelandic. In this paper I will argue for s-case. The theory that treats NP positions which force a presupposed interpretation as case positions builds on Diesing (1990, 1992a), which I will outline in section 2. She shows that in German the semantic interpretation of an indefinite NP is determined by its syntactic position. An NP within VP must be interpreted as existential, and an NP
preceding VP must be interpreted as presupposed. In section 3, I will show that in Icelandic, NP movement to [Spec, AgrSP] and [Spec, AgrOP] forces the NP to be interpreted as presupposed. Assuming that only the s-case component of case is realized in these positions makes them parallel in a way that neither Diesing’s theory of NP interpretation nor Chomsky’s (1993) theory of case assignment do.

In section 4, I will argue that in German NP movement to positions to the left of VP is also best analyzed as movement to an s-case position, and that the componential theory of case outlined above gives the most unified account for the overt position of presupposed verbal arguments in both German and Icelandic.

2. Semantic Interpretation of NPs and Structural Position

Diesing (1990, 1992a, 1994) and Diesing & Jelinek (1995) argue that presupposed NPs must be outside VP at least at LF. Diesing’s arguments regarding indefinite objects are based on German. In Diesing (1990, 1992a) she shows that in German the syntactic position of an indefinite NP determines its semantic interpretation. An indefinite NP which precedes VP has a generic reading, while an indefinite NP within VP has only a predicational reading. She makes two basic assumptions about the nature of NPs and the nature of VP. Following Partee (1987), she assumes that there are three semantic NP types: e (“referential”, in Partee’s terms), <e,t> (“predicational”), and <<e,t>,t> (“quantificational”).

An NP of type <e,t> is an NP whose existence is asserted, and is indefinite in most cases. An e type NP is an NP whose existence is presupposed and whose identity is known. Either a definite or an indefinite NP may belong to type e. The existence of an NP of type <<e,t>,t> is also presupposed, but its identity is not necessarily known. Both definite and indefinite NPs can be interpreted as belonging to the quantificational type <<e,t>,t>. An example of a quantificational indefinite NP is a bare plural NP with generic reference, as in:

(1) I like cats. Cats are independent.

Diesing (1994) argues that a definite NP can also be interpreted quantificationally. The underlined NP in (92) is an example:

(2) I never pet the smallest cat

Diesing argues that the smallest cat belongs to the type <<e,t>,t> if it is interpreted to mean roughly “whichever cat is the smallest”. The existence of such a "smallest cat" is presupposed in any set of cats, but its identity may be unknown. The referential NP type e and the predicational NP type <e,t> introduce free variables, while the quantificational type <<e,t>,t> does not.

Diesing’s second assumption is that NP interpretation is associated with distinct positions in syntactic structure, via a process she calls tree-splitting. This process splits clause structure into two parts which map into the restrictive clause and the nuclear scope of semantic representation (in the sense of Heim (1982) and Kamp (1981)), as follows:

(3) The Mapping Hypothesis:
   1. VP maps into the Nuclear Scope (the domain of existential closure).
   2. IP maps into the Restriction (of some quantifier)

Any NP in VP which introduces a free variable is necessarily within the domain of existential closure. That is, it must be interpreted as being asserted. This
interpretation is acceptable for indefinite NPs, but not for definite NPs, because there appears to be a novelty condition on any NP which is bound by existential closure: it must be new to the discourse (Heim, 1982). A definite object NP of type e must therefore move out of VP, at least at LF. An indefinite object may also move out of VP. In that case the free variable which it introduces will not be bound by existential closure, but by an operator in IP, and the NP is interpreted as generic. A quantificational NP of type <<e,t>,t> does not introduce a free variable and is therefore not affected by being in the domain of existential closure. But a quantificational NP must adjoin to VP, via Quantifier Raising at LF, because it cannot combine semantically with a transitive verb of the type <<e,<<e,t>>>. According to Diesing its trace in VP is of type e, which can combine with the transitive verb.

The semantic interpretation of subjects is discussed in Diesing (1992a, 1992b). It is based on the interpretation of bare plural subjects in German. Bare plurals belong to the semantic type <<e,t>>, and therefore introduce a variable. She shows that in German the syntactic position of bare plural subjects determines whether they are interpreted as existential or as generic. Consider the following sentences:

(4)a. weil ja doch Linguisten Kammermusik spielen
    'since there are linguists playing chamber music'

          b. weil Linguisten ja doch Kammermusik spielen
               'since linguists (in general) play chamber music'

Diesing assumes that the focussing particles ja doch ‘indeed’ define the left edge of VP in German. As the translations show, the indefinite subject in (4a), which follows the focussing particles ja doch, has only a predicational reading. The indefinite subject in (4b), which precedes these focussing particles, has only a generic reading.

The position of bare plural subjects of individual and stage level predicates confirms the connection between the referential interpretation of an NP and its S-structure position outside VP. Carlson (1977) observed that a bare plural NP can have either a generic or an existential reading. Diesing (1992a) gives the following examples:

(5)a. brussels sprouts are not suitable for eating

          b. carpenter ants destroyed my viola da gamba

(5a) illustrates the generic reading of the bare plural subject. It can only be interpreted as a statement which is true of brussels sprouts in general. (5b) illustrates the existential reading of a bare plural subject. (5b) is not true of carpenter ants in general but asserts the existence of ‘carpenter ants which destroyed my viola da gamba’. Diesing assumes that a null generic operator binds the variable associated with the quantified subject in (5a). According to her Mapping Hypothesis (6) represents the semantic interpretation of the sentences in (5):

3This is true only if the sentence has a normal intonation pattern. It is possible to get a generic reading for *die Linguisten* ‘the linguists’ in (4a) if we stress the NP contrastively. In that case the particles are interpreted as having scope only over the subject. They may be adjoined to the subject NP, which is itself adjoined to VP.
(6a. Gen_{X} \text{ [brussels sprout(x)] unsuitable-for-eating(x)}

b. E_{X} \text{ carpenter ants(x) ~ destroyed-viola-da-gamba(x)}

In (6a) the bare plural NP \text{brussels sprouts} is introduced in the Restrictive Clause and is bound by the operator \text{Gen}, which gives the subject the generic reading. In (6b) the NP \text{carpenter ants} appears in the Nuclear Scope and is bound by Existential Closure, giving the existential reading for the subject.

