

On Slovak and Czech Contributions to Linguistic Typology

1. The first important contribution to typology and to the search for language universals in the context of the Prague School was Jakobson's (1929) monograph on the development of Russian phonemics, where an important idea, which later found broad acceptance, was formulated, concerning the form of general (universal) relationships between linguistic (especially phonological) phenomena: Such a general rule can have the form of an implication, stating that if the phenomenon *a* exists in a given language, then the phenomenon *b* exists there, too. This line of research has been continued first of all by Isačenko (1939-40; 1960), who explored the phonological systems of the Slavonic languages on the basis of Jakobson's understanding of general rules having the form of strict (non-probabilistic) implications.

Another starting point for typological studies was formulated by Skalička (1935), who continued, in a sense, Mathesius' (1928) thoughts on the development of typological and 'characterological' linguistics. Skalička specified the notion of 'type of language' as an extreme in which the phenomena favourable to each other are developed most fully (p. 67). While Jakobson's implicational rules are regarded here as adequate for phonology, in grammar itself only the favourability of one property to another are looked for, due to the variability of the properties of the complex sub-systems of language, i.e. to their 'potentiality' in the sense of Mathesius (1911).

The latter approach thus differs from Jakobson's formulations in the following three points:

(i) it concerns grammar (especially with morphemics, word formation and syntax), rather than phonemics;

(ii) it returns to the use of the term 'type', and also of that of 'typology', in the sense of the study of clusters of language properties, rather than using 'typology' for the search for universals;

(iii) it works with a 'potential' (probable) occurrence of two or several language properties, rather than with the implication of binary logic; in the terminology of Carnap (1950) it is possible to see here a shift towards comparative (although not quantitative) concepts.¹

The repertoire of languages types, as it was later characterized by Skalička (1951, 1966), consists of the following five types: agglutinative, inflectional, isolating (analytic), polysynthetic, and introflexive. While the properties characteristic for most of them cover virtually all the subsystems of grammar, especially the last type is not so strong, so that none of the known human languages comes so close to the extreme of introflexion as Turkish comes to that of agglutination, Czech or Old Greek to that of inflection, English or French to that analysis.

It appears to be characteristic of the further development that Jakobson's approach, especially after having been reformulated in a more general context in Jakobson (1958), has found a broad acceptance and continuation in the linguistic trends oriented towards statistical research and towards the search for universals (starting with Greenberg, 1960), whereas Skalička's typology has been used and developed especially within the Prague School itself.

2. The two approaches thus have found numerous followers who applied their methods to most various phenomena in different languages, in the synchronic as well as in the diachronic aspects. Among those who contributed to the systematic and detailed study of the interrelations between various subparts of the language systems, Ďurovič has devoted his efforts to the search for a way in which the positive moments of the two approaches could be combined. The points of view formulated by Jakobson and by Isačenko were discussed and deepened especially in Ďurovič's phonological analyses. Among them, in Ďurovič (1973) not only a synchronic comparison of different Slavonic languages was presented, but also a detailed inquiry into the phonemic alternations in each of them, showing how the range of these phenomena (prototypical for inflectional languages and having richly developed in the older stages of the development of the Slavonic languages family) has been more or less restricted by analogical changes. The latter have been more intensive in the declension than in the conjugation in Russian, whereas in Czech this proportion is reversed. In Slovak only

certain kinds of alternations have survived, and e.g. for Slovene the phonemic background has been more crucial, the consonantal alternations having been abolished.

As we have already mentioned, in grammar the presence of the implicational general rules is limited in comparison to phonology. Since morphemic alternations belong to the parts of phonology which are directly concerned also with morphemic values, it is not surprising that the formulations of the results of inquiries of the quoted kinds often concern degrees of the presence of the analyzed phenomena. This is even more outspoken in morphemics itself, which can be illustrated on the basis of Đurovič's (1983), systematic account of the development tendencies of the declension in the varieties of Serbo-Croatian spoken by bilingual children living in Sweden. The pivotal role of the opposition of nominative and accusative was stated here; either of these cases takes over many functions which in Serbo-Croatian itself are fulfilled by other means. Not only the instrumental, but also the prepositionless genitive is absent from noun groups in the children's speech; dative and vocative almost disappeared from it. The difference between grammatical (syntactic) and adverbial cases has been deepened; the former function is prototypically expressed without a preposition (by the nominative, the accusative, and also by the genitive of object with reflexive verbs), whereas the latter one is conveyed by prepositional cases (with some exceptions, to which also the partitive and negative use of the genitive belong).

