

THE CONDITIONS FOR PROVING  
THE GENETIC RELATIONSHIP OF LANGUAGES

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With kind regards

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0. When we find similar (or comparable) words in languages the relationship of which *has already* been proved, on the one hand, and when we find comparable words in languages the relationship of which *has still* to be proved, such words must be regarded and dealt with in different ways. Austerlitz has expressed this idea<sup>1)</sup> as follows:

"The term *compare* turns out to be polysemous...It means 'collate with intention to satisfy a set of already existing rules of correspondence ' in one case and ' place two items beside each other in the hope that they will eventually satisfy rules which have not yet been set up' in the other."

This means that, when dealing with long range comparisons, we have to regard a strict method and to establish rigid conditions. Here is an example: A comparison of the type *köl* 'foot '=*köl* 'lake ' may be acceptable (although contestable) for languages the relationship of which has been proved; but such a comparison cannot serve as the *basis* of proving the genetic relationship of languages. An exact proof of linguistic relationship has to satisfy a series of conditions.

1. First of all, there are quantitative conditions.

1.1. Of course, we have to find a sufficient number of comparable roots. 50 identical roots, e.g., are hardly enough. Languages the relationship of which has been proved exactly normally show at least 400 comparable roots. The objection that " two languages may be very *distantly* related and for this reason show only 50 common roots" does not hold water. May I quote Austerlitz again:

" To be sure, we can say that ' we believe that X and Y were once related and that the indices which would normally be adduced to support such an originally systematic genetic relationship have disappeared in the course of time and have left only vague traces'. This statement of course disqualifies itself."

One may also express this as follows: When the number of comparable roots is too small, all similarities (common items) may be due to mere coincidence or to onomatopoeia; a strict proof is impossible. However, the proof is incumbent on him who affirms, not on him who denies. He

who affirms relationship has to prove it; 50 words prove nothing. Science is not the study of things which *exist* but of those which *can be proved to exist*. And when we cannot prove anything we have to be silent<sup>2)</sup>.

1. 2. However, even gathering a big number of instances proves nothing. The comparisons must also be *exact*. This holds true, first of all, in respect of semantics. Of course, it is not necessary that the meaning of the *words* be identical (or even similar), but the meaning of the *roots* must be so. Latin *luna* 'moon', e.g., is not equal to English 'moon', but this word goes back to the same Indo-European root *\*leuk-* as the English word 'to light'; and one easily understands that the moon has been called 'the light (of the night)'. Of course, very considerable and striking deviations of meaning occur; this is, in the long history of development of languages, an inevitable result. But the *basis* has always to be a great series of identical meanings of roots or, at least, roots with changes of meaning which are easily explicable<sup>3)</sup>.

Furthermore, sound laws have to be established and, beyond that, to be observed. It is a well known fact that words do not always satisfy conditions of sound laws; Schuchardt has drawn our attention to this fact<sup>4)</sup>. But we may object to Schuchardt:

(1) Very often crossings of several sound laws occur. In literary German, e.g., one says 'ich mache' (I make), in Low German 'ick make', whereas in Berlin one says 'ick mache'. This means that the dialect of Berlin, because of a blending of a High German and a Low German influence, shows two series of sound laws. But this does *not* mean that the concept of sound law is invalidated<sup>5)</sup>.

(2) Furthermore, the exceptions to the sound laws are much less frequent than Schuchardt has tried to suggest. When, e.g., to Latin *famem* 'hunger' Portuguese *fome* corresponds<sup>6)</sup>, only the *o* (instead of *a*) is against the normal sound law, all other sounds have developed regularly. In other words: We ought to count, not the words, but the sounds. But in this case the exceptions of the sound laws turn out to be rather sporadic.

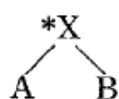
(3) Lastly, one has to regard the difference between *norm* and *rule*. Here is a simple example: The norm of the number of human teeth is 32; the rule, i.e. the average: when we count the teeth of all human beings and divide this number by the number of human beings may be, say, 26.37. Nevertheless, 32 remains the norm. In short: According to us, the sound laws are the norm of development, deviations from this norm must be registered and explained (if possible). A norm is not invalidated by deviations in its realization; and establishing a norm does not require counting but a phenomenological intuition and examination. (Plus criticism, as I may add. Science is 1% intuition + 99% criticism.)

Let us sum up: When we wish to prove the genetic relationship of two or more given languages we have to gather a series of common roots which satisfy all requirements both in quantitative and qualitative respects. As we shall see later on this is only a necessary, it is not a sufficient condition.

