THE CASE OF GERMAN

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UNIV.WIEN, 07/83

Contents: (headlines of the sections)

In this paper I propose a generalized case theory, general in sense that it allows different though coherent instantiations, one of which is shown to be English, another German. These two languages are the main body of comparison, but the system is shown to bear also on phenomena in Dutch and Norwegian (and in principle on any language). What is important, however, is that this proposal is firmly rooted in the framework of Chomsky (1981). It is able to improve the case system presented there by taking seriously the difference between structural and lexical (oblique) case.

The conceptual improvements are the reduction of absorption, the Extended Projection Principle, and Burzio's generalization to two independently necessary principles.

The empirical improvements are demonstrated on the analysis of the German case system. Last but not least this approach offers a new insight into the connections between θ-marking and case-marking and their implementation in sentence structure.

1. Is German exceptional?

1.1. The Extended Projection Principle (EPP)

Chomsky (1982: 10) adds a second requirement to the principle that the argumentstructure of a clause at each level is a projection of information presented in the lexical entry of a verb. This requirement is: Clauses have subjects.

"I will henceforth refer to the Projection Principle along with the requirement that clauses have subjects as the Extended Projection Principle."

This extension is at variance with German sentence patterns.

(1) a) daß getanzt wurde ('that danced was' - that people danced)
b) *daß es getanzt wurde ('that there was danced')
c) daß mir graut ('me dreads' - I dread)
DAT
d) daß mich friert ('that me freezes' - that I am cold)
AC

The ungrammaticality of 1b, i.e. the impossibility of inserting an expletive subject, is striking evidence that these constructions do not allow a subject. Thus an attempt to save EPP on the assumption that 1a contains an empty subject is bound to fail, especially in face of (2), which shows that German is not a pro-drop-language.

(2) a) Es regnet (it rains) Es klopft (It knocks (at the door))
b) *Regnet *Klopft
c) Es ist kalt (it is cold) Es ist windig (It is windy)
d) *Kalt ist *Windig ist

An attempt to save EPP for 1c,d by extending 'subject' to dative and accusative will not be successful. Rēis (1982) gives a detailed justification why in German there is no need for a notion 'subject' different from NP marked nominative (except for exceptional case-marking).
Take for instance the antecedent requirement of Reflexives:
A Reflexive needs a subject as antecedent.

(3) a) Er$_i$ spricht ungern mit ihr$_j$ über sich$_{i/*j}$ und seine Probleme.
(He$_i$ does not like to talk with her$_j$ about himself$_i$/herself$_j$ and his/her problems)
b) Er$_i$ wurde über einen Anschlag auf sich$_i$ informiert.
NOM
(He was informed about an attack on himself)

c) ?? $\underset{\text{DAT}}{\text{Ihm}_i}$ wurde über einen möglichen Anschlag auf sich$_i$ berichtet.

(Him (he) was told about a possible attack on himself$_i$)

As 3a shows, the reflexive is unambiguously bound by the nominative NP, as in b).

3b und 3c are both passives. 3b is the passive of a transitive verb, "jemanden$_{\text{AC}}$ informieren - inform s.o.", 3c however is a verb with a dative object, "jemandem$_{\text{DAT}}$ berichten - tell s.o. (about s.th.)". Datives remain unchanged in passive, whereas accusative turns into nominative, as in English.

The ungrammaticality of 3c follows if not the dative but the nominative NP is subject. The preverbal position in the main clause, as in (3) is irrelevant with respect to subjecthood since German is a verb-second language and any constituent may be placed in first position.

Given that there are no non-nominative subjects in German (1) constitutes a problem for EPP.

1.2. Burzio's Generalization (B's G.)

"A verbal element assigns case to an NP that it governs if it assigns a θ-role to its subject." (Chomsky 1981: 113)

Again German escapes that generalization, as (4) illustrates:

(4) a) daß $\underset{[-\theta]}{\text{es}}$ keinen $\underset{\text{AC}}{\text{Wein}}$ mehr gibt ('that there gives no more wine' - that there is no more wine)

b) daß $\underset{\text{DAT}}{\text{ihm}}$ geholfen wurde (that he was helped)

c) daß (es) $\underset{[-\theta]}{\text{mich}}$ $\underset{\text{AC}}{}$ ekelt ('it disgusts me') I am disgusted

In 4a there is an accusative NP and a non-referential subject which indicates that it does not bear a θ-role. 4b is a passive with an object-case, i.e. dative, but without a θ-marked subject. 4c features an example of a class of verbs which take a θ-marked accusative object without θ-marking a subject.

1.3. Case-absorbtion

"The general property of passive is that the passive element absorbs case (...). Therefore (...) no θ-role is assigned to [NP,S]". (Chomsky 1981: 129)

Given that absorbtion is indeed a general property for passive, German once more circumvents it:

(5) a) Sie sieht ihn$_{AC}$ - Er$_{NOM}$ wird gesehen (He is seen)

b) Sie hilft ihm$_{DAT}$ - Ihm$_{DAT}$ wird geholfen (He is helped)

c) Sie gedachte vergangener Freuden$_{GEN}$ - Vergangener Freuden$_{GEN}$ wurde gedacht

(She remembered past joys)

As (5) illustrates, only accusative is absorbed, but not dative or genetive. Nevertheless the subject is θ-free as well, since otherwise 5b,c would violate the θ-criterion. Therefore the 'therefore' in the above quotation needs independent justification.

2. Is German defective - or the theory?

2.0. The answer is obvious, at least from a methodological point of view, - especially if it is recognized that German at least partially conforms to 1.1. - 1.3. A good example is passive of

transitive verbs.

(6) a) Sie liebt ihn$_{AC}$ (She loves him)
b) Er$_{NOM}$ wird geliebt (He is loved)
c) *Es wird ihn$_{AC}$ geliebt (There is him loved)
d) *Ihn$_{AC}$ wird geliebt (Him is loved)

Passive of transitive verbs fully obeys EPP, therefore 6d is ungrammatical as opposed to b.
B's G. is at work in 6c as well as absorbtion as a special case of B's G.
A comparison of the case system of English and German reveals a basic difference: In English there is no counterpart to dative and genetive as object cases.
This leads to the suspicion that the generalizations 1.1. - 1.3. are derived from too narrow a data-base and therefore defective.

2.1. Redundant Generalizations

2.1.1. Redundancies between EPP and B's G.

EPP requires a subject and thus rules out clauses that contain for instance only a verb and an object. Given that there is a verb with a single argument but no subject, then, according to the θ-criterion there is no θ-role for a subject. But this is exactly the context for B's G., which states then that the object qua object will not receive case but only if it is converted into a subject, thus fulfilling EPP. EPP and B's G. are not identical but only overlap. EPP is more general since it requires a subject even if there is no θ-role at all, as in the case of weather-verbs.

2.1.2. Redundancies between EPP and absorption

EPP requires absorption in passive. If there were no absorption the object NP that is moved to subject position would be an element of a chain that gets assigned two different cases. On the other hand absorbtion makes the stronger claim since it rules out a passive where EPP could be fulfilled by insertion of an expletive subject.

2.1.3. Redundancies between B's G. and absorbtion

Absorbtion is actually a special case of B's G. It is one crucial property of passive that the subject does not receive a θ-role (cf. Chomsky 1981: 124). Hence by B's G. the object cannot receive a case, therefore it has to be absorbed.
B's G. is the stronger requirement since it also applies in non-passive contexts as e.g. with ergative verbs (cf. Burzio 81).
What is strange in any case is the ad-hoc nature of absorbtion. There is no clear connection to a theory of morphology which would explain why verbs lose their case-assigning capacity when turned into a participle, as acknowledged by Chomsky (1981: 126).

3. The problems dissappear

The redundancies discussed above are an indication that the relevant generalizations have not yet been captured satisfactorily.

"It has often proven a useful strategy to try to eliminate redundancies of this sort." (Chomsky 1980:13)

3.1. Recasting the system

3.1.1. Case and its morphological realization

Let us assume that morphological case is the morphological spelling out of a syntactic case index.
Case indices are assigned to their arguments by functional elements, i.e. by verbs and adjectives. The index is then morphologically realized on the NP that occupies the argument position.
This assumption is basically Chomsky's (cf. 1981:268). He assumes that case is assigned to an index and inherited by a lexical NP with this index. I assume that syntactic case is an index, assigned to the respective argument position and then realized morphologically on the lexical NP placed on that very argument position.

