

CHAPTER 5

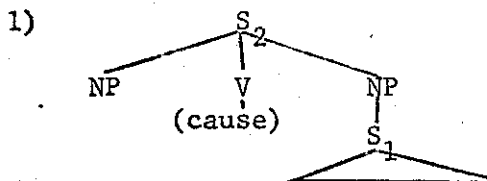
DISCUSSION AND CONCLUSIONS

Section 5.0. Introduction.

This chapter deals with the theoretical consequences of the chapters before it. The first two sections deal with questions raised by the clause-union version of object-raising in German. This rule presents a challenge to our present picture of clause-union rules (Section 5.1) and to the universal rule hypothesis (Section 5.2). Section 5.3 returns to the Null Protagonist Convention. It presents two more examples from German which seem to involve null protagonists, and it engages in speculation about universal grammar.

Section 5.1. The class of clause-union rules.

The clause unions which have been studied so far all share the basic form of the Turkish rule brought up in Section 1.4.2; they apply to underlying structures like 1), most often involving a matrix causative verb:

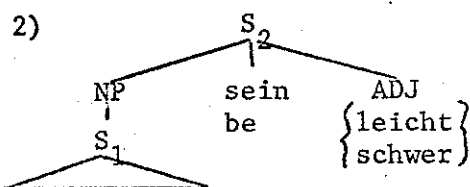


(the tree given is for an SVO language but may of course be generalized)

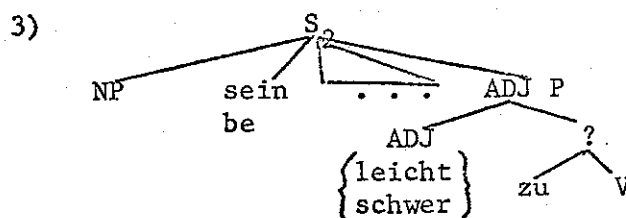
Their basic effect is to squash S_1 up into S_2 , producing a sentence which looks as much as possible as if it had a single clause origin. Such rules have been studied in French (see Aissen, Kayne, and Pinkham 1974), Japanese (Kuno), German (Reis), Turkish and Spanish (Aissen). It is easy to view them as instantiations of a single universal rule, which is often (and somewhat misleadingly) called predicate raising.

Cross-linguistic investigations, then, have been aimed at pinning down the class of clause-unions by pinning down a schema for one particular rule.

The existence of clause-union object-raising in German complicates the picture considerably. On the one hand, it shares some features of predicate raising. The underlying structure to which the rule applies has an embedded clause:



The best guess for the derived structure (based on the data in Chapter 4) is something like 3):



The formation of a derived adjective phrase and the floating of lower clause constituents may be viewed as an effort to look like a single clause predicate adjective construction.

On the other hand, clause-union object-raising diverges from predicate raising in two crucial ways. First, it squashes a sentential subject rather than object into the matrix clause. Second, it has close affinities to an ordinary raising rule. Recall that in Turkish predicate raising, the embedded subject could turn into either the matrix object or the matrix indirect object according to whether the embedded clause had an object or not. This is typical of predicate raising rules; it means that there is no way of viewing predicate raising as an extended form of subject-to-object-raising. Clause-union object

raising in German on the other hand, really asks to be viewed as an extended form of object raising: it shares with object raising its "core" (raising the object to subject); lexical governance; and a constraint on the presence of an Equi controller. This contrast may be brought home by the fact that the bulk of object-raising sentences actually used are equally derivable by either the plain or clause-union versions of the rule. These are sentences like 4) where the embedded sentence had no floatable constituents.

4a) Die Botschaften waren schwer auszurichten.
The messages were hard to deliver.

b) Champignons sind schwer zu finden.
Mushrooms are hard to find.

Parallel examples which are derivable by either predicate raising or subject-to-object raising do not show up in languages which have both these rules because the two rules are governed by different lexical items and contrast in many other ways.

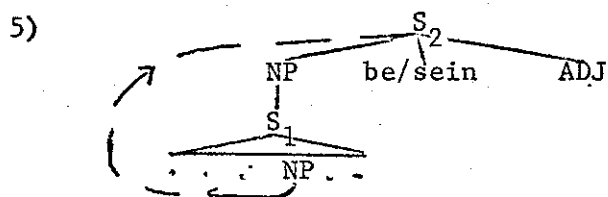
This situation raises many questions about what the class of clause-union rules will turn out to look like. Will some language relate its predicate-raising rule intimately to subject-to-object raising? Will a clause union version of subject-to-subject raising show up? We have a clause union that turns an embedded object into matrix subject; just what mappings of grammatical relations can clause-unions in general accomplish?

Section 5.2. The universal rule hypothesis.

The clause union version of object-raising in German also presents difficulties for the universal rule hypothesis. The gist of the universal rule hypothesis is that linguistic theory contains a list of rule schemata; particular languages pick out a subset of these rules

and fill in word order, lexical items, morphology. (Bach, in lectures at MIT and elsewhere.) The paradigm example of a universal rule is passive: in the bulk of languages we are familiar with, it turns the object into the subject, and marks the old subject and the verb.

Now it seems that under this hypothesis we would want to say that German object-raising and English Tough-Movement are instances of the same rule: both rules raise to subject a nonsubject in the sentential subject of a predicate adjective:



However the rules are different in almost every detail. Arlene Berman (1974a) has shown that English Tough-Movement has an essential variable:

- 6) John was hard to convince Helen to invite.