Carlson notes that not all predicates allow both the generic and existential reading for a bare plural subject. He distinguishes two types of predicates: stage-level predicates and individual-level predicates. Stage-level predicates describe temporary states such as \text{playing}, \text{tired}, and \text{destroying my viola da gamba}. Individual-level predicates describe more or less permanent states such as \text{unsuitable-for-eating}, \text{intelligent}, and \text{having a grey hide}. Diesing shows that the bare plural subject of an individual-level predicate can only have a generic reading and must therefore appear in the Restrictive Clause, while the bare plural subject of a stage-level predicate may have either a generic or an existential reading, and can therefore appear either in the Restrictive Clause or in the Nuclear Scope.

In German, the position of a bare plural subject of an individual level predicate \text{grau sein} 'be gray' (as applied to elephants) behaves as predicted, as shown in (7):

(7a. weil \text{Elephanten ja doch grau sind}
because \text{elephants are grey, after all'}

b. ?? weil \text{ja doch Elephanten grau sind}
because \text{there are grey elephants'}

The subject is grammatical outside VP, as in (a), where it can be assigned a generic reading, but anomalous in VP, as in (b), where it must have an existential reading.

Diesing's theory accounts neatly for the semantic interpretation of indefinite subjects in German. However, in Icelandic the position of subjects provides evidence against Diesing's syntactic analysis of indefinite plural subjects. In the next section I will show that Icelandic has two subject positions to the left of VP. I will then show that existential subjects of transitive verbs\(^4\) must appear in the lower of these subject positions, but that a referential or quantificational NP must be in the higher one. This is unexpected if IP maps into the restriction of some quantifier, as claimed in (3). According to this hypothesis any NP to the left of VP should be mappable into the restriction of a generic quantifier. But we expect a presupposed subject to move to [Spec, AgrSP], if it receives s-case there.

3. S-Case in Icelandic

I will begin by outlining the evidence for an articulated IP in Icelandic. Moorcroft (1993) shows that in sentences where a non-subject XP precedes the finite verb, the first NP position immediately to the right of the inflected verb is reserved for the subject, and concludes that this position must be [Spec, IP]. Jonas & Bobaljik (1993)


\(^4\) Moorcroft (1995) shows that this generalization holds for all verbs whose subject is generated in [Spec, VP], i.e. it holds for unergatives, and for transitives whose subject bears the experiencer role.
show that a transitive subject can actually occupy one of two positions to the right of the inflected verb. Consider (8):

(8)a. í gér kláraði (mús-in) sennilega (*mús-in) allan ostinn
    yesterday finished (mouse-the) probably (mouse-the) all cheese-the
    'yesterday the mouse probably finished all of the cheese'

b. í gér kláraði (?mús) sennilega (mús) allan ostinn
    yesterday finished (mouse) probably (mouse) all cheese-the
    'yesterday a mouse probably finished all the cheese'

(8) shows that the subject can appear either to the right or the left of a propositional adverb like sennilega 'probably'.

The lower subject position in (8b) must be outside VP, since a transitive subject obligatorily precedes VP negation and adverbs like alveg 'completely' which are assumed to mark the left edge of VP. This is shown in (9):

(9)a. það luku sennilega einhverjir stúdentur alveg verkefninu
    there finished probably some students completely assignment(A)—the
    'probably some students finished the assignment completely'

b. *það luku sennilega alveg einhverjir stúdentur verkefninu
    there finished probably completely some students assignment(A)—the

We can account for the two subject positions in (8), if we assume both an AgrS and a Tense projection for Icelandic. The subject in (8a) must be in [Spec, AgrSP], while the subject in (8b) can be in either [Spec, AgrSP] or [Spec, TP].

Evidence for an AgrO projection comes from the movement characterized as object shift in Holmberg (1986). He showed that in Scandinavian languages an object can occur between the subject and negation or a VP adverb. Consider (10):

(10)a. á bókasfínu settu; sennilega margir stúdentur þessar bækur;
    in library-the put probably many students these books

[vp aldrei [vp ti tj á borðið]]
never on table-the

'In the library there were probably many students who never put these books on the table.'

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5 Examples (8–10) are drawn from Jonas & Bobaljik (1993).

6 Holmberg also shows that object shift is grammatical only if the main verb moves out of VP. In this paper, I will neglect the complications raised by this fact.
b. *á bókasafnum setti sennilega þessar bækur; margir stúdentar
in library—the put probably these books many students

[VP aldrei [VP ti t j á boròiða]]
never on table-the

c. á bókasafnum setti sennilega margir stúdentar [VP aldrei
in library—the put probably many students never

[VP ti þessar bækur á boròiða]]
these books on table-the
‘in the library there were probably many students who never put these books on the table’

d. *á bókasafnum setti sennilega þessar bækur; [VP aldrei margir
in library—the put probably these books never many

stúdentar [VP ti t j á boròiða]]
students on table-the

(10a) and (10c) show that the object can remain either in VP, to the right of negation as in (10c), or move to a position preceding negation, as in (10a). In (10a) the subject follows sennilega, and is thus probably in [Spec, TP]. The object immediately follows the subject and precedes the negative adverb aldrei ‘never’, assumed to mark the left edge of VP. The contrast between (10a) and (10b) shows that the order of the subject and object cannot be reversed. (10d) shows that the object can move out of VP only if the subject does too. This confirms that the object position to the left of VP is not identical to either of the subject positions. It is difficult to account for these facts, if we assume that the object in (10a) is adjoined to VP, as suggested in Holmberg (1986). We can account for them neatly if we assume that the object in (10a) is in [Spec, AgrOP].

A further argument against an adjunction analysis of (10a) is the fact that in sentences like (10a) no XP adjunct can intervene between the finite verb and the left edge of VP. This is shown in (11):

(11a). hann segir að um veturinn hjálpaði Sigga Haraldi ekki/oft
he says that in winter—the helped Sigga(N) Harald(D) not/often
‘he says that in the winter Sigga has never helped Harald’

b. *hann segir að í fyrra hjálpaði (*um veturinn) Sigga
he says that last year helped (in winter) Sigga

(*um veturinn) Haraldi (*um veturinn) ekki um veturinn
(in winter) Harold(D) (in winter) not in winter

(11a) shows that the time adjunct um veturinn ‘in winter’ can precede the finite verb, but (11b) shows that when another time adjunct precedes the finite verb um veturinn can only follow negation.

