German Impersonal Passives: A Non-Structure-Preserving Lexical Rule
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   The present paper defends a lexical treatment of impersonal pas-
sives in German; the impersonal passive is analyzed as a rule
operating on verbs, i.e. single lexical items. A formulation in
categorial grammar is provided. The fact that the rule is lexical
is predicted by the Lexicalist framework, which predicts that all
relation-changing rules are lexical. It is noted, however, that
the expressions derived by this rule appear in subjectless sentences
and are therefore distinct in categorial structure from any unde-
rived expressions. The rule thus fails to preserve categorial struc-
ture. It is then a non-structure-preserving categorial rule.
   It is suggested in the conclusion that the existence of a limited
class of non-structure-preserving rules of the same sort is to be
expected in categorial grammar, but not e.g. in Lexicalist theory,
and that further non-structure-preserving rules should be found
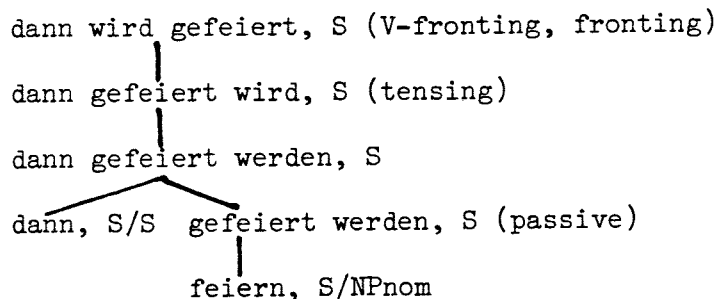even among true word formation rules.[1]

The Rule

   Impersonal Passives are generated by the following rule:

   For Q a verb which does not take an accusative complement, we may
assume without loss of generality that Q is of categorial structure
S/NPnom/X, where X may be null, but may not include an instance of
NPacc. Then PASS(Q) is past participle + werden and is of
category S/X.
   The meaning of PASS(Q) is specified depending on Q's category:

   (i)   if Q is of VP, $\underline{PASS(Q)}' = \exists x\ \underline{Q}'(x)$
   (ii) if Q is of VP/NPobl, $\underline{PASS(Q)}' = \lambda x\ \exists y\ \underline{Q}'(x)(y)$
   (iii) if Q is of VP/PP, $\underline{PASS(Q)}' = \lambda P\ \exists x\ \underline{Q}'(P)(x)$, where
                          'P' is a variable over PP meanings.

There is also a conventional implicature that the verb be agentive.[2]
A sample derivation is provided:

              dann wird gefeiert, S (V-fronting, fronting)

              dann gefeiert wird, S (tensing)

              dann gefeiert werden, S

         dann, S/S   gefeiert werden, S (passive)

                feiern, S/NPnom

The impersonal passive rule justifies the very bottom step in the derivation. This paper is concerned only with two aspects of that rule: first, that the passive rule applies to verbs, i.e. single lexical items and second, that the rule admits verbs which do not require subjects. Let us proceed to an examination of the first.

The Lexical Nature of the Rule

We shall first examine some impersonal passives in German.

(1) Dann wird gefeiert
    then AUX celebrate(part)
    'People will celebrate then'
(2) Es wird ihm geholfen
        AUX him(d) help(part)
    'He is being helped'
(3) Es wird an unsre Pflicht erinnert
        AUX of our duty   remind(part)
    'Our duty is called to mind'
(4)*Ihn wird geschlagen
    him(a) AUX strike(part)

Impersonal passives in German occur with intransitive verbs as in (1), with verbs taking oblique objects (2), and with those taking PP complements (3), but never with verbs with accusative objects (4). One might describe this construction as produced by a rule which operates on verb phrases lacking accusative objects. This would suggest the derivations (2') and (3'):

(2') Passive(ihm helfen)
(3') Passive((an unsre Pflicht) erinnern)