German object raising does not:

- 7a) Es war schwer, Helen zu überreden John einzuladen.
 It was hard Helen to convince John to invite.
 It was hard to convince Helen to invite John.

- b) *John war schwer Helen zu überreden einzuladen.
 John was hard Helen to convince to invite.

Tough-Movement can occur with any predicate adjective that takes a controller for Equi into a sentential subject (Berman 1974a); object-raising is governed by just a few predicate adjectives. Tough-Movement allows an overt controller for Equi in the top clause:

- 8) The pirate chest was hard for Max to carry.

(see Berman (1974a) for arguments that for Max is in the top clause)

Object-raising, as shown in Section 4.3, does not. In English, non-objects can be raised:

- 9) That nook was hard to coax our wombat out of.

In German, only objects can be raised, but non-objects can float.

*preposition
is trailing*

The problem, then, is just what we would mean by saying these two rules are instances of the same universal rule. The universal rule hypothesis is vacuous without an account of what features two rules must share to count as the same rule; and, if they are the same rule, in just what ways they can differ.

Section 5.3. The Null Protagonist Convention.

The convention stated in the introduction was:

- 10) A rule which promotes a subject or object may apply to a structure in which the rule protagonist is missing. Except for promoting the protagonist the rule has all its usual effects.

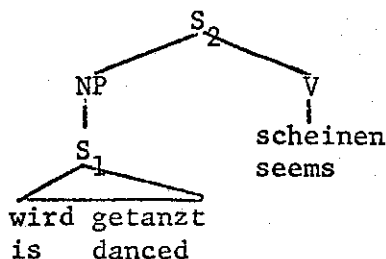
So far only rules involving advancement or raising of an object have been examined; the claim about subjects has had the status of a natural guess upon reviewing the data on objects. Fortunately there are two facts in German which give substance to this claim.

The first is a very interesting subject-to-subject raising sentence:

- 11) Es scheint getanzt zu werden.
It seems danced to be.
There seems dancing.

Note that what was subject of scheinen at the point the scheinen cycle was reached was an impersonal, and therefore subjectless, passive:

- 12)



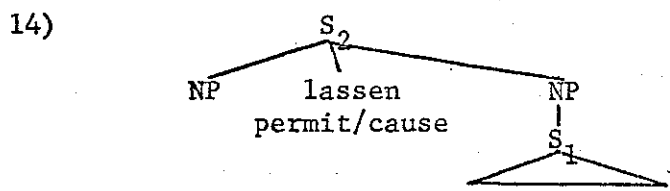
However, the es in 11) cannot be the extraposition es, for then we would have no way to explain the infinitive zu werden; the result of applying extraposition to 12) would be not 11) but 13):

- 13) Es scheint, dass getanzt wird.
It seems that danced is.
It seems that there is dancing.

The only way to account for the infinitive in 11) is to derive the sentence via subject-to-subject raising and postcyclic es-insertion. But S₁ does not have any NPs, let alone a subject. Therefore subject-to-subject raising must have applied even though there was no S₁ subject.

This example would make real trouble on any standard analysis. On a standard analysis, the es would have to be inserted on the S₁ cycle in time to undergo raising. Chapter 2 showed what the penalties for this step would be: addition of a global or extremely ad hoc rule whose sole function is to erase evidence of cyclicity and loss of the verb-second constraint motivation for es-insertion.

The second fact involves the German construction with the causative lassen. Lassen is a somewhat recalcitrant case of a predicate raising verb (see Reis 1973). In underlying structure it takes a sentential object:



In the output of the rule, the subject of S₁ can end up either as an accusative or in a von-phrase.¹

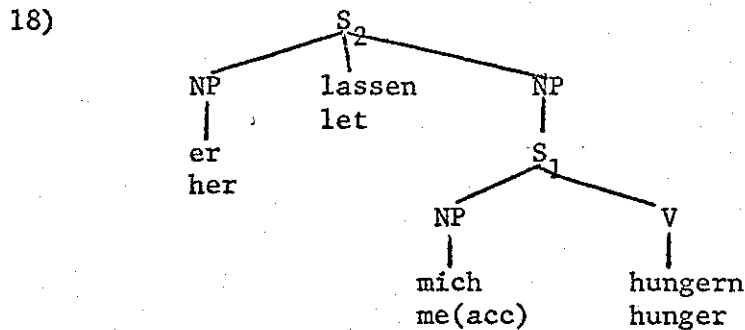
- 15) Inge liess ihn gehen.
Inge let him(acc) go.
- 16) Ich liess mir einen Hut von Inge kaufen.
I had me a hat by Inge buy.
I had Inge buy me a hat.

Whatever is governing this alternation, it seems likely that predicate-raising has to specify what it does to the downstairs subject. If this is correct (and it is not certain that it is), the downstairs subject counts as a protagonist of predicate-raising; if the rule still applies when the subject is missing, we have a fourth example of a null protagonist. An example which shows that the rule does apply in the absence of a downstairs subject can be constructed.

Embedding an impersonal passive will not do, since it is known independently that passive cannot apply under lassen² (or under predicate raising verbs in any language; see Aissen 1974b).

- 17) *Ich liess ihn getötet werden.
 I had him(acc) killed be.
 I had him killed.

So we resort to a subjectless impersonal expression, mich hungert (me(acc) is hungry). The surface form of 18) is 19); it is perfectly grammatical.



- 19) Er liess mich hungern.
 He let me(acc) go hungry.

(mich is the expected form for the downstairs object to end up in).

