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# Towards lexical typology
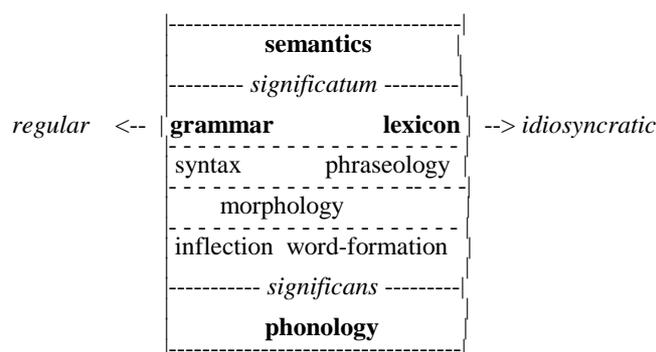
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## 1. Introduction[1]

The purpose of this contribution is to explore the lexicon as an area of linguistic structure which may possibly supply features relevant for linguistic typology. The presentation is organized as follows: §2 briefly outlines a model of language structure in which the lexicon finds its place as the equal partner of grammar. In §3, postulates for a linguistic typology are put forward, and the idea of basing a typology on lexical structure is checked against them. The following three sections present case studies on the linguistic categorization of concepts of properties, parts of space and situation perspective. §6 draws the theoretical conclusions from this experiment.

## 2. Grammar and lexicon

In the conception of language structure that will be taken for granted here, language as a whole is organized as in F1.

F1. *Major components of language*

```
                 |-----------------------------------|
                 |          semantics                \
                 |--------- significatum ---------|
   regular  <--  | grammar              lexicon  |  --> idiosyncratic
                 |- - - - - - - - - - - - - - - - |
                 | syntax         phraseology     |
                 |- - - - - - - - - - - - - - - - |
                 |          morphology            |
                 |- - - - - - - - - - - - - - - - |
                 | inflection  word-formation     |
                 |---------- significans ---------|
                 |          phonology             |
                 |-----------------------------------|
```

This embodies the following assumptions:

1.  The difference between grammar and lexicon is a polar opposition, based essentially on the degree of systematicity. All that is wholly idiosyncratic in a language is stored in the lexicon. What is only partly regular is on the borderline between grammar and lexicon. This applies, in particular, to word-formation.
2.  Consequently, the lexicon is not merely an inventory of entries, but a complex structure built upon categories and relations. The systematic aspect of the lexicon is just the aspect that is relevant to the grammar.
3.  There are intimate connections between grammar and lexicon:
    1.  The lexical entries of a language fall into a number of lexical classes, the most important of which are the word classes. The grammatical constructions of a language fall into grammatical categories. Lexical classes and grammatical categories condition each other:

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[1]
   A preliminary, condensed report on this work was presentend to the 14. International Congress of Linguists.

> a. The lexical classes determine the grammatical behavior of the items and, thus, function in the grammar.
>
> b. The lexical classes are the target of processes which determine the category of a complex structure. Such processes may be lexical, deriving new words which enter the given classes, or syntactic, forming constructions which have a similar grammatical behavior as items coming directly from the lexicon.

2. The boundary between lexicon and grammar is obfuscated by processes of synchronic and diachronic variation:

> a. In synchrony, one and the same word may function now as a full word, now as a grammatical formative (e.g. full verb > auxiliary).
>
> b. In diachrony, lexical items are transformed, by grammaticalization, into grammatical formatives (e.g. full verb > auxiliary).

Proposition 3.1.b is of especial relevance in the present context. The following has been a common structuralist tenet:

> les unités complexes de la phrase peuvent, en vertu de leur fonction, se distribuer dans les mêmes classes de formes où sont rangées les unités simples, ou mots, en vertu de leur caractères morphologiques. (Benveniste 1957: 222)

Although this is a principle of considerable import, it is by no means plain. In the present state of our ignorance, it seems prudent to say that complex constructions tend to be modeled on the pattern of prototypes provided by the lexicon, and that they approach their lexical models to varying degrees. This has been put forward as the principle of formal and semantic adjustment of derived constructions in Dik 1985.[2]

## 3. Linguistic typology

Before I show how linguistic typology can be based on lexical structure, we should ask how such an approach fits in with theoretical premises on linguistic typology in general. There are at least two general premises that come into play here and that are, by now, widely accepted (cf. Lehmann 1986):

1. Any typology must be based on properties which vary regularly in the population under consideration. Reason: If the property domain on which the typology is based is not structured in a systematic way, then no generalizations will be possible and no principles will be found.
2. Any typology must be based on properties which are essential for the entities in the population. Reason: If arbitrary features are chosen, then the typology will provide no insights and reduce to a classification.

It should be clear that these postulates are mutually independent. Indeed, we will see in a moment that they may conflict. Let us briefly consider what they imply for linguistic typology.