The fact that the XP positions available between the finite verb and the left edge of VP are reserved for the subject and object in precisely that order suggests that the Icelandic IP has the structure in (12):
The syntactic evidence shows, then, that Icelandic has AgrS and AgrO projections. But it is not obvious why the subject moves to [Spec, AgrSP] and the object to [Spec, AgrOP]. Chomsky (1993) assumes that the subject moves to [Spec, TP] to check a case feature, and to [Spec, AgrSP] to check agreement features. I have already pointed out that this assumption is not motivated for subject movement to [Spec, AgrSP], since Icelandic has Quirky subjects which occupy exactly the same position as nominative subjects, and with which the subject does not agree.\(^7\)

We can account for NP movement to [Spec, AgrP], if we assume that the moved NP gets s-case there. (8) shows that a definite subject must move to [Spec, AgrSP], and that an indefinite subject may be either in [Spec, AgrSP] or [Spec, TP]. It is acceptable in [Spec, AgrSP] only if it can be interpreted as presupposed, and in [Spec, TP] only if it is interpretable as existential. We can account for this neatly if we assume that both the definite and the indefinite NP get a-case in [Spec, TP], and that the presupposed subject gets s-case in [Spec, AgrSP]. The definite subject must move through [Spec, TP] to get a-case, but is grammatical only in [Spec, AgrSP], because it must be interpreted as presupposed, and needs s-case to get that interpretation. We would also expect the indefinite NP to be more acceptable in [Spec, TP], because it is most naturally interpreted as existential.

Syntactic evidence for the claim that a presupposed subject must appear in [Spec, AgrSP] comes from the structural position of the subjects of individual level predicates, predicates which describe a permanent property of the subject. Diesing (1992a) argues that such subjects must be presupposed. Examples of such predicates are *kunna ensku* ‘know English’ in (13), and *hugrakkir* ‘brave’ in (14) (if applied to firemen):

\(^7\) Note that in the embedded clause in (11a) the verb is preceded by the complementizer and an XP. This suggests that the complete clause structure of Icelandic includes a Topic projection between CP and AgrSP. Collins & Thráinsson (1993) argue that additional functional projections are needed to accommodate indirect object movement to the left of VP.

\(^8\) Schütze (1993) therefore suggests that the subject checks its morphological case feature in [Spec, TP], but an abstract structural case feature in [Spec, AgrSP]. This theory does not explain why an NP in [Spec, AgrP] must be interpreted as presupposed, as we will see below. It also has trouble accounting for the fact that a tenseless verb can assign nominative case to the object in VP in Icelandic, as shown in Harbert & Toribio (1991) and Sigurðsson (1992), among others.
(13a. eftir að hafa lokið mentaskóla kunna islendingur órugglega
after to have finished highschool know Icelanders definitely
ensku
English
'after having finished highschool Icelanders definitely know
English'

b. *eftir að hafa lokið mentaskóla kunna órugglega islendingur
after to have finished highschool know definitely Icelanders
ensku
English

(14a. að við hættulegar aðstaður eru slókkirliðsmenn órugglega
that in dangerous situations are firemen certainly brave
hugrakkrí
brave
'in dangerous situations firemen are always brave'

b. * að við hættulegar aðstaður eru órugglega slókkirliðsmenn
that in dangerous situation are certainly firemen
hugrakkrí
brave

(13) and (14) show that the subject of these individual level predicates is grammatical
only in [Spec, AgrSP], preceding the TP adverb órugglega 'definitely'.

In contrast with the bare plural subjects of the individual-level predicates in
(13) and (14), the bare plural subject of a stage-level predicate like eta-allan-ostinn
'eat all the cheese' in (8) is most acceptable in [Spec, TP]. This is shown in (15).

(15a. ?? í gær klæruðu mýs sennilega allan ostinn
yesterday finished mice probably all cheese-the
'yesterday mice probably finished all the cheese'

b. í gær klæruðu sennilega mýs allan ostinn
yesterday finished probably mice all cheese-the
'yesterday there were probably mice which finished all the cheese'

(15a), where the bare plural subject precedes the TP adverb sennilega 'probably' and
must therefore be in [Spec, AgrSP], is barely acceptable, but (15b), where the subject
follows the adverb, and must therefore be in [Spec, TP], is grammatical.

Additional evidence for regarding [Spec, AgrP] as an s-case position comes
from the possible structural positions of NPs with determiners. Diesing (1991)
adopts Milskark's (1974) classification of determiners into weak determiners like a,
many, some, few and strong determiners like the, every, all, most. In English NPs,
weak determiners can appear in [Spec, IP] or following the verb in existential
constructions, but NPs with strong determiners can appear only in [Spec, IP].
Compare (16a) with (16b), and (17a) with (17b):
(16)a. there is/are a/some/many/few/three tortoise(s) in the pond
   b. a/some/many/few/three tortoise(s) is/are in the pond

(17)a. *there is/are the/every/all/most tortoise(s) in the pond
   b. the/every/all/most tortoise(s) is/are in the pond

An NP in a presentational construction introduced by "there is ..." allows only an existential interpretation. An NP in [Spec, IP] can be interpreted as either existential or presupposed. Take (18), for example:

(18) some Indians don't like tobacco

(18) can mean that some of the Indians which are already part of discourse 'don't like tobacco', or it can assert the existence of Indians who 'don't like tobacco'.

If an NP with a weak determiner can be interpreted either generically or existentially, we expect it to be grammatical in either [Spec, TP] or [Spec, AgrSP] in Icelandic. That this is the case, is shown in (19):

(19)a. á bókasafninu settu; sinnilega margir stúdentar þessar bækurj
      in library—the put probably many students these

      [VP aldrei [VP ti tj á borðið]]
      never on table—the
      'in the library there were probably many students who never put these books on the table'

b. á bókasafninu settu; margir stúdentar sinnilega þessar bækurj
      in library—the put many students probably these books

      [VP aldrei [VP ti tj á borðið]]
      never on table—the
      'in the library many of the students probably never put these books on the table'

(19a) repeats (10a), and shows that margir stúdentar 'many students' is grammatical in [Spec, TP]. (19b) shows that an NP with the determiner margir can also appear in [Spec, AgrSP]. If it does, it must be interpreted as presupposed, as indicated by the translation.