Again a rule which normally does something to a subject has applied without the subject there. It should be stressed again, however, that this example is presented much more tentatively than the first three.

Predicate-raising, and German predicate raising in particular, is not well enough understood to know whether the fate of the subject is

something the rule has to specify, or whether it falls out of more general principles.

At this point, I would like to return to the formulation of the Null Protagonist Convention. If some explanation can be found for the facts of Section 4.5, the convention works as stated for German. This leaves open, however, just what is to be put into universal grammar, even if the stronger claim made by positing a convention rather than parentheses proves to be correct. For example: German does not have a rule like the one in Malagasy which turns benefactives into subjects (see Keenan and Comrie); we don't yet know whether our convention has to allow for impersonal benefactive-voice constructions. Perhaps different languages will draw the line for what can be a null protagonist at different places, some accepting just subjects, some subjects and objects, and so on.

Three features of the Null Protagonist Convention would survive such adjustments in its formulation. The first is the notion that rules can apply to structures with some key component of the structural description missing. The second, which follows on the heels of the first, is that there will be tight restrictions on which components can be missing; only protagonists of multi-faceted rules can have their absence overlooked. ??

The third important feature of positing a Null Protagonist Convention rather than a batch of parentheses is the prediction that other languages will exhibit the syndrome we found in German. Given one rule which accepts a null protagonist and other rules of appropriate form, a convention predicts that those rules too will accept null protagonists. The question which remains is why some languages have the convention

and others not. Are there features of English and Russian which allow us to predict that they will not have impersonal passives? Are there features of German and Turkish which allow us to predict that they will?

CHAPTER 5

Footnotes

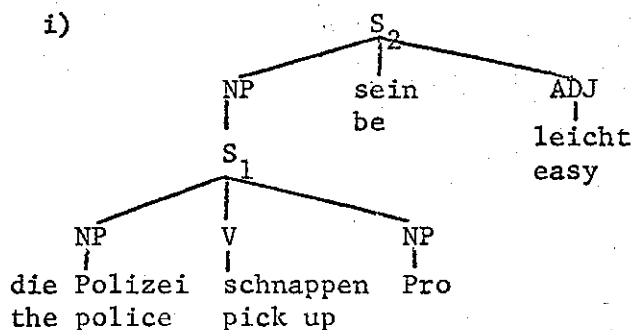
1. If the verb is transitive, the subject may show up either accusative or in a von-phrase

- i) Ich lasse meine Frau von Dr. Meinecke operieren.
 I had my wife(acc) by Dr. Meinecke operate.
 I had my wife operated on by Dr. Meinecke.
- ii) Lassen Sie den Meyer diese Arbeit machen.
 Let you Meyer this work do.
 Let Meyer do this work

(examples from Lohnes and Strothmann)

The question of what happens when to the downstairs subject seems complicated and not particularly relevant here.

2. The clause union version of object-raising has an interesting counterpart to this common quirk of predicate raising constructions. If we passivize on the S_1 cycle of i), it should then be possible to form an impersonal object-raising construction with the agent phrase in the top clause.



However, while ii) is grammatical, iii) is not.

- ii) Es ist leicht, von der Polizei geschnappt zu werden.
 It is easy by the police to be picked up.
- iii) *Von der Polizei ist leicht geschnappt zu werden.
 By the police is easy to be picked up.

APPENDIX 1

Relational Grammar

This appendix is included for the benefit of readers who are not familiar with relational grammar, a theory of the cycle which is currently being developed by Postal and Perlmutter.¹ It explains various terms which appear in this paper, and outlines the theoretical notions on which the proposal discussed in Chapter 3 rests.

In transformational grammar, it is presumed that the base component generates strings of words, and that all syntactic rules which apply to these strings to derive surface structures are formulated in terms of linear order. The English rule of Subject -- Aux Inversion, which is thought to be post-cyclic, is formulated:

$$\#Q - NP - Aux - X \Rightarrow \# Aux - NP - X$$

or, in words "In questions, interchange the positions of the leftmost NP and the auxiliary." The English passive rule, which can be shown to be cyclic, is formulated similarly something like:

$$\begin{array}{l} NP_1 - V - NP_2 - \text{by Passive} - 4 \quad \Rightarrow \\ NP_2 - \text{be+en} - V - \text{by } NP_1 - 4 \end{array}$$

In Turkish, a verb-final language, the passive rule will of course look much different.

Grammatical relations have a subsidiary place in transformational grammar. Chomsky defines them derivatively, in terms of tree structure (Chomsky 1965, pp. 70-71). Although the definitions he proposes might be applied during the cycle as well as to deep structures, the explicit claim is that syntactic rules cannot refer to grammatical relations (Chomsky 1973).

In relational grammar, on the other hand, word order is derived

from grammatical relations. The base generates unordered sets (V, NP, NP, NP ...) in which each NP is marked for its grammatical relation to the verb: subject-of V, object-of V, and so on. Cyclic rules may make reference to grammatical relations and to dominance information (including the notion of "command" as defined by Langacker but not to linear order. The passive rule, for example, is "Turn the object into the subject." Except for morphological side effects, this rule is the same for all languages that have a passive; the chief argument for relational grammar is that it allows one to capture similarities among rules in languages with different basic word orders. It is only at the end of the cycle that language-particular rules mapping grammatical relations onto linear order apply.