Given the polar opposition between grammar and lexicon as in F1, it seems plain that if requirement 1 is to be met, then a linguistic typology which aims at maximal generality must be based on grammar, not on the lexicon. This has, in fact, been overwhelmingly the case since the inception of linguistic typology at the beginning of the last century. However, as F1 also shows, the lexicon

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[2]   One of Dik's applications of this principle, viz. the modelling of the relations of the actants to the verb in nominalized constructions on the pattern of possessive attribution to elementary nouns, may already be found in Greenberg 1963:99.

is not wholly irregular. And there have been voices in the literature postulating the integration of the lexicon into a comprehensive language typology.[3] Apart from linguistic typology, the lexicon has gained a special weight in several modern theories of grammar. There is a growing awareness that approaches concentrating exclusively on grammar and taking this as a self-contained system are reductionist and therefore misguided. While such considerations argue for not neglecting the lexicon altogether in typology, requirement 1 is clearly in favor of grammar.

We now come to requirement 2. To subsume a language under a type means to grasp the essence of this language. Given that several languages may be grouped under a common type, the type will necessarily abstract from details and rather incorporate the general construction plan of the language (cf. Keenan 1978 and Seiler 1979 for such a conception). This also extends to the diachrony of the language: what is easily subject to change is left out, only what remains relatively constant in diachrony is comprised by the type. We can quote E. Sapir in this connection:

> Languages are in constant process of change, but it is only reasonable to suppose that they tend to
> preserve longest what is most fundamental in their structure. (Sapir 1921:144)

Since the early days of linguistic typology, there has been a striving for a conception of the language type which would satisfy this presumption (see the report in Greenberg 1974: 60-64).

J. Greenberg's (1963) article on universals in the realm of word and morpheme order instigated a line of research, called basic order typology, which for some time was at the center of typological research and was thought by quite a few linguists to come close to the ideal of probing into the essence of language (apart from meeting requirement 1). Up to the present day, the notion has prevailed that the most important features to be considered in any typology are syntactic features. Especially the higher levels of syntax and the order of main constituents have played a prominent role here. Labels such as `SOV language', `VO language vs. OV language', `verb-initial vs. verb-final language' have been used in an attempt to grasp the essential nature of a language.

An observation in Greenberg's original article, if taken to its consequences, could have damped such enthusiasm from start.

> On the whole, the higher the construction in an immediate constituent hierarchy, the freer the order
> of the constituent elements. It has been seen that practically all languages have some freedom of order
> regarding subject and predicate as a whole; whereas only a small minority have variant order in
> genitive constructions, and then almost always along with other differences, not merely a difference
> of order. Within morphological constructions, order is the most fixed of all. (Greenberg 1963:104)

Subsequently, investigations both into syntactic transformations (e.g. Ross 1973) and into grammaticalization (e.g. Lehmann 1982) have confirmed this and brought out, more generally, that there is greater freedom of selection and combination at the higher grammatical levels than at the lower ones. For many languages, such as Ancient Greek or Classical Nahuatl, it is practically impossible to determine the basic order; but it is never problematic to determine whether a tense affix is a prefix or a suffix. Again, some languages have changed their basic order within a relatively short time span. The Celtic languages changed from whatever the basic order of Proto-Indo-European was, via SVO to VSO; from Classical Arabic VSO, the modern Arabic dialects

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[3] Especially in Klimov 1977. The "typology of concept domination" advocated in Capell 1965 also would appear to be lexically based. On the other hand, Skali…ka 1965 argues that what is typologizable in the lexicon depends on morphology.

changed to SVO; and so forth. The same languages did not change, at the same time, the morphological strategy of tense marking on the verb. Such observations argue for not attributing such a fundamental role to the higher levels of syntax in linguistic typology.

Indeed, when we ask what is least manipulable in a linguistic system, least exposed to the discretion of the speaker, we are led to the lexicon. To be precise, we are led to the grammatical structure of the lexicon; not, of course, to the semantics of individual lexical items, their configurations in lexical fields or individual processes of word-formation. These are relatively changeable and short-lived, as has been recognized from the beginning of studies in lexical semantics. What is, however, fairly deeply entrenched in linguistic structure and resistent to change is the grammatical categories, features and relations which are coded in the lexicon and its classes.

We have now arrived at a conflict between the two requirements posed on any typology. The first one argues for basing a typology on grammar, the second one argues for basing it on the lexicon. Neither, however, would warrant basing a typology on the extreme right part of F1, the really idiosyncratic aspects of the lexicon. Insofar, it may be considered a compromise solution to look for typologically relevant features in the grammatical structure of the lexicon. The following sections will illustrate what this might look like.

# 4. Property concepts

## 4.1. Preliminaries

The lexicon of every language contains words which express property concepts such as `big, old, warm, dark'. However, there are various lexical classes into which such a concept may be grouped. Three possibilities will be mentioned here.[4] The property concept may be categorized like a state or even a process in which an object can be. Then it is grouped in one class with those words which are primarily used to predicate and which we call verbs, as in E1.a. Or it may be treated as a kind of abstraction, like an event or even an object. Then it is put into one class with those words which are primarily used for reference and which we call nouns, as in b. Or again it may be treated as something special, as a contingent aspect of an object. Then it is classified as those words whose primary function is attribution and which we call adjectives, as in c.