3.1.2. Structural vs. lexical case

The distribution of case in German allows insight into a basic difference:
There are morphological case forms which alternate depending on the structural context whereas others do not, i.e. they are rigid.
This difference can be accounted for in a straight-forward manner if we assume that the alternating Cases are realized in a specific structural environment whereas the rigid ones are independently realized:
There are two sorts of case indices, structural and lexical.

Structural indices are realized under standard government conditions.

(7) NP^i —> NP_{NOM} if governed by INFL
—> NP_{OBJ} if governed by a structural governor

Lexical indices are realized as specific morphological cases as e.g. DAT., GEN. in German. Other lexical cases are locative, ablative, instrumental (with additional qualifications) etc. in other languages.
I choose the term 'lexical', since the occurrence of these cases on arguments is a specific lexical property of the element (A or V) that these arguments belong to.
If we apply this distinction to German we note that the Cases that alternate with respect to the same verb and thus the same θ-role, are nominative and accusative.

(8) a) Ich sehe, daß er$_{NOM}$ kommt (I see that he comes)
b) Ich sehe ihn$_{ACC}$ kommen (I see him come)
c) Ich versuche Ø zu kommen (I try to come)
d) Ich sehe ihn$_{ACC}$ (I see him)
e) Er$_{NOM}$ wird gesehen (He is seen)

The exceptional case marking example 8b illustrates the occurrence of an accusative instead of nominative, while 8e illustrates the acc.-to-nom. alternation in passive.
Genitive and dative do not alternate with other cases in a structure -dependent manner.[1)]
As shown in (6), only the structural Cases behave as predicted

by EPP, B's.G. and 'absorbtion'.

This gives the cue for al solution of the dilemma sketched in 1.1. to 1.3.

3.1.3. Principles

3.1.3.1. The Functionality Principle (FP)

> Every verb has at least one argument

FP is the equivalent of EPP in the cases not covered by B's G. It is manifested most clearly with that class of verbs that do not assign any θ-role. Nevertheless, according to FP there has to be an argument, an expletive argument.

(8) a) Es regnet — It rains
b) Es kracht — 'It cracks' - There is a cracking noise.

3.1.3.2. The Realization Principle (RP)

> If a functional element F assigns structural indices then one of them has to be realized externally.

3.1.3.3. Externally realized index

> The index 'i' of an argument is realized externally with respect to a functional element F (with index set k) if the index i, i∈k, is not realized by F^k.

The prototypical case of an external index is the realization of nominative: The index belongs to the index set of the finite verb but it is realized by Infl. Other instances are discussed in sect. 4.5.

3.1.4. The derivative status of EPP, B's G. and absorbtion

Principle RP, which by the way is similar to the 'un-accusative law' in relational grammar, determines the distribution of structural indices. In a grammatical system without lexical indices there is no way to circumvent it. Since FP holds for any system, FP and RP in combination yield EPP in a purely structural system.

If there are lexical indices too, FP may be fulfilled without affecting RP. These are the cases which violate EPP as e.g. (9) in German.

(9) Mir graut ' Me dreads' - I dread
DAT

'Grauen' is a verb with a single argument, thus fulfilling FP, and a lexical index. Since there is no structural index, RP does not apply and no external argument occurs.

Burzio's Generalization is a direct consequence cf RP and the θ-criterion.

Take an ergative verb: Such a verb may have only one argument, an object. If this object bears a structural index it will be realized externally, i.e. not as objective case but rather as the external case, e.g. nominative.

Clearly in this case there is no θ-role for the subject since then the θ-criterion would require two arguments, a subject and an object. So the object with its structural index is realized as subject exactly in those cases where there is no θ-marking of the subject.

Thus it becomes obvious that B's G. again holds only for structural cases and all the apparent exceptions involve lexical indices.

The classical case for B's G., however, is 'absorbtion':

It should be obvious by now that 'absorbtion' is a misnomer. There is no absorbtion but a transfer.

The crucial property of passive is the suppression of the externally realized argument of the active verb.

(10) hit (A_1^s, A_2^s) $\Rightarrow$ be hit (A_2^s) 's'=structural index

As indicated in (10), passive converts a transitive verb into an intransitive, more precisely into an 'ergative' verb.

If the verb has two structurally indexed arguments and one of them is deleted or suppressed by passive, the remaining structural index falls under RP and has to be realized externally.

Hence it is not the participle that makes the case of the object dissappear by a mysterious process of 'absorbtion', but rather the distribution of structural cases, i.e. RP, makes it impossible for an index to be realized as objective if there is no other externally realized index.

Again it is easy to see how apparent counterexamples in German arise. If the remaining argument bears a lexical index, RP

will not apply.

(11) helfen (help): A^S_1, A^L_2 <=> geholfen werden (be helped): A^L_2 L = Dative

'Absorbtion' is a consequence of RP for structural indices and hence dispensable as an independent principle.

3.1.5. EPP and B's G. hold in full generality only for structural cases as has been shown in confronting English with German. This is reflected by their theorem status in the system proposed here:

EPP is a theorem of the combination of FP and RP, B's G. a theorem of RP and the θ-criterion.

FP seems to be a basic principle for any grammatical system: It requires that a structure that contains a verb also has to contain an NP. This is a reflection of the basic function-argument distinction which has been known since Frege (cf. Dummet 1981, sect.12) The atomic sentence consists of a function element and an argument.

RP on the other hand goes together with a specific property of a case system. It is highly plausible then that there may be languages with a case system that does not involve any structural indices.

3.1.6. English: A system without lexical case

Pace Kayne (1981) I assume that English has only structural case. Thus RP applies in its full generality and rules out the examples given in (12).

(12) a) * Him was helped
b) * Was given a book to Mary
c) * Was laughed at John
d) ? The station was waited at

In 12a - c RP requires that an index is realized externally. If there are two objects as in b any of the two will do. If the argument is a prepositional argument, RP still holds and requires 12 c to be realized as (13).

(13) John was laughed at

Since RP only holds for arguments, prepositional adverbials will not be affected, hence 12d is less natural than (13).
For this account to become fully satisfactory one problem has to be solved:
The system I propose allows passive for any verb with an externally realized thematic argument, i.e. transitive or intransitive.
Why is there no passive with intransitives?

3.1.7. Excursus on the lack of passive with intransitives in English

What would happen in this case?
If there is only one argument, this will be suppressed by passive, yielding a verb without a theta-marked argument, thus invoking FP.
FP then requires that an argument must occur. Since there is no θ-role left this argument has to be expletive.
So, why is there no passive with an expletive subject?

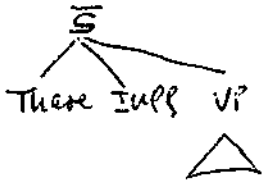
(14) * There/it was danced
     * There/it was whistled

There is no deep reason indeed. The reason is one exceptional feature of English: It is the only Germanic language that has lost its verb-second property. Old English was still a verb-second language but due to a restructuring in Middle English the position of the verb became stable (cf. Haider 1983)
A comparison with Norwegian or Dutch reveals the exceptionality of English.

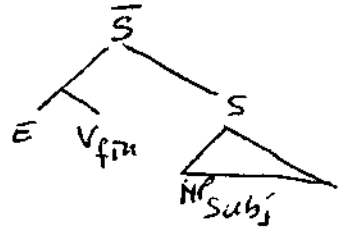
(15) a) Dutch: dat er gedanst wordt
     b) Norwegian: at det ble danset

Both, Dutch and Norwegian are languages with the typical Germanic verb-second root-sentences. The important difference lies in the position of the expletive element in presentative constructions: In English it is the subject position, in German, Dutch, Norwegian, and the other Germanic languages the expletive element occupies an Ā-position sentence-initially:

(16) a) English:



b) other Germanic languages



Since 'there' is the subject, it is the target for verb-agreement. But agreement depends in this construction in a non-subject NP. Thus 'there' must be able to transmit agreement features. This

ability requires that 'there' itself does not have inherent agreement features.

