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THE REPETITION OF PHONEMIC CHARACTERISTICS IN RADICAL MORPHEMES IN SETS OF SYNONYMS FROM INDO-EUROPEAN LANGUAGES*

CONCLUSION

II.

21. Through its continuations our treatise has now acquired a size unusual for the present periodical and so the editors wish it to be brought to a conclusion. In what follows, therefore, we shall no longer be able to guide our reader on the research path step by step — as we have done so far in the wish to facilitate a strict control of our procedure. In the conclusion we have to restrict ourselves to a presentation of the main features of the so far achieved picture of our insights concerning the ultimate problems posed by the material collected and the statistically discovered laws. The analyses carried out for this purpose, either within the narrower scope of our material or within a broader framework, will be presented mainly in their final results. Since the time available has not allowed us to start some additional analyses or to carry through some analyses already begun, the picture of our insights will be less clear also in places where it might have been made clearer. This is what we should like to call to the reader's attention; on the other hand it is true that a final, possibly exhaustive elucidation of bulky statistical material can hardly be realized in a periodical publication, which has already kindly allowed us a sizable space for the presentation of the material, the counting of it, tabulary illustrations and calculations.

22. **The existing relation between meaning and sound with individual phonemic characteristics.** It has been claimed (under 6) that the non-accidental relation between sound and meaning as seen in the statistically relevant numerical superiority of a particular phonemic characteristic may be based only on the auditory-articulatory features of that characteristic. In Table No IX we have outlined the possible parallelisms in the perception of real phenomena and the auditory and articulatory (i. e., tactile and proprioceptive-

* See First Part, Linguistica VI, 1964; Second and Third Part, Linguistica VII, 1 and 2, 1965; Fourth and Fifth Part, Linguistica VIII, 1 and 2, 1966—1968; Sixth and Seventh Part, Linguistica 1 and 2, 1969.

tive) perceptions originating at the production of phonemes and phonemic groups.

Accordingly, one might assume that single instances of the significant phonemic characteristics might be adequately explained through a consistent comparison of those specific auditory and/or tactile and/or proprioceptive perceptions which are probably caused by the kind of phenomena denoted by that phonemic characteristic with the specific perceptions as originated by the phonemic characteristic itself. In fact several such comparisons have been outlined in the introductions to the individual conceptually determined synonymic sets. Now, when we are attempting a systematic recapitulation and complementation of the comparisons it has to be pointed out that the thesis about the dependence of a significance of a particular phonemic characteristic upon the auditory-articulatory features of this characteristic nevertheless cannot be maintained in all cases.

The direct dependence of the significance upon this factor can be postulated only under the hypothesis that the assumed imitations came into existence in the period when the phonemes occurring in them already had the shape which is known from the Indo-European comparative grammar. On the contrary, if the assumed imitations came into existence before the phonemes occurring in them had their etymologically determined shape, then the significance of these phonemes or rather phonemic groups obviously depends on the auditory-articulatory features of their phonemic predecessors which could have been very similar or even notably different. Now, since the established morpho-semantic correlations in our statistical material contain several instances where the significance of the phonemic characteristics cannot be directly, or at least not wholly, accounted for by their auditory-articulatory features we are by this fact led to accept the explanation of the preceding shape of sound for these instances. In addition to the attempt to reconstruct, as everywhere else, the imitation process itself — through establishing perceptions of the same order and comparing them on the linguistic level and on the level of the imitated extra-linguistic phenomena — we must in these cases reconstruct also the particular preceding shape of the significant phonemic characteristic which will permit concrete insight into the intrinsic relation between sound and meaning.

23. **The quantitative data about the individual phonemes and their structural relationship.** The basis for the reconstruction of the imitative processes is to be found in the networks represented by the synonymic sets with recurring phonemic characteristics and by the denotative chains with recurring identical radical morphemes for the denotation of particular sets of essentially identically perceived phenomena. Each imitative type, however, is to be treated not in isolation but is to be viewed in the system of all the imitations in their totality and controlled as to what place it occupies in it. Several times we pointed out that the mutual relations of the significant phonemic characteristics, within the framework of each concept group as well as in the broader framework of all seven concept groups, reveal a quite definite structure,

a structure existing in parallelisms and oppositions (Table No XII). This structure is deduced from the quantitative analyses of the phonemic distributions in the individual concept groups; the phonemic distribution of the Representative Sample served here as a basis for comparison.

24. There is also a further analytical approach which can additionally explicate the mutual relations in the most important field of phonemic characteristics, i. e., in the field of combinations of two consonants. A phonemic distribution of this kind, as given in the Representative Sample and presented at the outset of our examination in Table No 1, may be analysed for itself with regard to the frequency of combinations and to their optimal arrangement. The arrangement in Table No 1 was just one of the possible arrangements and it was done without any previous internal analysis. The new arrangement in the Table No 1 a (see the appendix) shows clearer the structure of the relationships of the two-consonant combinations in the Representative Sample. The essential feature of the new arrangement comes from the fact that on the left side above the diagonal from the bottom upwards there are all those consonant pairs which have relatively higher frequencies than pairs with the same kind of consonants in the reverse order. In this arrangement the central place is occupied by the consonant pairs containing a guttural; on the left in the lower corner the combinations of nasals and liquids are grouped; on the right in the upper corner we get the combinations of sibilants, dentals, and labials; whereas in the upper left-side corner and in the lower right-side corner there are mixed combinations of all these phonemic classses.

The new arrangement leads us to another no less surprising result. If we arrange according to such a scheme the corresponding phonemic distributions of the seven concept groups (Tables Nos 38 a, 39 a, etc.), it turns out that this permits a new manner of establishing the significant differences. Taking together the phonemic classes **R**, **L**, and **L** into one higher class **b**, taking together the phonemic classes **S**, **T**, and **P** into one higher class **c**, and preserving the numerically strongest phonemic class **K** as its own class **a** gives us nine simplified consonant combinations: **ab**, **ba**, **ac**, **ca**, **cb**, **bc**, **aa**, **bb**, **cc**. A Chi-square calculation on the basis of these nine simplified types reveals for all the seven concept groups significant differences from the Representative Sample. If now these differences are measured in detail by means of calculating the standard deviations, the particular characteristics of these differences from the Representative Sample become for the individual concept groups much more clearly noticeable than before. This applies especially to the negative significances: with the concept groups SMOOTH and NARROW the sum of the phonemic grouping **aa**, **ac**, **ca**, **cc**, is negatively significant whereas the remaining phonemic grouping, containing **b** combinations, shows a positively significant sum. With the concept groups SMELL, TOUCH, and BLOW a negative significance has been found for the phonemic grouping **aa**, **ab**, **ba**, **bb**, whereas the phonemic grouping in which there are **c** combinations displays a positive significance. With the concept groups SHARP

and ROUGH a negatively significant sum comes from the phonemic grouping **bb, bc, cb, cc,** whereas the opposite phonemic grouping, containing **a** combinations, has a positively significant sum. With the exception of the group ROUGH, which requires a special explaining, we may claim that those phonemic groupings which do not contain a consonant positively significant in the particular concept group are everywhere significantly below the normal level. (Tables Nos XVII, XVIII, and XIX).

In this way, distinguishing only three consonant elements, we obtain new parallelisms and oppositions for all the seven concept groups in addition to those presented in Table No XII; and the calculations of the significant differences on the basis of this arrangement offer the most convincing proof in favour of the thesis about the intrinsic connection between sound and meaning precisely because in the collection of the statistical material they could not have been foreseen let alone designed with this end in view. On the other hand, the picture obtained from the structure of the Representative Sample as regards the two-consonant phonemic characteristics in detail (Table 1 a) is strongly informative: a half of all the phonemic combinations is represented by the **aa, ab, ba, ac** and **ca** combinations with gutturals; one quarter by the **cb** combinations with sibilants, dentals, and labials in the first place, and with liquids and nasals in the second; and the last quarter by all the remaining combinations. If taking into consideration the diagonal from the bottom upwards, there is on the left side above the diagonal (concentrated here are those consonant pairs that have a frequency relatively higher than that of the reverse consonant pairs) more than three quarters of the consonant pairs, whereas the reverse consonant pairs make up only a weak quarter. And while the changes of the relative frequencies of the various combinations with **a, b** and **c** produce the established significant differences in the seven concept groups, the ratio 3 to 1 between the two parts on both sides of the diagonal remains essentially the same in the Representative Sample and in all the concept groups: the greatest variations of the ratio show slightly more than one r. m. s. deviation. This datum is all the more interesting because the consonant pairs on the left side above the diagonal roughly correspond to the possible two-consonant beginnings of the Indo-European radical morphemes; on the contrary, the consonant pairs on the right side below the diagonal for the greatest part cannot occur in these radical morphemes without an inserted vowel.

25. Although the seven concept groups discussed in our treatise represent probably the largest conceptually directly connected groups of synonymic sets from Buck's dictionary, referring to the sensorily perceptible phenomena and possessing outstanding phonemic characteristics, it is clear that the established morpho-semantic correlations cannot be the only ones in our population. We are led to believe that with further concept groups one may expect new significant phonemic characteristics or that we may come across the already established phonemic characteristics in a different or even in the same morpho-semantic correlation. In fact it is possible that a particular new

concept group might be — by a certain superior criterion — integrated with one of the hitherto established groups. In order to determine the adequacy of our choice of the seven general concept groups we have taken the sum of their consonant distributions with the deduction of the consonants from the recurring synonymic sets and the distribution obtained in this way has been compared with the distribution of the Representative Sample. It turned out that the consonant distribution of the integrated concept groups with the radical morphemes containing two consonants does not significantly differ from the corresponding consonant distribution of the Representative Sample. But it also turned out that there is a significant difference with the radical morphemes containing one consonant, as well as if we take the radical morphemes containing two consonants and those containing one together. Table No XIX shows in which places there appear considerable differences and in which places only slight ones: this gives us an idea which consonants or rather consonant groups are not sufficiently contained in the integrated concept groups, and with which consonants these groups are saturated. That is to say, where further significant characteristics may be expected and where not. For the present an analogous analysis of the vowels has to be postponed; yet as regards the significant consonant characteristics Table No XIX represents a fairly reliable criterion as to their definitiveness.

26. **Imitations with R.** The morpho-semantic correlation between the phoneme **R** and the denotations of the extra-linguistic phenomena in the synonymic sets of the concept group ROUGH is essentially characterized by the fact that **R** is a vibratory-periodical sound [27], 162, or in other words an interrupted sound [28], 21. Still, this objective physical, or rather physiological, fact is not decisive; what is more decisive is the fact that the Indo-European phoneme **R** was **perceived** as a vibratory-periodical, or rather, as an interrupted phoneme. Such a perception is to be found with every genuine **R.** From a phonetic point of wiew which disregards perception, all the voiced oral and nasal vowels, semi-vowels, nasal consonants, and glides are vibratory sounds as well as **R** [27], 163; [19], 72. With **R** the number of individual strokes per second is only around 25, and so the periodic quality of the acoustic effects and movement can still be perceived; with a higher number of strokes per second, however, the individual strokes can, at least auditorily, no longer be distinguished [30], 86. As regards the possibility of perceiving the vibration, **R** differs from the remaining vibratory sounds as well as from those having no vibration, and a semantic analysis of the synonymic sets under ROUGH shows that it is this property of the Indo-European **R** which makes it possible to relate it to the phenomena denoted in these synonymic sets. It appears that all the words in the Indo-European languages listed under ROUGH and containing in their roots **R** are originally related to phenomena which have as one of their dominant features temporary sequence or spatial discontinuity or both. The general pattern of the imitation process is here, just as with all other imitations: phenomenon — perception : perception — phoneme. And the concrete pattern in its fundamental form is: phenomenon

— perception of stimuli one rapidly following the other in time, or perception of closely located, simultaneously or in rapid sequence perceptible stimuli in space : perception of quick, periodic beats in the organs of speech and the ears — phoneme **R**.

27. If we first take the occurrences of **R** in the onomatopoeias for »crying« (synonymic set 18.13), **R** obviously imitates a vibrating noise accompanying the phonation at a maximum adduction of the vocal chords, sphincteric constriction and vibration of the supraglottic elements and participation of the strong extra-laryngeal muscles; the voice produced in such an instance is crude and hoarse [30], 45. The roots with **R** — vowel and with **KR** — vowel in 18.13 have many parallels not occuring there. In several of those roots we find the specific meaning of »hoarseness«, where owing to the swollen vocal chords the vibration of sound can distinctly be heard. Opposed to crying and hoarseness is singing, the most marked example of pure voice; the names for singing are grouped together in the synonymic set 18.12 under SHARP. There we see — with the exception of the late, secondary, New Greek term — no synonym containing the **R** phoneme. The consonants occurring in the old, probably primary terms, accompanying the characteristic gutturals are either **N** or **L**: the voiced nasal and lateral fricatives convey the sensation of a continuous ringing and echoing of the vocal sound. Also in the index of meaning of the Indo-European roots in WP* we find under the entry »sing« only one further radical morpheme with **N**. The opposition in denoting a vibrating, hoarse sound with **R** and in denoting a continuous, ringing sound with **N** or **L** surprisingly corresponds with the statistical findings for the concept group ROUGH, where the positive significant **R** on the one side is paralleled on the other side by the negative significant **N**, and also the frequency of the **L** phoneme is more than two r. m. s. deviations lower than expected. Since the synonymic sets under ROUGH are for the most part related to the non-acoustic phenomena, and since the phonemic opposition is equal, there is in fact an underlying parallel perception of the discussed sounds in the auditory and the non-auditory spheres.