Our theory of s-case also leads us to expect that an NP with a strong determiner like 'most', which allows only a presupposed interpretation, is possible only in [Spec, AgrSP]. That this prediction is correct is shown in (20):

(20)a. *á bókasafninu settu; sinnilega flestir stúdentar þessar bækurj
      in library—the put probably many students these books

      [VP aldrei [VP ti tj á borðið]]
      never on table—the
      '*in the library there were probably most students who never put these books on the table'
b. á bókasafinnu settu \textit{flestir stúdentur} sennilega þessar bækur.
   in library-the put many students probably these books'

\[
\text{[VP aldrei [VP ti \ t á borðað]]}
\]
\[
\text{never on table-the}
\]
\[
\text{‘in the library most students probably never put these}
\text{books on the table’}
\]

The contrast between (20a) and (20b) shows that \textit{flestir stúdentur} ‘most students’ can appear only in [Spec, AgrSP]. This indicates that an NP in [Spec, TP] cannot be interpreted as presupposed.

(19-20) show that the semantic interpretation of a subject NP depends on its overt position. An NP in [Spec, AgrSP] must be interpreted as presupposed, while an NP in [Spec, TP] must be interpreted as existential. An NP which cannot be interpreted in its overt position, like \textit{flestir stúdentur} in (20b), renders the sentence ungrammatical. This suggests strongly that an NP moves to [Spec, AgrSP] in order to get \textit{s-case}.

If we assume instead that the subject in (8b) must move to [Spec, AgrSP] at LF, in order to check abstract case or agreement features, we must complicate the theory of NP movement considerably. A subject which is overtly in [Spec, TP], would have to move to [Spec, AgrSP] at LF, in order to check agreement features. But in that position it would have to be interpreted as presupposed. It is possible to maintain that any subject must move to [Spec, AgrSP] in order to check structural case or agreement features, only if we assume a copying theory of movement, and assume in addition that after the case or agreement features of AgrS are checked, one of the copies is deleted, depending on the semantic interpretation of the subject. This approach to the problem essentially allows several LF levels, one for case checking and one for semantic interpretation. It also obscures rather than illuminates the connection between subject position in [Spec, AgrSP] and a presupposed interpretation.

Another problem with this approach is that LF movement to [Spec, AgrSP] appears to be impossible. If a subject which is overtly in [Spec, TP] could move to [Spec, AgrSP] at LF, we would expect the subject of an individual level predicate to be grammatical in either [Spec, TP] or [Spec, AgrSP]. Since it is grammatical only in [Spec, AgrSP], LF movement to [Spec, AgrSP] appears to be ruled out.

Diesing’s tree splitting hypothesis in (3) does not account for subject movement to [Spec, AgrSP] either. According to this hypothesis, a subject in [Spec, TP] should be interpretable as presupposed. Further movement to [Spec, AgrSP] should not be required. This leads us to the conclusion that the subject moves to [Spec, AgrSP] to get \textit{s-case}, and that it must do so overtly.

We find the same correlation between presupposed interpretation and NP position in [Spec AgrP] for objects. This has been shown in Diesing & Jelinek (1993) and Diesing (1994). Diesing (1994) discusses the semantic interpretation of definite and indefinite objects in Icelandic. She cites the following examples:

(21)a. hann las \textit{ekki} \textit{bækurnar}
   he read not books-the
   ‘he did not read the books’

b. hann las \textit{bækurnar} \textit{ekki}
   he read books-the not
   ‘he didn’t read the books’
(21) shows that a definite object can either stay in VP as in (21a), or move to [Spec, AgrOP] as in (21b). When the definite object bækurnar 'the books' moves to [Spec, AgrOP] its existence is presupposed, and it is outside the scope of the negation. When it is inside VP, as in (21a), it is inside the scope of negation and interpretable as a quantificational NP, meaning 'all the things which were books'.

Diesing shows that an indefinite plural object which must get an existential reading must remain in VP. She gives the following examples.

(22a) hún las ekkil bækur
     she read not books
     'she didn't read books'

b. *hún las bækur ekkil
   she read books not

The contrast between (22a) and (22b) shows that an object which can only be interpreted existentially must remain in VP.

Diesing can also account for the fact that an indefinite object can appear in [Spec, AgrOP] as long as it can get a generic reading. Such a reading is available when the verb is in the present tense, as in the following examples:

(23a) ég les ekkil bækur
I read not books
     'I don't read books'

b. ég les bækur ekkil
I read books not
     'I don't read books (I just buy them)'

The unmoved indefinite object in (23a) is interpreted existentially, as expected. However, the moved indefinite object in (23b) must be interpreted quantificationally. The underlining in the English translation indicates that it is grammatical only as a generic statement "given any book, I don't read it (I just buy it)."

Diesing's theory also explains why unstressed personal pronouns must precede VP. This is shown in the following examples:

(24a) *að Jón keypti ekkil hann
that John bought not it

b. að Jón keypti hann ekkil
    that John bought it not
    'that John didn't buy it'

Unstressed personal pronouns must be interpreted as referential. When they precede VP this interpretation is possible, but if they remained in VP they would have to be interpreted as quantificational, a reading which is not available for unstressed personal pronouns.

Diesing's theory thus accounts for the semantic interpretation of a number of definite and indefinite objects. All referential objects of type e which she discusses move out of VP at S-structure, and only quantificational objects of type <<e,t>, t> move out of VP at LF. These data are compatible with my theory that Agr assigns s-case to its specifier. Thus either my s-case analysis or Diesing's tree splitting hypothesis could account for the interpretation of objects.
We have seen, however, that Diesing’s hypothesis cannot account for the position of presupposed transitive subjects. According to this hypothesis such subjects should be interpretable as presupposed when they are in [Spec, TP] at PF. But we have seen that they must appear in [Spec, AgrSP]. The fact that presupposed subjects need to move to [Spec, AgrSP] (or higher) in order to be interpreted as presupposed suggests that AgrS assigns s-case to the subject. If this is true of AgrS, it would be simpler to account for NP movement to [Spec, AgrOP] by assuming that AgrO assigns s-case to the object. This would allow us to attribute identical properties to the two Agr projections; both are s-case positions. Analyzing [Spec, AgrSP] and [AgrOP] as s-case positions also accounts for the fact that they are argument positions.