Passive would then be a rule which operates on phrases. Since this would make reference to an improper category, it would be a very inelegant description in categorial grammar. Alternatively, one might describe the construction as produced by a rule which operates on verbs, i.e. single lexical items. This treatment would imply derivations like those in (2'') and (3''):

(2'') ihm + Passive(helfen)
(3'') an unsre Pflicht + Passive(erinnern)

Let us note that this is clearly a rule which manipulates grammatical relations. In particular, notional subjects are unexpressed in (1) - (3) and are always unexpressed or (rarely) relegated to agentive prepositional phrases. According to the Lexicalist framework, any such rule is lexical. (Cf. Bresnan ms., p.8) The Lexicalist framework predicts then as well that the derivations in (2'') and (3'') are correct.3)
    Three details about the syntax of this construction indicate that

the rule does indeed operate on single lexical items.

First, there is evidence that participle + <u>werden</u> may form a constituent. This is indicated by the fact that these phrases may be preposed:

> (5) Geholfen werden muss all denjenigen, die...
> help(part) AUX must all those   who
> 'All those must be helped who...'
> (6) Erinnert werden dürfte auch an die Möglichkeit,...
> remind(part) AUX might also of the possibility
> 'One might also remind people of the possibility...'

(5) and (6) are stylistically marked and could be unacceptable if e.g. the element which follows the tensed verb were not appropriately novel or emphatic, or if the passive verb could not be emphasized. If the passive verb can be emphasized, then preposing is also acceptable, as (7) shows.

> (7) <u>Geholfen werden</u> muss ihm, und nicht geschmeichelt werden
> help(part) AUX must him(d) and not flatter(part) AUX
> 'He needs to be <u>helped</u>, and not flattered'

The acceptability of (5), (6) and (7) indicates that <u>geholfen werden</u> and <u>erinnert werden</u> are constituents. The fact that participle + <u>werden</u> forms a constituent is guaranteed by the rule formulated above and is a natural consequence of the lexical formulation of the rule. The existence of this constituent is unexpected in a phrasal (or transformational) treatment and is prohibited in phrasal (or transformational) treatments where rules may not build complex structure.

A second argument for a lexical formulation of the rule is based on the presence of the pronoun <u>sich</u>, which is usually described as a "reflexive" pronoun, in impersonal passives in some varieties of German, e.g. (8):[4]

> (8) Da   wurde sich geschlagen
> there AUX   self strike(part)
> 'People fought there'

The <u>sich</u> in (8) is an expected accusative object (<u>ich sclug mich mit ihm</u>, *<u>ich schlug mir mit ihm</u>.) A lexical treatment of impersonal passives may simply regard the reflexive verb <u>sich schlagen</u> as a lexical derivative, i.e. an intransitive verb. The rule deriving impersonal passives may operate as before.

The phrasal treatment may either accept this lexical treatment of <u>sich schlagen</u>, etc., in which case there could be little principled objection to a lexical treatment of impersonal passives, or the attempt might be made to analyze <u>sich schlagen</u> as the normal combination of accusative object plus verb. This is unlikely to lead to a satisfactory analysis, however. Apart from the examples involving <u>sich</u>, there are no impersonal passives formed of such

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phrases.[5] Nor is every example with <u>sich</u> acceptable, e.g. (9) is
not:

      (9) *Es wurde sich selbst gewaschen
           AUX   self self   wash(part)

Therefore, a thorough-going phrasal treatment would require some, I
believe, considerable complication in the statement of the conditions
of application of the rule.