In the other Germanic languages the expletive element is not subject, the original subject is still in its position and agreement does not involve the expletive element.[11]

Due to the fact that the expletive element occupies a comp-position in German, it cannot be embedded:

(17) a) Es steht ein Mann an der Tür ('It stands a man at the door' There is a man at the door)

b) *daß es ein Mann vor der Tür steht

If the expletive element in English does not have inherent agreement features it cannot appear as subject in isolation since there would be no way to determine the morphology of the finite verb.

A comparison with Dutch shows that 'there' is the relevant expletive element. In Dutch the expletive particle is 'er', the cognate of English 'there', and not 'het' the cognative of 'it'.

(18) a) *dat het gedanst wordt (cf. 15a)

Since 'it' in English as an expletive element is tied to a co-occurring sentential constituent, only 'there' is left, but 'there' cannot occur in isolation. Hence there is no passive with intransitive verbs since there is no expletive element available.

3.1.8. On the lack of expletive subjects in German passives

Having argued that English lacks passive when there is no argument left due to a missing expletive element it may come

as a surprise that German does not allow an expletive element in passive:

(19) a) *daß es getanzt wurde — that it (there) was danced
b) daß getanzt wurde

Obviously FP is not at work in 19b. This implies that there is no 'verb' present in 19b: 'werden' does not assing θ-roles, hence is not involved in FP. If the participle is not verbal in German, the only possibility is that it is an adjective. Indeed there are bare, subjectless constructions with non-verbal elements in copula-constructions:

(20) a) daß offen ist — that (it) is opfen
b) daß rot ist — that (it) is red (the traffic light)
c) daß Krieg ist — that (it) is war (now) (There is a war on)
d) ?Ich glaube, daß heute kalt ist. — I think that (it) is cold today (acceptable in non-standards)

The implication that passive is a copula-construction with an adjectival participle is indeed a welcome one.
Passive in German is a strictly local phenomenon definable on the information represented in the lexical entry of the verb. Given that passive is adjectival, it is confined to the lexically available information:
The verb is mapped into an adjectival participle. It has been known since Wasow (1978) that there is a restricted variant of passive also in English analyzeable along these very lines. What is important, however, is that German lacks the non-local variety of passive as illustrated in (21).

(21) a) Ich wähnte ihn dumm — I considered him stupid

b) Er wurde dumm gewähnt — He was considered stupid

c) Wir glaubten ihn im Haus in Paris — We believed him in the home in Paris

d) ?? Er wurde {im Haus / in Paris} geglaubt

The clear cases, however, that would entail a non-local passive, do not exist in German, since there are no infinitival complements with 'to'/'zu' and exceptional case marking as in (22).

(22) He_i is believed t_i to have left

So far the reason why German does not need an expletive subject in passive is obvious: What is still unclear is why there must not occur one. It is clearly the unmarked option in adjectival copula constructions that there is an expletive subject.

(23) a) daß es kalt ist — that it is cold

b) daß es hier langweilig ist — that it is boring here

A comparison with Dutch reveals that the expletive element with adjectives is different from passive:

(24) a) dat het (*er) warm is — that it is warm

b) dat het (*er) brandt — that it burns (=there is a fire)

In fact that 'het' appears is an indication that the expletive element need not be a result of FP but may be subcategorized, as in the case of weather-verbs. As will become important in sect. 4.3. adjectives do assign θ-roles too.

(25) a) Es ist warm hier im Zimmer - It is warm here in the room

b) *Es ist intelligent hier im Zimmer - It is intelligent here in the room

The ungrammaticality of 25b follows from the fact that 'intelligent' contrary to 'warm' requires a referential argument.
Since we have to distinguish between referential and non-referential arguments, we may reserve the empty θ-role for the latter.
Thus we are able to distinguish between a specific θ-role, the empty θ-role, which can only be attached to non-referential expression and the absence of a θ-role.
As a consequance of FP, only adjectives but not verbs can appear without an argument. Therefore we expect there to find three types of adjectives:

(26) a)	A with specific θ-role	e.g.(liquid)	- flüssig
b)	A with θ-role 'e'	e.g.(warm)	- warm
c)	A without any θ-role	e.g.(open)	- offen

(27) a)	Wasser ist flüssig	Water is (a) liquid
b)	Es ist warm	It is warm
c)	daß offen ist	that (it) is open

The last option - no θ-role - no argument - is important for the problem under discussion:
If an adjective has no θ-role, no argument need occur, in contrast with verbs.
If an argument appears, however, it is assigned a θ-role.

(28) daß es getanzt wurde

(28) is grammatical in the interpretation that <u>es</u> actually is object of 'dance', e.g. when talking about a piece of music, e.g. for a ballet, which was danced, not only played by the orchestra. The ungrammaticality of expletive subject in passives may result then from the fact that there is no expletive element at all in German that would fill an <u>argument</u> position.

Thus German would actually be the converse of English in this respect.

Since passive is adjectival there is no need for an expletive element.

Thus 29a becomes fully parallel with 29b:

(29) a) Es steht ein Mann vor der Tür (There is a man at the door)
b) Es wird getanzt
a') *daß es ein Mann vor der Tür steht (that there is a man at the door)
b') *daß es getanzt wurde

The answer now is very simple: There is no expletive subject in German passives because there is no such element available. Since passive is lexical, not a syntactic process, there is no need for an expletive argument.

4. The case system of German

There are four morphologically distinct cases: Nominative, Accusative, Dative and Genitive. In terms of the system presented here, Nominative and Accusative are structural, Dative and Genitive lexical.

All four can appear on verbal arguments, depending on the choice of verb. In APs only Dative and Genitive is possible.[2)]

(30) a) ein seiner Frau (DAT) treuer Mann - 'a faithful to his wife man'
b) ein dieses Gasts (GEN) würdiger Empfang - 'a worthy of this man reception'

In PPs all cases except NOM appear; the same holds for adverbial NPs.

4.1. Case of arguments vs. non-arguments

As (31) exemplifies NPs occur as arguments as well as non-arguments, e.g. as adverbials.

(31) Sie hörten den ganzen Tag$_{AC}$ dieselbe Schallplatte$_{AC}$ -
'They listed the whole day the same disk' -(They listened to the same disk the whole day long)

The realization of AC on both NPs indicates that both bear a structural index and both are governed by V.
Instances of 'lexically' case-marked adverbials are Dative and Genitive in 32a,b.

(32) a) Er goß ihr$_{DAT}$ die Blumen - 'He watered her the flowers' (He watered the flowers for her)
b) Eines Tages$_{GEN}$ erschien ein Fremder - One day (there) appeared a stranger

It seems to be misleading to call DAT and GEN on adverbials lexically case-marked since there is no specific lexical item responsible for them. Adverbials are not subcategorized in general. It is rather a specific thematic function that goes together with a specific index in the case of adverbials. This connection, which is not so straightforward with lexical case of arguments, will be discussed in sect. (4.1.1.)
The specific thematic functions are roughly:

(33) a) Dative in traditional terms: dativus commodi 32a, incommodi 34a and ethicus 34b [12]
b) Acc.: measure (time or weight): 34c,d
c) Gen.: locality or point of time: 34e,f

(34) a) Er zünde ihr$_{DAT}$ das Haus an 'He set her the house on fire'

b) Laßt mir$_{DAT}$ den Hund in Ruhe! 'Leave me the dog in peace' (Leave my dog alone)

c) Sie studierte die ganze Nacht$_{ACC}$ She studied the whole night (long)

d) Er wiegt 70 Kilopond$_{ACC}$ He weighs 70 kilopond

e) Ein Mann kam des Weges$_{GEN}$ A man came (along) the road

f) Eines Tages$_{GEN}$ sah ich sie wieder One day I saw her again

Genitive is no longer productive.

4.1.1. Prepositional adverbials

For some PPs, there occurs a AC-DAT alternation with a corresponding semantic difference: AC is directional, DAT is local.