E1.  a.    nix                  cand-et
**LATIN**    snow(F):NOM.SG    white-PRES.3.SG
            `The snow is white'

     b.    nivis                cand-or
            snow(F):GEN.SG white-ness(NOM.SG.M)
            `the whiteness of the snow'

     c.    nix                  cand-ida
            snow(F):NOM.SG    white-ADJ:NOM.SG.F
            `white snow'

Now while some languages such as Latin admit of all three of the above class assignments of a

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4
    Cf. Schachter 1985, §1.3 and Thompson 1988 on this matter. Schachter, however, misconstrues the whole point by speaking of "adjectival meanings" and subsuming the three lexical classes to be dealt with below under the heading `adjectives'.

property concept, most languages differ greatly in their **primary classification** of property concepts.[5] Let us start with the most familiar situation.

## 4.2. Adjectives

The adjective is a property-denoting word which has an empty place for a noun. This means that its primary function is in attribution. The presence of adjectives in a language is associated with a number of well-known grammatical processes which will be briefly reviewed with reference to English.

1. When the adjective is used in its primary function, as an attribute to a noun, no structural apparatus is needed. Cf. E2.

E2.   the cold day

2. Several attributes can be accumulated on one head noun without difficulty, as in E3.

E3.   the cold, dark, rainy day

3. When the adjective is to function as a predicate, the copula has to be added, as in E4.[6]

E4.   The day *(is) cold.

4. Another way of using the property concept in predicate function is to derive a verb, typically an inchoative verb, from it, as in E5.[7] This is subject to the typical restrictions of word-formation processes.

E5.   a.  The road is wide.
      b.  The road widens.

5. The adjective admits of comparison, as in E6.

E6.   the cold-er/-est day

6. The adjective may be modified by special intensifiers, as in E7.

E7.   This day is very cold.

7. The adjective is the basis of a set of processes of word-formation, as in E8.

E8.   a.  the greenish carpet
      b.  the unfaded carpet
      c.  the brand-new carpet
      d.  the blue-green carpet

Of especial importance among these processes is the formation of adverbs, as in E9.

E9.   He greeted them cold-ly.

---

[5]   A more refined analysis would differentiate between different kinds of property concepts. It seems that specific property concepts have a propensity for a specific linguistic categorization, independently of the overall primary classification implemented in any language. A striking example is `true', which is basically categorized as an abstract noun (`truth') in a couple of languages that primarily categorize properties as adjectives: Spanish *verdad*, Modern Yucatec *hahal* (Classical Maya *hah* `true' is no longer used), Baule *nanwl* *.

[6]   This is the situation in English and many other languages. I suggest the following generalization: If the noun can function as a predicate by itself, then the adjective can. If the adjective cannot, then the noun cannot either.

[7]   Cf. Drossard 1986, §4.2 on the important role of the adjective in diverse languages for the derivation of verbs of various classes.

8. The adjective is the target of a set of processes of word-formation, as in E10.

E10.  a.  the use-ful/-less boy
      b.  the attract-ive boy

The above will be taken as typical, though by no means necessary characteristics of the adjective if it appears as a distinct word-class. The paragraph numbers in §§4.3f will refer to the above numbering.

## 4.3. Stative verbs

Many languages conceive of properties primarily as of states and accordingly express them as a kind of **stative verb**. This is the situation in Turkana, as illustrated in E11.[8]

E11.  a.  ʒe-bùn-ì              e-kìle
TURKANA  3.SG-come-IMPERF  M.SG-man(NOM)
         `The man comes.'

      b.  ʒe-m`]n     e-kìle
          3.SG-mean     M.SG-man(NOM)
          `The man is mean.' (Dimmendaal 1983, pass.)

E11.a involves the predication of a dynamic verb, b the predication of a property. Both are expressed by finite verbs.

1./3.  Where property concepts are verbs, they have to be attributed like verbs.

E12.  a.  e-kìle                lo-ʒe-bun-ì
TURKANA  M.SG-man(NOM)     REL.M.SG-3.SG-come-IMPERF
         `man who comes'

      b.  e-kìle                1]-a-m]n-a-n;ì
          M.SG-man(NOM)     REL.M.SG-3.SG-mean-STAT-SG
          `mean man' (Dimmendaal 1983:319)

As can be seen by comparing E12.a with E11.a, this entails the formation of a relative clause. A comparison of E12.b with E11.b reveals that the same strategy has to be employed for property words. Thus, while no special apparatus is needed for the predication of a property, its attribution requires relative clause formation. On the one hand, this gives the relative clause a special weight in the linguistic system. On the other, it entails structural differences in all the other points enumerated in §4.2:

2.  While stacking of relative clauses to the depth of two is allowed in Turkana, an accumulation of attributes comparable to E3 is impossible (Dimmendaal 1983:331f).

4.  Inchoative and ingressive verbs are formed without restrictions (Dimmendaal 1983:169-172, 192-196), as they do not require the category-changing apparatus of deadjectival verb derivation.

5.  Comparison is a strictly syntactic process; there are no comparative or superlative forms (Dimmendaal 1983:316, 370).

6.  The modification of property words - in predicative or attributive function - is, of course, possible; but no special intensifiers are needed here, since this is just a kind of adverbial modification.