3. The endeavour aimed at a deepened analysis of the different properties of a single language from a typological perspective always has been present also in Skalička's contributions.² Even in his studies on individual issues from language structures, the interconnections of the typological character of different phenomena regularly have been in the focus of attention; this concerns e.g. Skalička (1942, 1950), devoted to the embedded verb and to the morphemic cases, respectively.

Several linguists have presented further analyses in this direction and contributed to enriching the methods of Praguian typology. Popela (1985, 1988) presented an inquiry into the combinations of typological properties, pointing out some reasons which underlie the relatively high probability of some of these combinations, esp. of inflectional morphemics with aggluti-

native word formation. Discussing the issue of the existence of one basic property (to which we return below), Popela concludes that the dominant of the polysynthetic type is its unfavourableness to grammatical elements; the other four types are then divided according to the polyfunctionality of the grammatical elements (in the inflectional and introflexive types) and their monofunctionality (in agglutination and isolation), and the next criterion is the degree of fusion between lexical and grammatical elements.

The question of one basic property for every type was also studied by the present author, who pointed out that a suitable starting point for typology can be seen in the fact that while lexical units are conveyed by strings of phonemes in all languages, grammatical units have different shapes, the repertoire of which is not unlimited (see esp. Sgall 1958, 1986). There are the following possibilities:

(a) the grammatical values are also expressed by strings of phonemes, with either

(aa) resemble the strings conveying lexical meanings (in being relatively independent as to their positions in the word order, having the shape of whole syllables, etc.), which means the analytic type, or

(ab) differ from lexical morphs in being marked as inferior, subordinated to the latter, attached to them as affixes, in agglutination;

(b) the grammatical values are expressed by modifications of lexical morphs, rather than by specific morphs of their own; the modifications (alternations or similar variations) occur either

(ba) at the end of lexical morphs (according to the rule of 'one ending with each word form'),³ which is called the inflectional type, or

(bb) in the inner part of the lexical morphs (introflexion);

(c) the grammatical values are expressed just by means of the order of the lexical ones; polysynthesis.

Although the boundary between lexical and grammatical units, which underlies this approach to typology, is not neat,⁴ the opposition of lexicon and grammar is treated as basic by almost all kinds of linguistic descrip-

tions. It is then not surprising that the basic properties of individual types should concern the limited possibilities offered by the conditions given in this domain by the very nature of the fundamental means of expression which are available for natural language: phonemes and their strings.

This approach offers a basis from which we can derive not only the weaker position of introflexion (as has been done by Skalička), but also that of polysynthesis with respect to the richness of grammatical elements. It appears then not to be necessary to work with the (in)favourableness of a type to grammatical elements as with a specific kind of a dominant property of language types; the asymmetry (and redundancy) of some of the properties postulated by Popela may be dispensed with, and all the dominant properties of types are characterized on a coherent basis, determined directly by the fundamental conditions of natural language. Neither introflexion, nor polysynthesis constitute a repertoire rich enough for the core of grammar to be covered; these types can exist only if they either just accompany properties of another type in the same language (cf. the basically agglutinative character or Semitic languages, exhibiting introflexion just in certain subsystems of their grammars, and also the limitations of the polysynthetic type in Chinese, see Švarný, *in press*), or perhaps, if the language concerned displays a relatively small repertoire of grammatical values (some of which have lexical counterparts in such a language).⁵

It thus also appears not to be necessary to suppose that the relation of 'favourable' properties always be symmetric. It was pointed out in the quoted papers how it can be empirically substantiated that each of the dominant properties is favourable to the other properties of the given type. In some cases it can be shown that one of these properties also is favourable to the basic property of another type, which may serve as a starting point for an explanation of the high probability of certain combinations of types in actual languages; thus esp. grammatically fixed word order (polysynthetic type) naturally accompanies the paucity of inflectional affixes or alternations and the abundance of function words (analytic type).