1. 3. It is relevant to consider the possibility of coincidence. Let us assume that we wish to compare two languages A and B, each of which shows roots of the type CVC (consonant, vowel, consonant) and each of which shows 10 comparable initial, 2 medial, and 10 final sounds; in this case the number of possible roots is 200. This means, the chances are that one root in two hundred will be identical in both languages. Here one realizes the importance of the sound laws. Trombetti, for example, (who wished to prove the genetic relationship of all languages of the world) regarded p, b, m etc. (all labials) as equal phonemes in all languages. Then we of course find many "similar" or "comparable" roots. But in this case the danger of a random comparison is enormous<sup>7)</sup>.

In addition to this "static coincidence" (as I call it) a "dynamic coincidence" is found, too. Definition: When in two (or more) languages two words, which originally neither semantically nor phonetically had anything to do with each other, converge we call this development "dynamic coincidence". Here is an example: In Turkish we find a word *qara* 'black' which is formally identical with Mongolian *qara-* 'to look'. Nobody would compare these words. But in Turkish from *qara* 'black' a word *qara-q* 'pupil (of the eye)', literally 'small black (spot in the eye)' was formed; in the Turkish languages of South Siberia this word even got the meaning of 'eye'. Since the eye is the instrument of looking it seems as if Turkish *qaraq* and Mongolian *qara-* were comparable, but indeed they are not because the *original* meanings 'black' and 'to look' are not comparable. Many similarities of the type German *Scheune* (barn) = Coptic *šoyne* (same form and meaning) may be due to such static and dynamic coincidences.

Let us assume we have proved that the number of exact comparisons of two languages A and B is too high for mere coincidence. In this case we are allowed to suppose that between these two languages a *causal connexion* exists. But *which* causal connexion? There are three of them, namely a) relationship



(I.e., A and B go back to a common proto-language \*X which has to be reconstructed.)

b) borrowing:  $A \rightarrow B$  or  $A \leftrightarrow B$ . (I.e., B borrows from A or both borrow from each other);

finally c) a common substratum  $A \leftarrow C \rightarrow B$ . (I.e., a language C, which does not need to be related to A and/or B, lends forms or words both to A and B. Sometimes this may be the same word in both languages. E.g., Arabic *fā'ida* 'use' has entered both Swahili and Bahasa Indonesia - but Swahili and Bahasa Indonesia are hardly related.)

To say it more exactly, these three cases are what I call "specific causality". But we also find non-specific causality and, furthermore, the causality of wide prehistoric migrations of words (which migrations in many cases may only be presumed but hardly be proved exactly).

2. Let us discuss "non-specific " or " general" causality.

2. 1. Very often languages the relationship of which it would be rather daring to assume show many striking similarities. E.g., most languages of the world show a labial sound in the word for ' lip', either a labial vowel (as in Turkish *to:taq*) or a labial consonant as in Semitic *\*sipat*, Indoeuropean *\*leb*, etc. In the quoted cases the similarity is not very big. But we also find such cases as Sudanese *bi:rbir* ' lip'=Bahasa Indonesia *bibir*. There is no doubt that here also we have to do with some kind of causality, but this is a question of " non-specific causality ", what in German is called " Lautgebärde " (a " sound gesture ") which may be explained by the fact that the labial sounds b, p, o, etc. (which are formed with the participation of the lips) rather well mark the concept of 'lip'. Here is another example. Many languages show forms as *\*kap-*, *\*kab-* for ' to catch, to seize': latin *cap-ere*, Turkish *qap-maq*, Hungarian *kap-ni*, Arabic *qab-ada*, etc. Why this ? Well, the syllable kap indeed imitates the action of catching rather well. At first we find the deep uvular /k-/ , pronounced rather back (it, so to say, corresponds to the wrist), then /-a-/ follows, the openest of all vowels (corresponding to the open hand), finally we find /-p/ which is the closest and frontest consonant (hence corresponding to the final act of catching). It may be that many comparisons established by Illic-Svitic are due to this " non-specific causality ". I may inform you that Dr. Ertel, Professor of Psychology in Göttingen, has prepared a monograph on this subject<sup>8)</sup>. To be sure, this is a very dark country; presumably all languages of the world were originally *physei*, i.e., imitating nature - but how can we prove this? At any rate, this possibility of non-specific causality should admonish us to be cautious and to exclude all comparisons which may be suspected of being "sound gestures".

