Typology and Linguistic Reconstruction (by Johann-Mattis List, 14.11.2007)

1. Introduction

Linguistic reconstruction is a matter of a '*multitude of decisions, not of their singularity*'[1]. Any single decision a linguist makes can influence the whole system of decisions and hence crucially change the reconstruction of a proto-language. It is therefore of great importance for the linguist to take into consideration any kind of additional evidence he can get. Language typology, i.e. assumed restrictions on language systems recovered by cross-linguistic comparison, can provide this additional evidence. It is nowadays widely accepted to be one of the key guidelines of reasoning when applying the comparative method[2]. The concept behind this is best represented by the well-known statement of Roman Jakobson, criticizing the consonant and the vowel system reconstructed for Indo-European: '*A conflict between the reconstructed state of a language and the general laws which typology discovers makes the reconstruction questionable*'[3].

Since Jakobson has made this statement, typology apparently became an important tool for linguistic reconstruction. Saussure's abstract phonological forms are now adorned with distinctive features and concrete values; the Indo-European laryngeals are described phonetically; the Glottalic Theory claims to solve the Indo-European consonant problem, and some linguists even try to connect Indo-European and Sino-Tibetan, relying on "typological and comparative" evidence[4]. When proposals for proto-languages are criticized, it is mostly because of their "lack of naturalness", and one can hardly find a linguistic reconstruction whose author would not claim that it is "based on the general laws of typology".

However, despite the broad acceptance and application of typology, the role it plays in historical linguistics is rather dubious. It is more a surface phenomenon than an integrative part of linguistic reconstruction, often mentioned but seldom applied. This is due to the fact that the term "typology" is used in a very broad sense, referring to a somehow "general behaviour of languages". What linguists refer to when they justify their decisions "by means of typology" varies widely. The use of implicational universals is rather rare; in most of the

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[1] Makaev (1977, 88): 'Одна из характерных черт реконструкции общеиндоевропейского языка (а при прочих равных условиях и любого другого праязыка) это – множественность решений, а не их единственность', (my translation).
[2] Fox (1995, 253).
[3] Jakobson (1958, 23).
[4] Pulleyblank (1995, 166): '*My proposal for explaining the Indo-European manner contrasts, based on analogies drawn from Sino-Tibetan, is quite different but, I believe, at least equally plausible in terms of general linguistic typology.*'

cases it is considered acceptable to give some parallels in other languages, and sometimes it is only the "naturalness" of the system or the sound change that is used to represent the "typological part" of the reconstruction. In my opinion there is nothing to be criticized in this. Claims for "naturalness" and the providing of parallels in other languages are useful and important for the evaluation of a proposed reconstructed system. They are, however, not related to language typology as a linguistic subject, but rather reflect the linguist's intuitive knowledge about languages or the heuristics he makes use of.

In the following I shall try to examine the different ways language typology is referred to in historical linguistics. I shall show that the role that real language typology plays in today's retrospective linguistics is considerably smaller than one would expect according to the broad use of the term. The reasons for this can be found in the differing goals of language typology and historical linguistics; the former being interested in general explanations for linguistic processes, the latter concentrating on the developments in a single language family.

2. The Use of the Term "Typology" in Linguistic Reconstruction

In order to describe the way the term "typology" is used in linguistic reconstruction, we should first see what "typology" means in the other branches of linguistics. Three distinct meanings are usually given for the term: language typology may refer to typological classification, to cross-linguistic comparison, or to the functional-typological approach[5]. Typology in the first sense tries to discriminate language by means of certain features, such as syntax, morphology etc. While Schlegel's well-known morphological typology is widely agreed to be out of date, classifications have been made according to other features, like word order or more abstract categories like "ergativity" and "transitiveness"[6]. Typology in the second sense does not investigate language types but rather different features of languages that are cross-linguistically compared. The functional-typological approach, typology in the third sense, could be called the most "theoretical" one, since it deals with a specific theory that is meant to be opposed to linguistic "formalism" carried out by generative grammar[7]. This is not accepted by some generativists, who view the "Greenbergian" approach rather

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[5] Croft (1990, 1-3).
[6] Fox (1995, 265).
[7] Croft (1990, 2): '*This view of typology is closely allied to functionalism, the hypothesis that linguistic structure should be explained primarily in terms of linguistic function (the Chomskyan approach is contrastively titled formalism).*'

empiristic than theoretical[8]. It should, however, be emphasized that any typological approach must have an underlying theory. This is due to the problem of cross-linguistic comparability: The fact that typology compares languages according to certain features implies pre-assumptions about which features can be considered to be similar and which not. The linguists must ensure that they are *comparing like with like*[9]. When Greenberg compared word order across languages, he could not have done so without taking some features of languages (like subject-predicate, word classes, etc.) for granted[10]. Typological research is not separable from linguistic theory. Like every scientific research it has to be theory-guided, for pure reasons of practicability.