Analyzing movement to [Spec, AgrP] in terms of movement to an s-case position allows us to state the following generalization for Icelandic:

(25) An NP must get s-case in a structural position which c-command the maximal projection of the head or heads which assign the other components of case needed by that NP.

Assuming that an NP moves only as far as it must in order to meet its case-requirements, this means that in Icelandic the subject must get s-case in [Spec, AgrSP]. This is so, because the subject must get a-case from a Tense head. Since the object needs only t-case, which is arguably assigned in VP, the object needs to move only to [Spec, AgrOP].

The generalization in (25) holds for languages which have distinct overt positions for presupposed arguments. The availability of overt s-case positions seems to depend on a variety of factors. Jonas & Bobaljik (1995) argue that overt NP movement to [Spec, AgrOP] in Icelandic depends on overt verb movement to Tense. This movement makes [Spec, TP] and [Spec, AgrOP] available as overt landing sites. Their argument rests on the fact that the other Scandinavian SVO languages, which lack verb movement to INFL, also lack overt NP movement to [Spec, TP] and [Spec, AgrOP]. This approach does not generalize to Germanic SOV languages, however. These languages lack overt verb movement to INFL, but presupposed NPs nevertheless move overtly to the left of VP. It is possible that in SOV languages object movement to the left of VP need not be facilitated by main verb movement, because in such languages the verb canonically governs to the left.9

Neither Diesing’s tree splitting hypothesis nor the theory of s-case accounts very well for the overt position of all referential, i.e. type e, objects in Icelandic. Diesing’s discussion of object pronouns suggests that a referential NP must move to [Spec, AgrOP] overtly. But this is not the case. Both (26a) and (26b) are grammatical:

(26)a. ég las ekkí bókina
    I read not book-the(A)
    ‘I did not read the book’

b. ég las bókina ekkí
    I read book-the(A) not
    ‘I did not read the book’

Diesing (1995) suggests that the object remains in situ in (26a), because in Icelandic the scope of negation over the object is determined at PF. That is, she suggests, that

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9See Fukui (1993) for a similar approach to adjunction.
(26a) must mean:

(27) I read not the BOOK but the magazine

She argues that with the contrastive intonation suggested by capitals in (19) 'the book' belongs to type $<$e, t$>$, that and that as such it contains no variable and can move out of VP at LF. But (26a) can also be interpreted to mean:\textsuperscript{10}

(28) I did not READ the book, but tore it up

On that reading, the object must be interpreted as referential, and we would therefore expect it to move overtly to [Spec, AgrOP], at least when main verb movement to Tense makes object movement to [Spec, AgrOP] possible.

The fact that the referential object can nevertheless remain in VP in (26b) is also difficult to account for under my analysis. In Moortch (1995) I argue that a presupposed object can adjoin to the right of VP, and get s-case there. But there is no clear evidence for this. Icelandic allows adjunction to the right of VP, as shown in (29-30).

(29) Olafur mun [vp skipuleggja fjallgöngu] með vinum sinum vp]
   Olaf will organize mountainhike with friends his
   'Olaf will organize a mountainhike with his friends'

(30) Olafur mun [vp sýna Mariu bílinn] utan við baðinn vp] til að
   Olaf will show Mary the-car out from the-town to that
   sell her it
   'Olaf will show Mary the car outside the town, in order to sell it
   to her'

(29) and (30) show that adjunction to the right of VP is possible, but (30) also shows that adjuncts normally follow objects. If the referential objects in (30) have adjoined to the right of VP at all, they must have done so string-vacuously. A presupposed NP of type e might move to [Spec, AgrOP] at LF, but LF movement of a referential object to [Spec, AgrOP] seems unlikely, since a subject must move to [Spec, AgrSP] overtly in order to be interpreted as presupposed.

One possible way out is to consider some referential objects as new to the discourse, and therefore licensed in VP. This situation could arise, if the speaker presupposes the existence of the object, but the hearer does not.\textsuperscript{11} If that is possible, a referential object might not need s-case. One argument in favour of this approach is that an object following the main verb is naturally focussed. This is consistent with regarding it as new to the discourse. Treating definite NPs within VP as new to the discourse might thus be a solution to the problem which definite objects in VP pose both for the s-case analysis, and the tree-splitting analysis of movement to [Spec, AgrOP].

But even if neither my s-case analysis nor Diesing's tree-splitting hypothesis accommodates referential NPs within VP in a fully satisfactory manner, the s-case

\textsuperscript{10}Thráinsson, p.c.

\textsuperscript{11}Ghomeshi (1996) proposes a similar solution to account for case-marking patterns of the object in Persian.
analysis of NP movement to [Spec, AgrP] positions still provides a better explanation of subject movement to [Spec, AgrSP], and thus gives a better account of NP movement to [Spec, AgrP] positions.

4. S-Case in German

We saw in section 1 that German provides clear evidence for the connection between syntactic position and semantic interpretation. As in Icelandic, further evidence that semantic interpretation depends on syntactic position comes from the distribution of the subjects of stage and individual level predicates. We saw in section 2 that a stage level predicate denotes a temporary property of the subject, while an individual level predicate denotes a permanent property. The bare plural subject of a stage level predicate can be interpreted as either existential or generic. For example, it may be true that all linguists play chamber music, or that there are some linguists who play chamber music. (4) shows that in German these two possible readings of the subject depend on its position. Inside VP, as in (4a), the subject is interpreted as existential, but to the left of VP, as in (4b), it is interpreted as generic.