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[8]   For the similar state of affairs in Bafut (Grassfields Bantu) see Mfonyam 1988:187-191.

7. All processes of word-formation based on property concepts start from the stative verb itself, not from the relative clause. Thus, compounding comparable to E8.b is possible in Turkana (Dimmendaal 1983: 334), but based, of course, on the stative verb root. - There are various ways of forming adverbials. Productively derived manner adverbials are essentially relative clauses to a lexically empty head of neuter gender (Dimmendaal 1983:362-365).[9]

8. Various processes of word-formation lead to stative verbs (e.g. resultative formations, Dimmendaal 1983:158-163); but none lead to the grammatical category to which the relative clause belongs.

## 4.4. Abstract nouns

A much smaller set of languages expresses properties primarily as abstract nouns. This is the situation in Tamil, which has very few primary adjectives. Most of the adjectives are based on abstract nouns such as illustrated in E13.

E13. a. anta  manu;san  taõkacci
**TAMIL**    that    man(GEN)    younger.sister
          `that man's younger sister'

     b. anta  manu;san  ganam
        that    man(GEN)    weight
        `that man's weight' (Asher 1982:113 et pass.)

E13.a shows a concrete noun as the head of an NP, b a property-denoting noun in the same position. Note that this noun, like many similar ones in Tamil and unlike their English counterparts, is primitive, non-derived.

1. If the property is to be attributed to something, it has to be adjectivalized by one of two suffixes.[10] Then it may be used as in E14.

E14. ganam-u;l;la  manu;san
**TAMIL** weight-y        man
       `heavy man'

2./3. Such adjectivals can be accumulated to some degree in front of a noun. They cannot, however, function as a predicate. It is either the underlying abstract noun that can predicate the property, as in E15.a; or else the adjective must first be substantivized, as in b.

E15. a. anta  manu;san  nalla ganam
**TAMIL**    that    man        good    weight
          `That man is very heavy.'

     b. anta  manu;san  nalla ganam-u;l;la-van
        that    man        good    weight-y-SUBST.M
        `That man is a very heavy one.' (Asher 1982:51, 187)

4. There is no derivation of verbs from either the derived adjective or its nominal base.

5. There are no comparative and superlative forms; comparison is expressed by case suffixes and

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[9]
   The neuter here is much similar to the Ancient Greek and Latin type *paulum* `a bit' etc.

[10]
    Historically, *-aana* is a relative participle of *aaku* `become', and *-u;l;la* is one of *u;n;tu* `exist, have'. Accordingly, derived adjectives such as *ganamu;l;la* in E15 are to be analyzed as `having weight'. Cf. Asher 1982: 187.

postpositions on the standard of comparison (Asher 1982:88-90) and, thus, a strictly syntactic process.

6. There are no intensifiers specialized on the modification of adjectives (Asher 1982:58).

7. Except for the substantivization shown in E15.b, there is no word-formation based on adjectives. Adverbs are based on the abstract nouns. Thus, from *ganam* `weight' we would derive *ganam-aa* (weight-ADV) `heavily' (cf. Asher 1982: 55f).

8. There is no word-formation leading to adjectives, although adjectivals may be gotten by the formation of the relative participle of a verb, which is, however, a syntactic process.

## 4.5. Conclusion

The presence vs. absence of primitive adjectives in the lexicon of a language generates two sets of consequences for the grammar. For one thing, the situation in a language with adjectives is partly complementary to one without them. While a language with adjectives may have processes of word-formation deriving verbs and abstract nouns from these, one which gets its adjectives from verbs or abstract nouns will have the reverse processes. For another, the languages will invest into structural complexity in different directions. While a language with adjectives admits of inflection and modification specific to these, a language without them will get complex adjectivals in the form of relative clauses or abstract nouns with their complements.

The comparison of property concepts in English, Turkana and Tamil shows this distribution rather neatly. There is, though, one exception to the general tendency: derived adverbs in Turkana are not based directly on the stative verb, but on the relative clause derived from it. Possibly the adverbialization of a verb necessarily leads via its nominalization (in the widest sense); but otherwise, this generalized use of a derived property concept as basic remains unaccounted for.

We can summarize the main points of this section in F2, where P stands for `basic word expressing property concept'.

F2. *Property concepts in English, Turkana and Tamil*

|  | English | Turkana | Tamil |
|---|---|---|---|
| attribute | P | relativized P | P + deriv. |
| predicate | P + copula | P | P (+ deriv.) |
| abstract noun | P + deriv. | P + deriv. | p |

## 5. Parts of space

## 5.1. Preliminaries

Let us conceive of spatial aspects and relations of things in the following terms.

E16. The wreck sank to the bottom of the sea.

In the prototypical situation, there is, first, an object with spatial extension or a place - *the sea* in E16 -, with reference to which spatial orientation takes place. Let us call this the **point of reference** (French *repère*). Second, there is an object which is localized with respect to the point of reference - *the wreck* in E16. This will be the **localized entity**. The local relation between the two may be

analyzed into two components. On the one hand, we have a spatial aspect of the point of reference - *bottom* in E16. This will be called a **part of space**. On the other hand, the localized entity will be engaged in an event (*sank* in E16) and, accordingly, have a certain disposition as against the point of reference, specifically its spatial part. This is expressed by *to* in E16 and will, in general, be called the **local relation**.