28. The leading synonymic sets in the concept group ROUGH, i. e., 15.76 rough, 11.14 seize, grasp, take hold of, and 12.74 crooked were chosen with a view of the general nature of the phenomena they denominate: rough and crooked are two broad qualitative phenomena, and seize or grasp represent one of the most characteristic activities of the human hand. These synonymic sets show an occurrence of the phonemic characteristic **R** relatively higher than found in the synonymic set 18.13 for crying: with crying there are 4 radical morphemes having a **R** characteristic of the 13 radical morphemes taking part in the synonymic set, with rough 9 in 14, with seize and grasp 7 in 22, and with crooked 5 in 12.

* WP = Alois Walde and Julius Pokorny, Vergleichendes Wörterbuch der indogermanischen Sprachen, Berlin und Leipzig, 1930.

The established numerical superiority can be based on nothing else but on the tactile-proprioceptive imitation. The perception of the actively sensed coarseness when feeling the surface of an object has already been described. This is a »discontinuous tactile and proprioceptive feeling of a surface where small prominencies alternate with small indentations at minimum distances«. But we may also passively sense the coarseness through somebody else's touch; this occurs with the phenomenon of grasping when we feel the touch of the individual, slightly separated, fingers and nails on our skin when somebody else has vigorously seized us. And beside this passive perception of grasping we get another, active one: this is the preception of crooking the hand and fingers when we seize something. This second perception is obviously the basis for a particular meaning of the word grasp — if we say 'grasp at something' we are not concerned with grasping as an accomplished fact but only with an attempt of that: hence with stretching the arm and crooking the hand. And this crooking and contraction of the hand is one of the most marked examples of crooking and contraction experienced by man on his body. The phenomenon of grasping as an activity and the generic qualitative phenomenon 'crooked' certainly contain the same objective, physical element of crookedness; in view of the outlined general reasons we may assume that also their imitations with the phonemic characteristic **R** go back to the same subjective, proprioceptive perception of successive stimuli, arising from the muscles and joints when the muscles of the crooked hand or of another part of the human body are drawn together.

Such, then, is the reconstruction of the imitation process for the leading synonymic sets in our concept group; this process, allowing for individual variations, is postulated also for the remaining synonymic sets in our group, referring to various physical activities of man, to tools, and to other objects. Where in these synonymic sets we are concerned with imitations with an **R** characteristic, we could probably, from one instance to another, demonstrate that in all likelihood this is a case of the same or similar perception of the imitated phenomena as delineated above. Such an exhaustive explanation, however, cannot be included, and also in the majority of cases it is not strictly necessary for an understanding of the individual imitations. Let us only mention a few synonymic sets where the similarity to the already discussed ones is striking. The rake is clearly a prolonged grasping hand, and all the seven Indo-European radical morphemes, established in the independent synonyms for this tool, exhibit the phonemic characteristic **R.** With harrow, which represents a similar variant of the tool constructed after the pattern of the human hand with separated fingers, we find among the 14 names taken into account in this synonymic set 8 names with **R** in the radical morpheme, etc. A special explanation is called for by the synonymic sets break which has 6 **R** characteristics of the 13 taken into account, and tear which has 8 **R** characteristics of 16 — but we shall return to these two sets later. A further significant activity of the human hand which we must point out is described in the synonymic set rub; the 4 radical morphemes of the 7, which appear in our statistical calculation, clearly with their phonemic

characteristic **R** symbolize the quick, successive touching of fingers and palm balls when rubbing the hand over skin.

29. Although in all these sets the numerical superiority of the phonemic characteristic **R** is non-accidental, as it has been shown by the statistical analysis, and although the suggested explanation seams the only one acceptable, we are still faced with the question: if there are so many expressions constructed systematically, what is the origin of the other expressions which in the given synonymic set do not have a significant **R** characteristic? Let us explain the way how we consider this question, which, if put in an analoguous way, may be applied also to other concept groups and is hence of a general nature, on the example of the synonymic set rub. This set was not classified only into the concept group ROUGH but also into the concept group NARROW. The reason for this double classification was the fact that all the radical morphemes which do not have the phonemic characteristic **R** have a uniform phonemic characteristic **N**. We have been justified in assuming that probably this as well is non-accidental and that this non-accidental character is related to a different basic perception of the phenomenon of rubbing. It actually turned out that radical morphemes with the characteristic **N** from the synonymic set rub recur in several synonymic sets of the concept group NARROW and that the structures of these roots agree with the typical structures as shown by the radical morphemes with the **N** characteristic. The basic perception of the phenomenon of rubbing is then in these cases pressing, squeezing. It follows that with reference to our statistical material it would be wrong to presuppose, in principle, just one possible perception of a particular denoted phenomenon and just one possible imitation of it; there may be more perceptions, naturally also more than two, and for this reason the picture offered by other synonymic sets is no longer so simply contrasted as with the set rub. As a special case let us mention the alternation of the positive and negative perception. In the synonimic set 15.76 rough there are among the 5 considered roots which do not contain the **R** characteristic as many as 3 such roots which denote smoothness, and two of these have the **L** characteristic, a characteristic typical of smoothness. The meaning of rough is created through a negative prefix (not included, according to our rule, in the statistics of the radical morphemes): roughness is perceived as non-smoothness. The simultaneous presence of several ways of perceptions and imitations of the same phenomenon is an important reason why the synonymic sets usually consist of radical morphemes with different phonemic characteristics. Another reason lies in the sound demotivation of the imitative radical morphemes, i. e., in the fact that these morphemes are associated with other phenomena in a way that is not based on the original sensory perceptions connected with the imitations. This process, which is essential for the transition from the imitative representation of the reality to the encoded one, is doubtlessly reflected also in the earliest strata of our statistical material; but since it cannot be used in our explanation of the imitations we shall not dwell on it.

30. To put what has been said so far into a proper perspective, we must point out that what has been established under 25 generally for our statistical material applies also to the concept group ROUGH. The synonymic sets occurring in this concept group do not represent the whole of the synonymic sets which exhibit a numerical superiority of the **R** phonemic characteristic; they do not represent all such sets found in Buck, and still less the sets not included in his dictionary. This is readily shown on an examination of Buck's sets and still more readily on an examination of Pokorny's etymological dictionary and of other standard etymological dictionaries. The semantic range of the radical morphemes under ROUGH is already considerably wider than the set of meanings represented in this concept group, and the morpho-semantic area of **R** becomes still wider when we take a look at the radical morphemes that have remained outside the concept group.

By means of **R** man imitates not only the willful contraction of his limbs but also the wrinkling of the skin and particularly the spontaneous spasm or cramp; further the trembling and shivering and the related disgust, cold, and fear; as a result of the spasm or trembling the stiffness of limbs and their rigidity, and related to the rigidity the stretching and straightness; further the general movements of the limbs to and fro, and the movements of the whole body or of objects to and fro, like mixing, roaming, swarming, rotation, beside the already met boring, and related to the rotation the roundness; repeteated quick movements of the legs as found in rushing and running, quick successive opening and closing of the eyes and the related trembling of light and twilight; and finally boiling, spraying and trickling in addition to the already met retching; crushing in addition to the already met breaking and tearing, scratching and cutting in addition to rubbing and a great series of discontinuous or rough acoustic phenomena. Our enumeration does not pretend to be exhaustive; still, it seems that all the imitations mentioned are based on the same pattern of perception which has been established for the imitations under ROUGH, and so individual, not mentioned, imitations cannot be expected to change essentially the borders of the described morpho-semantic area of **R**. This is demonstrated also by our comparison of the integrated consonant distribution of all the seven concept groups with the basic consonant distribution of the Representative Sample: the phoneme **R** has in the integrated consonant distribution an approximately equal, or even higher, relative frequency as in the normal consonant distribution; the phonemic distribution of further synonymic sets exhibiting a numerical superiority of the **R** phonemic characteristic may therefore be expected to be on the whole parallel to the phonemic distribution of ROUGH.

31. Before concluding the present discussion of the **R** imitations let us try to offer some explanation why the phonemic distribution of the consonant pairs in the concept group ROUGH, presented in Tables Nos XVII and XVIII does not follow the general rule which otherwise applies to all other concept groups: namely, that the phonemic groupings in which there is no consonant that is with the particular group positively significant are

significantly below the expected average. This is obviously to be accounted for by the circumstance that the consonant pairs under **ca** and **aa**, particulary the pairs **SK** and **KK** have a too high relative frequency, as it can be seen in the Tables 3 a and 8 a. Neither of these frequences is significant, but they shift the whole distribution into the frequency scheme of the concept group SHARP, instead of its agreeing with the frequency scheme of the concept groups SMOOTH and NARROW. The consonant pair **SK** is significant precisely for the group SHARP, and in the introduction to this concept group (Linguistica IX/1, 36) it was established that the phenomena of roughness and sharpness not seldom overlap; this, then, is to be seen in a somewhat higher frequency of the pair **SK** under ROUGH. It seems that the interrelatedness of the two phenomena is reflected also in the simultaneous negative significance of **N** and **T** both under ROUGH and under SHARP. The comparatively frequent pairs **KK** in our concept group have another special reason of their own. The nature of the basic perception of the phenomena as it is hidden in the relevant phonemic characteristic occurring here can be deduced with a considerable degree of reliability from the synonymic set 12.75 hook. Beside the 4 radical morphemes with the **R** characteristic and the basic meaning of contracting, crooking, or a crooked object there stands a radical morpheme with double **K** (keg-, kek-) with the same basic meaning. If we take the double **K** in the root to be a reduplication, the perception patterns of the **R** characteristic and of the characteristic with the repeated **K** are in exact agreement. The main function of reduplication is in fact the expression of temporal sequence and discontinuity or of plurality in space [**31**], 286 f. There is also the question whether in the next radical morpheme in the set 12.75, which contains **K** as the sole consonant, **K** recurs in the extension of the root accidentally or not. The semantic range of this radical morpheme (keu-2) is rather wide, and its basic perception and imitation pattern so far have not been determined, there being on this point a gap in our material. Nevertheless the semantic range of the radical morpheme in question when extended with **K** comes very close to the semantic range of the radical morpheme keg-, kek- and of the remaining roots with double **KK** of the concept group ROUGH, which are frequently overlapping in their meanings. The finding about the basic perception pattern which links the phonemic characteristic of **R** with the phenomena imitated by it is in this way confirmed from another angle. Concording data concerning the described imitative value of **R** are to be found in H. Wisseman for artificial onomatopoeias in German [**18**], in M. Grammont for a considerably extensive material from the Indo-European languages [**19**], and particularly in P. Guiraud for many French and Provençal words that are usually not considered to be imitative [**32**] in his study of the morpho-semantic field of the root **T. K.**

32. **Imitations with N.** The phoneme **R** may be freely produced in a number of places in the organs of speech, from the pharynx to the lips, yet always in essentially the same way and its perception is uniform. On the contrary, the production of nasals, although limited to just a few places of articulation,

can take place in various ways, and their perception differs as to the place of articulation and as to the way in which it is done. Since in the present study we grouped together all the varieties of nasals, we are interested chiefly in those circumstances of their articulation which are present with all of them and which are characteristic of the nasals as a phonemic class. The first property they share is that they are **nasal fricatives**, usually voiced but possibly also unvoiced. Their next property is that they are at the same time stops **as regards the oral cavity**: the air stream is directed through the nasal cavity while the oral cavity is more or less firmly closed by the velum. [33], 50. With this closure, weak or firm, the pulmonary air exerts no pressure as it is the case with the stops proper, because the passage trough the nasal cavity is free. The third common property of nasals usually unmentioned or at least not stressed, is that under certain conditions they may also be **stops as regards the nasal cavity** and that under such conditions they are realized with strong nasal explosion. This occurs when they are articulated with energetical expiration anywhere in the word, but also in normal articulation immediately after oral stops, especially after gutturals. The difference from the production of stops proper lies in that with the nasal explosion the closure is released inwards, merely by means of muscular energy, against the driving pressure of the pulmonary air. [34], 119 120. The significant **N** characteristics, occurring in a part of our statistical material — in which the denotations of the auditory perceptible phenomena represent a very slight minority — unambiguously suggest that we have to do with imitations based on tactile-proprioceptive perceptions; various phenomena, perceived in their properties as parallel to the different articulatory properties of nasals described above, are imitated by the same general nasal characteristic or yet more closely rendered by specific nasal characteristics containing phonemic combinations with **N**.