(35) a) Sie tanzten im$_{DAT}$ Saal (im = in dem) They danced in the ballroom

b) Sie tanzten in den$_{AC}$ Saal They danced in(to) the ballroom

c) Sie schwammen am$_{DAT}$ Ufer (am = an dem) They swam (near) at the bank

d) Sie schwammen an das$_{AC}$ Ufer They swam to the bank

Again it is a specific thematic function that goes together with a specific case.

But what we have to account for is the appearance of a structural case. Does this entail that P can be a structural governor? The answer depends on one's attitude toward preposition stranding. If structural government were sufficient to satisfy ECP then P in German could not be a structural governor since there is no preposition stranding in German. If, on the other hand, structural government is only a prerequisite (cf. Kayne 1981: 363-364; Van Riemsdijk 1978, sect. 6.2.2.) then P is not precluded as structural governor.

Kayne (1981:363) distinguishes between P that assigns case only to an NP for which it is subcategorized, and that can assign objective case somewhat more freely, in particular to any NP that it governs.

This is a sufficient account for German:

Any structural index governed by V is realized as AC, except for the constraint imposed by RP, whereas P may only realize an index it is subcategorized for.

4.2. The externally realized argument

Since external realization concerns structural indices only there are three possibilities for an index to become external. It may realize as Nominative, as Accusative or stay unrealized. The standard case is nominative: One structural index is realized by Infl.

The second possibility is Acc as in (36).

(36) a) Ich sah $\underset{AC}{\text{ihn}}$ das $\underset{AC}{\text{Haus}}$ betreten I saw him enter the house

b) daß ich ihn das Haus betreten sah

RP is satisfied if the index of 'ihn' is realized by the matrix verb, thus being external with respect to the internal verb.

PRO is the third case. Its index is not realized at all, hence trivially external.

4.3. Externally realized argument and the Binding Theory

In German reflexives are bound to the externally realized argument.

(37) a) Er_i spricht ungern mit ihr_j über $sich_{i/*j}$
He doesn't like to speak to her about himself/*herself

b) Ungern sieht Marie Antoinette$_i$ den einzigen Verläßlichen$_{AC}$ *$sich_i$/sie verlassen.
Relunctantly M.A. saw the only trustworthy (man) leave *herself/her

c) Er_i bat ihn_i [PRO_i *$sich_j$/ihn_j zu besuchen]
He asked him to visit *himself/him (cf. Reis 1982 a)

3 37b,c illustrate the opacity effect of the external argument.[3] But an opacity effect also holds for anaphors within attributive APs:

(38) a) Er_i schätzt die auf $sich_{*i/j}$ stolzen $Husaren_j$
He estems the proud of themselves husars

b) $Peters_i$ $sich_{*i/j}$ treue $Frau_j$
Peter's (to) himself faithful wife

c) Er_i liest ein Buch über $sich_i$
He reads a book about himself

Although the reflexive may be bound to an antecedent outside the NP as 38c shows, the NP is an opaque domaine for attributive APs. This is a strong indication that an external argument is involved.

It was illustrated in sect. 3.1.8. (Ex. 25) that adjectives assign θ-roles, hence there exist arguments which get a case index from the adjective.

What happens to a structural index? According to RP it must get its case realized by another governing element or remain unrealized.

In the copula construction case realization goes parallel with the verbal arguments: Infl assigns NOM.

(39) a) treu: A^S_1, A^L_2

b) weil er$_{NOM}$ seiner Frau$_{DAT}$ treu ist

The copula in 39b is the lexicalization of Infl and has no thematic influence. The θ-roles of 'er' and 'seiner Frau' are furnished by the adjective.

Now let us analyze the attributive version:

(40) a) der seiner Frau$_{DAT}$ treue Mann — the (to) his wife faithful man

b) der Mann, der seiner Frau treu ist — the man, who is faithful to his wife

40b is the paraphrase of a) by means of a sentential attribute, displaying again the pattern of 38b.

In this situation there are two options available: Either to attempt to derive 40a and b from a common structure (an attempt reminiscent of Generative Semantics, being resuscitated again by G. Fanselow) or to attempt to analyze the two structures as different instances of a basic function.

The latter option is chosen here, since if it is successful, there is no need for the abstract[55] derivational analysis.

Both constructions involve a predicative relation between the AP and an element outside the AP.

In 39b it is a full NP whereas in 40a it is a part of the NP that contains the AP.

How is it possible for a non-maximal N-projection to function as an argument?

The solution depends on a relativized notion of argument.

The difference between sentential predication and predication

Inside NP-traditionally called attribution - lies in the domain. If the domain of predication is the sentence, the terms involved are of the type of terms occurring in that domain, i.e. maximal projections.

If the domain is a maximal projection itself not all the terms involved can be maximal projections. What, then, is the external argument of an attributive AP?

Since the NP itself is ruled out by a general i-inside-i (cf. Chomsky 1981:212) constraint, the remaining possibilities are either the head or a projection of it.

A decision on this alternative can be reached easily by empirical considerations.

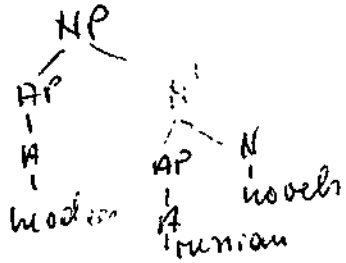
Take an NP with two restrictive APs (like 40', which illustrates the simple case), both containing an anaphor:

(40') a) moderne russische Novellen — modern Russian novels
b) russische moderne Novellen — Russian modern novels

(41) a) Liest er auch alte russischen Novellen?
Does he also read old Russian novels?
b) Nein, nur moderne (sc. russische Novellen).
No, only modern (ones) (i.e. Russian novels)
c) Nein, nur französische (sc. Novellen).
No, only French (ones) (i.e. novels)

(42) a) Liest er auch russische alte Novellen?
Does he also read Russian old novels?
b) Nein, nur moderne (sc. Novellen)
No, only modern ones (i.e. novels)
c) Nein, nur französische (sc. alte Novellen).
No, only French ones (i.e. old novels)

The difference between 41c und 42 c is the reference of 'ones'. In 41c it is 'novels', in 42c 'old novels'. The syntactic structure of 40'a is (43):

(43) 

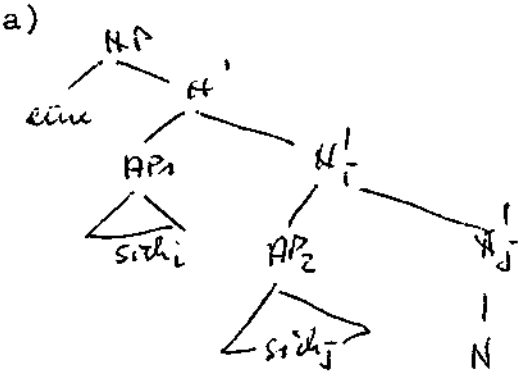
(44) is the structurally parallel case of (43) with an anapher contained in each AP:

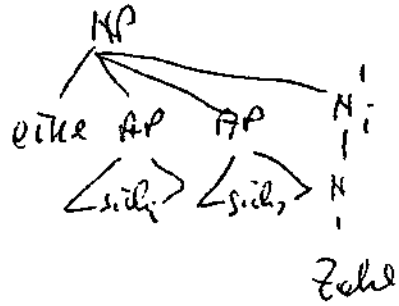
(44) eine nur durch sich und 1 teilbare mit sich multiplizierte Zahl
a only by itself and 1 divisible by itself multiplied number

The crucial evidence is, that (45) is ambiguous.

(45) die Menge der nur durch sich und 1 teilbaren mit sich multiplizierten (natürlichen) Zahlen ist .....(46a,b)
(the set (consisting) of natural numbers multiplied by {themselves / itself}
divisible only by 1 and {itself / themselves}

(46) a) the set containing the single member 1
b) the set of square prime numbers

(47) a) 

b) 

47a is the structure of (44), resulting in 46a, if applied to (45): The intersection of the set of square numbers (AP_2

applied to N_j) with the set of prime numbers (AP_1, applied to NP_i) contains only 1: '1' is prime and is the product of 1 x 1. If (44) is analyzed as indicated by 47b, both NPs are applied to N_i, thus selecting from the set of all (natural) numbers that set for which it holds that any number that is chosen is prime and is multiplied by itself. Clearly, the natural reading is 46a. 46b as a second reading is found easier if the two APs in (44) are reversed in order.