The bare plural subject of an individual level predicate such as grau ‘grey’ (when applied to elephants), or Luft atmen ‘breathe air’ (as applied to mammals) can only have a generic interpretation. We therefore expect its subject to appear only to the left of sentence particles assumed to mark the left edge of VP. That this prediction is correct is shown in (7), repeated as (31) and in (32):

(31)a. weil Elephanten ja doch grau sind
because elephants prt prt grey are
‘because elephants are grey, after all’

b. *weil ja doch Elephanten grau sind
because prt prt elephants grey are
‘because there are grey elephants’

(32)a. dass Walfische ja doch Luft atmen
that whales prt prt air breathe
‘that whales breathe air, after all’

b. *dass ja doch Walfische Luft atmen
that prt prt whales air breathe
‘that there are whales who breathe air after all’

Both (31b) and (32b), where the subject of the individual level predicate follows the particles ja doch, are ungrammatical.

Additional evidence that a presupposed subject must precede VP comes from quantified subjects. Recall that strong quantifiers such as all, most, and every force the subject to be interpreted as presupposed, while weak quantifiers like a, many, and some allow the subject to be interpreted as presupposed or as existential. We saw that in Icelandic subjects with strong determiners can appear only in [Spec, AgrSP]. Now compare the position of quantified subjects in German sentences in (33-34):
(33)a. weil die meisten Einwanderer schon arbeitslos sind
   because the most immigrants already unemployed are
   'because most immigrants are already unemployed'

b. ??weil schon die meisten Einwanderer arbeitslos sind
   because already the most immigrants unemployed are
   'because already most immigrants are unemployed'

(34)a. weil viele Einwanderer schon arbeitslos sind
   because many immigrants already unemployed are
   'because many of the immigrants are already unemployed'

b. weil schon viele Einwanderer arbeitslos sind
   because already many immigrants unemployed are
   'because there are already many immigrants who are unemployed'

The contrast between (33a) and (33b) shows that the **strong** quantifier *meisten* 'most' must precede the adverb *schon* 'already' which is assumed to be adjoined to the left of VP. (34) shows that the **weak** quantifier *viele* 'many' can either precede or follow the same adverb. The translations indicate that the interpretation of the subject depends on its structural position. The subject to the left of VP in (33a) is presupposed, while the subject within VP in (33b) is existential.

The semantic interpretation of objects also depends on their syntactic position. As was the case for subjects, the overt syntactic position of the object may depend on the predicate or on the determiner. Diesing (1990) shows that predicates also determine the possible semantic interpretations of indefinite objects. Some predicates, like *see* and *read*, allow either a presupposed or an existential reading of an indefinite object, while others favor a presupposed reading. A diagnostic for distinguishing these verb types is whether or not they allow NP extraction out of a PP modifying an indefinite object. Compare:

(35)a. who\(_i\) did you read [a book about t\(_i\)]

b. *who\(_i\)* did you destroy [a book about t\(_i\)]

In (35a), where the verb allows an existential reading of its object, extraction from the PP modifying the indefinite object is grammatical, but in (35b), where the verb favors a presupposed reading of the object, extraction is much less acceptable. Diesing argues that extraction is possible in (35a) because the object is within VP, and that it is barred in (35b) because the object is presupposed, and must therefore move out of VP in accordance with her tree-splitting hypothesis. Creation verbs like *write* permit only an existential reading of an indefinite object, while Experiencer verbs like *hate, dislike, appreciate*, etc. permit only a presupposed reading of such an object.

If this is the case, and if objects to the left of VP must be interpreted as presupposed in German, it predicts that the indefinite object of a verb like *lesen* 'read' could occur either in VP or to the left of VP, while the indefinite object of a verb like *schreiben* 'write' should be grammatical only inside VP. This prediction is

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12This sentence is grammatical if *schon* is interpreted as a propositional adverb meaning roughly 'admittedly'. In that case, it must be a propositional adverb, and is not adjoined to VP below constituents which have moved out of VP.
correct. Consider Diesing’s example:

(36)a. dass Otto Bücher über Wombats immer liest
    that Otto books about wombats always reads
    ‘that Otto always reads books about wombats’

b. dass Otto immer Bücher über Wombats liest
    that Otto always books about wombats reads
    ‘that Otto is always reading books about wombats’

As expected, and unlike its English translation, (36a) is unambiguous and can only mean that ‘as for any books about wombats, Otto reads them’. It cannot have the meaning of (36b) ‘at any time Otto is reading a book about wombats’. Conversely, (36b) cannot have the meaning of (36a).

Consider next the indefinite objects of the creation verb schreiben (Diesing’s example (40)), and the Experiencer verb haben ‘hate’.

(37)a. dass Otto immer Bücher über Wombats schreibt
    that Otto always books about wombats writes
    ‘that Otto is always writing books about wombats’

b. *dass Otto Bücher über Wombats immer schreibt
    that Otto books about wombats always writes

(38)a. dass Else Opern von Wagner immer hasst
    that Else operas by Wagner always hates
    ‘that Else hates any opera by Wagner’

b. *dass Else immer Opern von Wagner hasst
    that Else always operas by Wagner hates

As expected, the indefinite objects of the creation verb schreiben ‘write’ in (37a) must remain within VP, because it must have an existential reading. The existential reading is not available for the object to the left of VP in (37b) and as a result the sentence is uninterpretable. (38) shows, by contrast, that the indefinite object of haben ‘hate’ must appear to the left of VP, as expected.13

German differs from Icelandic in that all presupposed NPs must appear to the left of VP, or in first position.14 Note that the existential object in (37) must be within

13That is not entirely true. (38b) can have the meaning roughly translated as ‘Else is always busy hating some opera by Wagner’, but in that case hate is interpreted as an activity rather than as a feeling. That is, for (38b) to be true Else would have to be writing scathing analyses of operas by Wagner, or go off on tirades about how despicable such operas are. But that confirms Diesing’s analysis.

14For a different view, compare Diesing (1995). She argues that the scope of negation must be established at S-structure in German and Icelandic. According to her, this has the consequence that a presupposed negated NP remains in VP. But this follows only if we assume that the negative adverb can be adjoined only to VP, that is if we assume that constituent negation is not possible in German or Icelandic. But this is obviously not true. In German, for example, a negated subject can appear in first position as in (i)a, or preceding a pronominal object as in (ib):

(i)a. nicht Hans hat ihn gesehen (sondern Jenny)
the VP, and that the presupposed one in (38) must precede the VP. We have seen that subjects are equally well-behaved with respect to the tree-splitting hypothesis. The existential subject remains in VP, and only referential and quantificational NPs must move out of VP. These facts support Diesing’s tree-splitting theory of semantic interpretation. But this theory does not explain the difference between German and Icelandic. Recall that in Icelandic, an existential transitive subject must appear in [Spec, TP], but that a presupposed subject must nevertheless move to [Spec, AgrSP].