The grammatical relations Subject, Direct Object, and Indirect Object are called "terms." They are abbreviated as I, II, and III, respectively. All other NPs (including most prepositional phrases) are "nonterms." There is a hierarchy of grammatical relations within each clause:

Subject
 Direct Object
 Indirect Object
 nonterms

This hierarchy is relevant to a large number of linguistic processes. (See, for example, Keenan and Comrie). The notion of "rank" uses both this hierarchy and dominance: an NP A is said to outrank B if A unilaterally commands B or if A is higher on the hierarchy than B.

Cyclic rules which increase the rank of some NP are called "promotions"; the class of promotions comprises the raising rules and

also the "advancements" -- the rules such as passive which increase the rank of an NP without moving it out of its clause. All promotions create terms; the other group of term-creating rules is the replacements, which insert a dummy for a subject or object. The theory claims that all term-creating rules are cyclic. Together with a minor premise that all dummy-insertion rules are term-creating, this claim leads to the Postal-Perlmutter conclusion that es-insertion must be cyclic.

An NP which undergoes a promotion or is inserted by a replacement is a "protagonist." The NP displaced by the protagonist becomes a nonterm, and is referred to as a "chômeur." Thus the former subject in a passive, the extraposed sentential subject, and the clause remnant from Tough-Movement are all non-terms. As non-terms, they share certain syntactic properties: for instance, they cannot be antecedents for reflexives, cannot be hosts for ascensions, cannot trigger Equi NP deletion.

The bulk of what was just sketched figures only in Chapter 3. Two notions are important throughout the thesis. One is a generalized notion of rule protagonist; the NP which undergoes a rule is to be distinguished from other NPs which happen to be present or which comprise part of the conditions for the rule to apply. The proposal made is that rule protagonists can be null. The other is the notion of the subject of a sentence as an NP with a distinguished syntactic status signaled by its syntactic behavior. Signs of subjecthood include ability to govern verb agreement and undergo Equi. (See Keenan 1974 for discussion of subject properties.) The formulation of the convention being proposed also uses the notion of an advancement. For the purposes here, advancements can be taken to be single clause rules which create subjects.

Under the original definition, advancements included as well rules which create objects and indirect objects; such rules do not play a part in the argumentation here.

APPENDIX 1

Footnotes

1. The appendix is based on my notes from David Perlmutter's course on universal grammar offered spring 1974 (MIT 23.756 Introduction to Linguistics IV) and on subsequent personal communication from him. I hope I have in no way misrepresented the theory. More detailed information on relational grammar can be found in Johnson's thesis and 1974 paper, and in Perlmutter and Postal's forthcoming book.

APPENDIX 2

Agent Phrases in Personal and Impersonal Passives

The analysis advanced in Chapter 1 implies that, except for lacking subjects, impersonal passives should be in every respect like personal passives. It turns out, however, that it is more difficult to get agent phrases in impersonal than in personal passives. In order to maintain the thesis that impersonal and personal passives are the same construction, it will be necessary to find an explanation for this discrepancy. This appendix is devoted to some facts which seem to point to a uniform account of agent phrases in personal and impersonal passives.

The explanation I advance tentatively depends on the idea that a speaker uses the passive only if the underlying subject of his sentence is not the topic.¹ The conjecture is that a passive sentence will be marginal or worse if the deep subject is inappropriately labelled as a non-topic. In the case where there is no other NP in the sentence, this happens when the subject was a possible topic; if there is another NP, this happens when that NP was less suitable as topic than the demoted subject. For this to be an explanation we need some notion of what makes an NP a suitable topic. My hypothesis is that at least two factors play a part; the NPs degree of definiteness and its place on the hierarchy of grammatical relations.

Let's look more closely at how this is supposed to work. Among personal passives, we expect that a sentence with indefinite subject and definite agent will be marginal -- the underlying subject was more suitable as a topic than the NP which supplanted it. This is in fact a well known phenomenon. In English we find:

- 1a) ?A dish was sampled by our Cordon Bleu chef.
- b) The dish was sampled by our Cordon Bleu chef.

Similar contrasts are found in German:

- 2a) ?Eine Speise wurde von unserem Küchenchef gekostet.
A dish was by our chef tasted.
- b) Die Speise wurde von unserem Küchenchef gekostet.
The dish was by our chef tasted.
- 3a) ?Zweifellos weißt du, dass Liederkrantz vom Premier
Undoubtedly know you that Liederkrantz by the Prime Minister
Undoubtedly you know that Liederkrantz is eaten by the Prime
gegessen wird.
eaten is.
Minister.
- b) Zweifellos weißt du, dass der Käse vom
Undoubtedly you know that the cheese by the
Premier gegessen wurde.
Prime Minister was eaten.

Impersonal passives have no subject or direct object. Therefore, the speaker singles out as the topic of the sentence a III or nonterm. It is this NP whose definiteness is relevant to the acceptability of the finished passive. And in fact one finds:

- 4a) Ihm soll von euch allen dafür gedankt werden.
Him(dat) should by you all for that be thanked.
- b) Jemandem soll dafür gedankt werden.
Someone(dat) should for that be thanked.
- c) ?Jemandem soll von euch allen dafür gedankt werden.
Someone(dat) should by you all for that be thanked.
- 5a) Meiner Schwester wird oft von ihm geholfen.
My sister(dat) is often by him helped.
- b) *Einem hübschen Mädchen wird immer von ihm geholfen.
A pretty girl(dat) is always by him helped.