For the sake of simplification of the present discussion, let us assume that localized entity and point of reference are expressed by nouns and the event, by a verb. The expression of the local relation is typically done by a case marker and will concern us marginally. Now let us concentrate on the lexical categorization of the part of space.

## 5.2. Relational nouns

Let us start with a cross-linguistically very wide-spread situation, the one found in Japanese. Here there are numerous primitive relational nouns such as those in E17.a which designate parts of space. In a localizing construction such as E17.b, they designate a spatial part of a reference point, expressed by an NP which they take as a genitive attribute.

E17. a. yoko     ue     sita     mae   usiro
**JAPAN**    side     top     bottom    front   back

        temae     mukoo   migi
        this side    that side    right side

   b. Hako     no    ue    ni    naihu    ga      arimasu.
      [[box     GEN   top]   LOC]   knife      NOM   EXIST:FORMAL
      `On top of the box there is a knife.'

We see that, apart from word order, Japanese is not unlike English in its primary categorization of parts of space as relational nouns. The combination of a relational noun with a case marker - a postposed particle in Japanese, a preposition in English - is equivalent to a complex adposition. Thus, Japanese NP *sita ni* (`at the bottom of NP') could be rendered in English by `under, beneath NP'. When no point of reference is expressed, the same collocation functions like an English adverb, `below' in this case.

Such an adverbial can, in turn, be used to modify the localized entity. An example of this can be seen in E18.

E18. sita     no     naihu
**JAPAN** bottom    GEN   knife
     `bottom/lower knife'

## 5.3. Adverbs and adpositions

Now let us turn to an entirely different situation, which is, although not exactly rare, not as common among the languages of the world as the one described in the previous section. In German, there are very few primitive relational nouns designating parts of space.[11] The primary categorization of parts of space is in terms of adverbs, such as in E19.a, and of prepositions, as in E19.b. The prepositions partly include a local relation to the relevant part of space, viz. an essive or allative

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[11] In fact, we only have *Seite* `side', *Grund* `bottom' and *Spitze* `top'. Of these, *Grund* and *Spitze* are not used in complex prepositions of local meaning.

one.

E19. a. oben    unten      vorn
**GERMAN**  above   below       in front

    b. über   unter vor
       above  below in front of

From these, adjectives can be derived, as in E20.

E20.      ober(-er)    unter(-er)   vorder(-er)
**GERMAN**  upper        lower         front

These designate the property of occuyping the relevant part of space, with respect to a point of reference which may be named in a genitive attribute construction (e.g. *unterer Rang der Hierarchie* `lower rank of the hierarchy'), but is generally understood deictically or anaphorically.

In order to signify the diverse parts of space, German has to form compounds, as in E21. These are generally based on the one spatial relational noun used productively in the grammar of local relations, *Seite*, and take the adjectives of E20 as the determinans.

E21.      Oberseite  Unterseite  Vorderseite
**GERMAN**  top        bottom       front

These compound relational nouns have the same syntactic potential as their simple Japanese (or English) counterparts and may, thus, be used as in E17.b. In fact, however, they are much too clumsy and are therefore seldom so used.

## 5.4. Conclusion

At this point it has become clear that the situation in German is almost the reverse from that found in Japanese.[12] The steps of derivational complexity are represented in F3, where $N_{rel}$ signifies `relational noun'.

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[12]
    This kind of comparison has first been done in Walter 1975.

F3. *Parts of space in Japanese and German*

|  | Japanese | German |
|---|---|---|
| part of space | $N_{rel}$ | deadverbial adjective + $N_{rel}$ |
| property of occupying part of space | $N_{rel}$ + GEN | deadverbial adjective |
| part of unnamed point of reference | $N_{rel}$ + case particle | adverb |
| local relation to part of named point of reference | GEN + $N_{rel}$ + case particle | preposition |

In Japanese, the lexical class providing the simple expressions in this functional sphere are relational nouns, at the top of F3. Formation of the concepts further to the bottom of F3 leads to increasing derivational complexity, the pole of maximal complexity being reached at the very bottom. In German, the lexical classes providing the simple expressions are adverbs and prepositions, at the bottom of F3. Formation of the concepts further to the top of F3 leads to increasing derivational complexity, the pole of maximal complexity being reached at the very top.

From this picture, it becomes understandable that nouns designating parts of space play a prominent role in Japanese grammar. Given that all kinds of local relations are expressed by nouns, this raises the functional load of the genitive relationship and the number of nominal attributes, so characteristic of Japanese syntax. In German, on the other hand, nouns designating parts of space play no role at all in the grammar. What shapes German syntax, instead, is the high functional load of adverbs and prepositions, which raises the number of simple adjuncts at various syntactic levels.

A comprehensive investigation would discover further solutions to the signification problem set out in §5.1. Indeed, there would emerge different ways of posing the problem in the first place. One of them is indicated by the alternatives sketched informally in E22.