My proposal for handling these instances of <u>sich</u> in impersonal
passives requires a division of reflexives into those which are
lexically attached and those which are more properly viewed as
"syntactic reflexives." The need for some such division has rou-
tinely been accepted by researchers in German grammar.[6]

This second argument can be strengthened somewhat if one attends
to the division of reflexives carefully. Syntactic reflexive
pronouns are all genuinely reflexive in meaning, while lexical
reflexive may mark reflexive meaning, as in <u>sich waschen</u>, 'to wash
oneself'; medio-passive meaning as in <u>sich ärgern</u>, 'to get annoyed';
reciprocal meaning as in <u>sich anschauen</u>,'to look at each other'; and
detransitive meaning as in <u>sich ausdrücken</u>, 'to express oneself.'
There are clear examples of each sort of lexical reflexive in
impersonal passive sentences, for example (10):[7]

      (10) nun wird sich wo   anders geärgert (Wackernagel, 1926,147)
           now AUX self where else   annoy(part)
           'Now people can get annoyed someplace else'

On the other hand, clear examples of syntactic reflexives are never
found in impersonal passives. For example, it is clear that the
optional modifier <u>über sich</u> in (11) does not form a lexical unit
with the verb; and (12) shows that the phrase cannot be used in an
impersonal passive.

      (11) Er redete von einer Geschichte über sich
           he talked about a   story   about himself
      (12) Es wurde von einer Geschichte (*über sich) geredet
             AUX   about a   Story   about self talk(part)
           'People talked about a story'

There are also sentences in which the reflexive pronouns may be
understood ambiguously, either as syntactic or as lexical. Cf.
(13). Corresponding impersonal passives are often restricted to
one of the meanings represented ambiguously in the active, and
this we would predict to be the lexical meaning. Cf. (14).

      (13) Sie haben sich angeschaut
           They AUX self look at (part)
           'They looked at themselves' (syntactic)
           'They looked at each other' (lexical)

(14) Es wurde sich angeschaut
        AUX   self look at (part)
     'People looked at each other'
     not 'People looked at themselves'

A third argument for viewing the impersonal passive as a lexical
construction is based on the emphatic reflexive sich selbst. This
is generally taken to be a syntactic reflexive, which would mean that
it should be barred from the impersonal passive construction. In
fact, it may occur, as it does e.g. in (15), where the appropriate
context for emphasis is present.

(15) Es wurde sich meistens nur selbst gelobt, und nicht auf
        AUX   self mostly   only self praise(part) and not to
                                        andere geachtet
                                        others attend(part)
        'People mostly praised themselves and paid no attention
                to others'

This would appear to undermine the treatment proposed thus far.
But at least one circumstance indicates that sich selbst does not
have the status of an object in (15), but rather is part of a
complex verb. Preposable objects in German must be constituents,
but they must also be 'sentences elements' in the sense of Bach,
1962. Thus the pattern in (16):

(16) a. Er lief in dem Haus herum
        he ran in the house around
        'He ran around in the house'
     b. In dem Haus lief er herum
     c.✗Dem Haus lief er in herum

The determiner plus noun clearly forms a constituent, but does not
function as a 'sentence element' in (16a) or (b). Sich selbst shows
the same pattern of distribution. (17) shows that sich selbst may
be preposed sometimes, but it cannot be preposed in impersonal
passive sentences, as (18) demonstrates:

(17) Sich selbst hat er damit helfen wollen
     self self   AUX he thereby help want
     'He wanted to help himself that way'
(18)✗Sich selbst wurde meistens geholfen und keinen anderen
     self self   AUX   mostly   help(part) and no   others

     Es wurde sich meistens nur selbst geholfen und keinen a.
        AUX   self mostly   only self help(part) and no others
     'People mostly helped themselves and no others'

This pattern indicates that sich selbst does not function as a
sentence element in (15) or (18). This is predicted by the
assumption that sich selbst may be part of the lexical verb,[8]

and that it must be wherever it appears in an impersonal passive.
(17) clearly indicates that not all instances of <u>sich selbst</u>
are lexically attached. This must be a syntactic reflexive.

There are thus several indications that the impersonal passive is
correctly formaulated as a lexical rule, i.e. one which applies to
individual lexical items rather than to phrases. The Lexicalist
theory also predicts that the rule be structure-preserving, i.e.
that it only introduce derived structures which exist underived
as well. The obligatory subjectlessness of impersonal passives,
which has no parallel in underived structures, indicates otherwise.
We turn then to this aspect of the proposed treatment.