But a second factor also comes into play; the conjecture is that IIIs and especially nonterms serve less well as topics than Is. In other words, a passive will be used only with a particularly topical III or nonterm, or a particularly untopical underlying subject. Now, nothing

could be less worthy of being a topic than Pro²: hence agentless impersonal passives (where Pro is morphologically zero because it is no longer a subject) should occur freely. This seems to be correct; as noted in Chapter 1 it is even possible to passivize intransitive verbs in sentences containing no NP but the Pro subject. An indefinite NP subject is preferable as topic to a nonterm:

- 6) ?*In diesem Bett wurde von einem bekannten General geschlafen.
In this bed was by a famous general slept.
- 7) ?*Darüber wird morgen von einem bekannten
About that will be tomorrow by a famous
Professor gesprochen.
professor spoken.

However the presence of a III to serve as topic does seem to warrant the demotion of an indefinite subject:

- 8) Es scheint dass mir von jemandem misstraut wird.
It seems that me(dat) by someone mistrusted is.
It seems that I am mistrusted by someone.

A definite agent is generally unacceptable in a sentence totally lacking in terms:

- 9) *In diesem Bett wurde von Napoleon geschlafen.
In this bed was by Napoleon slept.
- 10) *Über diesen Fehler wurde sogar von Wiebke gelacht.
About that mistake was even by Wiebke laughed.

If a definite III is present, the sentence is felt to be "unnatural" but grammatical.

- 11) Meiner Schwester wird oft von ihm geholfen.
My sister(dat) is often by him helped.
- 12) Ihm wurde von jedem im Raum gedankt.
Him(dat) was by each in the room thanked.
- 13) Ihm wurde sogar von seinem besten Freund misstraut.
Him(dat) was even by his best friend mistrusted.

This is the overall picture. I did find, however, some sentences

in which an agent phrase was unexpectedly felicitous in an impersonal passive involving an intransitive verb. These were sentences which were really "about" some nonterm. For instance (14) is, as we would expect, bad:

- 14) *Hier wird von Sportlern immer schneller gelaufen.
Here is by athletes faster and faster run.

15), however, is better since it is about the wonders of the new training methods; and 16), which is most emphatically about our new training methods, is perfectly fine:

- 15) ?Durch die neuen Trainingsmethoden wird von Sportlern
Through the new training methods is by athletes
hier immer schneller gelaufen.
here faster and faster run.

- 16) Dank unserer neuen Trainingsmethoden wird von Sportlern
Thanks to our new training methods is by athletes
hier immer schneller gelaufen.
here faster and faster run.

Similarly 17) is acceptable because its topic is "the next two years."

- 17) Die nächsten zwei Jahre wird von den Mazedoniern noch
The next two years will by the Macedonians still
For the next two years, the Macedonians will still be
gekämpft werden.
fought be.
fighting.

If the explanation I have sketched is a good one, it should extend to Turkish. In Turkish, we find that agent phrases are unacceptable in ordinary language:

- 18) *Polis şefi tarafından istifa ed-il-di.
Police chief by resign-pass-past.
By the police chief was resigned.
- 19) *Bu yol-dan herkes tarafından Ankara-ya gid-il-ir.
This road-ablat everyone by Ankara-dat go-pass-aorist.
Everyone goes to Ankara by this road.

(Aissen 1974a, p. 265)

In short, all impersonal passives in Turkish follow the general pattern of German impersonal passives involving intransitive verbs. We would be able to predict this scarcity of agent phrases in Turkish if we knew that all so-called oblique objects were really nonterms. Then the cases in Turkish which, on the surface, seem similar to the cases in German involving verbs which can take just an indirect object would really be cases of intransitive verbs. This is, of course, in principle a testable hypothesis. If it is true we should expect to find tests for termhood which label as nonterms the oblique NPs subcategorized by verbs like başla-(to begin) and, kork- (to fear). We should also expect to find in Turkish sets of sentences like 15) and 16), where forcing focus onto a nonterm in an impersonal passive increases the acceptability of an agent phrase.

I have just sketched an account of agent phrases which seems to explain their distribution in both personal and impersonal passives in German; there is some hope that the same account will extend to Turkish. If my explanation proves to be correct, it will constitute further evidence that personal and impersonal passives are indeed the same construction; the fact that it is more difficult to get agent phrases in impersonal passives will not be counterevidence to this claim, but rather an expected consequence of our theory about when the subject of either a transitive or intransitive verb can be demoted by passive.

APPENDIX 2

Footnotes

1. By "topic", I mean roughly "what the sentence is about." This is of course a rather hazy notion; nonetheless, after asking some people I conclude it is something most speakers have intuitions about. A topicalized NP in English is invariably identified as what the sentence is about; (i) is a sentence about beans.

i) Beans, Max likes.

The claim is that a passive sentence is never about the NP in its agent phrase; (ii) is about our prize donkey, not the man next door.

ii) Our prize donkey was shot by the man next door.

The syntactic correlate of this judgement is the fact that NPs in agent phrases cannot be topicalized.

iii) *By the man next door, our prize donkey was shot.

iv) *The man next door, our prize donkey was shot by.

A reader familiar with German may object that agent phrases can appear in initial position in German:

v) Von niemandem wurde getanzt.

This fact does not undercut the claim that German agents are not topics^s; the fronting rule in German does not share the discourse conditions of English topicalization, but is more comparable to English adverb fronting, which usually fronts nontopics.

2. Try topicalizing one or you in English: * $\left. \begin{array}{l} \text{One} \\ \text{You} \end{array} \right\}$ John really drives up the wall.