As we consider linguistic reconstruction, on the other hand, it seems quite clear that the degree to which it is theory-driven differs quite obviously from other linguistic branches. There are, of course, general assumptions and methods (like the regularity hypothesis of sound change, the comparative method etc.), but linguistic reconstruction is rather eclectic concerning language theory[11]. It is not restricted to only one approach, but has to make use of all approaches that are available in order to throw light on the past. This is due to the different goals of typological and historical research: Typology (in the notion of Jakobson) seeks for the laws underlying all languages, guided by the hypothesis of "uniformitarianism"[12]. The resulting theory should be a maximally general one, giving answers to as many phenomena as possible. Even if we treat language typology in a more restricted way than Jakobson did, the goal of specific typological research will be a general one: to identify general patterns across languages and to generalize them. Language reconstruction on the other hand deals with one proto-language that has to be recovered. The resulting theory, i.e. the system of the proto-language, can only be idiosyncratic, throwing light on specific changes under specific circumstances[13]. The historical linguist's approach to language theory is therefore a rather practical one. The question is whether the theories are applicable or not, while the "qualities", or the implications of the theories are secondary.

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[8] Compare, for example, Cook/Newson (1996[2], 29), on the difference between implicative and generative universals: '*Implicational universals* […] *are data-driven; they arise out of observations; a single language that was an exception could be their downfall* […]. *Universals within UG are theory-driven; they may not be breached but they need not be present*.'

[9] Corbett (2000,3).

[10] Greenberg (1966, 59): '*It is here assumed, among other things, that all languages have subject-predicate constructions, differentiated word classes, and genitive constructions, to mention but a few*.'

[11] Schwink (1994, 33, footnote).

[12] Croft (1990, 204).

[13] This can be easily seen when considering the two subjects' different nomenclatures: a "sound law" describes a single phenomenon, whereas a "universal" predicts a whole bunch of phenomena; the "laryngeal theory" refers to a single set of Proto-Indo-European consonants, while "markedness theory" (in the notion of Trubetzkoy) tries to explain the status of phonemes in the system of languages.

But what happened to the term "typology" when it invaded the Indo-European world? Today, when historical linguists make use of "typological considerations" one can find three distinctive approaches that are all more or less referred to as "typology". I call them the "natural approach", the "precedential approach" and the "pure typological approach". I should make clear from the beginning that all these three approaches are important tools for linguistic reconstruction, and they all guide the linguists' decisions. Nevertheless, the only real typological approach is the "pure typological" one. I shall discuss the three approaches briefly in the following.

2.1. Intuitive Knowledge as "Typology": the "Natural Approach"

Jakobson's claim that reconstructed language systems should not be in conflict with "general laws of typology" has lead to a notion of "naturalness" in linguistic reconstruction that is sometimes confused with typology. I agree with Venneman that this is not a primal concern of language typology but rather of language theory in general[14]. As for Jakobson, language typology was closely related to a general theory of language[15]; the external typological approach (as opposed to the internal Chomskyan one) was meant to discover the general laws underlying all languages. What linguists consider to be natural (or possible), however, does not automatically correspond to these laws. In my opinion, linguists who call a solution typologically probable by referring to its naturalness make use of their intuitive knowledge about language, i.e. their personal "language theory". Since this approach does not evaluate reconstructed language systems by applying a specific method or theory, it should be distinguished from the "typological approach". We should rather call it an "intuitive" or "natural approach". Although it might seem odd, it is still one of the most common ways to make decisions concerning unattested languages.