2.2. Furthermore, we know that words quite often travel long distances. Greek *nomos* 'law, rule' has wandered via Sogdian and Turkish to Manchu, i.e. from the Mediterranean to the Yellow Sea. A similar phenomenon has been shown by Aulis Joki for the denomination of the apple<sup>9)</sup>; here, however, we have (in contrast to *nomos*) to assume a prehistorical wandering. To be sure, in these cases normally only cultural words are concerned (hardly basic words).

Let us sum up again: We have to consider many *negative* instances, above all, the theory of probability and non-specific causality.

3. Let us now occupy ourselves with *specific* causality, more exactly with the possibility of proving genetic relationship. We shall investigate the *qualitative* conditions necessary for such a proof.

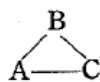
3.1. Very important is the *distribution* of common terms, specifically of common "essential basic words". (We shall speak about this term later on.) Let us assume there are three languages to be investigated: A, B, C. Then we may presume genetic relationship under these conditions:

(1) When many *general* comparisons (of essential basic words, such as 'eye') can be found, i.e., comparable roots in all the *three* languages A, B, C.

(2) When all twofold-combinations are attested, i.e., A=B, A=C, B=C (in other words, when we find words which - excluding C - are found both in A and B, but also such which are common only to A and C and such which are common only to B and C).

E.g., I have investigated Indo-European words beginning with \*bh in these three branches: Germanic, Slavic, Indo-Iranian. I have found 24 general comparisons (common to all the three languages), 29 Germanic-Slavic comparisons, 18 Germanic-Indo-Iranian comparisons, 3 Slavic-Indo-Iranian comparisons. And this means: The Indo-European languages satisfy both conditions mentioned above; we find many general comparisons, and all twofold-comparisons are attested.

Why is this principle of distribution relevant? Well, when we find the following distribution



i.e., when all combinations are attested, all connexions exist, we have got a *closed* system. This closed system is an important feature of genetically related languages. When, in contrast to this, we find



(i.e., when one connexion lacks) we have to do with an open system. In this case we may write as well

$$A—B—C.$$

But this scheme is (except for the indices of direction) absolutely identical with the scheme of a way of loaning, e.g.

$$A \rightarrow B \rightarrow C.$$

In other words: In this case A and B may be related, B and C may be related, too, but A and C cannot be related; and this means: it is impossible that all the three languages are related; but indeed, it *is* possible that none of these languages is related to any other.

3. 2. A common stock of affixes (grammatical morphemes) is also important as a proof of genetic relationship. To be sure, the lack of common affixes does not exclude relationship; there are some languages which do not possess affixes, and other languages may lose all (or almost all) original affixes in the course of their historical development and replace them by new ones. However, the existence of common affixes is regarded with good reason as a strong proof of genetic relationship. But even here one has to be cautious: coincidence may happen with affixes, too, and *just there* (and "non-specific causality" cannot be excluded *a priori*). When, e.g., two languages show very many verbal nouns but only a limited number of sounds, similar affixes will be found quite automatically - without this fact being a proof of genetic relationship. And this especially for the reason that roots normally show such structures as CVC or CVCC, CVCV, even CVCVC, whereas affixes normally are shorter, very often only CV, VC or even only C or V. In this case the possibility of coincidence is considerable, or, in other words, the possibility of distinguishing mere coincidence from causality (correlation) is rather small. Some Caucasian languages show case suffixes quite similar to those of Altaic languages; Lezgian, e.g., has a genitive in *-n* and a locative in *-da*, just as Turkish.

Furthermore, as may be proved on the basis of Northern Tajik and Yakut, even suffixes are not as rarely loaned as one may think: A close contact of languages results even in borrowing of affixes<sup>10</sup>.

Much more conclusive than the identity of some sporadic forms is the identity of such affixes as form a *connected but irregular* system. This is the case of Indo-European, where we find thematic and athematic conjugations, where the forms of the medium are not reducible to the forms of the active+some affix, where a system of apophony (Ablaut) exists which at first sight seems to be rather sophisticated (but is in fact perspicuous), where a complicated system of stress exists, etc.

These characteristic and *specific* phenomena are much more important than some unspecific similarities of isolated affixes.