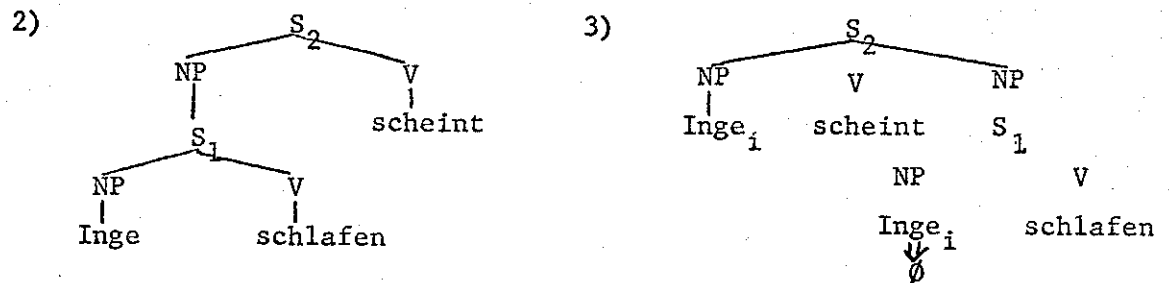
APPENDIX 3

Subject-to-Subject Raising in German

In Section 1.3 the rule of subject-to-subject raising was invoked to supply an argument that German impersonal passives lack derived subjects. The purpose of this appendix is to establish that subject-to-subject raising is a rule in German responsible for sentences like:

- 1) Inge scheint zu schlafen.
 Inge seems to sleep.
 Inge seems to be sleeping.

The first four arguments are arguments that the underlying structure of constructions like (i) contains an embedded clause whose subject is either raised (as in 2)) or deleted by Equi (as in 3)).



The next arguments are for the raising analysis over the Equi analysis.

There are three reasons to prefer either 2) or 3) to generating scheinen sentences via phrase structure rules. First, there are selectional restrictions between the subject of scheinen and the infinitive verb:

- 4a) Sie scheint schwanger zu sein.
 She seems pregnant to be.
 She seems to be pregnant.
- b) ?Unseres Sofa scheint schwanger zu sein.
 Our sofa seems to be pregnant.

Structure 2) or structure 3) predicts this fact: a phrase structure analysis, on the other hand, would force the inclusion of an optional scheinen in the statement of all selectional restrictions on subjects.

Second, we find that idioms can appear in scheinen constructions:

- 5a) Ihm ist eine Laus über die Leber gelaufen.
Him(dat) is a louse over the liver run.
A louse has run across his liver.
Something has rubbed him the wrong way.
- b) Eine Laus scheint ihm über die Leber gelaufen zu sein.
A louse seems him over the liver run to be.
Something seems to have rubbed him the wrong way.
- 6a) Bei uns ist Schmalhans Küchenmeister.
At our place is Thin Hans cook-in-chief.
We are on short commons.
- b) Schmalhans scheint bei uns Küchenmeister zu sein.
Thin Hans seems at our place cook-in-chief to be.
We seem to be on short commons.
- 7a) Die Schornsteine rauchen wieder.
The chimneys are smoking again.
The worst is over.
- b) Die Schornsteine scheinen wieder zu rauchen.
The chimneys seem again to be smoking.
The worst seems to be over.
- 8a) Mir rostet das Schwert in der Scheide.
Me(dat) is rusting the sword in the sheath.
I am losing my edge.
- b) Das Schwert scheint mir in der Scheide zu rosten.
The sword seems me in the sheath to be rusting.
I seem to be losing my edge.

A phrase structure analysis would force us to enter all these idioms in the lexicon with an optional term scheinen, -- a clear loss of generality.

Third, one finds scheinen constructions which involve passives:

- 9) Inge scheint von der Polizei gesucht zu werden.
Inge seems by the police sought to be.
Inge seems to be wanted by the police.

If we propose to retain the passive rule, but still to insert scheinen by the PS rules, we will have to derive 9) from 10).

- 10) Die Polizei scheint Inge zu suchen.
 The police seems Inge to seek.
 The police seem to want Inge.

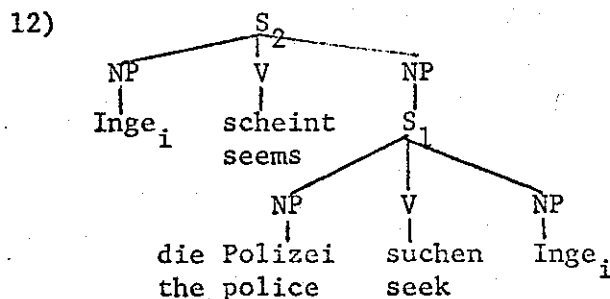
If scheinen is given the status of an auxiliary, the passive rule can presumably be coaxed into taking 10) as input. But then the output is astonishing. In normal passives, werden is introduced as auxiliary, and bears the tense and number markers. In 9), however, werden is introduced as an infinitive at the end and scheinen stays put. There is no explanation for this. Either 2) or 3) does explain 9), however, passive applies on the embedded cycle and then werden is infinitivized when raising on Equi occurs on the next cycle.

There are four arguments for 2) over 3). The first is that scheinen also appears in an extraposition structure:

- 11) Es scheint dass Inge schläft.
 It seems that Inge is sleeping.

This is exactly what we would expect from 2) if subject-to-subject raising is optional. On the other hand, if 3) is the source of 1), scheinen must be doubly subcategorized: once for 3) and once for a sentential subject structure to underlie 11). Next to the simplicity of analysis 2), this counts as a failure to generalize.

Second, under analysis 3), Equi with scheinen would have to be super-obligatory. Example 9) whose deep structure under analysis 3) is diagrammed in 12) shows that the subject of scheinen need not be the same as the underlying subject of the lower verb.