46a as an interpretation of (45) can be reached in a straightforward way if we apply the notion external argument to APs and relativize it in the indicated fashion.

4.3.1. Adjectives are ergative[4)]

The question why AC does not show up within APs finds a simple answer if A cannot assign more than one structural index. Clearly, according to RP, the presence of an argument marked ACC implies that there is an additional external argument. If there is only one structural index it will never be realized within AP, due to RP.

In fact, it will not be realized at all: If the index is borne by N', there is no way to realize it under government, since NP as a maximal projection blocks government from outside.

If it were possible to realize the index on N', this would lead to the paradoxical consequenze that the head of the NP might get two different cases by percolation: the case of the whole NP and the case of N'.

Burzio (1981) has shown that in a language with two different

auxilaries, there is a correlation between 'ergative' predicates and selection of 'be' ('essere' in Italian, 'sein' in German). This correlation allows an account of the fact that adjectival participles in German only occur attributively but not in copula construction:

(48) a) ein diesen Einfall$_{AC}$ verteidigender Linguist$_{AP}$
a this brainwave defending linguist
b) *der Linguist ist diesen Einfall verteidigend
the linguist is this brainwave defending[5)]

ACC is excluded only for primary adjectives, not for participial ones, as 48a shows.
But it is precisely these that are impossible in predicative constructions involving the copula 'sein'.
If 'sein' is bound to ergative predicates the ungrammaticality of 48b is a direct consequence.[6)]
If primary adjectives are analyzed as ergative functional elements we get the full parallel in the distribution of 'sein':

(49) a) ergative verb: 'eintreffen' - arrive
die eingetroffenen Gäste - die Gäste, die eingetroffen sind
the arrived guests - the guests that have arrived
b) 'ergative participle', i.e. passive participle
die zertretene Ameise - die Ameise, die zertreten ist (die jemand zertreten hat)
the trodden (on) ant the ant that s.o. trod on
c) (ergative) adjective
der alte Mann - der Mann, der alt ist
the old man - the man who is old

From this point of view it becomes immediately transparent
- why both in APs and in passive there is no AC.
- why both with APs and with passive 'be' occurs

- why 'be' occurs in the tense paradigm of certain verbs
- why adjectival participials cannot occur predicatively
- why the NP is an opaque domain for attributive APs.

4.3.2. External argument vs. externally realized argument

In the preceeding sections 'external' referred to the mode of case realization. In this section the relation between the lexical entry and its projection on syntactic structure shall be made more precise.

RP requires that (any) one structural index has to be realized externally. This does not necessarily mean that any structural index will be realized as nominative, as can be seen with transitive verbs:

(50) a) Er$_{NOM}$ sucht einen Tisch$_{ACC}$ (He seeks a table)

b) Ein Tisch$_{NOM}$ sieht ihn$_{ACC}$ (A table sees him)

The fact that 50a is not synonymous with 50b requires that the choice of the structural index be made dependent on the thematic structure of the verb. The external argument is projected on a specific θ-role.

This can be made precise by implementing a notion similar to William's (1981:87) notion of external argument: Structural indices may be distinguished in the lexical entry by marking one as the external argument, or as we will see in sect. 4.4., as the θ-role that is realized by an NP whose index is realized externally. (cf. Williams 1981:82)

As a consequence, the choice induced by RP is no longer free: The NP whose index is realized externally will be related to a specific θ-role. I shall use William's notation for indicating the external argument, i.e. underlining it.

(51) a) 'schlagen': $(\underline{A}^1, Th^1)$ - hit: $(\underline{A}^s, Th^s)$

(51) is taken from Williams (1981:93) with the structural indices added to the θ-roles.
(51) is the representation of a lexical entry with two structural arguments and the spezification of the external argument.
The case index of the external argument must be realized externally.

4.3.3. External realization without external arguments

This theory offers the option of leaving the external argument unspecified. According to RP, there will nevertheless occur an externally realized argument if a structural index is involved. It seems that this is the very difference between ergative and non-ergative verbs.
Take for instance 'helfen'-help and 'zustoßen'-happen. Both occur with two arguments, one in NOM and the other with DAT.

(52) a) daß er ihr hilft — that he helps her
(NOM DAT)
b) daß ihm ein Unglück zustieß — 'that him a misfortune happened' (that he suffered a misfortune)
(DAT NOM)

But the superficial similarity is misleading. Actually the two verbs are syntactically heterogenous:

(53) a) das ihm zugestoßene Unglück
the him happened misfortune
* der ihm geholfene Mann
the him helped man

b) Ein Unglück zugestoßen ist ihm noch nie.
A misfortune happened has (to) him never yet.
* Ein Mann geholfen hat ihm noch nie.
A man helped has him never yet

c) Unglück zugestoßen ist ihm keines.
Misfortune happened has none (to) him.
* Mann geholfen hat ihm keiner
Man helped has none him

(54) a) der angekommene Linguist
the arrived linguist
* der getanzte Linguist
the danced linguist

b) Ein Linguist angekommen ist bisher nicht.
A linguist arrived is yet not.
* Ein Linguist getanzt hat bisher nicht.
A linguist danced has yet not

c) Linguist angekommen ist bisher keiner.
Linguist arrived is yet none.
* Linguist getanzt hat bisher keiner.
'Linguist danced has yet none'

(55) a) helfen: $(\underline{\theta}_1^S \quad \theta_2^L)$ (help) - unterlaufen $(\theta_1^L \quad \theta_2^S)$ (happen)

b) tanzen $(\underline{\theta}^S)$ (dance) - ankommen (θ^S) (arrive)

c) schlagen $(\underline{\theta}_1^S, \theta_2^S)$ (hit)

d) schenken $(\underline{\theta}_1^S, \theta_2^L, \theta_3^S)$ (give as a present s.th. (to) someone)

The difference between the two types of verbs in (53) and (54) can be related to the notion external argument: As illustrated in (55) 'ergative' verbs lack an external argument. Thus we get the impression that for these verbs the object turns out syntactically as subject, which in a sense is accurate: RP requires that the structural index be realized externally, hence as NOM in finite clauses. But ergative verbs have only one structural index and lack a specified external argument. Thus they look like deficient variants of transitive verbs, since only with transitive verbs does a structural index on a non-external argument occur. 'Unterlaufen' is the ergative version of a verb like 55d and 'ankommen' of 55c.

53a and 54a show that the externally realized argument of an AP cannot be the external argument.
53b and 54b document the constraint against placing the external argument together with a non finite verb-form in front of the finite verb in root-clauses. 53c and 54c are examples of object-incorporation.
Again the external argument cannot be incorporated. (For details of the analysis and further ramifications I refer to Haider (forthcoming)).
The interesting insight that this approach offers is that ergative verbs are a by-product of a mechanism that is necessary for verbs with more than one structural index. If there is only one, it may be handled either like the distinguished argument of transitives or like the undistinguished.

4.4. Θ-roles and case-indices

Czepluch (1982/83:16/17) discusses the single-case-condition whose effect is that the arguments of a verb must be distinctively case-marked, i.e. there cannot be two realizations of the same case-form for one verb. He claims that "a verb that case-marks two object must assign one case structurally and the other lexically" (Czepluch 82/83:16) and adds the following diagramme:

(5) a) ....obl obj V (Czepluch (49): p. 16)
b) ↘ ....obj obj V
c) ↚ ....obl obl V

It is very easy to see that there is no constraint on the mode of case assignment, as 56b,c seem to indicate but on distinct case realizations, since 56c is falsified by 57.

(57)weil ich mir der Tatsache bewußt bin, ...
DAT GEN

'since I (to) myself (of) the fact aware am'

In Czepluchs terms both DAT and GEN are obligue (cf. p. 8). As a condition on surface realization the single case condition would be theoretically unsatisfactory.
In essence it is a uniqueness condition and therefore highly reminiscent of an other uniqueness constraint, the θ-criterion. If we juxtapose the θ-criterion and a formulation of the single case-condition we note immediately a surprising relation: They can be telescoped.