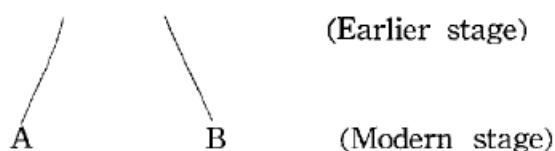
3. 3. A further important condition is that the series of phoneme correspondences ought to form a *closed system*. This does not mean that the phonemes of language X have to be represented by the *same* phonemes in language Y. It only means: When we find a series of phonemes  $a_1, a_2, \dots, a_m$  in a proto-language X we must find a correspondence to each of these phonemes, forming a series  $b_1, b_2, \dots, b_n$ , in the proto-language Y, as well. Of course, two phonemes of X may have converged into a common phoneme in Y, furthermore a phoneme of X may, under combinatory conditions, split up into two phonemes in Y. (Isomorphism is not required.) But to each phoneme of X some correspondence is necessary in Y, and vice versa.

And this closed system of phonemes must be found, not by comparing cultural words (which may easily be loaned), but in essential basic words (such as 'eye, to go', etc.) That is to say when we can prove that the protosystems of phonemes are different, *incompatible*, the languages cannot be related.

3. 4. Structural similarity is rather unimportant for the proof of genetic relationship. To be sure, it is particularly striking; one notices it at the very first glance. A conclusion that "These languages show the same structural system (syntax, word-order, etc.), hence they are related" suggests itself. However, the main principle of diachronic linguistics is: *Similarity proves nothing*<sup>11)</sup>. It is well known that languages which in structural respect are so dissimilar as New English and Lithuanian are related. On the other hand, I have shown elsewhere<sup>12)</sup> that structural similarity may be due to a secondary strong impact of adjacent languages.

By the way, there are not so many possibilities of different structures. That unrelated languages should show structural similarities is therefore inevitable by the law of probabilities. It is well known that in the various American Indian languages one may find all types of structures.

Nevertheless, stressing structural similarity is not absolutely wrong, namely when using it, not as a static, but as a dynamic principle. The probability that two languages are related normally grows when one finds out in the course of a diachronic investigation that the older the investigated texts are the more similar the languages are. Here is a scheme:

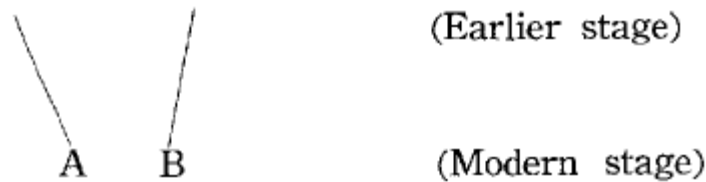


In this case, to give an instance, English turns out to be related to Lithuanian because its older



stage, Old English, still shows a structure very similar to that of Lithuanian: full declension, more extensive conjugation, more polysyllabic words, etc.

This sentence is reversible. Let us assume that two languages formerly were dissimilar than they are today:



In this case one will normally assume convergency, e.g. that B has approached A under the influence of this language<sup>13</sup>).

But let us now come to the most important chapter: to the investigation of the vocabulary.

3. 5. It has been known for a long time that for proving genetic relationship one has to find *basic words*, e.g., general human terms such as parts of the body, corporal activities, numerals, etc. On the other hand cultural words, such as ' telephone', ' motor-car', and even ' house ', ' wine ', are hardly relevant; they are very often loanwords. I would go beyond this: We have to distinguish at least three categories of basic words, namely essential basic words, marginal basic words and intermediary basic words (being between the two extremes mentioned above). In the following I shall restrict myself to an investigation of terms of the parts of the body (" TPB ").

(1) During the years 1968-1973 I have recorded many Turkish dialects in Iran. All of these languages are typical mixed languages. Along with Turkish elements we find many Iranian words (and even some suffixes). More specifically, even in the genetically and geographically most distant Turkish languages of Iran the same words were found to be of pure Turkish origin, the same words were found to be loaned from Iranian. Here are some examples:

Turkish, inherited    Loaned from Iranian

eye                    eyelash

mouth                palate

foot                   heel

hand                  fist

To be sure, this might be typical only for the Turkish languages of Iran. Therefore I investigated

14 further mixed languages (spoken throughout the world), asking ' which TPB are, in all these languages or in many of them, original and inherited and which terms are frequently loanwords ?' I found correlations which correspond rather well to those of the Turkish languages of Iran. Here is only one instance :

	Turkish of Iran		Mixed languages in general	
	Inherited	Loaned	Inherited	Loaned
Eye	100%	0%	100%	0%
Brow	80%	20%	54%	46%
Eyelash	70%	30%	40%	60%

You see clearly: Some TPB, although being basic words, are loaned very frequently, almost like cultural words. These I have called marginal basic words. On the other hand, words which never or very seldom are loaned I call essential basic words.