However sentence 13), which should result if passive fails to apply on the S_1 cycle, leaving a structure which does not meet the structural description for Equi on the S_2 cycle, is ungrammatical.

- 13) *Inge scheint dass die Polizei sie suche.
Inge seems that the police her(acc) seek.

The only way to avoid generating 13) under analysis 3) is to make Equi super-obligatory: this is a gratuitous complication of the grammar when an alternative which does not require such a step exists.

A third argument is based on the idioms given in 5)-8). The subjects of these idioms are nonreferential NPs. However, an important condition on Equi is co-reference. If Equi applied in the derivation of scheinen sentences, the subjects of sentences 5)-8) would have a referential and therefore non-idiomatic reading. This can be demonstrated by trying to put the idioms in 5)-8) into construction with other Equi verbs: we find that an idiomatic reading is impossible.

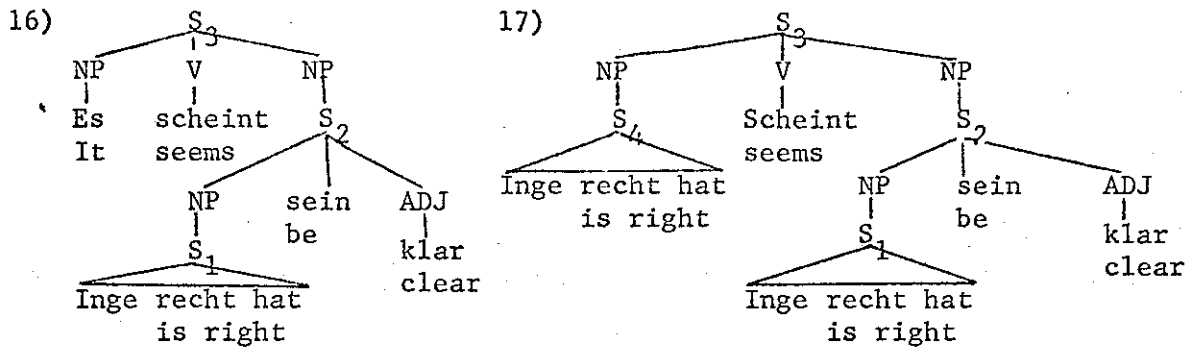
- 14a) *Schmalhans behauptete bei uns Küchenmeister zu sein.
Thin Hans claimed at our place cook-in-chief to be.
Thin Hans claimed to be cook-in-chief at our place.
- b) *Eine Laus versuchte ihm Über die Leber zu laufen.
A louse tried him(dat) over the liver to run.
A louse tried to run across his liver.

Analysis 3), on the other hand, explains the contrast of 5)-8) to 14); the coreference requirement on Equi blocks the derivation of 14), whereas reference plays no part in the derivation of 5)-8), which therefore goes through.

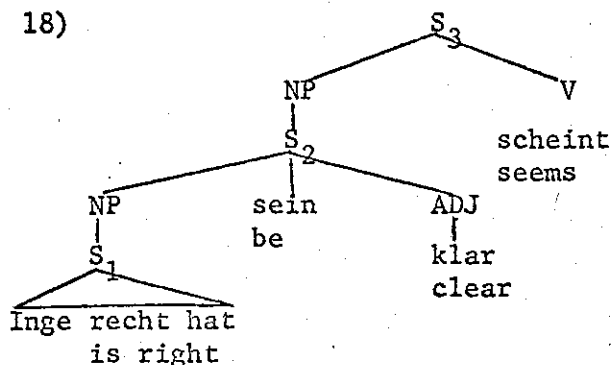
The fourth argument against the Equi analysis is similar in structure to the third. It is based on the grammaticality of sentences like 15).

- 15) Es scheint klar zu sein, dass Inge recht hat.
It seems clear to be that Inge is right.
It seems to be clear that Inge is right.

There are two possible underlying structures for 15) under the Equi analysis:



Starting from 16), we would derive 15) by extraposing on the S_2 cycle and then deleting the lower es by Equi on account of the S_3 es. There are two problems with this: by putting the S_3 extraposition es into underlying structure, we are losing what generalizations the extraposition rule captured, and we are deleting under nonreference (and therefore noncoreference). The derivation from 17), which involves Equi between S_4 and S_1 followed by extraposition of S_4 is little better; since sentences are nonreferential, we are again deleting under noncoreference. Thus hypothesis 3) provides no derivation for 15). Hypothesis 2), on the other hand, provides a perfectly straightforward derivation for 15): In 18) we extrapose on the S_2 cycle and then raise es on the S_3 cycle, or else raise S_1 on the S_3 cycle and then extrapose it.



Our conclusion is that scheinen is a subject-to-subject raising verb rather than a verb which takes subject-controlled Equi or which subcategorizes an infinitive in underlying structure.

APPENDIX 4

GHOST-raising

This appendix contains some observations on constructions which seem to be raising constructions, but which lack an upstairs predicate adjective. In German, such structures look like object-raising structures:

- 1a) Die Karotten sind zu kochen.
The carrots are to cook.
The carrots are to be cooked.
- b) Champignons sind in unserem Wald nicht mehr zu finden.
Mushrooms are in our woods no longer to find.
Mushrooms are no longer to be found in our woods.