E22.  a.  be at side of N  -  flank N
      b.  be on top of N  -  crown N
      c.  go to proximity of N  -  approach N
      d.  go to inside of N  -  enter N

In the verbal strategy exemplified here, the part of space is not expressed by a separate word. Instead, it is fused with both the local relation and the event itself into a single word, a **verb of spatial disposition**. Viewing the complementarity of F3 from this angle, we see that it is rendered possible by a common basis. This consists in the fact that local relation and part of space, on the one hand, and event, on the other, are kept distinct. The strategies of F3 are jointly opposed to other ones, such as the verbal strategy illustrated in E22, where this presupposition is not fulfilled.

The verbal strategy will probably not be found to be the central one in any language as far as stative events, as in E22.a and b, are concerned. In dynamic events, however, it plays a prominent role in languages such as Thai and Vietnamese (W. Kuhn, p.c.). To this extent, it may well turn out to be of a similar typological relevance as the nominal and adverbial/adpositional strategies.

By gradually widening our scope, we reach higher levels of generalization, in this case relating to the functional domain of localization and spatial orientation. In the present context, however, it is

of especial relevance to note again the lexical basis of this additional strategy, viz. in verbs of spatial disposition.

# 6. Aspectual concepts

## 6.1. Preliminaries

Let us last consider the functional domain which includes concepts of aspect and aktionsart.[13] I assume that, at a certain level of analysis, a sentence meaning can be decomposed into two parts, to be called the central proposition and the TAM component. The **central proposition** consists of a number of participants and circumstants related to an immaterial center, which will be called the **lexical verb**. The central proposition thus corresponds to a state of affairs or situation. The **TAM** component is the perspective in which the central proposition appears as viewed from the deictic center (primarily, the speaker). This perspective includes epistemic, modal, aspectual and temporal subcomponents. Of these, only the aspectual (including aktionsart) features will be of relevance here.

Viewed logically, the elements of the TAM component are two-place relators which take the deictic center as their first and the central proposition as the second argument. The first argument often remains implicit, especially in the case of aspectual relators. Therefore, they also appear as one-place operators on the central proposition.

Parts of the TAM component will be expressed by grammatical formatives in practically all languages. Of relevance in the present context are lexical classes reserved for this purpose. We will consider two of these, aspectual verbs and aspectual adverbs.

## 6.2. Aspectual verbs

The Ibero-Romance languages are richer than other Romance languages in verbs that express aspectual concepts. E23 provides a relevant sample.

E23.    a. Juan está leyendo un libro.
SPANISH      `John is reading a book.'
        b. Juan fué comprendiendo la história.
             `John understood the story little by little.'
        c. Juan anda preocupado por su hijo.
             `John is constantly concerned about his son.'
        d. Juan continuó a leer.
             `John kept on reading.'
        e. Juan volvió a leer el libro.
             `John read the book again.'
        f. Juan acabó leyendo todo el libro.
             `John ended up reading the whole book.'
        g. Juan acababa de leer el libro.
             `John had just read the book.'

Let us call the finite verbs in these examples **aspectual verbs**. Within the functional domain of aspect and aktionsart, the use of aspectual verbs may be called the verbal strategy. It employs one of the

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[13] Cf. Lehmann 1989 for an in-depth treatment of this matter.

two constructions

[asp. $V_{fin}$ [lex. $V_{part}$]] (E23.a, b, c, f) and

[asp. $V_{fin}$ [Prep lex. $V_{inf}$]] (E23.d, e, g);

thus, a construction of the general form

[asp. $V_{fin}$ [(Prep) lex. $V_{non-fin}$]].

This means that the aspectual verb becomes the syntactic main verb, while the lexical verb, with its dependents, becomes its syntactic dependent.

## 6.3. Aspectual adverbs

If the sentences of E23 are translated into German, the result is as follows:

E24     a. Hans liest gerade ein Buch.

**GERMAN**    b. Hans verstand die Geschichte nach und nach / allmählich.

         c. Hans ist ständig in Sorge um seinen Sohn.

         d. Hans las weiter.

         e. Hans las das Buch wieder.

         f. Hans las schließlich das ganze Buch.

         g. Hans hatte soeben das Buch gelesen.

Let us call the adverbs in these examples **aspectual adverbs**, and their use within the functional domain of aspect and aktionsart, the adverbial strategy. Barring the complications that arise from the ordering of the adverb and the other dependents of the verb, the construction that this strategy leads to is:

[lex. V asp. Adv].

This means that the lexical verb is the syntactic main verb, while the aspectual adverb becomes one of its syntactic dependents.

## 6.4. Verbal and adverbial strategies

Just as in the cases reviewed in §§4f, verbs and adverbs are two alternative primary categorizations of a class of concepts, but they do not exclude each other in one language. For instance, Spanish allows of such variants as *poco a poco, Juan comprendió la história* instead of E23.b, or *finalmente, Juan leyó todo el libro* instead of E23.f. And some dialects of German have *Hans ist ein Buch am lesen* instead of E24.a, and a bookish analogue to E24.d would be *Hans fuhr fort zu lesen*. However, in other cases no such alternatives are available. Thus, there is no adverb in Spanish to paraphrase *estar* (E23.a) or *continuar* (d). And there is no verb in German to parallel any of the other sentences in E23. These limitations confirm the overall tendency and allow us to speak of an alternative primary categorization of aspectual concepts in the two languages.