Everyone who has been confronted with Indo-European linguistics knows very well how difficult it is in the beginning to get the first insights into the subject. This is not only due to the broad range of languages one has to be familiar with, but more even more due to the fact that there is no distinct method that has to be applied but rather a whole bunch of procedures. Schwink noted that '*part of the process of "becoming" a competent Indo-Europeanist has always been recognized as coming to grasp "intuitively" concepts and types*

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[14] Vennemann (1984, 607) notes that the view that reconstructed languages have to be typologically possible is '*a nonsensical idea. What is meant is that "reconstructed languages have to be possible languages"; and what is and what is not a possible language is not expressed in typologies but in theories of language*' (cited after Fox [1995, 253]).
[15] Vykypěl (2006, 7).

of changes in language so as to be able to pick and choose between alternative explanations for the history and development of specific features of the reconstructed language and its offspring' [16] . According to him, '*this intuitive knowledge is never well codified or catalogued*' [17]. As I know from my own experience, this situation has not changed since then. There are, of course, attempts to provide linguistic reconstruction with a uniform theoretical base[18], external and internal reconstruction are well defined methods, but I doubt that any of these theoretical issues can serve as a guideline for the linguist's reasoning when being confronted with a single language family's problems.

The question is whether there is a specific reason for this "lack of method" one is confronted with in Indo-European linguistics. One reason is surely the lack of '*a fully adequate theory of phonology and phonological change in human language*'[19], or we could even say the lack of a fully adequate theory of linguistic change as a whole. The other reason is related to the above mentioned specific goal of linguistic reconstruction: linguistic reconstruction is an idiosyncratic subject that seeks to throw light on the development of a single language branch and not on the development of languages per se. The question is whether it is possible to explain the specific, if one only relies on the general (especially when one has to deal with such a complex phenomenon as language). Although there are good reasons that can be brought forward against the vast use of "intuitive knowledge", at the moment, it offers better solutions than any rough taxonomy[20] could do.

2.2. Language Parallels as "Typology": the "Precedential Approach"

"Precedential approach" I call the use of parallels in different languages in order to justify the probability of a proposed reconstruction. Apart from the naturalness claims it is one of the common ways in historical linguistics to fulfil the "typological part" of the reconstruction. Like the natural approach, the precedential approach should not be referred to

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[16] Schwink (1994, 29).
[17] ibd.
[18] Compare, e.g., Holzer (1996).
[19] Baxter (1992, 20).
[20] Lorenz (1972, 38) gives an interesting example concerning the classification of birds: a classification with 30 features did not fulfill the high expectations of the scholars and was far away from the more intuitive classifications made by other scholars before. Lorenz concludes that experts usually have much more characteristic features at their disposal, but they use them rather intuitively than consciously: „*Der Systematiker beurteilt nämlich ein Lebewesen durchaus nicht nur nach jenen Merkmalen, die in seiner Tabelle aufgezeichnet sind, sondern nach einem Gesamteindruck, in dem geradezu unzählige Merkmale in solcher Weise eingewoben sind, dass sie zwar die unverwechselbare Eigenart des Eindruckes bestimmen, gleichzeitig aber in ihr aufgehen. Deshalb bedarf es einer ziemlich schwierigen analytischen Arbeit, um sie aus dieser Gesamtqualität, in der sie gesondert gar nicht mehr ohne weiteres bemerkbar sind, einzeln herauszuschälen.*"

as "typological", since it has nothing in common with typological laws derived from cross-linguistic comparison. On the contrary, it is sometimes seen as a '*misuse of typology* […] *as a proof of reconstruction when in fact all that has been done is to find some isolated parallel in one or two other languages (Parallelenjägerei)*'[21]. I think, however, that this approach is not only very common in historical linguistics, but that it also has its strong points when applied with cautiousness.

Why do historical linguists provide parallels from different languages, not related to the subject under consideration? One reason is surely to justify their proposed reconstructions. Although this is, of course, a "misuse of typology", it should be mentioned that it underlines, to some extent, the theoretical possibility of the reconstructed language system by showing that it does not contradict "absolute typological laws". In this aspect language parallels represent precautions to typological criticism. Another, yet more important reason is to give an example how their reconstruction could look like. In order to exemplify how morphological processes, consonant systems etc. could be imagined, it is sometimes useful to provide parallels found in different languages. This, of course, does not increase the likeliness of the reconstruction, but it guarantees in a first instance, as mentioned above, its possibility, while in a second instance it makes the processes under consideration less abstract.

Another important role that language parallels play concerns heuristics. While a linguist may not know all typological laws that could be important for the solution of a given problem, he might know a language that shows parallel patterns. This should not be underestimated. If there is neither an appropriate theory nor an appropriate method one can make use of when dealing with specific reconstruction problems, it can be very helpful to rely on parallels in languages that are available. It is not coincidental that the glottalic theory was first brought up by the Georgians Gamkrelidze and Ivanov, who could rely on their experience with the languages of the Caucasus[22]. The Indo-European laryngeals got their name also due to parallels in the Semitic languages[23], even before typology was integrated in the canon of historical linguistics. In fact, linguists have been inspired by parallels in different languages for a long time.