The generalization for s-case assignment in (25), that an NP must get s-case in a position which c-commands the maximal projection of the head or heads which assign the other components which the NP requires, can account for these differences. If (25) applies generally in languages which allow s-case to be marked overtly, it entails that German conforms so perfectly to the tree-splitting hypothesis only because the transitive subject receives both t-case and a-case within VP.

We have seen that there is strong evidence that the transitive subject can remain in VP, unless it must be interpreted as presupposed. (39-40) provide additional support for the claim that a transitive existential subject remains in VP.

(39)a. weil dem Kind **nie jemand** einen Blumenstrauß geschenkt hat
   because the(D) child never someone(N) a(A) bouquet given has
   'because nobody has ever given the child a bouquet'

b. *weil dem Kind **jemand** nie einen Blumenstrauß geschenkt hat
   because the(D) child someone(N) never a(A) bouquet given has

   not John has him seen       but Jenny
   'it wasn’t John who saw him (but Jenny)'

   b. ich bin sicher dass **nicht Hans uns das erzählt hat** (sondern Jenny)
   'I am sure that not Hans us that told has but Jenny
   'I am sure that it wasn’t John who told us that (but Jenny)'

Constituent negation is also found in Icelandic. Thráinsson (1986) shows that an adverb like ‘often’ can be adjoined to the right of VP, but that negation cannot, as shown in (ii):

(ii) **ég hef [VP lesið þessa bók] oft/*ekki**
   I have read this(A) book(A) often/*not

However, it is possible for negation to precede the adverb, as in (iii):

(iii) **ég hef [VP lesið þessa bók] ekki oft**
   I have read this(A) book(A) not often

In (iii) negation must be to the right of VP, because it follows the participle lesið ‘read’, which cannot move out of VP. Since (ii) shows that it cannot be adjoined to VP, it can only be adjoined to the adverb oft ‘often’. 
(40a) sie kauft nie Blumen, weil ihr immer Verehrer
she buys never flowers because her always admirers
Blumen schenken
flowers give
she never buys flowers, because there are always admirers who
give her flowers'
b. sie kauft nie Blumen, weil ihr Verehrer immer
she buys never flowers because her always admirers
Blumen schenken
flowers give
she never buys flowers, because admirers always give her
flowers'

(39a) and (40a) show that the both existential subject and object can remain within VP. (39b) shows that a quantified NP like jemand ‘someone’, which has only an existential interpretation, must remain in VP. (40b), where the bare plural Verehrer ‘admirers’ precedes VP, is grammatical, but can only be interpreted as having generic reference, as in ‘for any admirer, they give her flowers’. The subject thus does not need to move overtly to the left of VP to get a-case. If it does, it can do so only at LF.

It is not clear whether Tense projects in German and assigns a-case into VP, or whether it fails to project and assigns a-case within VP. Den Besten (1985) and Vikner (1991), among others, have argued for the first alternative. In Moorcroft (1985) I argue for the second one. But (25) would account for the structural position of existential and presupposed NPs under either analysis.

If the subject gets a-case in [Spec, TP] at LF, then we can assume that the presupposed subject is in [Spec, AgrSP] and thus c-commands its a-case position. Comparison with the Icelandic facts supports this analysis, but we have no empirical evidence that it is correct, and that the generalization in (25) is also correct. The presupposed subjects in (31a) and (33a) could just as easily be in [Spec, TP], where they might get both a-case and s-case.

If we can show that Tense does not project in German, and that the subject gets a-case within VP, then it would follow that the subject moves to the left of VP in order to get s-case. This would also show that (25) applies in both Icelandic and German, and thus support the hypothesis that presupposed interpretation of an NP depends on its getting s-case.

There is a strong empirical argument that German has no syntactic position to the left of VP which identifies the subject structurally. If no such structural position exists, it is very doubtful that the subject gets a-case to the left of VP, and the subject would move to the left of VP only to get s-case. The argument comes from the unmarked position of the subject. Within VP, the unmarked relative positions of the nominative and dative arguments depends on the theta-roles which the verb assigns to these arguments. This is shown in (41-43):

(41a) weil immer einige Idioten einem Tier nachstellen
because always some idiots an(D) animal track
‘because there are always some idiots tracking an animal’
b. ?? weil immer einem Tier einige Idioten nachstellen
   because always a(D) animal some idiots(N) track

(42)a. weil immer einigen Kindern Pakete geschickt werden
   because always some(D) children packages(N) sent are
   'because there are always some children who are sent packages'

b. ?? weil immer Pakete einigen Kindern geschickt werden
   because always packages(N) some(D) children(D) sent are

(43)a. weil immer einigen Kindern Witze einfallen
   because always some(D) children(D) jokes(N) occur-to
   'because there are always some children who think of jokes'

b. ?? weil immer Witze einigen Kindern einfallen
   because always jokes(N) some(D) children(D) occur-to

Assuming that immer 'always' marks the left edge of VP, (41) shows that the
nominative subject NP precedes the dative NP within VP if the verb assigns an
agent role to the subject. (42) and (43) show that the order of the dative and
nominative NPs is reversed if it is the NP bearing the theme role which has nominative case. The
(b) sentences show that the opposite order is barely acceptable. This suggests that
the subject in (42-43) is in complement position. Den Besten (1985) and Grewendorf
(1989) show that such subjects pattern with object complements with respect to
numerous movement rules, strengthening the claim that indefinite nominative
subjects in sentences like (42-43) are complements.