Thus frequency of loaning is a characteristic which enables us to distinguish essential basic words - which alone relevant for the proof of relationship - from marginal basic words. Now, this statement did not seem to me to be sufficient. At first I asked for the reason why essential and marginal basic words exist and how these words differ from each other *qualitatively*. Furthermore, I investigated some further points where essential and marginal basic words differ from each other. Here is a short sketch of this investigation:

(2) The essential basic TPB (such as, e.g., eye) mark a relevant physiological function, they mean significant and striking parts of the body, they are neither too special nor too general. On the other hand, marginal basic TPB (such as eyelash) show no important physiological function (they are often mere surface areas), they are not very significant and are either too special (as, e.g., ' fist'. which is only a special form of the hand) or too general (as e.g., 'body', 'muscle'). All obscene words, too, are marginal basic words.

(3) Essential basic words very *often* appear in texts, marginal basic words seldom. E.g., in a dictionary of frequency I found ' eye' to be attested 908 times, ' eyelash' only twice. Also in phraseological expressions, proverbs, etc., essential basic words appear much more frequently than marginal basic words.

(4) In the small word-lists gathered in the 18th and 19th centuries by fieldwork investigators in

Siberia, among 50-100 terms we generally find 10-20 TPB. Here too essential basic words (such as 'eye') have been much more frequently asked for than marginal basic words as 'eyelash'.

(5) I performed two psychological tests with my students. In the one case I asked them to write down 5 TPB which just occurred to their mind. In the other case I gave them a list of TPB and asked them to mark these according to their importance. The essential basic words were much more frequently marked than the marginal basic words. Essential basic words are, so to say, stabler, more solid in psychological respect, attention is focused to them much more, the readiness of using them is greater.

(6) This greater stability of essential basic words is also seen in the fact that they hardly ever change their meaning (except for metaphors), whereas marginal basic words very often change their meaning; Latin *coxa* 'hip' is in modern French *cuisse* 'thigh', Turkish *yü:z* 'face' has got the meaning 'forehead' in Yakut, etc. Essential basic words may never become marginal basic words, whereas marginal basic words sometimes replace essential basic words. Old Turkish *qaraq* 'pupil of the eye' has become 'eye' in the Turkish dialects of South Siberia.

(7) Experiences taken from fieldwork confirm this difference between essential and marginal basic words, too. When asking for essential basic words one almost always gets a correct answer, not so when inquiring marginal basic words. E.g., when I inquired the term for 'eyelash' in Turkish dialects of Iran I often got the answer *qäs*, but *qäs* actually means 'eyebrow'. Sometimes it is so that such words have indeed changed their meaning, but very often the correct word did not occur to the informant's mind. Marginal basic words are, as you see, more unstable, more unsettled.

(8) Furthermore, I measured with my stop-watch the time distance between a question (in Iranian) and the statement which word corresponded in the respective Turkish dialect of Iran. I found, e.g.:

Interval for 'eye' : 0.8 seconds

'brow' : 1.3 seconds

'eyelash' : 1.9 seconds.

I.e., essential basic words are uttered spontaneously, whereas marginal basic words need a longer time of reflection.

(9) In morphological respect we may state: Marginal basic words are very often derivations from essential basic words (e.g., 'eyelash' from 'eye', 'finger-nail' from 'finger'), but not so vice

*versa*. In other words, the essential basic words are the *fundamental* category.

(10) Languages generally preserve essential basic words much better than marginal ones. In Buck's Indoeuropean dictionary of synonyms<sup>14)</sup> I found that the Indoeuropean root *\*oku* 'eye' has been preserved in 72% of the languages, but the word for 'shoulder' (a marginal basic word) only in 17%. It is instructive that in the glotto-chronological lists made up by Swadesh the first places of preservation are always taken by essential basic words: ear, hand, tongue, tooth, foot<sup>15)</sup>.

However, one question remains: do basic words *exist* ? This question may be somewhat surprising, as we seem not only to have shown that they exist but also have been able to differentiate among them. But here I have to make an objection, based on the following fact: some words exist, e.g., the terms for " face ", which satisfy *some* of the conditions given above, in this respect being essential basic words (the word "face" frequently appears in texts), but which do not satisfy *other* conditions (English " face " is a loanword from French). This is to say that, frankly speaking, basic *words* do not exist at all. What exists are only basic *categories*. So we have to investigate every word in the light of the ten conditions which I have mentioned. In this case we may call "basic words" all terms which satisfy *most* of the conditions mentioned above - which, as I call it, show bunching. You see the complexity of the topic.