The Subjectlessness of Impersonal Passives[9])

There is no plausible candidate for subject in German impersonal
passives. In particular, the <u>es</u> which appears in many impersonal
passives does not have the distribution of a subject, but rather
the same distribution as the stylistic <u>es</u> exemplified in (19):

> (19) Es kam ein Gewitter empor
>   came a storm   up
>   'There arose a storm'

The <u>es</u> in question may appear in matrix initial position only (20a).
It may not appear post-verbally (b), in embedded clauses (c), in
questions (d), or even in sentences with emphasized elements (e).[11])

> (20) a. Es wurde geredet
>   b.*Dann wurde es geredet
>   Dann wurde geredet
>   c.*Ich weiss nicht, ob es geredet wurde
>   Ich weiss nicht, ob geredet wurde
>   d.*Wurde es gefeiert?
>   Wurde gefeiert?
>   e.*Gefeiert wurde es!
>   Gefeiert wurde!

The above pattern holds for the <u>es</u> in all impersonal passives.and
for the stylistic <u>es</u> exemplified in (19). That the latter is not
a subject is shown by the fact that subjects, marked by nominative
case and number agreement. Cf. (21) and (22) respectively.

> (21) Es kam ein Ritter aus dem fernen Osten
>   came a(nom) knight from the far east
>   'There came a knight from the far east'
> (22) Es kamen   Ritter   aus allen Ländern
>   came(pl) knight(pl) from all lands
>   'There came knights from all lands'

The <u>es</u> which appears in impersonal impassives is thus a place
holder which keeps the verb in second position. It has no

distinguishable noun phrase properties, and the structures in which it appears are not subcategorized as requiring noun phrase complements.

In view of sentences such as (1), this means that the impersonal passive allows a verb (with auxiliary) to function alone as a sentence. But there are no basic verbs in German which function this way. In particular, the weather verbs require genuine noun phrase subjects which appear in the full expected range of (pronominal) subjects:

(23) a. Es regnet
b. Jetzt regnet es
c. Ich weiss nicht, ob es regnet
d. Regnet es?
e. Geregnet hat es!

Similarly, there are no underived structures in German in which verbs appear with oblique complements only, as they may appear in impersonal passives such as (2), or ones in which verbs appear with prepositional phrase complements only such as (3). (I am aware of examples such as mir schwindelt, where the es is optional. These differ from impersonal passives in that es may be expressed in all the environments exemplified in (20) and (23).[12]) The rule responsible for the impersonal passive thus fails to preserve structure.

The impersonal passive construction is, moreover, a more serious deformation of structure than those usually mentioned in discussions of the structure-preserving property.[13] These discussions often concentrate on word order, which is subject to many extragrammatical influences such as emphasis and style. But the impersonal passive introduces structures which are novel in categorial structure, i.e. the number and type of syntactic categories required in a sentence. This is normally insensitive to extragrammatical manipulation.

Theoretical Implications

Let us turn to the theoretical implications of this description. It was Emonds, 1976 who originally noted that a big class of syntactic rules in many languages seemed to be structure-preserving. He hypothesized that all rules of a certain type (roughly, clause-level rules) would be structure-preserving. But the first (successful) attempt to explain this as a general fact comes from the Lexicalist position where it is seen to follow from the following three assumptions:[14]

(24) 1.There is a component of (lexical) word formation rules which define the lexical items of a language.
2.There is a component of basic syntactic rules which describes the possible combinations of lexical items and their syntactic structure (and all of the rules are needed to specify the combinations of underived expressions.) [15]
3.There is no other relevant component of low-level syntactic rules.

The basic rules define the possible syntactic structures of a language. Structure-preserving rules never introduce new structures because they are not phrasal rules (or transformational rules) which deform the structures introduced in (2). Rather, they are rules of class (1) which describe relationships between lexical items. These derived lexical items are then inserted into the standard structures defined by the syntactic rules in (2). Low-level rules such as passive and dative shift are thus structure-preserving because they are lexical word formation rules.