Now, if the nominative and dative arguments both appear to the left of VP, the
unmarked position of the nominative NP, i.e. the subject, remains unchanged.
Consider (44-46):

(44)a. weil diese Jäger dem Reh nicht nachstellen
   because these(N) hunters the(D) animal not track
   'because these hunters do not track the deer'

b. ?weil dem Reh diese Jäger nicht nachstellen
   because the(D) deer these hunters(N) not track
   'because these hunters do not track the deer'

(45)a. weil den Kindern das Paket nicht geschickt worden ist
   because the(D) children(D) the(N) package not sent been is
   'because the children have not been sent the package'

b. ?weil das Paket den Kindern nicht geschickt worden ist
   because the(N) package the(D) children(D) not sent been is
   'because the package has not been sent to the children'

(46)a. weil den Kindern dieser Witz nicht eingefallen ist
   because the(D) children this(N) joke not occurred-to is
   'because the children could not think of that joke'

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The word order in (41b) is possible with contrastive stress on immer 'always'.
b. weil dieser Witz den Kindern nicht eingefallen ist
   because this(N) joke the(D) children no occurred-to is
   'because this joke didn't occur to the children'

In (44) the nominative NP precedes the dative NP, because the verb assigns the
agent role to the subject, just as in (41); but in (45-46) the nominative NP follows the
dative NP, because the verb assigns the theme role to the nominative NP, just as in
(42-43).

It is not surprising that the opposite order is more acceptable to the left of VP.
German allows adjunction to the left of the subject, if that subject is itself to the left
of VP. This is shown in the next example:

(47) leider musste den Patienten im Krankenhaus oft der
       unfortunately had-to the(D) patients in-the hospital often the(N)
       Assistent die Operation erklären
       assistant the(A) operation explain
       'unfortunately, in the hospital it was often the assistant who had
       to explain the operation to the patients'

(47) shows that both adjuncts and arguments can appear to the left of the subject.

The argument order in (44b-46b)) must nevertheless be considered marked
because its use is more restricted than the order in (44a-46a).\footnote{See Lenerz (1977).} A sentence in which
the arguments occur in the order given in (44a) is acceptable in answers to both of
the questions in (48).

(48)a. who doesn't track the animal?

   b. what don't these idiots track?

But without contrastive intonation the order in (44b) is acceptable only as an answer
to (48a), not as an answer to (48b). (44-46) therefore show that the unmarked order of
dative and nominative arguments to the left of VP is identical to their order within
VP. We can explain that the order in the (a) sentences is unmarked, if we assume
that the NPs in these sentences are in argument positions (A-positions).

Chomsky (1986) defines an A-position as a position in which an argument
receives either a theta-role or case. It is clear that an NP in an A-position to the left
of VP can only receive case. But what kind of case? If the unmarked order of the
nominative and dative NPs reflects their position in [Spec, AgrP] positions, this
means that the nominative NP can appear in either [Spec, AgrSP] or [Spec, AgrOP].
But in that case, there is no unique structural position the left of VP which identifies
the subject. This makes it seem extremely doubtful that the subject receives a-case to
the left of VP, since that case is generally assumed to be assigned only to a unique
position. It is also doubtful that the object gets structural case to the left of VP.

However, the unmarked order of NPs to the left of VP indicates that they are in
A-positions, that is in positions to which case is assigned. The only kind of case which
an NP in those positions can get is s-case, since this is the only case component which
is independent of morphological case or grammatical function. The lack of a unique
structural subject position together with the fact that NPs to the left of VP appear to
be in A-positions thus supports that the subject and object get only s-case to the left

\footnote{See Lenerz (1977).}
of VP.

Analysing the unmarked NP positions to the left of VP as *s-case* positions is also the only approach which is compatible with the theory of NP movement in Chomsky (1993). If the subject of a verb which assigns two theta-roles can indeed be generated as the complement of V, moving such a subject to [Spec, TP] or [Spec, AgrSP] would violate shortest movement as defined in Chomsky (1993). Chomsky argues that the principle of economy forces shortest movement, and defines shortest movement as movement which may skip at most one specifier position.

According to this definition, NP movement out of VP must be cyclic. The NP in V can move only to [Spec, AgrOP], and the NP in [Spec, VP] must move to [Spec, AgrSP]. This principle entails that a subject generated in complement position could only check the case feature of AgrO. But according to all present assumptions AgrO has an object case feature. We can solve the problem if we allow AgrO to have either an object or a subject case feature, depending on the verb. But this amounts to granting that in German the subject is not defined structurally but by morphological nominative case.

Since that is the case, it is far simpler to assume that finite tense assigns *a-case* to the nominative NP within VP, and that an NP in an A-position to the left of VP receives only *s-case*. This accounts for the fact that in German all existential subjects remain in VP. It also accounts for the fact that an A-position to the left of VP does not have the property of identifying the grammatical function of an argument in that position.

5. Conclusion

There are thus substantial arguments for analyzing unmarked NP positions to the left of VP in German as *s-case* positions. They support our initial hypothesis - that overt syntactic NP positions in which the NP must be interpreted as presupposed are *s-case* positions. We have already seen in section 3 that analyzing [AgrSP] and [AgrOP] in Icelandic as *s-case* positions gives the most unified account of NP movement to these positions, as expressed in the generalization in (25). We have seen in this section that in German argument positions to the left VP which force an NP to be interpreted as presupposed are also best analyzed as A-positions to which *s-case* is assigned. This supports the componential analysis of case outlined in the introduction.

Several questions remain. Why must all presupposed objects move to the left of VP in German, but not in Icelandic? An obvious but perhaps facile answer is, that since arguments must adjoin to the left of VP in German, this movement cannot be string vacuous. Another question is why adjunction to the left of the subject, and in fact to the left of VP and the object, is allowed in German, but not in Icelandic. Possibly, adjunction is licensed, because the verb governs canonically to the left in German.

Finally, it is clear that the subject is not identified structurally in German; but it is not clear how else the subject can be identified. Moorcroft (1995) argues that finite Tense does not project in German, but assigns *a-case* to the nominative subject within VP. I argue that this is possible in German, because *a-case* is assigned within VP when the verb canonically governs the subject, and because morphological case is a functional category that makes *a-case* visible, just as subject movement to [Spec, TP] makes *a-case* visible.

The strongest argument for this claim is the fact that there appears to be no unique structural subject position in German, as I demonstrated above. The subject is identified only by morphological nominative case. 17 An argument against a TP
projection in German comes from the lack of evidence for finite verb movement to a functional projection below COMP. The ungrammaticality of expletive subjects below the functional head which can host either the finite verb or a complementizer also suggests that German has no TP. A detailed presentation of these arguments belongs in a separate paper.

References


17Reis (1982) demonstrates this conclusively.