33. The main assemblage of the N characteristics is to be found in the concept group NARROW where we get a parallel occurrence of the general significant characteristic N and the specific significant characteristic **KN**. Among the three leading sets in this group the synonymic set 12.14 thick (in density) contains 6 radical morphemes with the **N** characteristic of the total 13 roots taken into account; the specific characteristic **KN** is shown by three roots, two roots have **TN**, and one has **PN**. All these radical morphemes containing throughout a stop before a nasal refer to phenomena of pressing and of compressed compact objects, or to phenomena of tension or swelling and of tense or tumid objects. If we take this as a matter of the original sequence of a stop and a nasal with a later central vocalisation, the perception of the oral-nasal blocking in the onset and in the maintained closure of **KN**, **TN**, or **PN** is in agreement with the perception of the constriction and tightness in the pharynx when the body is under strain with the breath being hold back. The predominant occurence of the **KN** phonemic characteristic for the imitation of the phenomena of pressing and tension in the set 12.64 and in other parallel sets under NARROW is a consequence of the fact that, given an

equally strong articulation, the pressure of the muscles and the pressure of the air stream are stronger in the articulation of the phonemic group **KN** than in the articulation of the phonemic group **TN** or **PN.** Owing to the close neighbourhood of the back of the tongue and the velum the articulation of the phonemic group **KN** — as is shown by the semantic analysis of radical morphemes — is perceived as a whole, whereas with **TN** and **PN** the attention is paid on the one side to the nasal closure, and on the other side to the closure with the stretched, tense tongue, or with the tightened lips and inflated cheeks. In the concept group BLOW we find generally acknowledged imitations with the specific phonemic characteristic **PN** which denote the phenomenon of inflated cheeks and similar objects. We find further a imitative root (pneu- etc.) even with a direct sequence of the two consonants. The root clearly refers to physiological phenomena containing a nasal explosion (coughing, or supressed laughter in Germanic languages, panting, hard breathing in Greek), and on the other hand to suppressed breathing (Grk. pneûma in the sense »a sentence declaimed in one breath«*) and to choking in the throat or strangling (Br. nec'h »anxiety« from the IE pnek-s- in the synonymic set 16.33 and Grk. pnīgō »choke, throttle, strangle«, WP 2.85).

34. The next synonymic set where we must stop — this set giving the name for the concept group — is 12.62, narrow. Of the 12 radical morphemes considered there are 5 with the general **N** characteristic; of these one again has the specific characteristic **KN,** another one the reverse characteristic **NK,** and two have **SN.** Reconstructing the probable imitations we proceed best from the already known. The tactile-proprioceptive perception accompanying the energetic oral-nasal closure may be interpreted as an active pressing or tightening, or as a passive state of being pressed together or pressed tightly. These two phenomena and the coresponding notions are complementary. Therefore every radical morpheme denoting pressing has a potential meaning of narrowness. In our instance the basic meaning of the root with the **KN** characteristic (ken-2) is stated to be »scratch, rub«, yet there exists a homonymous root (ken-1) meaning »pressing, something pressed together«, and the dificulty for a fitting morpho-semantic interpretation of the synonym with the radical **KN** is only apparent; in fact, it is questionable whether the divison into two morphemes is justified, as under 29 we see that the meanings of pressing and rubbing interchange. The radical morpheme with the reverse **NK** characteristic ang'h represents a typical example of the simultaneous appearence of the meanings of pressing and narrowness; the meanings» bind« and »bond« are but variants of the meaning »press«, and in this case the basic meaning of the constriction in the throat is directly exhibited in Latin. The perception of the articulation of the immediately connected phonemic group **NK** is basically identical to that of **KN** irrespective of the reverse order, and the imitation pattern is the same.

The specific characteristic **SN** is significant in SMELL in the morpho-semantic correlation with the phenomenon of smelling and tasting. An imitation

* Liddel, H. G. and Scott, R., Greek-English Lexicon, 9th edition, s. v.

of pressing or narrowness with the same characteristic in the synonymic set 12,62 may at first glance appear to be a strange one. Perhaps we can assume that **SN** represents in this case a closure in the pharynx blocking the air passage to the nasal cavity in the same way as **KN, TN** or **PN**, whereas in correlation with tasting under SMELL it represents a release of this closure through an energetic lowering of the velum and at the same time a beginning or performed closure towards the oral cavity. Such a perception of the nasal in the phonemic group **SN** is indicated by the meaning of »stroke« which appears in a great series of the radical morphemes exhibiting this characteristic, e. g., smēi-, snadh-, sneit-, under SHARP. This meaning of »stroke« can be taken also to be one of the parallel meanings in the two radical morphemes with the **SN** characteristic in our synonymic sets. Under mel-l, smel-, from which almost certainly the lengthened forms mēlo-, smēlo- come, we find the meanings »pound, smash, hammer, smite«, usually in forms without **S**, and in the Scandinavian languages particularly in **SN** forms. In view of the numerous semantic parallels also the meaning of »swift« beside »narrow« in snēbh-ri- goes back most probably to the original adverbial meaning »at one blow«, i. e., »at once«. The role of **S** in all the enumerated morpho-semantic correlations of the phonemic characteristics **SN**, is, however, not as clear as the role of the nasal; it seems that at least in part we must resort to the explanation based on the preceding form of **S** as generally postulated under 22 and practically outlined in the introduction to the concept group of SMELL. We shall again return to this problem, which is probably connected with the puzzle of the so-called shifting Indo-European **S** in the discussion of the **S** imitations. For the present let it suffice to establish that the last radical morpheme in the set 12.62 with the **N** characteristic is a morpheme with a shifting **S** ([s]nē-, [s]nēi-) and that the meaning of »narrow« — just as well as the meanings »bind« and »bond« — there appear in spite of the absence of **S.**

35. The last leading synonymic set under NARROW is 5.54 knead. It is in the title of this group because it clearly refers to man's manual activities and because the occurrence of the nasal characteristics in the set more obviously than elsewhere points to a parallelism or even to a synergism between the movements of the organs of speech and the hand. Of the 12 radical morphemes taken into account in our statistical calculation there are 6 with a general **N** characteristic, of these two with the specific **KN** characteristic, another two with the specific **NK** characteristic, while one morpheme has a specific characteristic not met so far — **NN.** The structure of the roots with **KN** is here identical with that in the sets 12.64 and 12.62; with one of them (gen-) it is clear that the underlying meaning is pressing, something pressed; while with the other (g'en-l), according to the traditional interpretation, it is said to be »beget«. In the light of our insights the basic »masculine« meaning has to be replaced by the »feminine« pre-Indo-European basic meaning »give birth to« which comes up in this root at least as frequently, and the basic perception of delivery as pressing be-

comes obvious. And the fact that the root g'en-l in our instance denotes manual pressing and that the manual pressing is identified with the general phenomenon of work (NIr. fuinim »I knead«: OIr. gniu »I do« in the synonymic set 9.11) has an exact parallel in another radical morpheme of our set with the **NK** characteristic (mag'-). In Greek this morpheme refers to »knead«, while in West-Germanic languages, including English, it gave a normal term for accomplished work: make. A similar parallel development of meaning is exhibited by another two roots in our set, a root with just a mere **N** characteristic (mei-k'-, mei-g'-) and a root with a double **NN** characteristic (menϑk-): beside the meaning of »knead« there appears in both roots the meaning of »mix«. Therefore we may postulate for the first of the two roots the basic meaning to be »pressing«, just as well as for the second: the meaning »mix« is the final meaning and not the initial one. All the enumerated examples of the **N** characteristics in the discussed set 5.54 show an evident morpho-semantic correlation; this correlation is so clear that even the last, late synonym with the **NK** original characteristic in the root (Bret. merat), which came to mean »knead« by borrowing and by an unusual shift of meaning, can sooner be taken as an instance of secondary imitation — explained under 19 in the present conclusion — than as a purely accidental product.

As regards the perceptions of the specific nasal characteristics occurring here it must be pointed out that there is a predominance of the perception pattern of the energetic lowering of the velum with the indicated or performed closure against the oral tract; this perception pattern being similar to the one reconstructed with the **SN** characteristic for tasting. Thus the present **NK** characteristic must be interpreted. It differs from the one in the set 12.62 narrow where we spoke about the perception of a raised velum and a closure against the nasal tract. The difference is to be seen in the different structure of the radical morphemes: mag'-: ang'h-. The parallel **NN** characteristic probably reflects the twofold perception pattern of the preceding lowering and the following raising of the velum. It is additionally found also in the sets 4.207, 5.11, and 5.12, which all refer to feeding, and it appears therefore that it is precisely in the imitation of the movements of chewing — or more exactly in the imitation of the participation of the velum in the swallowing of the chewed food — where we may find its ultimate source. The identical structure of the roots with **KN** in our set and in the sets 12.62 and 12.64 is a confirmation for the validity of the assumption stated there that the ultimate source of **KN** imitations has to be seen in the imitations of the bodily effort or strain, optimally indicated by the **KN** characteristic of the raised velum and a closure against the nasal tract. Accordingly, the sense of manual pressing in our synonymic set is derived from nasal imitations of various origin.

36. We have not discussed here a large series of other morpho-semantic correlations in which the **N** characteristic occurs outside the group NARROW. One of them is the correlation between the **N** characteristic and a light,

undisturbed movement through openings and tube-like passages (slipping through), or a light, unforced movement across a surface (sliding); this meaning of the **N** characteristic is derived from the tactile perception of a light, undisturbed movement of the air through the immobile nasal cavity which does not and cannot in any way impede its movement. On the same perception of the movement of the air through the nose is based the **N** characteristic for smelling, which together with the already discussed **N** characteristic for tasting (referring to the perception of the lowered velum) appears in the concept-group SMELL. The parallel auditory perception of the nasals and their correlation with a continuous, echoing voice was met in terms for singing under 27. The **N** characteristic for smelling probably accounts for a numerical superiority of the nasals in a whole series of roots for thinking, mind, and related abstract notions; such a surprising numerical superiority can be found at a cursory glance at the 17th chapter in Buck's dictionary, under the title MIND, THOUGHT. A further correlation exists between the **N** characteristic and looseness or slackness, which is based on the perception of the loose velum with a weak closure against the oral tract; this meaning of the nasals is erroneously regarded as their principal, if not unique 'natural' meaning [19], 408, but its statistical significance could be demonstrated on the nasal infixes of the Indo-European roots rather than on the roots themselves. The combined perception of the loose velum and of its vibration, obviously accounts for the **N** characteristic or rather the specific **NR** characteristic in the radical morphemes for snoring. (Snoring is also frequently imitated with the specific **KR** characteristic, and here the **K** characteristic refers to the perception of the pharynx.) The **N** characteristic can denote further a pronounced muscular release of the velum in moments of physical pleasure and this leads again to new morpho-semantic correlations. E. g., in this connection the nasals occur in the radical morphemes for laughter; on the contrary the presence of nasals in roots for grinning and mocking, as well as in the roots for snarling and growling, is based in part on the auditory perception of these phenomena and in part on the perception of the stretched velum combined with the perception of the widened nostrils in a mimic grimace. We find also the **N** characteristic in the imitations of a third phenomenon opposed to both preceding ones, i. e., in the imitations of the mimic expression of rejection and »snobbery«; in this case the reason for the use of nasals is in the perception of the narrowed nostrils and the contracted raised velum. As we can see the number of tactile and proprioceptive perceptions related to the extra-linguistic phenomena in the area from the velum to the nostrils is very great: all this is imitated by the **N** characteristic which is in individual cases defined with specific **N** combinations. Just as at the general survey of the highly varied morpho-semantic correlations of the **R** characteristic, here as well we cannot pretend to be exhaustive. We have merely indicated a wide sphere of the 'natural' meanings of the nasal characteristic; this area extends far beyond the area of its significant correlations and should be investigated statistically.

In this study we did not take into account the particular perception characteristics of the individual nasals: e. g., the phoneme **M** — owing to its additional perception of closed or closing mouth — is often correlated the phenomenon of closing. The synergism between the closing of mouth and eyes or rather lips and eyelids probably accounts for the **M** characteristic in the denotation of the closing of the eyes and the related phenomena of indistinct light, twilight, or darkness. This **M** characteristic is found alternatively or together with the already mentioned **R** characteristic for the same phenomena. The synergism as the basic reason in the imitations with **M** appears also in the preferential combination with the vowel **I** characteristic which — starting from the perception of the lengthened, stretched lips, raised tongue, and stretched velum [34], 102 — just as well refers to the phenomenon of pressing. The **M** characteristic in combination with the vowel characteristic **U** is found in the same sense in the generally acknowledged imitative radical morpheme mu*-. In a parallel way we may compare also **KN** in Lat. cōnīveo from IE kneig'h-, Grk. sknîphos, skniphaîos from IE ken-, sken-, and Grk. knéphas, which all relate to pressing the eyes together and to darkness. The »expressive« **N** characteristic and the **I** or **J** characteristic are treated by V. Machek [35], 10—60. The role of narrowness or width in the pharyngo-velar sphere of the organs of speech and the role of nasality in the »sublinguistic phonic expression« is studied by F. Trojan [36], and [37]; but he erroneously claims that the sublinguistic and at the same time the prelinguistic phonic expression has no connection with the construction of linguistic systems; the root material of the Indo-European languages points to the contrary.