In what concerns the issues of diachrony, Skalička (1941; cf. also Sgall 1986) understands Gabelentz's (1981) development in spiral as the primary trend, the counterexamples to which, although not altogether rare, are restricted to specific circumstances where strong external factors influenced a language at a time when its structure offered preconditions for such a 'backwards' movement. Thus, especially, the development of the eastern

part of the Indo-European languages after the peak of inflection towards agglutination (instead of towards the analytic type) can be explained on the basis of cultural developments leading to a regularization of the structure of these languages, which at the given time still displayed properties important for agglutination (while, on the other hand, the Western languages were strongly influenced by rapid cultural development, including such factors as a large-scale enrichment of the lexicon and a high degree bilingualism, in an epoch in which they already proceeded further in the direction of analysis in the sense of the spiral).⁶ Under this viewpoint, the change of language types constitutes a more or less regular rotation, rather than a main trend in the "progress" of language; such progress seems to consist first of all in an enrichment of the lexicon and of the grammar, which may corroborate the typological development, not being identical with it. In Czech linguistics, Kurzová (1981) presented views close to Klimov's understanding of the changes from the active to the ergative and then to the nominative type as instances of a regular, general development. However, such a general sequence of typological changes does not appear to be typical for the development of most different languages (cf. also footnote 5 above). Kurzová's adherence to Meillet's estimation of the old Indo-European languages as developing from a relatively loose, appositive structure towards a more 'sentence centralistic' system has much in common with the approach evaluating their development as that from agglutination to inflection.

Besides the study of Slavonic languages (which we have mentioned several times already)⁷, attention was devoted also to the interplay of the typologically relevant properties in several other languages. The Ugro-Finnic languages were characterized as predominantly agglutinating, although with different degrees of properties belonging to other types, especially the inflectional congruence, the synonymy and ambiguity of endings and the presence of stem alternations in Estonian and Finnish, the so-called free word order of Hungarian (determined by the topic-focus articulation, see below), where also polysynthetic properties can be found (rich composition, including also adverbials serving as verb prefixes, and the use of lexical units in a metaphorical sense also as grammatical morphemes); features of the latter type are also present e.g. in Ostyak (see Skalička 1965).

The Bantu languages, exhibiting interesting properties of the inflectional type, were characterized by Skalička (1945). The discussion on

Chinese (see esp. Skalička 1946; Švarný, in press), shows that the predominance of the polysynthetic type (earlier called 'isolating') is not so clear as it often was assumed.

Japanese was compared with Russian as for the basic typological characteristics by Neustupný (1978), who also analyzed the intrinsic connection between the fundamental typological features and the phonemics of Japanese, showing that agglutination, which is typical for this language, concerns not only grammar but also phonemics.

Dutch was examined from the viewpoint of the Praguian typology by Čermák (1978), who points out the interconnections between its features characteristic of inflection, analysis and other types.

4. Without any doubt, there are good reasons for general strict implication relations in the sense of Jakobson, Isačenko, Ďurovič and others to be searched for in all domains of language structure, not only in phonology. Whenever they can be found between properties constituting typologically important clusters, their identification is of great importance for the predicative power of the given (approach to) typology, or, in the other terms, for the degree of its holistic character. The predictive power of typology is lowered if comparative notions (i.e. the 'favourability' of one property to another) instead of (or together with) strict implication are understood as its basis. However, the relationships between these two kinds of implication depend on empirical issues; whenever only a comparative implication is found, this can only be stated. It may be recalled that the predictive power of typological theories also depends on the extent of the clusters of interdependent properties.

Different typologies of languages have been formulated, based on different (although overlapping) clusters, anchored in morphemics, in word order, in syntax. It appears then to be necessary to compare the extent of the relevant clusters of properties to find the differences in the predictive power of these typologies. The question whether a holistic typology can be found may then be formulated so that the degrees of 'holism' should be specified, since clearly none of the clusters or of the dominant properties makes it possible to predict all features of a natural language, be these clusters or properties called 'types' or 'principles', and be they as 'deep' or 'high' as one wishes.

Another important point concerns the fact that if language types are specified on the basis of comparative notions, then statistical inquiries are necessary for the evaluation of the impact of the individual types in different languages, as well as for the comparison and appreciation of different typologies. Instead of stating that, e.g., English has more function words than Finnish, or that the synonymy of endings is much more intensive in Latin than in Hungarian, it would be useful to present data based on statistical inquiries of the respective language systems and of discourses in these languages. However, many statistically oriented approaches to linguistic typology are aimed more immediately at the search for linguistic universals than at the study of language types (cf. already Jakobson's 1958, pioneering contribution, quoted above). Moreover, it is easy to handle statistically such units and properties which are well accessible (graphemes or phonemes, morphs, word forms, the length of sentences, etc.); however, an actual contribution to typology cannot leave aside those items which are not so easy to handle but are more directly relevant for typology (e.g. morphemes and their functions, grammatical synonymy and ambiguity; cf. Sgall 1960). A substantial contribution to the use of statistical methods in typology was presented by Altmann and Lehfeldt (1973), cf. Skalička's (1975) review.