The English counterpart of the German construction looks like a subject-to-subject raising construction:

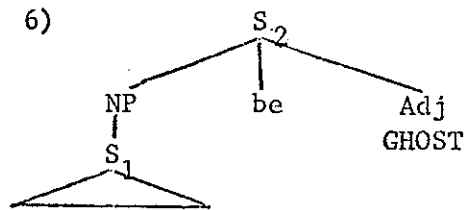
- 2a) Basil Rathbone was to appear as Hamlet that Thursday.
- b) The contraband is to be smuggled out of the country immediately.

What I will propose is that these are in fact raising constructions: either German and English have a morphologically null raising adjective which means something like "possible", "supposed", "certain", or else they have a noncopulative sein/be which embodies the meaning in question and which allows raising. Since these two formulations seem to be equivalent, they will be collapsed into a proposal that sein/be GHOST takes raising, where GHOST represents an incorporeal adjective whose existence is in doubt.

In English, standard sorts of examples are available to show that the subject in GHOST constructions is derived:

- 3) There are to be five honorary degrees awarded tomorrow.
- 4) Advantage is not to be taken of the ingenue Max brought home yesterday.
- 5) Tabs are to be kept on Ms. Devlin, too.

The straight forward way to account for 3)-5) is to derive them from a structure of form 6) by passive on the S_1 cycle, plus there-insertion for 3), followed by subject-to-subject raising on the S_2 cycle.



One might, however, contemplate deriving these sentences from a single-story structure. There are three arguments for a two-story source over a single-story source. The first is that the finished sentence can have two independent tense markers:

- 7a) The carrots were to be cooked.
- b) The carrots are to be cooked.
- c) The carrots were to have been cooked.
- d) The carrots are to have been cooked by two o'clock.

I see no way of accounting for 7) without positing a two-story deep structure.

The second argument is based on the fact that speakers who do not balk at split infinitives have the option of two positions for floated quantifiers in these constructions:

- 8a) They were all to arrive yesterday.
- b) They were to all arrive yesterday.

Ordinarily, when a quantifier is floated off the subject, it settles in a position after a copula or auxiliary, if there is one:

- 9a) They were all as cute as a bug.
- b) We have all kept tabs on somebody or another.

If there is no copula or auxiliary, the quantifier just settles before the verb:

10a) They all arrived yesterday.

b) They all like cheese.

Hence 8a) is the expected result of floating a quantifier off of "they" on the top cycle. 8b) is what we would expect from floating a quantifier on a cycle before the verb is infinitivized. Compare:

11) They seem to all like cheese.

If two cycles are available, it is easy to generate both 8a) and 8b). However, if we have only one cycle, as would be the case if sentences like 2) and 8) had single-story underlying structures, there would be no way to get 8b) without ad hocly complicating the rule of quantifier float: to is not part of a constituent with were, nor is it an auxiliary in its own right.

*this arg. commits you to the view that aux's are main obs.
They may have been being burnt. * (all)*

A third, and somewhat weaker argument, is based on the presence of an infinitive in GHOST-raising sentences. In every other case, infinitivization marks a subjectless clause. So positing a two-story underlying structure and applying subject-to-subject raising explains the presence of the infinitive; positing a single-story underlying structure does not.

German also has GHOST-raising sentences whose subject must be a derived subject:

12) Die Kastanien waren noch aus dem Feuer zu holen.
The chestnuts were yet out of the fire to pull.
The chestnuts were yet to be pulled out of the fire.

Unfortunately two of the arguments for a two-story source for GHOST raising constructions are not available in German. The rules of surface word order obscure any difference that two opportunities to float quantifiers could produce. Also the informant I asked to translate 7c) and 7d) into German preferred a paraphrase with a modal so strongly that

I am not sure whether a construction involving sein and a past infinitive is grammatical or not; if it turns out that it is, the argument based on tense-markers will go through. The argument based on the presence of an infinitive is of course available; applying object-raising to a two-story structure to derive sentences 1) explains the infinitive as no derivation from a single story structure could.

If GHOST takes object-raising in German, it also takes clause-union object-raising. In 13a) nicht mehr must originate with the top clause, since the lower clause contains a nondurative verb which cannot be modified by nicht mehr.

13a) Die Reise war mit Zittern nicht mehr zu beginnen,
The journey was with trepidation no longer to begin

aber zu beenden.
but to end.

b) *Wir begannen die Reise nicht mehr mit Zittern.
We began the journey no longer with trepidation.

Mit Zittern is to the left of nicht mehr, hence we know that clause-union object-raising has applied. We predict that we will find impersonal GHOST-raising constructions in German: this prediction is correct.

14a) Daran ist nicht zu denken.
About that is not to think.
That is not something to think about.

b) Ihm ist nicht mehr zu glauben.
Him(dat) is no longer to believe.
He is no longer to be believed.

c) Ihr ist sicherlich zu trauen.
Her(dat) is certainly to trust.
She is certainly to be trusted.

What is most interesting about GHOST-raising is the partial parallelism between the English and German constructions. In both, the upstairs predicate has the same essentially modal meaning. In German the downstairs object is raised to be subject of this predicate; in

English, too, the downstairs object is typically manoeuvred into upstairs subject position by passivizing on the lower cycle and then subject-to-subject raising. Thus in the most typical cases (the personal construction in German and the GHOST-raised passive in English) different rules are being used to the same end. English and German diverge in the less typical cases: In English an underlying downstairs subject can be made subject of be GHOST and NPs which are neither subjects nor objects cannot. In German a non-Pro subject is impossible in the embedded clause of GHOST constructions as in all object-raising constructions. Other non-objects, however, can be made topic if not subject of the main clause through the formation of an impersonal object-raising construction.

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