37. In our reconstruction of the **R** and **N** imitations we were irrespectively of the limited space somewhat longer — in the wish to show at least by means of two different examples as clearly as possible the method used in the explanation of the various statistical results; at the same time we wished to draw attention to the numerous supposed morpho-semantic correlations which although not yet statistically examined show a considerable degree of probability if we view them as parallels or oppositions to the significantly demonstrated correlations. With the following reconstructions we shall have to tackle the most difficult problems of the Indo-European imitative system. A great deal of time and space at our disposal will be occupied as much by the exposition of general linguistic facts and the description of the imitated real phenomena as by the necessary comparisons and the corresponding logical conclusions. So we shall make broader comments on the less transparent but most important instances of imitation only, omitting a near explanation of the repeated or slightly varied imitations which might be with regard to the former easily understandable.

38. **Imitations with central oral consonants.** In the perception of the speakers belonging to the Indo-European community the sound **R** differed from the remaining sounds **in the manner of its articulation,** which was interrupted; while the sounds of the **N** type were in the perception of

the speakers defined above all **by the restriction to a particular articulatory area**, i. e., to the velum and the nasal tract. Locally well defined in the consciousness and in the subconsciousness of the speakers were also the sounds of the type **K** and the sounds of the type **P:** the former because it relates to the throat in the broadest sense of the term, from the larynx to the back part of the tongue and the velum; and the second because it relates to the lips and cheeks. This follows clearly from a morpho-semantic analysis of the traditionally acknowledged Indo-European onomapotoeias and of the radical morphemes with significant phonemic characteristics in our statistical material. For the sounds that are in their final form represented by the Indo-European phonemes **S, L,** and **T** it is less evident whether and how they were perceived by the speakers. Here we have to reckon with the biggest changes from the pre-Indo-European to the Indo-European period. Under 34 it was already stressed that at least some of the phonemic characteristics of **S** have to be traced back to the preceding pre-Indo-European form of that phoneme if we want the significant morpho-semantic correlations should be understandable. The same applies also to some phonemic characteristics with **L.** The interpretation of the imitations with the **T** characteristic may seem easier, as in the semantic analysis of the corresponding radical morphemes these imitations seem to be naturally founded through the perceptions located at the front part of the tongue and at the palate, including the alveoli and the teeth. Yet the sounds of the **T** type — from the point of view of their articulation and of the role they played in the genesis of speech — are so closely associated with the sounds of the type **S** and **L** that we can attempt their explanation only after reconstructing the imitation processes hidden behind the **S** and **L** characteristics.

39. The articulatory interconnection of dental, lateral and sibilant sounds consists in the fact that all of these are articulated predominantly in the central part of the organs of speech, i. e., in the oral cavity in the precise sense of the term, and that they are produced with strong movements of the front and middle part of the tongue. They are opposed to the gutturals and labials on the one hand and to the nasals (excepted the dental nasals) on the other. The gutturals and the guttural nasals are — beside the opening of the lips — produced in the back of the organs of speech, in a continuous tract reaching from the larynx to the nostrils; the tongue is involved only with its back part or is not participating at all. The labials and the labial nasals are — the velum and possibly the nasal tract participating — produced in the frontmost part of the organs of speech with the compression of the lips; the tongue is here consistently uninvolved [15], 419. In this way with all the enumerated sounds, the gutturals, labials and guttural and labial nasals, the central part of the organs of speech is not involved in the articulation.

40. From the observation of speech development in childhood we know that the predominant majority of the consonant sounds independently produced by the child in the first months of its life are laryngeal and velar

sounds, that is in our terminology gutturals [38], 415, 416; [39], 374. We might add that along with these occurs the pharyngeal **R** [**R**], 13, 177. If »deaf infants go through the first of babbling just as normal infants do, and it requires no experience of language for its onset not for its maintainance during the first stage« [41], 524, we may take that this is obviously a case of old sound inheritance. These sounds, produced in the back of the organs of speech later disappear, and when the baby starts learning the language, imitating the sounds of the adults, the labials produced in the opposite front part are the first to appear [39], esp. 356 iff.; [42], 77, 151. So we may say that the sounds produced in the central part of the organs of speech are the last from the phylogenetical and ontogenetical view. This is confirmed also by the observation of the anthropoids. The consonant system of the chimpanzee's »speech« consists only of gutturals, the pharyngeal **R**, and the nasals; when captured by man the chimpanzee among other things learns to imitate the human labial sounds but it cannot imitate the sounds requiring strong movement of the front or of the central part of the tongue, either perhaps because of an inappropriate anatomic structure of the tongue and of the oral cavity [43], 391—397; [44], 654—658, or because of a different nervous system [45], II, 40.

41. On the other hand it is known that the linguistic function of the organs of speech is a secondary function or »parafunction« derived from the primary, elementary functions of these organs. This is emphasised already by E. Sapir [46], 8, and M. Grammont [19], 22. Similar findings have been made by the more recent authors; they stress particularly that from the motor point of view beside the respiration, vital and phonic—which is especially the basis for the production of vowels — the main source of the linguistic function is the use of the same muscular effectors as with nutrition (chewing and swallowing), and that particularly as regards the articulation of consonants [27], 133. A closer analysis of the movements during feeding and during speech has been carried out, and a limited number of primary pharyngo-buccal stereotypes have been established, which in both cases are almost identical [15], 418, 419. From this it would follow that for instance the labials owe their articulation foremost to the opening and closing of mouth when seizing food, and the gutturals their form to swallowing; along the same line of argument the chewing of food in the mouth may account for the shaping of the articulatory movements of the consonants produced in the central part of the speech organs. And since it is difficult to imagine that the process of the shaping of the articulatory movements on the whole and the mental process of the symbolic representation of the reality through these movements should have been developing independently, we may expect that the terms for feeding in various languages of the world will show traces of parallelism between their semantic contents and the specific articulatory movements originated by the movements of feeding. The root material of the Indo-European languages reveals such traces: the phonemes of the type **P** denoting the seizing of food (pap(p)a-, kap-, ghabh-) and phonemes of the

K denoting swallowing (gel-, g^{w}el-, g^{w}er-, slrg-, (s)leug-). The phonemic charasteristic **NN** found in the meaning for chewing, i. e., rather in the meaning of the passing of the chewed food into the larynx in contact with the velum (menth-), was already discussed under 35; there are several other radical morphemes, referring to feeding, with a single **N** characteristic (meit(h)- and pen-, mad-, (s)nā-, nes-). Yet the velum participates only at the end of the chewing, and so we could expect that in the radical morphemes denoting chewing we shall find mostly the sounds produced in the central part of the speech organs which are represented by the phonemes of the type **T, L, S** in our statistical population. Such a hypothesis being true may lead us to a more sure reconstruction of the imitation processes underlying the significant phonemic characteristics **T, L, S.**

42. In the synonymic sets 5.11 eat, 5.12 food, and 4.207 jaw (Linguistica VI, 18 and VIII/1,10) we find in fact beside the nasal characteristics also dental, lateral, and sibilant characteristics in the same or in other morphemes, as this can be seen from the instances already quoted; but from the average number and from the not uniform structure of the roots with such characteristics we cannot infer a reliable reconstruction of the imitation pattern: chewing — the perception of chewing : the perception of the phonemes **T, L,** and **S** or of their predecessors — these phonemes. Above all it seems that these terms for eating, food, jaw and related phenomena contain imitations of all phases of feeding, i. e., imitations of grasping food, chewing, and swalowing it. Besides, the formulation: chewing — sounds produced in the central part of the speech organs is obviously too narrow. The probable source and the imitation object of the central oral consonants is not merely chewing but also the parallel physiological processes of tasting, sucking, sipping, and drinking. The role which tasting (with chewing) has in the formation of the speech sounds, has been treated by several authors; an interesting experiment has been made in this connection [47], 64—66; a possible role in the ontogenesis of the infant's speech is assigned to sucking, particularly in connection with the labials [39], 374. But to our knowledge no examination has been made of the motor and sensory patterns of sucking, sipping, and drinking in the phylogenesis of the human speech, and also the imitations of these phenomena have been examined in passing only. In the present study we have tried to make up for this last deficiency, and in the concept group SMELL, TASTE, SUCK we have included beside the terms denoting smelling and tasting all the synonymic sets from Buck,s dictionary which refer to sucking, sipping, and drinking. In this concept group we get a more clear picture of the correlation between the central phase of feeding and the central oral consonant as in the case of the synonymic sets of eating, food, and jaw included in the concept group NARROW.

43. To allow the necessary comparisons we give a short outline of the related physiological functions, first of chewing. When through the open mouth food comes into the oral cavity and the mouth closes, the tongue is stretched out to get hold of it; the lateral edges of the tongue are raised and

in the middle the so-called palato-lingual channel is formed. In this channel a mouthful of food is shaped, which is precedingly crumbled by the teeth and the closing lower jaw; the tongue presses on it with its front part, upwards and from both sides towards the palate, and pushes it backwards; finally the mouth being closed, the back part of the tongue is raised and throws the mouthful into the pharynx. In doing this the chewing muscles which elevate the lower jaw get contracted, and with them also the muscles of the floor of the mouth. Some raise the tongue bone and in this way the whole tongue, while others pull it back and at the same time narrow the passage into the pharynx (isthmus faucium), which is formed of the velum and the bi-partite pharyngo-palatal arch. When the mouthful touches the passage, the passage opens like an iris and allows the mouthful to pass, upon which it is closed again [48], 273—274.

The purpose of tasting is to secret saliva which is indispensable for chewing and digesting. The specific sensation of taste is produced through the action on the taste buds of the substances solved in the saliva. The taste buds for the pleasant (positive) sensations of sweet and salty are located on the tip of the tongue and on the front parts of the lateral edges; the taste buds for the ambivalent sensation of sour are on the middle part of the lateral edges; while the taste buds for the unpleasant (negative) sensation of bitter are — most likely not without reason in the area where the reflex mechanism for vomiting is situated — on the base of the tongue so that in this way the rejection of unpleasant or unsuitable food is made possible [48], 279. In order to achieve in feeding a maximum salivation and an optimal taste perception it is necessary that the solved substance comes into touch with as many sense cells for pleasant taste sensations as possible; accordingly, with tasting the chewing movements of the front part of the tongue upwards toward the palate are accompanied by strong movements of the tongue downwards to the floor of the mouth and by a simultaneous bending of the tongue edge downwards so that the solved pleasant substance can flow over them.

At the normal drinking of adults the same movements are involved as at chewing. It differs slightly from it that the front part of the tongue at its pressure upwards does not move to the right in to the left, since here it is not necessary to shape a mouthful. A greater difference is found at sipping, accompanying mostly the initial phase of drinking. With the opening of the mouth there is a simultaneous inspiration of air through the oral tract in order to convey the liquid into the palato-lingual channel; to this aim the lips are protruding and the tongue produces a sucking movement down and backwards. The sucking — as an inherited biological function of infants — consists just of these movements of tongue and lips, but at the same time also the lower jaw is considerably retracted — on the average 15 to 20 mm — in milking the teat of the mother's breast or a similar object and, as the entrance into the oral cavity is obstructed, lips and jaws remain open even in the final phase of swallowing. Consequently, the back part of the tongue cannot be tensed to thrust the liquid into the pharynx and the swallowing is

carried out merely by the combined pressure of the muscles of the floor of the mouth and of the muscles of cheeks and lower lip [49], 391—394, 569—577.

44. We return now to the question of the morphosemantic correlation between the central oral consonants and these phenomena. Under 42 we mentioned an experiment made by F. Trojan in which the speech sounds and the sounds produced in chewing and smacking were compared. Since the ultimate goal of the experiment was to verify the hypothesis about chewing aloud as the origin of speech ten subjects were asked to chew a bite of sandwich with open lips and in chewing to smack and grunt as they pleased. The acoustic effects produced in this way were recorded on a magnetic tape. It turned out that the sound »raw material« was composed of three main components: 1. labial and dental, mostly palatalized, click sounds; 2. sounds resembling **a**, mostly nasalized, but sometimes resembling **o**; and 3. the nasals **m** and **n**. If we compare the result of this experiment with the significant characteristics **SN** and **SL-NL-TL** in the concept group SMELL, TASTE, SUCK, and with the significant **N** characteristic in the synonymic sets 5.11 eat, 5.12 food, and 4.207 jaw in the concept group NARROW, we see that the imitations with the **N** elements faithfully represent the nasal manifestation of the phenomenon imitated. In chewing nasal sounds are really produced — by breathing through the nose by repeated mouth closure and by closing and opening of the oral cavity in the direction of the pharynx through the velum. With chewing aloud resonant nasals, with ordinary chewing non-resonant nasals are produced.