Krupa (1971; 1980) pointed out new possibilities in evaluating phonotactic properties and in establishing and exploring parameters concerning not only morphemic form and semantic values, but also possibilities of segmentation and occurrence.

As we have seen in Section 3 above, the clusters underlying the Praguian typology concern primarily the means of expressing of grammatical values, i.e. the relationship between expression and meaning in grammar (including word formation). It is in the area of this relationship where the arbitrariness of language structure gives room enough for the clustering of various properties, for their relatively probable cooccurrence. Therefore it may be doubted whether the often reoccurring requirement for typology to encompass not only morphemics, but also semantics or underlying structure is appropriate. The functions of morphemic and surface syntactic items are taken into account in the approach characterized above, since it is the empirical comparison of the surface units of different languages expressing identical or similar semantico-pragmatic functions, which constitutes the main source of typological explorations. On the other hand, it would be

difficult to claim that the structuring of the cognitive content by individual languages underlies important clusters of properties; thus, the level of linguistic meaning is relevant (in its relationship to the layer of expression) for typology, but it does not represent the source of an interesting typology of languages in itself.

Several trends in contemporary theoretical linguistics consider the typological approaches based on word order to be the main kind of typological studies. It is true that important clusters of linguistic features and also some basic aspects of language development can be characterized on this basis; however, these clusters and aspects are known to surpass the domain of word order only to a limited degree. Even if the relations between word order and the topic-focus articulation of the sentence are exploited more intensively for the aim of a word-order based typology, it is rather evident that the main difference between languages in what concerns their word order is that of grammatically fixed and "free" word order (the latter being free from surface constraints, and thus determined more immediately by the topic-focus articulation). The question whether e.g. Latin or Russian is a SOV, a SVO or a VSO language is of quite another character than a similar question concerning French, English or Chinese, so that it is not convincing to use a single term 'basic word order' for languages of both kinds. It is typical of inflectional languages to express topic and focus by word order (together with the placement of the intonation centre of the sentence), for agglutinative languages to have specific morphemes marking the topic (as in Japanese, Tagalog, etc., although e.g. in Hungarian word order serves this function, and intonation is always important), and for isolating languages to use syntactic constructions (such as passivization or clefting).

Notes

- ¹ Cf. Hempel and Oppenheim (1936), where the notion of type is analyzed from a logical viewpoint, one of the main conclusions being that in typological studies an element should be understood as occupying a position on a scale, rather than as belonging into a set.
- ² Some of these have been included in Skalička (1979); as for studies concerning phonology, see esp. Skalička (1967).

- 3 Such variations as those in Lat. *deus, dei, deum,...*, *leo, leonis,...*, or, in inflectional conversion, e.g. *deus, dea*, usually are called endings, although in the general case it is impossible to strictly distinguish the lexical morph and the ending here. - A third possibility, (bc), would consist in variations at the beginning of word stems, but this alternative probably plays no important role (such individual examples as the Slavonic pronominal forms *nemu, nim* being just marginal).

- 4 The dichotomy itself is partly influenced by the typological character of the given language; thus, especially, the personal pronouns clearly belong to lexical units in analytic languages, although with agglutination or inflection the corresponding functions to a great part are conveyed by verb forms (and, in the case of congruence, clearly have a grammatical character).

- 5 It remains to specify the conditions determining the fact that the latter possibility is characteristic of polysynthetic, rather than of introflexive languages. A starting point for solving this problem may be seen in the very specific character of introflexion, with which the grammatical values are expressed by means which not only have another shape than lexical morphemes have, but which interrupt the lexical morphs, thus disturbing their shape (which, with the other types, is that of continuous strings of phonemes). Let us add that a language the grammar of which is limited in the sense just quoted does not necessarily belong to the polysynthetic type; no factors have been presented which would exclude the possibility of such a language belonging to the analytic, agglutinating or inflectional types.

- 6 The faster development of the old Germanic languages, Latin, etc., can be at least partially explained by a larger portion of bilingualism during their development, rather than by a direct typological influence of neighbouring languages. It is the timepoint in which the respective ethnic groups entered the epoch of civilization, which was decisive for their typological development passing through the summit of their inflectional character and turning to an increasing amount of phenomena belonging to other types (cf. Sgall 1958).

- 7 See also Skalička (1958) on the inflectional and other properties of Russian.

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