If the analysis of the impersonal passive defended in this paper is correct, then one of the assumptions (1) - (3) must be relinquished. This would most likely be (3), in my estimation. Giving up (3) would allow one to introduce a new type of rule distinct from both true word formation rules and the basic rules of combination in syntax. There is independent justification for this, based at least on the issue of semantic idiosyncrasy, possible in true word formation rules but notably absent from rules like passive or dative.shift. One systematic proposal within the Lexicalist framework which attempts to explain some of the differ ces between true word formation rules and low-level syntactic rules has been put forward by Wasow, 1980. Although this did not address in detail the issues raised by the structure-preserving property, it did allow one to treat low-level syntactic rules as distinct in principle from true word formation rules. One might then attempt to modify Wasow's proposal so as to allow some low-level syntactic rules to be non-structure-preserving while still requiring that true word formation rules preserve structure.

A rather different conception of the rules in question has been proposed and defended in Dowty, to appear, where a treatment within categorial grammar is elaborated. This treatment also predicts that certain rules be structure-preserving, but rather different rules are involved. The structure-preserving nature of certain rules may be seen to follow from the following informally stated assumptions of categorial grammar:

> (25) 1. There is a set of categories CAT $=$ $\{C_1, C_2, \ldots, C_n\}$ to which each expression in a lnaguage must belong, no matter whether the expression is basic or derived.
> 2. There is a set (of sets) of basic expressions BAS $=$ $\{B_1, \ldots, B_n\}$ each expression of which belongs (by (1)) to one category. Note however that some categories, e.g. S (sentence), need contain no basic members. In this case, $B_i = \emptyset$.
> 3. The rules of the language specify how (basic and derived) items of certain categories are manipulated and combined to form expressions of certain categories.
> 4. The rules are formulated generally, i.e. normally applying to all elements of input category. (This cannot be taken to preclude all marking of exceptions, but cf. below.)

These assumptions guarantee that all rules whose outputs are in categories with basic expressions will be structure-preserving. Consider R, a rule whose outputs are expressions of category C which contains basic expressions in B ($\neq \emptyset$). Any rule which has inputs from C will stipulate syntactic structures in which basic expressions of C, i.e. elements of B, occur, as do derived elements of C, i.e. outputs of R. In this case the outputs of R have the same syntax as the underived expressions in B. There is no special syntax defined for R's outputs and R must be structure-preserving. (This is the natural course of events. It is undoubtedly formally possible to have R mark its outputs [- application of subsequent R']. Since this would reduce what has been said to near vacuity, it clearly must be disallowed somehow. Cf. note 15 above.)

The categorial analysis thus predicts that this class of rules is structure-preserving. I should like to note three aspects of clausal grammar vis-à-vis the structure-preserving property which the categorial analysis highlights rather better than any competing analysis.

First, the structure-preserving property is not a property of rules, or of sets of rules grouped in components. Rather, it is a superficial property of rules within particular grammars. For example, northern Russian dialects have impersonal passives, but the rule generating them is nonetheless structure-preserving. This is possible because of the many basic subjectless verbs in Russian, e.g. temnet', 'it is dark', or 'it grows dark'. If German had similar verbs, then the rule forming impersonal passives would be structure-preserving in German, too.

Second, the categorial analysis suggests where non-structure-preserving rules may be found. In general, they may (but need not) be found where rules eliminating NP complements apply to intransitives or where rules adding NP complements, such as causative or benefactive constructions, apply to multi-place verbs.