On the other hand the main acoustic manifestation of chewing and tasting is represented by the smacking, clicking sounds. Their production corresponds precisely to the sucking opening of the lips and the described essential movement of the front part of the tongue: with chewing upward towards the palate, and with tasting downward towards the floor of the mouth. A faithful imitation of these sounds and movements can apparently be found only in the click sounds existing for instance in some African languages, notably in the languages of the Bushmen. It seems therefore that there are only two possibilities for the explanation of the phonemic types **S, T,** and **L** in the Indo-European imitative radical morphemes concerning chewing and tasting: either these phonemes are a highly imperfect imitation of these activities or they are successors to sounds resembling clicking formed in the pre-Indo-European period.

It may be pointed out once more, however, that the experiment discussed deals only with chewing and tasting; a similar experiment for drinking, sipping, and sucking is unknown, while the significant **S, T,** and **L** elements in the concept group SMELL, TASTE, SUCK which are to be explained, occur also in the radical morphemes with these latter meanings. In the reconstruction of the imitation processes, attested in the Indo-European languages by the significant central oral consonants, it is imperative to take into account also the special movements and sensory perceptions inherent in the phenomena of the passing of liquids through the oral tract.

45. The essential difference between the perception of solid food in the mouth — although already substantially salivated and well chewed pulpy food — and the perception of the liquid food or any liquid in the mouth lies in the fact that in spite of the palato-lingual channel the liquids overflow its borders and come to the floor of the mouth whereas with solid food this does not occur. Here we may ask ourselves for the reason why the grammarians of Antiquity called the sounds **L** and **R** liquids and — taking **L** only — why with the explanations of linguistic imitation and of the origin of language we meet constantly the idea that the sound **L** is associated with the meaning of liquid. The outstanding French phonetician M. Grammont finds the denomination as »liquida« for all the various kinds of **L** fully appropriate: »at a certain point the tongue closes the middle line of the oral tract, the breath escapes on both sides of the tongue, and its glides through like a liquid which is flowing«. Considering in a special chapter of his book the impressive value of individual sounds, proceeding from their auditory impression, he says about **L**: »the sound **L** which as we have seen represents the sound of gliding and even more generally the liquidity in so far as it is accompanied by sound is just as appropriate for the representation of a not audible gliding and even of the state of liquidity.« And once more: »the combination of **F** with **L** combines the breath with the liquidity, and this gives the impression of fluidity« [19], 71, 408, 411. If we take into consideration that the speech sounds are perceived not only in an auditory but also in a tactile and/or proprioceptive way (Table IX), is it not most reasonable to assume that the above described impressive values of the sound **L** represent a consequence of its lateral fricative articulation which essentially distinguishes this sound from all other sounds appearing in the Indo-European languages? And is it not a further natural assumption that there is an objectively founded parallelism with the speaker between the perception of the lateral fricative articulation of the sound **L** and the perception of the liquid in the oral cavity, overflowing the edges of the tongue and reaching to the floor of the mouth?

That the tactile-proprioceptive sensations created in the articulation of **L** are located on the lateral edges of the tongue — not merely at the edge line itself but also below it on the lower side of the edges and at the floor of the mouth — can easily be proved by self-observation. For this purpose, it is advisable first to produce a non-resonant **L** so that the participation of the vocal cords in the voiced production does not distract the attention from the essential consonant articulatory features of **L**. The experiment may be best made even with an inspirated non-resonant **L**, since with such production of this sound the air moves in the same direction as liquids when sucked, sipped, or drunk. This is not strctly necessary since the essential articulatory features which we are here concerned with are the same with the expirated, resonant **L**. Whatever specific articulation of **L** we now decide upon, be it dental, alveolar, celebral, dental-velarized or interdental [34], 106, 107, or an articulation with the front of the tongue pressed against the lower teeth, in each case it is clearly distinguishable that the air passes along the edges of the tongue and along the lower side of the edges, just as with

liquids flowing over the edges of the tongue and across the floor of the oral cavity.

46. The imitative mechanism which is based on the parallel perception of the physiological processes of drinking, sipping, and sucking seems to be in this way accounted for. But the gliding of liquids through the oral cavity is expressed in the Indo-European radical morphemes not only by means of the **L** characteristic but also by means of the **S** characteristic. It can be assumed that this characteristic in opposition to the **L** characteristic imitates the gliding of the liquid along the palato-lingual channel itself, and particularly the auditorily very perceptible simultaneous gliding of the air and liquid along this channel when the air is inspired during sipping. Thus the Indo-European etymological science itself explains, e. g., the origin of the radical morpheme seu- with the nominal meanings of sap and moisture and the verbal meanings of rain, trickle, curdle, suck: »**SU** originally seems to have reproduced the sound with which one sips a liquid« (WP 2.468). In the concept group SMELL, TASTE, SUCK the occurrence of this root shows a numerical superiority, and even more numerous are the roots with an initial **SW** where mostly the same or similar meanings come up. The difference between this imitative value of **S** and the outlined imitative value of **L** is obvious in the fact that it is the passing of air alone through the oral tract, which can be imitated by **S** — in meanings in which the idea of a liquid is excluded, as, e. g., in the synonymic set 15.84 dry — whereas there are no instances where **L** would reproduce the passing of air or breath only. The fact that the **S** imitations may refer to a liquid and to air forms the main basis for the significance of the general **S** characteristic in the concept group SMELL, TASTE, SUCK. In this way the imitations of drinking, sipping and sucking may be explained on the basis of their fricative features; on the contrary in the imitations of chewing and tasting discussed under 44 we had to assume preceding clicking forms of the **S** and **L** characteristics.

47. To establish the consistence of these two opposite explanations we start form the phonemic forms of the radical morphemes in the synonymic set 5.16 suck. Beside the normal Indo-European root seu- we find there in three languages or groups of languages root forms all containing the **U** characteristic, which replace the sibilant **S** with the affricate **Č**; but other synonyms with **C**, e. g., Boh. cucati are omitted in Buck. In the course of this study (Linguistica IX/1,19) we have already supposed that an affricate consonant instead of a sibilant one probably represents a more archaic form of the same imitation. The question whether this is a preserved pre-Indo-European form or a reconstructed one does not concern us at this moment; it may be added that some notable Indo-European scholars in this case permit the possibility of a variation between **S** and the affricates **C** or **Č*** even for the Indo-European period [**10**], 31, 214. Here we want to stress

* **C** and **č** = **ts** respectively **ch** in the English transcription.

that sucking is more adequately imitated by an affricate than by a sibilant not as much on account of a greater similarity of the auditory impression as because the articulation of an affricate reproduces more closely the tactile and proprioceptive sensations of sucking. At each of the subsequently following sucking movements the front part of the tongue moves upwards from its initial position at the floor of the mouth and creates the palato-lingual channel; but immediately after that it moves down and backwards (see 43) while the liquid sucked in glides along the palato-lingual channel and flows over its edges. If we transpose these movements in the articulatory movements of the speech sounds, the movement upwards and down corresponds to the articulation of the dental, the sucking-in of the liquid through the palato-lingual channel to the articulation of the sibilant, and the overflowing of the liquid over the down bent edges of the tongue to the articulation of the lateral consonant. If a possibly faithful imitation is attempted, we might expect the sequence **T** — **S** — **L**, and in fact the Lithuanian and the Letton synonym čiulpti and čiulpt show exactly that sequence. The combination of the two movements, the dental and the sibilant one, gives here the affricate sound.

Beside this imitation there exist others largely without a lateral vocal element: Skt. cus*ati, Sp. chupar, Boh. cucati; but the affricates appear here just as well as there. Accordingly, essential for a more adequate imitition of sucking, i. e., more adequate than the one by means of fricatives, is the dental phonemic element which renders the movement of the front part of the tongue upwards and at least indicates the reverse movement of the tongue downwards at the point when the tongue returns to its initial position. That such movements of the tongue during sucking are distinctly perceived is demonstrated by further imitations in the set 5.16 with mere dentals; dhē(i)- and titta-, as well as by a parallel radical morpheme g'eid- with a dental sound appearing again. The role of the downward movements in the perception of sucking is still more obvious if we mention the occurences of nasal characteristics in the radical morphemes mā- and meu-, which agree with the imitations of chewing already discussed under 35, 41, and 44 and which render above all the movements of the velum downwards. Just as the phenomena of sucking, sipping, and drinking can, on the one hand, be rendered merely by fricative sounds, so, on the other hand, they may be imitated by mere dental and nasal plosives; and, at the same time, an active tendency to combine the two characteristics can be observed.

48. The use of affricates and generally the use of **T** elements in the imitations resides in the wish to emphasize the palatableness of sucking, sipping, or drinking — i. e., not only the passing of the liquid through the oral tract but also a possibly intensive tasting of that liquid; the feeling of the palatableness equalizes in the consciousness these phenomena with the phenomenon of tasting. In fact, we find in the imitations of tasting a variation of the **S** characteristic with the **C** or **Č** characteristic, as well as the occurrence of bare **T** characteristics. In the synonymic set 15.31 taste

(vb. subj.) we get for instance 3 radical morphemes with **S** (smeg(h)-, sap-, and g'eus-), 4 radical morphemes with **T** (dek'-, teg-, ten-, and bheudh-), and 1 radical morpheme with **NL** (mels-). Of the nine roots taken into account the only root (ere-s-) that contains none of the sounds enumerated has a **S** characteristic in the extension; and of those not included in our statistical population there are two roots with the initial **SW**: swek- and swād-. Almost the same distribution is to be found in the remaining sets 15.32 to 15.34 which directly refer to tasting and taste. Since the **C** and **Č** variants are not directly evident from the enumerated sets, a few words must be dedicated to them. In the concept group NARROW we get in the set 4.207 the radical morpheme smek-; but since, in addition to the meaning »jaw«, we find in this root the meanings »lip« and »palate«, it will — after the extensive discussion of the imitations of chewing and tasting — not appear strange if we regard this root but as a variant form of the root smeg(h)- with the same basic meaning »to taste«. This is suggested by the Slavic expressive variant of this root cmok- or lengthened cmak-, which appears in the meanings »eat noisily, champ«, »smack one,s lips«, and »kiss«; thus we get in Slovene cmokati and cmakati (Plet.* 1.85, 86), while in Ukrainian we have cmakaty and in the palatalized form cjamkaty [50], 187. These meanings precisely correspond to the identical meaning in the Lithuanian and Germanic root smeg(h)-, which is found in the synonymic sets 15.31 taste, 16.29 kiss, etc.; the same meanings were conveyed or continue to be conveyed by the English term »smack«. Russian has **Č** in the place of **C**: čmokat' »smack one's lips«, »give smacking kisses«, and dialectically again the palatalized čmjakat' »smack one's lips«, »champ« (Vas. 3.344, 345). The etymological connection between the Slavic and the Germanic and Lithuanian terms is almost beyond doubt, as, in the Slavic languages, in addition to the expressive root form cmok- there is also a normal root form smok-, e. g., in Slov. smok »sap, pap, etc.«, smočen »sappy« (Plet* 2.519, 520); in Russ. smoktat' »to suck in«; and in Pol. smoktać, smoknąć »smack, eat or drink noisily« (Vas. 2.674). ChSl. smoky »fig« probably also belongs here, and there is no reason to assume a borrowing from a Germanic or any other language (Buck 5.75). Time and place do not permit a closer analysis of a further expressive variant with **C** or **Č** for **S**. These are Slavic root forms cap-, čap- or cab-, čab- as parallels to the normal Indo-European root sap-, sab-. In these variants, direct meanings of tasting or sucking are rather rare, thus for instance in Ukr. cjapati »to nurse, to suckle« [50] 185 — but we get a broad range of meanings of overflowing moisture or splashing, transferred from the mouth to other organs of the human body, which exactly correspond to the meanings of German words containing the radical morpheme sap-, sab- (FaT 941).