(58) θ-Criterion: "θ-role argument" Each θ-role is assigned to one and only one argument and each argument bears one and only one θ-role.

(59) Single-case condition: argument C-index Each C-index is assigned to one and only one argument and each argument bears one and only one C-index.

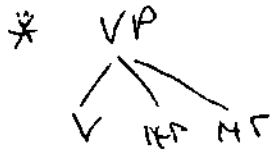
By tranitivity, (58) and (59) may be collapsed into (60):

(60) Case-Condition:

Each θ-role occurs with a (unique) C-index.

Now (59) follows form (60) and the θ-criterion.
As an interesting consequence of (60), it is not possible to have non-binary branching for objects in a system without lexical case.

(61)



In (61) both objects would surface with the same 'case'. It lends support to our approach that both Czepluch (82/83) and Kayne (82) have arrived at the same conclusion for English dative-construction on independent grounds.
The case-condition is actually Chomsky's visibility condition (Chomsky 1981:334).

(62) A chain must be case-marked or headed by PRO.

First of all in (62) the reference to PRO can be dropped since in our framework PRO bears a case-index and function as external argument.[13] Thus (62) reduces to (63).

(63) A chain must be assigned a case index.

Now, (63) ist the partial reinterpretation of (60) in terms of chain.
Its complete reinterpretation, containing also the chain-reinterpretation of the θ-criterion is (64).

(64) The Case Condition: (cf. Chomsky 81: 335)

Given the structure S, there is a set k of chains, $k = \{C_i\}$, where $C_i = (\alpha^i_1, \ldots\ldots \alpha^i_{n1})$, with 'i' as case-index, such that

i) if α is an argument of S, then there is a $C_i \in k$ such that $\alpha = \alpha^i_j$ and a θ-role is assigned to C_i by exactly one position P.

ii) If P is a position of S marked with the θ-role R, then there is a $C_i \in k$ to which P assigns R, and exactly on α^i_j in C_i is an argument.

If it is required that the lexical indices of a lexical entry be different, then RP takes care of the structural indices, since there may be at most two, kept distinct by assigning one to the external argument. Then (64) becomes equivalent with (60).

(60) has interesting typological consequences:

There is the intuitively familiar correlation of lack of morphological case with strict word order and of relatively free word order with morphologically well articulated case systems.

This correlation can be viewed as a consequence of (60). If there are no morphologically distinct realizations, the uniqueness requirement leads to an articulated structure in terms of which the case positions are kept distinct.

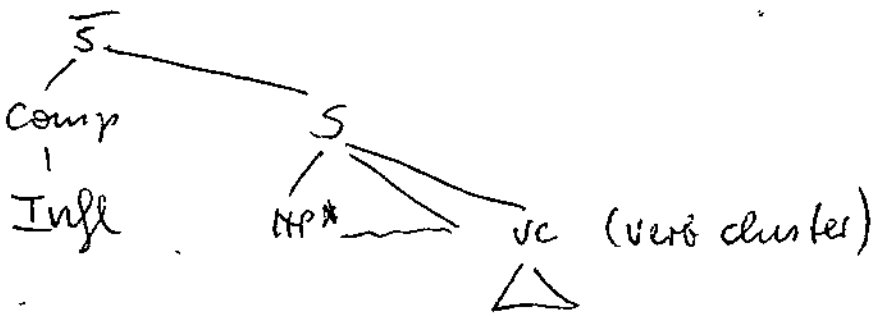
The more articulated a structure has to be, the more rigid a serialization will appear.

If on the other hand the arguments are distinguished with different morphological case-realization structural distinction become less crucial, hence a system may lack certain structural configurations, which is reflected in greater freedom of word order (cf. sect. 5).[7)]

4.5. Externally realized arguments in German

For German (65) is assumed as the basic sentence pattern.

(65)



Arguments for Infl in COMP go back to den Besten (1981), based on V-second phenomena. Further evidence and argumentation can be found in Haider (1982) and Platzack (forthcoming).
It is assumed furthermore that subjects and objects are not separated by a boundary of a maximal projection in German. Arguments to that end have been collected in Haider (1981) and (1982) and in a more compelling presentation in Haider (1983 a), based on the lack of ECP-asymmetries between subject and objects in German.[8)]
It is important to note that the case system presented here is independent of these asumptions. What is important, however, is that this system yields the correct results for German if implemented in a structure like (65) and gives insight in some important differences between English and German.

4.5.1. Externally realized arguments of V

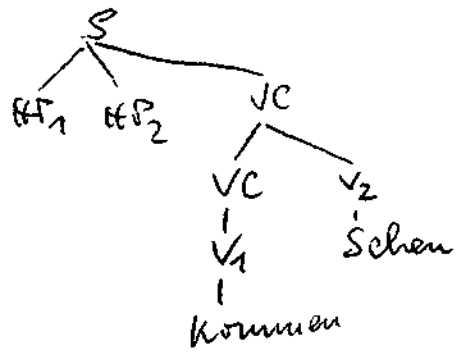
There are three possibilities:

- NOM
- AC. (in ECM-contexts)
- PRO

The straightforward cases are NOM and PRO. RP may be satisfied either by Infl. as case - realizing element or by leaving the case-indexed unrealized hence not realized by V itself. Some qualifications have to be made for exceptional case marking. As mentioned above, the only type of exceptional case-marking in which verbs that take bare infinitival complements, i.e. verbs of perception (like in English) and the causative verb 'lassen' - let.

As in English (cf. Williams 1983) the evidence for German does not support the assumption of a clausal complement for verbs of perception (cf. Haider 1982). Like modals, perceptive-verbs occur in the verb-cluster in German:

(66)



For our concern, what has to be ruled out is the possibility that the structural index of NP_1 is realized by V_1, hence counting as external for V_2, and the index of NP_2 realized by V_2 is the regular ECM-external argument.
This problem occurs only if an ECM-verb is embedded in an infinitival complement since in a finite clause the agreement-requirement rules out AC. on both NP_1 and NP_2.
How is (67) to be ruled out?

(67) weil er sich wünschte [since he wished
$\left\{\begin{matrix}\text{PRO}\\ \text{ihn}_1\end{matrix}\right\}$ sie_2 ihn_3 ohrfeigen zu sehen $\left\{\begin{matrix}\text{PRO}\\ \text{him}\end{matrix}\right\}$ her him slap to see]
since he wished $\left\{\begin{matrix}\text{PRO}\\ \text{him}\end{matrix}\right\}$ to see her slap him

The solution is easy to find if case is assigned compositionally by VK in these cases, since then RP applies to the union of indices of both verbs and requires an external realization, external with respect to both verbs.

When the indices are realized and the NPs are mapped on the respective θ-roles nothing precludes that the external argument of the embedded verb appear in ACC, since this case is not realized by the embedded verb itself.

4.5.2. Externally realized arguments of A

Again there are the same three options as in 4.5.1. The NOM appears in finite copula constructions, the PRO-option in the infinitival.

(68) a) Sie$_{NOM}$ war schön. She was beautiful

b) Sie versuchte PRO schön zu sein She tried to be beautiful

ACC as well as NOM occur in predicative constructions.

(69) a) Er aß das Fleisch$_{ACC}$ roh He ate the meat raw

b) Er$_{NOM}$ aß das Fleisch nackt 9) He ate the meat nude

It is instructive to note that the predicative relation is impossible with lexical cases.

(70) a) Er sah sie$_{ACC}$ nackt He saw her nude

b)* Er half ihr$_{DAT}$ nackt He helped her nude

70b is ungrammatical in the interpretation that 'nackt' refers predicatively to the DAT.
On the assumption that the NP predicated on qualifies also as the external argument of the predicative adjective, it must be structural case by necessity, since externalization is triggered by RP.

For A there is also a fourth option for externally 'realized' argument: the N'-projection for attributive adjectives.