The aspectual concepts expressed in the sentences of E23 and E24 may be designated by the following terms:

         a. progressive,

         b. gradative,

         c. durative,

         d. continuative,

         e. repetitive,

         f. finitive,

         g. completive (recent past).

These terms are partly familiar from the grammar of aspect and aktionsart, partly neologistic. This relates to the fact that the items expressing these concepts in Spanish and German are words, not grammatical affixes. To be more precise, the status of the Spanish aspectual verbs varies between full lexical verb (e.g. *continuar*) and auxiliary (e.g. *estar*). The German aspectual adverbs, on the other hand, will normally not be found in a grammar of German.[14] Their relevance to the grammar, and to the functional domain, of aspect and aktionsart emerges only from comparative studies such as the present one.

The difference in lexical vs. grammatical status between the Spanish and the German strategies is also apparent from a consideration of morphological complexity. Of the Spanish aspectual verbs, only *continuar* could conceivably be regarded as morphologically complex (although there is, of course, no *tinuar*). Of the German aspectual adverbs, on the other hand, all except *wieder* have a complex expression structure; and most of them (*nach und nach, ständ-ig, weit-er, schließ-lich, so-eben*) are even composed or derived in a semantically transparent way.

Thus, the Spanish aspectual verbs are clearly more advanced on a scale of grammaticalization than the German aspectual adverbs. They feed a grammatical category of aspectual auxiliaries, which German is practically devoid of. At a cross-linguistic scale, verbs are overwhelmingly more exploited as a source of aspectual formatives than adverbs. Therefore, the most important consequence of the fact that Spanish and German favor different lexical categories for the expression of aspectual concepts is that Spanish has a productive way of building up its grammar of aspect and aktionsart, while German has not. German has, so to speak, embarked on the wrong grammaticalization channel (to the extent that adverbs at all open up a channel towards aspectual grammatical morphemes).

While it is true that most of the adverbs in E24 are morphologically complex, it should be noted that none of them (with the possible exception of *schließlich*) is complex because it is an adverb. That is, adverbs are not per se a derived category in German. In Spanish, apart from a closed set of primary adverbs, all the others are derived by suffixation of *-mente*. In particular, many of the adverbs that could serve to imitate E24 would be so derived. This is an obstacle to their use at the same level of grammaticalization as the aspectual verbs. In German, on the other hand, the adverb is an important primary word class. Most adjectives can be used indifferently as adverbs. This correlates perfectly with the important role that adverbs were found to play in the domain of parts of space (cf. §5.4).

The direct syntactic consequences of the choice between verbs and adverbs for the expression of aspectual concepts remain inside the verbal syntagm. One of them relates to the possibility of intensifying the aspectual meaning. The adverbial strategy allows for reduplicative coordination or juxtaposition (potentially modification) of adverbs. Thus, we have (apart from E24.b):

   a. eben gerade
   c. beständig und dauernd
   d. weiter und weiter
   e. wieder und wieder / immer wieder
   f. schließlich und endlich
   g. eben gerade

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Heidolph et al. 1981, ch. 3.1.2.1.2, does mention the expression of aspectual concepts by adverbials, without, of course, treating these as a grammatical category s.s.

Parallels to this in the verbal strategy are limited. Thus, while *continuaba y continuaba* (again, with the most lexical of the aspectual verbs!) is possible, there is no *está y está, va y anda* or anything of the sort. This is partly a consequence of the differential stage of grammaticalization: the more grammaticalized a formative is, the harder it becomes to coordinate or modify it.

As long as we abide by the ascertainment that Spanish expresses aspectual concepts by verbs, while German expresses them by adverbs, this is of little theoretical consequence. Things get more interesting when we note that the syntactic relations between the two classes of aspectual words and their lexical verb are almost reverse. In one construction, the aspectual verb is the head, the lexical verb the dependent. In the other construction, the lexical verb is the head, the aspectual adverb is the dependent. We may wonder how such diametrically opposed constructions can serve the same function. A bit of dependency theory has to be recalled at this juncture.[15] A dependency relation is mediated through an empty slot on one of its members. There are two types of relational slots, rectional and modificational slots. Consequently, there are two types of dependency, government and modification. In government, the controller (the governor) has an empty slot for the dependent. In modification, the dependent (the modifier) has an empty slot for the controller of dependency. Symbolizing the lexical verb of the primary proposition by P, the aspectual word by A and relational slots by //, we get F4.