49. There is one more group of synonymic sets in the concept group SMELL, TASTE, SUCK which calls for special attention. These are 15.35 sweet, 15.36 salt (as quality), and 5.81 salt (as substance). In the set 15.35 we come

* Plet. = M. Pleteršnik, Slovensko-nemški slovar, Ljubljana, 1894.

not only across two roots with **SW** (swek- and swād-) which combine the **S** characteristic with the labial characteristic **W**, but also in three of the remaining four roots across the **L** characteristic (sal-, mel-it, and dl*ku-, and in one across the nasal-dental characteristic **NT** (medhu-). In the sets 15.36 and 5.81 we have in each case two **L** characteristivs (sal- and leu-) and one **S-U** characteristic sū-ro- respectively eus-; outside this sphere there remain only two **R** characteristics (gʷher- and dhreu-). Although, owing to the small number of the occurring roots, it is not possible to calculate separately for this group of sets the significance of the numerical superiority of **S** and **L** in addition to that of **W** and **U**, their accummulation can hardly be due to a mere coincidence. Of the total 15 roots in all three sets there are 11 roots with either an **L** or an **S** characteristic; and still more important is the fact that these two phonemes are articulated at precisely those places where the taste buds for tasting sweet and salty are located. That »saliva« is the basic meaning of the root sal- and not »grey« (WP 2.453) is demonstrated by the many synonyms for saliva containing the root forms (s)lei-, (s)leu-, (s)lēb-, sap-, sei-, and (s)p(h)yēu-, and the unknown root from the Grk. síalon in all likelihood also begins with **S** or **T**. If, on the other hand, we look at the phonemic distribution in the sets 15.37 bitter and 15.38 acid, sour, among the total 20 roots there are as many as 9 which contain the **K** characteristic in the root itself and 2 in the extension (reu-g-); and this number raises from 13 to 20 if for the Ir. serb »bitter« and NIr. searbh »bitter, sour« we accept Pedersen's etymology ksā- instead of Pokorny's swer-. Just as with **S** and **L** for sweet and salty, here again we come across an agreement between the perception of phonemes and the perception of the phenomena denoted: the phonemes of the type **K** (as well as of the uvular **R**) are articulated at the same place where the taste buds for the taste of bitter are located and in the vicinity of the area containing the taste buds for the taste of sour (43).

But for a final reconstruction of the imitation processes which form the basis for the occurrence of central oral consonants in the terms for tasting and sucking or for palatable sipping and drinking, the most important fact is that in the corresponding roots we again come across **T** elements. Particularly significant is the root dl*ku- which appears in the Greek and Latin synonyms for sweet. Under 47 and 48 we have established the combination of the elements **TS**, this time we find the combination of the elements **TL**. The role of **T** in this combination is identical to that of the affricates: **T** renders the movement of the front part of the tongue upwards and indicates the reverse movement of the tongue downwards. But what is the role of the lateral? This role for itself is identical with that found in the Baltic synonyms čiulpti, čiulpt for sucking: to denote the touch of the liquid, i. e., of saliva in our case, on the lateral edges of the tongue. But there is a considerable difference in the structure of the radical morpheme. This difference is twofold. First, there is no **S** here. Since **S** is articulated in the palato-lingual channel, imitating the transition of liquid or air, and since, on the contrary, **L** is articulated outside the palato-lingual channel on the edges and under the edges of the tongue, imitating only the transition of

the liquid, the representation of the liquid is more distinct in the production of the phonemic combination **TL** than in the production of the phonemic combination **TS**. Secondly, here **L** directly follows **T** and the special imitative value of the combination **TL** in contrast to **T-S-L** lies in this very circumstance. When discussing the **N** characteristics under 33 we could already see that the imitation process with the complex characteristic **KN** could only be understood if we assume that originally the two elements **K** and **N** directly followed one the other. In the interpretation of the affricate characteristics we came across the same circumstance: the imitative value of the affricates depends on that in one articulatory movement the **T** element is followed by the **S** one. And this now recurrs in the direct sequence **TL**.

50. Just as in the sets 5.16 suck and 15.31 to 15.34 taste it is also in the set 15.35 sweet that we find the characteristic **T** without **L** — this time in the radical morpheme medhu-. Thus, if we go on tracing the established parallelism between **TL** and **TS**, we may establish that the **T** characteristic in medhu- stands in opposition to the complex characteristic **TL** in dl*ku- precisely in the same way as under 5.16 the **T** characteristic in dhē(i)- is opposed to the complex characteristic **TS** in Skt. ču- and as under 15.31 ten- or tem- in Bret. tanva to the Russ. čmjakat' (see 48). And just as, in the set 5.16, we get additionally the simultaneous occurence of the characteristics **TS** and **S** in the roots ču- and seu-, so in the set 15.35 we get the simultaneous occurence of the characteristics **TL** and **L** in the radical morphemes dl*ku- and mel-it. The whole of the varying phonemic characteristics may be presented in the following way: under 5.16 and 15.31 **TS : T : S**, and under 15.35 **TL : T : L**.

This has brought us very close to the final solution of the problem what imitation processes and what sounds are hidden behind the significant characteristics **S**, **L**, and **T** in our statistical material. If, for the imitations with affricates of the type **TS**, we might perhaps question the Indo-European or even pre-Indo-European origin, we cannot do this for the imitations with **TL**; the same direct phonemic combination appear for instance in the radical morpheme dhlas- »compress, squeeze«. The primary nature of the variation **TL : T : L** points to just the same primary nature of the parallel variation **TS : T : S**. The two variations have a common feature: the imitations with direct phonemic combinations **TL** and **TS** are more perfect than the imitations with mere **T** or mere **L** or **S** which render only partial movements of tasting and sucking and reproduce only one part of the tactile-proprioceptive perceptions called forth by the denoted phonema. This common feature of a greater perfection points, it appears, to an early origin of the imitations with complex characteristics since it is improbable that, in a later phase of the development of the language, the imitation should be more exact than in an earlier one. On the basis of the observation of historical development of sounds it is also much easier to assume a transition of direct phonemic combinations **TL** and **TS** into **T**, **L**, and **S**, than a reverse process. But for such a development of sounds — except for the transition of a secondary

affricate before a dental into **S** [31], 179 — there is no known instance in the Indo-European phonetics. This difficulty is overcome if we take the assumption that **TS**, **T**, and **S** are derived from dental and palatal and **TL** and **L** from lateral clicks or click-like sounds. In this case the development of the pre-Indo-European sounds can be reconstructed, the connection between the movements of nutrition and the movements imitating them becomes evident, and — what has not been mentioned so far but is of a most decisive importance — this explains the major part of the various meanings of the roots with central oral consonants the source of which would otherwise remain enigmatic.

51. In his study »The Evolution of Click Sounds in Some African Languages« R. Stopa demonstrates on copious material how a series of African languages have developed front and central oral consonants, formerly missing in these languages, from the so-called click-blocks, i e., from clusters of preceding clicks and following — ejective or injective or also expiratory — gutturals. Thus, for instance, the ejective **t'** has developed from the cluster of a dental click and ejective guttural plosives and affricates*, and the expiratory **t** from the cluster of a dental click and expiratory guttural plosives. The ejective **s'** and **ts'** have developed from the cluster of a dental click and the laryngeal affricate **'h**, and the expiratory **s** and **ts** from the cluster of a dental click and the laryngal fricative **h**. Additionally, the expiratory **ts** has developed from the cluster of a dental click and the glottal catch, or from a dental click and plosive or affricate gutturals. Analogous phonemic combination of the palatal click have given **tš'**, **tš**, and **š**. The development of the lateral click is especially interesting. It has led: in combination with the guttural ejective affricate to a lateral ejective affricate ** **(n)tl'**; in combination with the voiced **g** to a lateral voiced affricate **(n)dl**; in combination with the laryngeal voiceless **h** to a lateral voiceless fricative **hl**; in combination with the velar nasal (in the pronunciation of the English ng) to a lateral voiced **l**. The introductory **n** which comes up here is to be explained by the fact that the articulation of clicks is supported by an active closure of the velum towards the oral tract, and, therefore, in front of the clicks and their transformations there may also occur the production of a nasal [51] esp. 33—39, 12—13. In languages using clicks the role of the nasals is on the whole very great as, in the earliest stages of these languages, they represent the only consonant class beside the clicks and the various gutturals. All other kinds of sounds are in »statu nascendi«, have a very low frequency, and are mere allophones without a phonemic value of their own. These are the findings of R. Stopa in his second large study which we have already quoted [43] 437. We might add that the nasals occur also immediately after clicks and are, as regards these two different possibilities of position equal

* ' behind the sound is here a sign of the ejective production of the sound i. e., of closed vocal chords and raised larynx in the production of the sound — and not as otherwise in the present study a sign of the palatal quality.

** The designation affricate for **tl** and **dl** is by R. Stopa.

with the vowels; while, on the contrary, gutturals can only follow clicks but not precede them.

52. It is not our purpose to transfer the conclusions arrived at in the study of African languages mechanically to the Indo-European languages. Irrespective of the fact that it is not known to us whether all the African scholars agree with the above exposition, merely with respect to the open question of the monogenesis or polygenesis of the languages of the world it is impossible to claim a genealogical connection between language phenomena in two topographically so widely separated areas. If we stopped a bit longer at the description of the development of African sounds this was done in order to point out the genuine possibility for the development of oral consonants from clicks or click-like sounds and — in spite of the distance between the languages — the surprising similarities in the final results. These similarities are evident from Table XV which was composed on the basis of the phonemic distribution of the concept group SMELL, TASTE, SUCK. Beside the significant phonemic characteristics in this group: **S, SN, SL, NL,** and **TL,** the Table brings other characteristics with the central oral consonants, and all these characteristics are illustrated with corresponding radical morphemes. The roots seu-, ču-, dhē(i)-, mā- are found under 5.16 suck; the roots smeg(h)-, nes- under 16.29 kiss; the roots dn*g'hū-, mel- under 4.26 tongue; the root (s)leig'h- under 4.59 lick; the root mels- under 15.31 taste; the root mĕgh- under 9.98 try; the roots mel-it-, medhu-, dl*ku- under 15.35 sweet; the root leu- under 15.36 salty; the root melg'- under 5.86 milk; the root lat- under 5.93 beer; the root las- under 16.62 desire; and the roots (s)nā-, smel- under 15.21 smell. Many of these roots occur in several of the enumerated sets as well as in other synonymic sets, and the presented examples may therefore be considered representative. Of the roots included, the Slavic »expressive« root cmok- belongs to 16.29, the root lendh- because of the NIr. lionn »ale« to 5.53, and the root lem- because of the Lith. lemoti »long for« to 16.62. Although for »saliva« and for »leech« there are no synonymic sets in Buck's dictionary, the root sleu- in Icel. sludda »spit, mucus«, and the root demel- in Gr. dembleîs (pl.) »leeches« naturally belong to our morpho-semantic area.

To enable comparison with these radical morphemes Table XV first brings the linguistic transpositions of dental and alveolar clicks which speakers of modern Indo-European languages still use today in addition to their normal speech. Further, the Table gives some words for clicking and smacking noises. The terms smekk, cmok, mlask, schnalz, losk, lusk, tlesk, dlesk directly refer to (smacking one's lips and) clicking with the tongue, this being the basic meaning of all these terms. The English words lash and slash refer to sharp, whipping sounds. The real nature of these sounds is shown in whippoorwill, the name for an American bird allied to goatsucker (Caprimulgus); the sucking sound of this bird is identified with a whipping sound. The German dialect word schnuckes is one of the many synonyms for a loud kiss, just as the English smack and the Slovene cmok. The Nor-

TABLE XV*

PHONEMIC CHARACTERISTICS

NASALS	NS	N	NK	NLS	NL		NLK	NT
SIBILANTS	S	SN	SNK	SNL		SL	SLK	
AFFRICATES	TS		TSNK					
DENTALS			TNK	TNL	LNT		TLK	T
LIQUIDS	LS			NL-T	LN	L	LK	LT

SOME EXAMPLES OF RADICAL MORPHEMES

NASALS	**nes-**	**mā-**	**měgh-**	**mels-**	**mel-**		**melg'-**	**medhu-**
SIBILANTS	**seu-**	**snā-**	**smeg(h)-**	**smel-**		sleu-	**sleig'h-**	
AFFRICATES	**ču-**		cmok-					
DENTALS			**dn*g'hū-**	demel-	lendh-		**dl*ku-**	**dhē(i)-**
LIQUIDS	**las-**			**mel-it-**	lem-	**leu-**	**leig'h**	**lat-**

SUBSTITUTIONS AND WORDS FOR CLICKING SOUNDS

NTS!¹	SMEKK⁴	MLASK⁷	LASH¹⁰	SLASH¹³	TOH!¹⁶
TS!²	CMOK⁵	SMELL⁸	LOSK¹¹	DLESK¹⁴	TTT!¹⁷
TUTS!³	SCHNUCKES⁶	SCHNALZ⁹	LUSK¹²	TLESK¹⁵	TUT!¹⁸

wegian term smell has a fairly broad semantic range; it means »a smack, a slap, a bang, a crack, a flick«. Its origin is indicated by the fact that Old English has two related words: smiell — »a smack, a slap«, and smiellan — »to flick« whereas in Middle English and New English there are verbs and nouns from the root smel- in the meaning of smelling. As smelling and tasting are often rendered by the same words, an old meaning »smack one's lips and click with the tongue« emerges also in this case.