4.5.3. The derivative notion 'subject'

In English 'subject' covers a set of elements consisting of i) the NP that triggers agreement in finite sentences, ii) the NP that is case-marked by the matrix-verb in ECM contexts, iii) PRO and iV) the prenominal genitive in NPs.
The uniting bond is conceived of as a structural relation [NP, S] or to include the genitive [NP, X^{max}].
This interpretation is too narrow for German: It does not include the external argument in attributive APs although they display the same opacity effects as the subjects.
It is too wide on the other hand since the structural relation [NP, S] holds for any argument in German.
On the evidence of his reanalysis of 'small clauses' Williams (1983) suggests to replace the notion 'subject' by external argument.

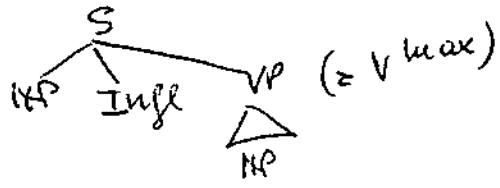
(71) The subject of a predicative phrase XP is the single argument of X that is located outside of the maximal projection of X.

(71) is still to close to the model of English:
It replaces one structural notion by another structural one:
In German (71) covers the AP-cases but not the regular sentential arguments since they are all contained in the same maximal projection. What is different though, is the way case is realized.
If external argument is defined the way I proposed it becomes

immediately clear why subject in English appears to be a structural relation.

Due to the fact that English has only structural cases they have to be kept distinct in structural terms. This is attained by separating the arguments into different projections.

(72)



In English the position [NP, S] is the only one where an NP can get case assigned by INFL, hence fulfilling RP.

NOM cannot be assigned into VP, due to its blocking government qua maximal projection.

Thus for a system with structural cases the externally realized argument is equivalent to the NP in the structural relation [NP, S].

Williams' definition (71) is based on the parallel between AP and VP and neglects the possibility that the presence of VP is required by a specific property of the case system of the respective grammar, i.e. the lack of lexical cases.

In fact that NOM can get realized only in a unique structural configuration is the causal reason for NP-movement in English.

4.5.4. Case-assignment, structure, and word order

That word-order is highly dependent on the way the case-system works is easy to demonstrate with English and German.

Let us examine the word order in passive.

(73) a) daß man der Frau (DAT) das Kind (ACC) übergab
b) that they gave the woman the child
c) daß der Frau (DAT) das Kind (NOM) übergeben wurde
d) that the woman was given the child
e) *that was given the woman the child

In German the objects are contained in the same maximal projection as the subject thus RP is satisfied if ACC changes into NOM in 73c.
In English, however, the NP has to be moved out of a maximal projection and placed in a position where the structural index can be realized externally.
Thus in German the word order does not change in passive while in English it is impossible not to change word order.
Passive is only one example of a nominative being preceded by an object in German.
Since NOM can be realized on any NP in (65), we expect to find any permutation of case marked NPs in German sentences, which is indeed the case:
With contrastive stress any arrangement is possible, a difference between English and German which is frequently neglected (cf. Haider 1982).
Under neutral stress any sequence is possible too, depending on the choice of the verb. The only exception is genitive, for which I was not able to find an example where it precedes without carrying stress. Genitive on objects has already become archaic.

(74) a) NOM - DAT: daß er ihr hilft
b) NOM - ACC: daß der Mann ein Auto kauft
c) DAT - NOM: daß dem Mann das Auto gefällt
d) DAT - ACC: daß er dem Mädchen eine Puppe gab
e) ACC - NOM: daß den Kritiker eine solche Aufführung nicht beeindruckt
f) ACC - DAT: daß der Mann ein Auto seinem Fahrrad vorzieht.

The fact that the word order under neutral stress is dependent on subclasses of verbs invites the conclusion that serialization is effected by two different factors: Either there is a rigid structure which imposes a specific serialization or the syntactic structure allows any order. Then this freedom of choice may be used by other modules which induce a preferred serialization in the unmarked case.
Thus the serialization in passive reflects the unmarked DAT-ACC order 74d in active sentences.
74e is a case of Instrument-flip verbs, which reflect the general observation that Agent and Instrument are often exchangeable (cf. e.g. the wordformation suffix '-er'. For a typological study cf. Dressler (1980)).

(75) a) Jemand beeindruckt ihn mit etwas
S.o. impresses him with s.th.
b) Etwas beeindruckt ihn.
S.th. impresses him.

In 75a) the Instrument is contained in the PP, whereas in 75b) it is the subject.
In general it seems to be a module related to cognitive-perceptual strategies that is responsible for the serialization patterns in systems where serialization is not constrained structurally.

For different proposals to that end I refer to Haider (1982 a) and literature cited there.

5. Summary

I propose a way of handling case that depends crucially on the distinction between case indices, supplied by a lexical element, and their realization in the syntactic structure.
The system is general and parametrized (different sorts of indices) and thus allows insight into the different implementation of case in superficially different systems like English and German.
The conceptual merits of this proposal are:

- general, not language specific, notion of case-realization
- replacement of redundant, language specific generalizations by two conditions, which allow derivation of the replaced conditions as theorems in a specific setting.
- introduction of a sufficiently general notion of binding element - external argument as opacity element - for structurally as divergent constructions as clauses, ECM-phenomena and attributive APs.
- insight into the dependencies between case-morphology, structure, and word order.

6. Appendix

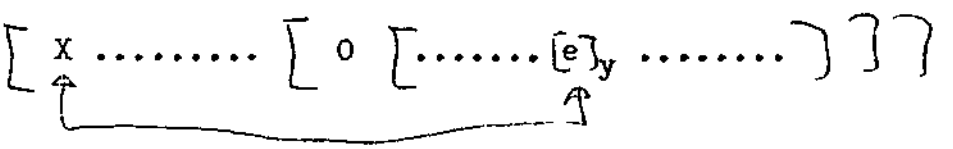
Evidence for different sorts of indices

1. For Indo-European languages that display a distinction

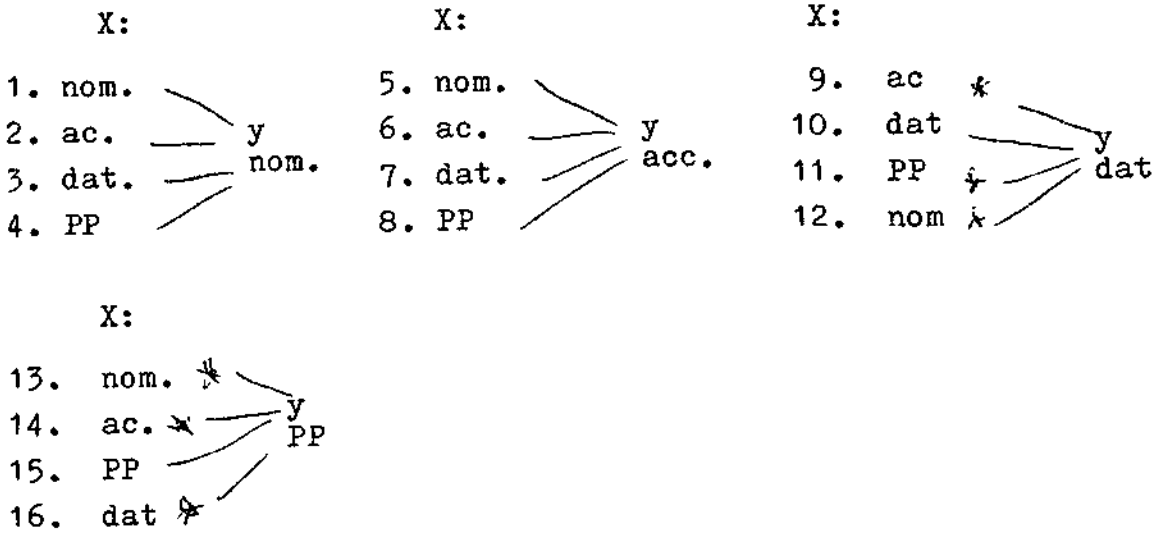
between cases that alternate with each other in a structure-dependent manner, the alternating cases are NOM and AC, as can be exemplified with German for Germanic, Latin for Romance, Avestan for Indo-Arian. The only exception is Classical Greek, where any case may appear as nominative in passive (cf. Schwyzer/Debrunner 1950:240-41).