F4.  *Dependency of aspectual words*

       aspectual verb      aspectual adverb
                A//                P
                 |                  |
                 P                A//

From this representation, it may be seen that, whatever the primary categorization of aspectual concepts and the resulting strategy, the central proposition is not relational, i.e. it does not open a slot for the TAM component. Consequently, if there is to be a dependency relation between A and P, then the relational slot has to be provided by A (which is, as we recall, often conceived as an operator). Given that there are only two types of relational slots, this allows just for the two possibilities that A governs P or that A modifies P. Now there is one word class which can govern a verb, namely a verb. And there is one word class which can modify a verb, namely an adverb. This gives us just the two primary lexical categorizations of aspectual concepts.

## 6.5. Conclusion

Spanish and German exemplify two alternative ways of linguistically categorizing aspectual concepts. Other languages are similarly extreme in their predilection for aspectual verbs vs. adverbs. Thus, apart from Portuguese, Akan (cf. Schachter 1985:22f) and Ancient Greek are like Spanish; Latin and Russian are rather like German. Yet other languages do not take a clear choice. The translations of E23 demonstrate that English is a case in point.

Unlike the examples of §§4f, this example has not provided strong evidence for an opposition in terms of the direction of grammatical processes and of the development of grammatical complexity. Instead, it has served to emphasize two points. First, in consonance with what has been said in §2, esp. item 3.2, on the connections between grammar and lexicon, the choice that a language takes

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[15] Cf. Lehmann 1985 on the conception of dependency presupposed here.

in the primary categorization of a certain class of concepts mediately influences the shape that its grammar takes, because grammatical categories are essentially fed by lexical categories. If a language, at a certain point, favors a lexical class that is sterile in terms of potential grammaticalization, then this may bar the way towards the development of a certain grammatical category. Here we can see one of the functional correlates to the striking poverty of German as regards the grammar of aspect.[16]

Second, the categories of aspectual verbs and adverbs may be in an almost complementary distribution over two languages. This points to a deeper common denominator, which we have found in the relationality of the TAM component vis-à-vis the central proposition. Just as in the case of concepts of parts of space, a widening of the scope on the background of the relevant functional domain would lead us to consider further lexical classes and grammatical strategies. Here, the emphasis has been on the opposite consequences that an alternative lexical categorization may have for the language system.

## 6. General conclusion

On the basis of three kinds of concepts, properties, parts of space and aspectual concepts, I have illustrated alternative ways of lexical categorization. The first example concerned a major word class, the adjective, with its alternatives in other major word classes. The other two cases involved subclasses of major lexical classes: the spatial relational noun and its alternative, the primary spatial adverb/adposition; and the aspectual verb and adverb. The three cases lead to similar conclusions.

6.1. Suppose a type of concept is lexicalized as a primitive category in language $L_1$, but not in $L_2$. Then $L_2$ may form a corresponding category in complex constructions on the basis of some primary lexical categories. These latter, in turn, may be non-primary categories in $L_1$. Thus, we get a **complementary distribution of categories over languages**. Here as everywhere, a complementary distribution of linguistic items means that they are mere variants which fulfil a common function. In the case at hand, the conclusion is that lexical or grammatical categories are variant ways in which languages fulfill the function of providing a primary classification of concepts.[17]

6.2. The choice of one lexical categorization instead of another has far-reaching consequences for the whole linguistic system. It determines the direction and steps of derivation and the complexity of words in other lexical classes. Moreover, given that a lexical class is characterized by a certain grammatical behavior and potential, this choice determines the grammatical structure of the language to a considerable degree. This means that lexical structure will have to play a more important role in linguistic typology than it has played hitherto. Sapir's (1921, ch.6) conceptual types and Capell's (1965) typology of concept domination should be resumed and refined.

6.3. Subclasses of major lexical classes, such as spatial relational nouns or aspectual verbs, have a further significance for the language system in that they may provide a constant source for the introduction or renewal of grammatical categories by grammaticalization. Such lexical classes which are fertile in this respect - such as the ones mentioned -will thus eventually shape the grammar of the language, whereas their alternatives - for instance spatial and aspectual adverbs - may be less

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    Similar remarks apply to Latin. The case of Russian is more complicated. It seems fair to say that Russian aspectual grammar is essentially confined to its binary perfectivity opposition, which is fed exclusively by word-formation.

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    The reasoning concerning complementary distributions across languages goes back to Seiler 1972, §4. It was applied in the field of primitive vs. complex expression of lexical categories in Seiler 1975.

fertile or almost sterile in terms of grammaticalizability. This explains certain typological correlations, such as the development of a certain lexical class and of some grammatical category, or, on the contrary, the development of an alternative lexical class and the absence of that grammatical category.

6.4. These conclusions might occasion the misunderstanding that what determines a linguistic type are categories. This would be only half the truth. **Categories** are something static, immovable. To that extent, they are exempt from the discretion of the speaker and, thus, particularly apt to shape a language with a certain constance over synchronic and diachronic variation. On the other hand, however, the speaker sets **operations** to work through which he disposes of the categories according to his demands. He may feed the lexical categories with new members or else drain them by not forming new members. He may even form new categories not available from the lexicon, ridding himself, to some extent, of the principle of formal and semantic adjustment (cf. §2). Categories are not only pre-given and available; they are also aimed at and created. There is, thus, an intimate interplay between categories and operational strategies in any language system. It is the plan organizing this interplay which constitutes the linguistic type.

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