53. First to be underlined is the fact that the substitutions of the clicks and the terms for clicking sounds in the Indo-European languages contain, beside the optional nasal characteristics, the same phonemes and phonemic combinations which in African languages originated from clicks or rather combinations of clicks. The substitutions and the terms have been taken from the nearest, most accessible Germanic and Slavic languages, but they could be complemented by a broader material, especially by the corresponding Lithuanian interjections as found in the well known Leskien's study [**54**]. It is hardly to be believed that the established agreement should be accidental. The second thing to be underlined is the fact that the phonemic structure of the substitutions for clicks and terms for clicking sounds is in exact agreement with the phonemic structure of the representative radical morphemes of the concept group SMELL, TASTE, SUCK. For this new agreement it is even more difficult to claim that it could be accidental. Everything is interconnected: the similarity of clicks to the movements and sounds of chewing, tasting, sucking, sipping, and drinking and their direct origin from these movements [**51**], 55; [**43**], 458, 466; [**55**], 241; the transition of clicks and their combinations into central oral phonemes in the accompaniment of nasals; the simultaneous occurrence of these phonemes in the substitutions and in the terms for clicking sounds, and also in the so-called »normal« Indo-European roots for chewing, tasting, sucking, sipping, and drinking. As regards the appearance of dental clicks in the chewing and tasting of solid food we may again direct attention to the experiment mentioned under 42; and the occurrence of lateral clicks beside the dental ones when tasting, sucking or sipping a liquid can be verified by the reader himself. Thus we can finally complement the imitative and genetic pattern, given under 50, and formulate it as follows: dental (or alveolar) and palatal clicks — **TS : : T : S** on the one side, and lateral clicks — **TL : L** on the other.

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* The radical morphemes in broad letters appear in the concept group SMELL, TASTE, SUCK. Of the six interjections which transcribe dental or alveolar clicks Nos 2, 3, 18 are English, No 1 is Russian, No 16 Italian, and No 17 French. **Tut!** and **tuts!** are reported by the Oxford English Dictionary, **ts!** is used by Th. Dreiser in his novel »An American Tragedy«, while the French **ttt!** is quoted by J. Vendryes [**52**], 13, and the Russian **nts!** by V. K. Nikolaiev and N. F. Jakovliev [**53**], 22. Among the words for clicking sounds there are — besides the two English verbal forms: lash and slash — substantives only which can be mostly used as interjections also. The Nos 4,8 are Norwegian, the Nos 6,9 German, and the Nos 5, 7, 11, 12, 14, 15 Slovenian. All of them are discused in the standard and etymological dictionaries; the German dialectal **schnuckes** is quoted by Kluge-Mitzka under the entry: Kuss.

54. Though we would like to avoid broad polemics with the opposing viewpoints called in question by our interpretation of the imitation processes hidden under the significant value of **T**, **S**, and **L** characteristics, we must at this stage point out more decidedly than so far the fundamental mistake in the usual conception of the onomatopoeias. The reason for this is that for almost all the terms from No 4 to No 15 in Table XV etymological dictionaries say that these are mere isolated onomatopoetic words in individual Indo-European languages and that they have no genetic relation with the Indo-European »normal« roots given above. If this were true, one of the essential links in the chain of our arguments would drop off, and the way from clicks to Indo-European roots would appear much less convincing. The fact is that so far scholars studying the etymology have misconceived the essence of the linguistic imitation in the roots declared by themselves as imitative ones, and have misunderstood their relation to the so-called normal roots precisely because they are convinced that the only possible linguistic imitation is the acoustic imitation and in the particular assumed instances they have not objectively verified it.

Under 14 we have already emphasized that it would be imperative — before a particular word is declared to be an imitative one — to examine objectively the similarity between the word and the phenomenon denoted by it, taking into account its determinedness by the system of the language to which it belongs [**56**], 152. If the word is declared as an acoustically imitative one, it would be imperative beforehand to prove its acoustic conformity. **Unless the accoustic similarity has been objectively established it is not possible to claim that the word under consideration is acoustically imitative irrespective of the subjective impression.** In this way one might demonstrate a certain acoustic similarity between a term containing an affricate, like the Slovene cmok, and a dental click accompanied by a nasal; it would be harder, though, to prove such a similarity for other terms in our table which contain beside nasals only **T**, **S**, and **L**. But it would be especially hard to prove — and here we are at the core of the problem — an acoustic similarity between the terms from No 4 to No 15 in Table XV and the phenomena of various blows denoted by them. The acoustic spectra of the noises created by those blows would be probably sensibly different from the acoustic spectra of the corresponding terms and, on the basis of this alone the claim for acoustic imitation would have to be dismissed in these cases. It is obvious that, so far, such a verification has not been done, and until it has been done our rejection of subjective etymological assumptions remains justified. This practice, by the way, is based not only on subjective impressions which are certainly given — having their cause in the interdependence of sensations — but at least as much on wrong premises. In addition to the generally known attitude that in the language there is no intrinsic connection between sound and meaning, there exists also an old attitude (but specially elaborated by the neogrammarians in the last quarter of the previous century) that if, by way of exception, we get an instance of linguistic imitation, this is an acoustic imitation [**25**], 177, 182*. We cannot but look for a motive for

the consistent adoption of such a view. Since, in reality, the number of auditorily perceived phenomena is relatively small in comparison to the total number of the existing phenomena, it is in this way possible to withdraw the basic mass of the linguistic morphemes from the suspicion of the imitative origin — which would degrade the sense of human dignity obviously afflicted by the theory of evolution. But if such a subconscious argumentation of these attitude was understandable a hundred years ago, holding on to it today is in opposition to the generally accepted theory of evolution. Saussure's comparison of the language to an artificial coding system in which the signs are merely externally related to the content certainly represented a fresh impulse for the linguistics in the encounter with the technical examination of communication. Nevertheless a complete identification of language with an artificial coding system is wrong at its present stage already; and it is all the more wrong for the language as such and particularly for its beginnings. We feel certain that the results of the structuralist studies can be very well combined with the results of the studies concerning the intrinsic connection between sound and meaning if we admit that both, the element of the external, i. e., the younger, connection as well as the element of the intrinsic, i. e., the older, connection between sound and meaning continue to be present in the human speech even today.

In the present study our attention has been concentrated on the older, intrinsic connection between the linguistic sign and its content, on the physiological explanation of such a connection and on its genesis. This cannot come in the first place from the listener, it, on the contrary, comes from the speaker — not merely from man's auditory perceptions but from his total perceptive faculties and his total sensual and emotional inner world. A whole series of arguments and sources has been mentioned here to demonstrate the great role played in man's experience of the reality by the tactile and proprioceptive senses, which are twofold perceptions [22], 29, and directly relate man' s inner and external world. Let us additionally quote the opinion of the well known writer and philosopher J. P. Sartre as stated in one of his philosophical-scientific works. When he speaks about the closest connection of the kinaesthetic and tactile perceptions with the visual and auditory ones, he says: »We think that the 'visual' and the 'auditive' human types are only people who are not capable of good self-observation and who have not recognized the right word for the visual or auditive image which is movement.« And at another point he says: »Thus a few years ago, when we tried to imagine a swing moving here and there, we had a distinct feeling that we were softly moving our eyeballs. Then we tried to imagine the moving swing once again and this time to keep our eyeballs immobile. We forced our look to be fixed at the number of a page in a book. This time the following happened: either our eyes started moving despite our wish, or it was not possible in any way for us to imagine the swing moving [57], 112, 108.

* Also where a parallel articulatory imitation is admitted as, e. g., with the roots pŭ-, kap- etc. this imitation is considered to be subordinated to the acoustic one.

What has been established about the mutual relation between the visual and tactile-proprioceptive perceptions and images — namely that, especially when referring to the phenomena of movement, they are indissolubly connected — applies just as well to the mutual relation between the auditory and tactile-proprioceptive perceptions and images. The auditory perceptions of one's own chewing, tasting, sucking etc., as well as of the clicks and other phonemes symbolizing this, depend on the perceptions of the movements and touches that occur — and the same dependence exists on the level of images. On the basis of exact experiments with doves the Italian physiologist P. Tullio has arrived to the conclusion that any acoustic impulse — no matter where it comes from, hence not necessarily from the producer of this stimulus — stimulates at the same time the auditory sense organs in the labyrinth of the inner ear and the organs for spatial orientation in the vestibule which make an exact analysis of the sound as to its direction, height, and intensity; all these qualities call forth reflex movements of adequate duration, amplitude and intensity in various parts of the body. The same is true of the optic and tactile stimuli which in the same way give rise to corresponding motor responses in the body. Tullio claims that speech sounds and human speech result from such reflex movements [48], 258; [22], 70. No matter how much this physiological thesis may appear simple and attractive we are not qualified to pronounce a final judgement on it, and also we need not go as far. The possibility that the imitations are either conscious from J. P. Sartre's stand-point, or reflex, from P. Tullio's stand-point, does not affect the final result. For the explanation of the imitation processes dealt with it is sufficient to proceed from the speaker (15) and assume a direct transfer of the tactile and proprioceptive perceptions into the brain centres. P. Tullio's view has been quoted to show that there exists a supposition of an even closer mutual connection between the tactile-proprioceptive and auditory perceptions than it is necessary to give a satisfactory interpretation of our statistical significancies.

56. Probably nowhere in our statistical material the predominance of the motion element over the acoustic one is as obvious as in the significant characteristics containing **T, S,** and **L.** The decisive priority which clicks have in the imitation of the movements of nutrition lies in this that their articulation is in principle turned downwards and inwards [43], 346, 348—50; [55], 242, and in this way precisely corresponds **to the most typical movements in chewing, tasting, sucking, etc., which go downwards and backwards;** in the same two directions move also food and liquids through the oral tract. The tongue and the lower jaw move downwards and backwards, and downwards and backwards moves at the same time the velum. At the imitations by affricates the backwards direction is left out and replaced by the forward one; it is only the downward direction that is indicated. Only if affricates are articulated with inspiration, the backward direction is preserved; in this case it is also the auditory impression which is considerably closer to the auditory impression of clicks and natural noises during feeding. If in the

imitation an affricate is replaced by **T**, the movement downwards remains indicated, and auditorily the imitation is better again when **T** is articulated with inspiration. The imitations with **S** and **L** contain merely the tactile sensation of the air moving along the palato-lingual channel or along the edges of the tongue at the floor of the mouth; here, too, with inspiratory articulation the auditory articulation is more adequate and the tactile sensation which records the passing of the air inwards is similar to the proprioceptive sensation of the sucking movement inwards. We can see how important for the faithfulness of the imitation are **the articulatory directions in the organs of speech.** It seems to be certain that the mental conditions for the articulatory imitation of chewing, tasting, sucking etc. in the same directions preceded the conditions for imitations with inverted articulatory directions. But also when the imitated and the imitating movements agree in their directions the completeness of agreement is decisive. Thus with the inspiratory imitation the direction downwards is indicated only, while with the clicking imitation this direction is clearly pointed out, and therefore the clicking imitation is a more faithful one and in all likelihood genetically prior to the inspiratory articulation.

That in the distant pre-Indo-European period there existed a phonemic prototype of the Indo-European **T**, **S**, and **L**, which in its articulation and in its natural meaning contained a shift downwards and backwards, follows most clearly from a comparative semantic analysis of the terms for clicking sounds in Indo-European languages and of the analysis of »normal« Indo-European roots — those in Table XV and the corresponding homonymous and homeophonic roots. Homonymous are radical morphemes which have precisely identical phonemic characteristics and morphemic structure, and homeophonic are radical morphemes which have characteristics of the same phonemic type and a similar morphemic structure. With the terms for clicking sounds and with the »normal« Indo-European roots having the same phonemic characteristics we find in a mutual promiscuity oral meanings and the meanings »strike«, »fall« and »press down« — very often in a characteristic connection with moisture — which have their source in the movement and feeling: downwards; on the other hand the meanings »draw«, »sweep«, »wipe«, »slide«, »slip« which have their source in the movement and feeling: backwards or towards oneself; also the meanings »get slack«, »slide down« which have their source in both movements: downwards and backwards; and finally the meanings »dangle«, »hang«, »swing«, »totter«, »rock«, »move to and fro« which have their source in the repeated movement backwards. The fact that we find the same typical meanings in the so-called acoustic onomatopoeias in individual languages — which should represent more or less independent imitations — and in the »normal«, supposedly non-imitative Indo-European roots raises, in view of the identical phonemic characteristics, a justified suspicion of their actual isolatedness. We do not mean that all the terms for clicking sounds in Table XV are etymologically related just to the Indo-European roots in the same vertical line; the table was not arranged with that aim. But is appears highly probable that these

terms are consistently related to homonymous or homeophonic Indo-European roots. This essential conclusion which follows from the comparative semantic analysis is joined by another which is decisive for the genetic evaluation of the one and the other category discussed. **The promiscuity of the meanings of the terms for clicking sounds and of the »normal« Indo-European roots has a correspondence in the promiscuity of the simultaneous occurences of the phonemic characteristics T, S, and L for the same meanings.** Thus we find the phonemic characteristic **T**, for instance, which does not contain the articulatory movement backwards, also for the meaning »draw«, and the phonemic characteristics **S** and **L**, which do not contain the articulatory movement downwards, also for the meaning »strike«. Such occurences of the meanings can be explained only through an original phonemic prototype containing both articulatory movements downwards and backwards.