2. The difference between structural and lexical cases has proven to be crucial for the development to the 'ezafe'-construction of Modern-Persian, the roots of which can be traced back to Avestan and Old Persian (cf. Haider/Zwanziger 1983, Heinz 1983). In Avestan there exist 'nominal relatives', i.e. relative clauses without a copula. In Younger Avestan the original NOM of the relative pronoun changed: When the head noun of the relative had a structural case the relative pronoun took it over. In all the other cases it was replaced by the complementizer, which is homophonous with the relative pronoun, neuter 3rd person singular.
This phenomenon can be easily interpreted if it is realized that structural indices may percolate whereas lexical indices - being bound to a specific thematic function cannot. For details I refer to Haider/Zwanziger (1983).

3. Independent evidence for the different status of DAT and prepositional cases can be found in German comparative constructions.[10]

(76) 

In comparative clauses there is a relation between the target of comparison X, and a gap in the comparative clause:
If the gap is NOM or ACC, the target may be any argument.
If the gap bears a lexical case, however, the target must bear the same case. The reason seems to be the intimate connection between lexical indices and specific θ-roles, which is reflected in the requirement that target and gap must be structural isomorphic. T. Torris (personal communication) interprets this isomorphy-relation as a consequence of the recoverability condition.



(77)

1. Von diesem Stück wurdeich mehr abgestoßen als beeindruckt.
2. Der Finanzminister hat mehr Devisen erwirtschaftet als ausgegeben werden mußten.
3. Er hat mehr Mädchen gefallen als dir je begegnen werden.
4. Er hat mit mehr Mädchen geflirtet als dir je begegnen werden.
5. Mehr Bier wurde bestellt als man trinken konnte.
6. Ich wollte mehr Bücher kaufen als sie verkaufen konnten.
7. Er hat mehr Mädchen geholfen als ich vertragen kann.
8. Die Studenten sollten die Universität mit weniger Lücken verlassen als sie mitgebracht haben.

9. Karl kennt mehr Männer als ich dich vorstellen kann.
10. Wir sind mehr Idioten begegnet als ihr begegnet seid.
11. Er hat mit mehr Mädchen geflirtet als du aus dem Weg gehen kannst.
12. Mehr Mädchen haben ihm gefallen als du je begegnen wirst.
13. Mehr Länder gefallen ihm als er sich je aufhalten kann.
14. Sie hat mehr fremde Städte besichtigt, als ihr Freund sich je aufhalten konnte.
15. Sie hat sich in mehr fremden Ländern aufgehalten, als ihr Freund sich je aufhalten konnte.
16. Er ist mehr Mädchen aus dem Weg gegangen, als du je flirten kannst

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Footnotes:

This paper owes its title to Henk van Riemsdijk and has benefited much from discussion by the members of OSK (Oberdeutsches Syntaxkränzchen) and the participants of the V. Groninger Grammatikgespräche (March 1983).

1) Some people try to bring up the so-called Rezipienten-Passiv (passiv of recipient) as a counterexample, based on the superficial paraphrase relation between i) and ii).

i) daß ihm (DAT) ein Buch (NOM) geschenkt wurde
ii) daß er (NOM) ein Buch (ACC) geschenkt kriegte

As I pointed out in Haider (1983), subsuming ii) under passive means giving up the syntactic notion of passive, since constructions of the type ii) differ radically from standard passive in syntactic terms:

a) ii) has a thematic subject (* Es kriegte ihm geholfen)
b) ii) conserves the ACC
c) iii) DAT does not alternate in regular passive
d) iv) is productive only for transitive verbs (* Er bekommt begegnet/* Die Partei bekommt beigetreten)

(cf. Fanselow 1982)

It is preferable to analyze ii) as an (extended) predicative construction. (For details cf. Haider 1983b).

2) There are a few exceptions: 'los' - 'rid', 'wert' - worth, 'satt' - fed up with, whose origin is a merger of GEN with ACC for the pronoun 'es', traditionally called 'accusative-by-mistake'.

For 'los' the best account is adverbial, since it does not occur attributively. The acc. of 'wert' is an adverbial measure-acc. 'satt' also seems to be reanalyzed as adverbial. First the copula alternates with 'haben', which indicates that 'satt haben' is treated as a verb.
Secondly the attributive usage together with the acc. is low in acceptability.

i) ich habe ihn satt (ACC) - I am fed up with him

ii)??der mich satte (AP) Nachbar - the neighbor who is fed up with me

3) It is not enough that the anaphor is bound by an external argument. It must be bound by the closest external argument, the external CO-argument.

4) This concise statement was made by G. Fanselow.

5) It is worth noting that what is now an aspectual marker in English resulted from reanalysis of a participial construction in Old English parallel to 48b. Its ungrammaticality in German is the cue for the triggering of reanalysis: The predicative version of 48a in a copulative construction was possible only in the reinterpretation of the adjectival participle as a purely verbal form, the progressive form.

6) In German there is an interesting alternation of haben/sein with an adjectival infinitve:

i) Er hat die Aufgabe zu lösen - 'He has the task to solve'

ii) Die Aufgabe war zu lösen - 'The task is to solve'

In i) 'haben' implies the presence of the external argument of 'lösen', 'sein' in ii) the absence.

7) This approach entails that sentential arguments bear a case-index too, since they are assigned a θ-role.
Since case-indices cannot be realized, the sentential arguments occur at a position where case cannot be realized: Finite clauses are obligatorily extraposed. This treatment is very similar in spirit to Stowell's (1981) proposal.
Why non-extraposed infinitivals are much more acceptable than finite clauses is an open problem.

8) Consequently, PRO is governed in German.
This implies that the PRO-theorem cannot be derived in the way Chomsky does it.
But the distribution of PRO can be determined by means of the functional definition of empty categories. An E.c. with unrealized case and θ-role is PRO. Thus PRO is excluded from positions other than the subject of infinitivals, since in other position case will be realized, e.g. as object or sinside PP.
i) John seems PRO to be happy
i) is excluded by the θ-criterion. Since PRO is assigned a θ-role by 'happy' and 'seem' does not assign θ-roles, 'John' will not get the θ-role.

9) For arguments to the effect that predication does not violate the θ-criterion despite the superficial impression that the object in 69b is assigned two θ-roles, one by 'essen' - eat and one by 'nackt' - nude, I refer to Williams (1983: sect.7).

10) This data I owe to T. Höhle and T. Torris (Cologne).

11) In Swedish another option is evidenced: 'there' does not transmit agreement in presentative constructions but induces 3rd p.sg. on the finite verb. There is an expletive subject for intransitive passive. (cf.Platzack forthc.)

12) For a detailed presentation and analysis I refer to Abraham (1983)

13) There is good evidence indeed that PRO must bear a case index (cf. Fanselow, same volume)
In predicative constructions, the predicative NP gets Case by agreement with the noun it is predicated on.

a) Er$_{NOM}$ wurde ein guter Vater$_{NOM}$ He became a good father
b) Sie nannten ihn$_{ACC}$ einen Verräter$_{ACC}$ TheY called him a traitor
c) Er$_{NOM}$ wurde ein Verräter$_{NOM}$ genannt. He was called a traitor

Predicative NPs marked NOM occur in infinitives too:

d) Er versuchte (PRO ein guter Vater zu sein)
He tried a good father to be

e) Er erwartete (PRO ein Held$_{NOM}$ genannt zu werden)
He expected to be called a heroe

Examples d-e) show that Case-agreement is not simply a copy-mechanism, copying morphological CASE-form. The rule is rather that NP gets NOM if it is predicated on the external argument, ACC if predicated on a non-external structural argument and otherwise inherits the lexical index.

If the status of the external argument is crucial we expect immediately that NOM should show up even if an NP is predicated on an NP marked ACC, provided it is an external argument, i.e. Case is realized by the matrix V.
The expectation is born out, cf. Duden § 1473:

f) Laß mich$_{ACC}$ dein treuer Herold$_{NOM}$ sein
Let me be your faithful herald
g) Laß den wüsten Kerl$_{ACC}$ ihr Komplize$_{NOM}$ sein
Let the brutal guy be her accomplice

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