2.3.   Language Universals: the "Pure Typological Approach"

While the term "typology" is often used by historical linguists, the examples of a successful application of it are rather rare. This is partly due to the fact that the glottalic theory, which criticized the established system of Indo-European by means of typological

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[21] Schwink (1994, 40).
[22] Fox (1995, 256).
[23] Meier-Brügger (2002, 111).

probability, could not hold its promises. As Gippert puts it, '*the discussion seems to have come to a deadlock*'[24]. One reason for this is that the glottalic theory did not change the whole reconstruction system, but rather changes the way its units are interpreted[25]. To a certain extent one can perfectly get along without acknowledging or refusing the theory.

What the theory changes, however, is the periodization of Proto-Indo-European: Old Indian and Greek, which where considered to be the most archaic members of the Indo-European language family, are replaced by the Germanic languages and Armenian as the more prior ones[26]. This provoked many linguists' suspicion. Three different kinds of arguments have been brought forward against the theory: The significance of typology for linguistic reconstruction is generally neglected[27], the typological likeliness of the old system is maintained[28], or inadequacies within the new system are shown[29]. In the following I shall discuss two of these arguments in more detail.

Dunkel (1981) rejects the significance of typology for linguistic reconstruction because of the limited character of its laws: '*Since no examples of a particular type happen to have been found, therefore this type could never have existed*'"[30]. Although I agree with Salmons that '*Jakobson's intent was quite different, suggesting rather that reconstruction should be guided by what we know about extant human languages*'[31], it should be kept in mind that Dunkel's argument reflects the general above mentioned problem of typology and reconstruction; the first being general, the second idiosyncratic.

The glottalic theory challenges the common reconstruction of Proto-Indo-European mainly because of two reasons: the system shows a single series of voiced aspirates without corresponding voiceless aspirates; the reconstructed forms for Proto-Indo-European *b are rather rare. Hock, however, shows that there are languages which show b-gaps as well as there are languages which have voiced aspirates without the corresponding voiceless ones[32]. Linguists who favour the glottalic theory have usually claimed that the existence of such languages does not invalidate the general laws of typology[33]. It should, however, be

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[24] Gippert (1994, 111): '*Insgesamt scheint sich die Diskussion […] festgefahren zu haben.*' (my translation).
[25] ibd.: '*Im Unterschied zur Laryngaltheorie bringt diese Neuinterpretation jedoch kaum irgendwelche neuen Analysemöglichkeiten mit sich, sondern führt normalerweise nur zu einer anderen Notation der Rekonstrukte*'.
[26] Fox (1995, 258).
[27] Dunkel (1981)
[28] Hock (1986).
[29] Meid (1987).
[30] Dunkel (1981, 563).
[31] Salmons (1993, 21)
[32] Hock (1986).
[33] Fox (1995, 254f).

mentioned that "*the presence of exceptions can be seen as effectively stripping the typological criterion of its predictive power*"[34].

As can be seen from above, the importance of language typology for linguistic reconstruction remains controversial. This depends on the one hand on the general "quality" of these laws and their predictive power, on the other hand on the linguists' requirements on reconstructed systems.

3. Weak Points of Typology: The Problem of Markedness

Arguments challenging the typological likeliness of reconstructed systems are often based on markedness criteria. Markedness is characterised in terms of '*cross-linguistically less common*', '*appears later during language acquisition*', '*is usually absorbed by the unmarked member in phonemic merger*'[35], etc. The question is, however, whether these criteria have significant implications for language change, i.e. whether they have "predictive power".

When we consider the phonological system of Middle Chinese and old Greek, they show some significant structural similarity in having three kinds of stops: voiceless aspirated, voiceless unaspirated, and voiced (e.g. [p^h], [p], [b]). Yet the development of these stops in their respective modern languages varies completely. While Greek voiceless aspirated stops became fricatives ([f], [θ], [x]), the Middle Chinese voiced stops either merged with the aspirated series (e.g. the modern Gan dialect: [b] > [p^h]), or with both the aspirated and the unaspirated series (e.g. Mandarin [b] > [p^h], [p]), or are preserved (e.g. Wu dialect [b] > [ḇ]). According to markedness theory this implies that in Old Greek the aspirate series was the marked one, while in Middle Chinese it was the voiced series.