Third, the categorial analysis does not suggest that the structure-preserving property should hold absolutely of any component of rules, including true word formation rules. For example, there is nothing in principle objectionable to a word formation rule categorially identical to the impersonal passive, or parallel to the causative or benefactive constructions mentioned above. In fact, the causative in both Hindi and Arabic appear to be of this sort. They both display the semantic idiosyncrasy expected of lexical word formation rules but they both apply to verbs of all basic categories, including that of the largest class, that of three-place verbs. In this way four-place verbs are formed and appear in otherwise unmotivated syntactic structures. I mention the Hindi and Arabic causatives not to suggest that I have an analysis, but only to indicate where serious analysis might demonstrate the phenomenon predicted by the theory of categorial grammar, that is, the phenomenon of non-structure-preserving word formation rules.[16]

NOTES

1) The conception of relation-changing rules defended here is taken from Dowty, to appear. I am further indebted to David Dowty, Ilse Lehiste and Frank Trechsel for comments on the present paper.

2) This is intended to account for the phenomenon attributed to the Unaccusative Hypothesis in Perlmutter, 1978.

3) Both the framework in Dowty, to appear and the Lexicalist framework predeict the possibility of lexical exceptions. While one prefers to see a good deal of investigation into a rule before regarding its exceptions as lexical, and any judgement about such matters must be considered tentative, there are some exceptions to the impersonal passive rule which seem unpredictable.
      Es wird zu Hause geblieben/ * gewesen
         AUX at home stay(part)   be(part)

4) These sound abominable to many speakers of German who seem to disallow any use of the reflexive pronoun in impersonal passives. This does not seem to follow any dialect lines.

5) Curme, 1922, p.338 cites some examples of impersonal passives with accusative objects, but these are all clear candidates for lexical units, e.g. Karten spielen 'to play cards'. Contemporary speakers moreover are inclined to reject his examples.

6) Cf. Curme, 1922, pp.330: "There is a difference in reflexive verbs ...pronoun and verb together forming one idea [in some]" Cf. also Stötzel, 1970, pp.23-28 and Cranmer, 1976, pp.56-57. There is disagreement over exactly where the line should be drawn, however. Note that my proposal requires that sich selbst be treated as potentially lexical, contrary to Stötzel's and Cranmer's proposals.

7)(10) appears to violate the Relational Grammar prohibition against "multiple advancement to 1", involving as it does the derivation of the medio-passive sich ärgern, which expresses the notional object of ärgern as subject (object advances to 1) and the derivation of an impersonal passive, which RG analyzes as the advancement of a dummy to 1. Further details in Fuller and Nerbonne, in preparation.

8) There are contrary indications, however. Sich selbst can function as the answer to a question in this construction, at least with dative verbs: Wem wurde dabei geholfen? -Höchstens sich selbst
              who(d) AUX so help(part)   at most , self self
This may be a linguistically "cute" answer, however.

9) The subjectlessness of this construction is discussed at length in Nerbonne, to appear.

10) Nor could one analyze the occasional oblique object as subject. This would fly in the face of case marking, number agreement and control phenomena. Cf. Cole et al., 1980 on the last.

11) Cf. Curme, 1922, p.338 and Heidolph et al., 1981, pp.326f.

12) The _es_ of cleft sentences is expressed in questions, etc.

13) Cf. Hooper and Thompson, 1973 and Bayless, 1979.

14) This reflects Wasow, 1980, pp.499-500 and Bresnan, ms., pp.54-5.

15) The parenthetical clause in (2) is included only to disallow a vacuous understanding of the structure-preserving property. We clearly could describe impersonal passive verbs with a lexical rule and then introduce a syntactic rule which applied only to these verbs. The grammar might then still be organized as described in (24). But in this sense all syntactic phenomena could be described in a structure-preserving fashion.

16) My estimation of the character of the Hindi rules is based on Saksena, 1980, p.818 who provides evidence of semantic idiosyncrasy in the construction while Masica, 1976, p.46 confirms that there exist double causatives of basic transitives, resulting in four-place verbs. But Kellogg, 1955 makes no mention of basic four-place verbs. Wright, 1967, p.34 (II,45B&C) indicates semantic idiosyncrasy and the possibility of four-place verbs as derived causatives.

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