Now, what is there to conclude from these facts? All this means that we cannot use marginal basic words for the proof of genetic relationship. They are too unstable and they are loaned too easily. This, of course, does not mean that related languages have no marginal basic words in common, it simply means that marginal basic words cannot be taken as the *basis* for a proof of genetic relationship, only essential basic words are appropriate for this purpose. We state the following difference between genetically related languages and mixed languages (in close contact): related languages show many common roots of essential basic words, whereas the marginal basic words very often are different, they need not go back to a common proto-form (although they may). On the other hand, close contact mixed languages show many common marginal basic words, but they very rarely show common essential basic words.

This, however, means that before we try to prove the genetic relationship of any languages we have to investigate the *fundamentals of any proof of relationship*, the general conditions for such a proof. A mere comparison by means of comparing dictionaries is not sufficient. We are not permitted to take the second step before the first. Now, I have investigated only 53 TPB, in 18 mixed languages. This may be a good first step in the right direction, as I hope. But, of course, it is not sufficient for a fundamental calculation of long range comparisons. Still more mixed languages ought to be investigated (e.g., a hundred); still more categories of words ought to be

brought into play, such as corporal movements, numerals, etc., let us say, a thousand terms. And each of these terms ought to be investigated in respect of the ten points mentioned above. This means 1,000,000 of items in the whole. To give a further calculation of the program imposed on us, the description of 53 TPB in 18 mixed languages amounted to 264 manuscript pages. Then the description of 1,000 basic words in 100 mixed languages would amount to about 27,700 pages. This is a rather comprehensive program, but it can be accomplished by a team of specialists.

A great task is imposed on us. Let us produce a fundamental program; it alone may bring about reliable comparisons. In this case, some time we shall see - and see *distinctly* - whether Japanese is related to other languages or not, and if it *is* related to other languages, to which. Let us approach the problem methodically and without bias. I think that in linguistics the time of great explorations has just begun<sup>16)</sup>.

1) On comparing Uralic with other language families, *Tartu Riikliku Ülikooli Toimetised* 455.120.

2) For an example how the genetic relationship of languages can be refuted cf. Doerfer: "Urtungusisch ö", *Tungusica* I, Wiesbaden 1978, 105-8. Of course, the "50-words-rule" given above does not concern old texts (as Messapian, Thracian, etc.) consisting of a few words. Here the rules of probability are quite different, as can easily be shown.

3) E.g., IE. \**ghostis* 'foreigner' > English *guest* (positive), Latin *hostis* 'enemy' (negative).

4) *Über die Lautgesetze, gegen die Junggrammatiker*. Berlin 1885.

5) Cf., e.g., Latin *ratfzo* > French *raison* [rezö], according to the sound laws of inherited words; but Latin *ratio* > French *ration* [rasiö], according to the sound laws of loan words from Latin.

6) The form to be expected is \**fame*.

7) This danger is considerably increased by the fact that for a given field of terms (Begriffsfeld) many terms are available, all of which may be used for a comparison, cf., e.g., German 'sehen (to see...), schauen, blicken, lugen, gucken, spähen, glotzen, starren, äugen, beobachten', etc.

8) Suitbert Ertel: *Sinnvolle Artikulation*. (Report to Deutsche Forschungsgemeinschaft; the book is in the press).

9) "Der wandernde Apfel". *Studio Orientalia* 28 (Helsinki 1963).

10) Cf. Doerfer : *Türkische Lehnwörter im Tadschikischen*, Wiesbaden 1967, 54-6, 62 ; Stefan Kaluzynski: *Mongolische Elemente in der Jakutischen Sprache*, Warszawa 1961, 68-118.

11) I dare say this sentence is the most important of linguistics in general.

12) Cf. note 10.

13) It very rarely occurs that languages at first show divergency, afterwards convergency, or vice versa.

14) *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*. Chicago 1949.

15) Cf., e.g. " Lexico-statistic Dating of Prehistoric Ethnic Contacts ", *Lg.* 96 : 4 (1952) ; " Towards Greater Accuracy in Lexico-Statistic Dating ", *IJAL* 21 (1955).

16) I think that this Symposium - with all the broadness of opinions presented there - has taught all of us : a) to respect other scholars' opinions, b) to look out for further possibilities of overcoming the exceeding divergency of opinions. At any rate, I have learnt from this Symposium and am grateful to all inviting colleagues.