Another example for this "multidirectionality" of markedness can be given from Russian and Spain: while in Russian a voiced stop at the end of a word becomes unvoiced (e.g. сад [sat] '*garden*' vs. сáда [sada] '*garden* [genitive]'), it is weakened in Spain and sometimes completely lost (ciudad [θjuđá] '*city*'). Even in a single language a class of consonants can be differently marked according to their position in the word, as colloquial German shows: Aspirated stops are weakened to voiced ones within a word, whereas voiced stops in the end of a word become voiceless ("hatte" [hade] '*had*' vs. "Hund" [hunt] '*dog*').

It seems that which units of a language are marked is at least partially language-dependent. This is already mentioned by Trubetzkoy, who emphasises that the notion of marked and

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[34] Ibd. (255).
[35] Salmons (1993, 48).

unmarked members of the phonetic system of a language depends on the viewpoint of the phonetician[36].

Whether markedness can predict linguistic change or not, is a question that cannot be answered at the moment. It should be kept in mind, however, that there are certain cases of linguistic change that seem to suggest that markedness is partially language-dependent and therefore not capable of creating general typological laws.

4. Abstractionists, Realists and the Problem of the Protolanguage

Up to the moment, the discussion about the realism of reconstructed language systems has not reached a conclusion yet. While Klimov notes that '*the realism of the phonetic inventory of a protolanguage is an important requirement on phonological reconstruction*'[37], Holzer does not see a general importance of being realistic when reconstructing, since '*a reconstruction never claims to reproduce the phonetics or the phonology of a protolanguage*'[38].

I think that the question whether one should claim "realism" in reconstruction greatly depends on the question whether realism in reconstruction is possible at the moment. The glottalic theory serving as a litmus test for the applicability of language typology in linguistic reconstruction remains controversial. In 1993, Salmons noted a shift in linguistic reconstruction from the mid-twentieth century's phonological analysis to '*more detailed phonetic descriptions*'[39]. Today, we can say, that this shift did not take place. The Proto-Indo-European consonant and vowel system remains the same abstract "phonological" one, with the symbols *b^h, *d^h and *g^h referring to the several traces and reflexes they left in the languages of the Indo-European family.

Whether future research will make it possible to '*add phonetic detail and phonetic plausibility to our reconstruction of PIE*'[40] will to a great deal depend on the further development of the uniformitarian hypothesis[41], which is central to a theory-based evaluation of linguistic reconstruction. If languages turn out to be less uniform than is usually assumed,

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[36] Trubetzkoj (1960, 81f).
[37] Klimov (1990, 97): 'Реалистичность праязыкового фонологического иньентаря – важное требоьание, предъявляемое к фонологической реконструкции', (my translation).
[38] Holzer (1996, 174): '*Da ein Rekonstrukt* […] *weder den Anspruch erhebt, die ursprachliche Phonetik oder Phonologie wiederzugeben* […]', (my translation).
[39] Salmons (1993, 69).
[40] Ibd. (70).
[41] Croft (1990, 204).

this will deeply change the predictive force of typological laws and hence weaken their position in historical linguistics.

Recent research in linguistic theory suggests that languages in fact give more possibilities for idiosyncratic structures than was expected before. The "revival" of written language as a separate linguistic system claims that written language is not acquired "naturally" or intuitively but rather through a conscious learning process which in addition may influence the speaker's perception of the vernacular[42]. This has strong implications for historical linguistics since it is mainly based on written languages. The more important conscious learning is for written language acquisition, the higher will be the potential that written languages show non-uniform or idiosyncratic structures.

Another recent issue is Langacker's rejection of the rule-list-separation in the mental lexicon and the emphasis on the partially formulaic character of language[43], which is also reflected in Bybee's usage-based model for phonetic representation[44]. Here again the potential of languages being non-uniform increases according to the degree language is considered to be formula-driven.

This of course does not mean that the uniformitarian hypothesis should be rejected at all. It implies, however, that we have to reconsider the strength of Jakobson's typological laws and their current applicability for linguistic reconstruction.

5. Conclusion

In the present work I intended to throw some light on the current use of language typology in historical linguistics. I have tried to show that – despite the broad use of the term – the role that language typology plays in linguistic reconstruction is a considerably small one. The reasons for this are internal problems of typology and typological laws, namely the lack of "predictive force", and the differing goals of language typology and historical linguistics, the former being concerned with the general nature of language, the latter exploring the history of one single language family.

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[42] Miller/Weinert (1999).
[43] Langacker (1987)
[44] Bybee (2001).

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