57. It is quite impossible, within the scope of our explanation which has already reached beyond the anticipated size, to make a detailed semantic and etymogogical analysis of the terms and roots from Table XV. This has been done only to the extent that was necessary for an understanding of the morpho-semantic correlations occuring in our statistical material. A linguistically educated reader will for himself be able to control the correctness of our statements in etymological and other dictionaries. An exhaustive treatment of all Indo-European vocabulary belonging here has to be preserved for some other time, since we must proceed now to supply an explanation still missing for some of the statistically established significancies. First of all, we can now find a correct explanation of the imitation pattern for the phonemic characteristic **SN** which we came across in the concept group NARROW (34); the explanation according to which **SN** — beside the movement of the velum downwards when tasting — can also denote the closure against the nasal tract in the meaning of »narrowness«, cannot be maintained. In this case again the imitative value of **SN** relies on the perception of a closure against the oral tract, that is of a closure which takes place when sucking. With sucking the velum comes to stick to the back part of the tongue, and at the same time with strong sucking the pharyngeal muscles pressing the pharynx together are participating: this is why in the pharynx we get a feeling of narrowness, and this is the basis for the corresponding meaning of the phonemic characteristic **SN.** In this phonemic characteristic **S** is the successor to the dental click and has no auditory but merely a proprioceptive value, since with real sucking — in opposition to sipping — there is no fricative **S** noise to be heard. This is also the origin of **S** in the meaning »strike, smite« which appears in the same complex characteristic **SN.** The oral meaning of »taste« of the characteristic **SN** which gives significance in the concept group SMELL, TASTE, SUCK is — as it has been stressed under 34 — virtually identical with the meaning of »strike« and is based on the perception of a simultaneous movement of the tongue and of the velum downwards. And since, with feeding, tasting

is consistently bound up with smelling, the **SN** characteristic finally stands also for smelling, only that in this case the **N** element of the characteristic renders above all the passing of the inspired air through the nasal tract. An unimpeded inspiration of the air through the nose (36) is possibly also a tactile-proprioceptive basis for the meaning »smooth«, to be found under 15.77 smooth with the **SN** characteristic as well as with the mere **N** characteristic. Yet the latter meaning appearing in the radical morphemes sem-, mēi-, nei-, yem- more likely relies on the perception of a smooth passing of the food through the pharyngo-palatal arch (isthmus faucium) which was under 35 supposed as the imitative basis for the **NN** phonemic characteristic. The above radical morphemes, where the meaning »smooth« is given, may be added by other roots with the same characteristics: smē- in Icel. smeikr (P 966), mel-, smel- in OE smolt, Du. dial. smout, etc. (P 716—718, Fat 1084), and by unidentified roots in Icel. snöggr, Dan. dial. snøg, LG snugger, snögger, and also snigge, snikker (FaT 1103). Very close to the meaning of »smooth« is the meaning of »slide« (56), and in fact we find here again the **SN** characteristic; thus under 10.41 creep, crawl, there appear the roots sneg-, meu-, smeu-, and (s)nā-. All the enumerated meanings connected with the characteristic **SN** can in this way be derived from the tactile-proprioceptive perceptions either at sucking or at tasting and chewing and at the same time smelling.

58. With the meanings »smooth« and »slide« we have already come into the sphere of the concept group SMOOTH, SLIP, FLAT. Although the **SN** characteristic, dominating under SMELL, TASTE, SUCK, represents one of the possibilities of imitative representation of the concept mentioned, they are mostly expressed with **SL**, mere **L**, or **L** in some other combination. Instead of the dental and nasal characteristics for these meanings, characteristics which — as we have seen — correspond to the perceptions during the passing of chewed food through the oral tract and sometimes during the passing of the inspired air through the nose, we find here the lateral phonemic characteristic which corresponds to the passing of liquids. It follows from the significance of the **L** characteristic that such a tactile-proprioceptive image is particularly suitable for rendering the concepts »smooth« and »slide«, and after all that has been said so far, this morpho-semantic correlation does not require a special explanation. But there is another thing to be pointed out. The significance of **L** in the concept group SMOOTH, SLIP, FLAT does not rest merely on the recurrence of this characteristic with the meanings »smooth« and »slide« but also on its recurrence in the meaning »strike«. The mere **L** characteristic can already associate with the latter meaning, e. g., in the root leu-2 under 9.27 split and under 8.35 treshing-floor, or in the root leu-1 under 1.214 mud, where in all probability the basic image is that of splashing in the mud. The same applies to the phonemic characteristic **SL** occurring under 1.33 lake in the root sel-o-. In this root we find in Gr. hélos, the meaning »swamp«, which recurs in the root leu-1 in Lith. liūnas; it is almost certain that »swamp« is the meaning more original than that of »lake«, and the phonemic characteristic **L** stems from the basic image of

man's splashing steps in the swamp. We must remember our general findings under 56: such imitative value of **L** and **SL** can be explained only from its provenience from a clicking sound prototype, this time from the lateral click. Just as with the characteristic **SN** attention has been called under 34 to the roots smēi-, (s)nadh-, sneit in the concept group SHARP, so we can now draw attention to the roots slak- and (s)leigh n the same concept group as well as to the root lei-, slei- in Ir. sligim, and to the unidentified root in Ir. slaidim under 9.21 strike in the concept group TOUCH. Also the Rum. lovi from the Old Slavic loviti under 9.21 points to the original meaning »strike« rather than to a later shift of meaning in Rumanian; the basic meaning of the corresponding root lāu- is, accordingly, probably »strike« beside »taste« which is rendered in Grk. apolaúo »I savour« and lārós »savoury«.

59. Beside the **SL** characteristic the concept groups SMELL and SMOOTH are connected also by the **NL** and **TL** characteristics. Just as we found **SN**, so we found also **NL** already under NARROW (34). There, for the first time, we established in the root mel- the meaning of »strike« which comes from the perception of the energetically lowered velum; in this meaning the root mel- is found also under 5.56 grind, 5.55 meal, and 5.57 mill in the same concept group. But it is found also in the meaning »press«, »press down« in the synonymic set 9.31 rub. Since this root appears in two forms — either without the shifting **S** or with it — it at the same time contains two characteristics **SN** and **NL** which in fact represent a unitary tripartite dental-nasal--lateral characteristic **SNL**. This is by its form identical with the characteristic **SNL** in the root smel- with the obvious basic meaning »smell« and since the same roots are used at the same time for tasting and smelling, as is shown for instance by the roots smeg(h)- and swek-, we are justified to consider the root mel- smel- »pound«, »grind down« as belonging together with the root smel- »smell«. That etymologists did not bring the two roots together was prevented already by the circumstance that they took as the basic meaning of the root smel- »to smell« the impersonal meaning of this root »burn slowly and with smoke, smoulder«. This corresponds to the general tendency in etymology founded on the belief about the prevailing role of visual images in the language. But the variant smer- beside smel- »smell« confirms our explanation, being opposed to the root mer-, smer- »rub« and »pound«, »grind down« (e. g., under 15.75 soft) in exactly the same way. The fact that the initial **S** can disappear may be explained as follows: the former dental click in the meaning of a strike was used optionally, since this meaning was already contained by the nasal and, with the tripartite characteristic **SNL**, also by the lateral click as the predecessor of **L**. In any case the **NL** characteristic is in correlation with the meaning of »strike« in both concept groups SMELL and SMOOTH. It refers to the meaning of a tasting strike with the tongue under 4.26 tongue in the root mel-, under 15.35 sweet, 5.84 honey, and 5.91 mead in the root mel-it-, and in the sets 15.31 etc. »taste« in the root mels-. The same root mel- which serves to denote a strike with the tongue, may also be used to denote a strike with the flail under 8.35 threshing-floor. The

second part of the lateral click, i. e., the movement backwards, is to be seen in the meaning of the root melg', melk' »slip off, wipe, milk« which appears under 5.86 milk (sb.). The enigmatic **U** in Goth. miluks etc. is understandable as an expressive transformation of the original root if we remember that the underlying image is the passing of milk through the oral tract and that the phoneme **U** stands in a correlation with the deglutition, as it follows from the roots (s)leug- and lauk-o-. Outside our statistical population we may draw attention to the radical morpheme mel-3 »delay« (P 720). As »delay« very probably has its origin in the meaning »draw«, the proprioceptive image here exactly corresponds to the proprioceptive image in the verbal meaning »milk«.

60. The third characteristic which both concept groups SMELL and SMOOTH have in common is **TL**, which has already been analysed in detail under 49 and 50 on the basis of the root dl*ku-. Let us briefly survey the occurences of this characteristic in the remaining roots from these two concept groups. In the meaning »flat« the characteristic **TL** occurs in the concept group SMOOTH in tel-2 under 9.52 board, 7.44 table, 18.55 tablet, 7.26 floor, and 1.21 earth, land. It is the adjectival, qualitative meaning »flat« which is generally considered to be the basic meaning of this root; but the imitation pattern contained in the root is »to strike flat«, either with the tongue or with a flat-hand or flat-foot. The oral meaning of the root can be traced in Skt. tālu- »palate«, which points to the original articulation of the strike in the mouth with a click; the transfer to the hand or foot is evident from the Skt. talam, which at the same time denotes »palm« and »heel« in addition to the general idea of »flatness«. The verbal meaning of »strike« is probably preserved also in Skt. tad*- under 9.21 strike for which even a Dravidian source has been postulated. A further confirmation of our interpretation represents the meaning »bear, bear up with« in the homonymous root tel-1 (P 1060); this root has in fact the reversed passive meaning »be oppressed, weighed down« beside the active »press, put on«, which is well preserved for instance in Gr. entéllein, epitéllein, and télos. The meaning »press« is directly derived from the meaning »strike (56). The **TL** characteristic is contained also in the root del-3 »split, carve, cut into shape« which is found in the concept group SMOOTH, under 9.27 split, and again under 18.55 tablet, and 7.26 floor. That the basic image of the root del-3 is merely a variant of the image contained in the root tel-2 is, beside the meanings in Toch. B. tsalt »chew, masticate« and Lith. delna, ChSl. dlanь »palm« (P 195—6), demonstrated above all by the semantic load of the homonymous roots. The root del-1, which appears in the REPRESENTATIVE SAMPLE in the synonymic set 18.21 speak, talk, conveys the meaning »talk«, i. e., »strike with the tongue« as the basic meaning — even if in Pokorny's Indo-European dictionary this meaning is given under the entry of this root at the end. This is convincingly supported by a whole series of parallel roots under 18.21 which just as well contain the **L** characteristic and have the same imitation pattern, e. g., tolkʷ-, lā-, plab-, blat-, bhel-; and at the same time this elucidates the origin of the

verbs Boh. mluviti and Skt. brū- in the same meaning which are etymologically as yet not sufficiently explained: in fact we have to do with a **U** extension of the root mel-1, discussed under 59. Beside del-1 which is based on the image of the movement downwards we get also del-5 which is based on the image of the movement back, towards oneself. The meaning »long« of this root which is found under SMELL in the synonymic set 16.62 is derived from »drawn«, i. e., »elongated«, and the same image »draw« is the source of the parallel meaning »delay«, i. e., »prolong«, extend in duration«. In this connection we may draw the attention to the fact that the above mentioned root tel-1, besides its meaning »be weighed down« has also the meaning of »draw towards oneself« in Ir. tlenaim »I steal«, and the meaning »draw up«, opposed to »press down«, in Sanskrit and Latin, while Grk. tantaleúō from the same root expresses the notion of waving and swinging. Even two further homonymous roots outside our statistical population: del-2 »totter, swing«, and del-4 which conveys the meanings »shower, rain, moisty«, clearly belong to the morpho-semantic area of the table XV.

With the root del-5 »draw« we pass on to the concept group TOUCH. Although the **TL** characteristic is not significant there, it is nevertheless a component part of the significant characteristic **T**. The root del-5 is represented in the concept group TOUCH in the synonymic sets 12.57 long, 12.44 far, and 11.15 hold which is understood as the result of »drawing towards oneself«. But here we get also the imitation of the movement downwards in the root telek- under 9.21 strike; this root, moreover, contains the meaning »press«, and with a secondarily changed direction forward the meaning »push, shove« under 10.67. The meaning »strike« is conveyed further by the parallel root teleg'h- (P 1062) which at the same time means »babble«. Now, »babble« is a contemptuous parallel of the »decent« meaning »talk«: both meanings are found together, e. g., under the roots lā- (P 650) and plab- (P 831). On the other hand the root plab- again denotes »strike«, as shown by the English verb flap from the same root. And the parallel root blat- (P 102) connects the meanings »babble« and »splash«, i. e., »strike on water or some other liquid«. It follows clearly from all these parallels that the basic image in the roots telek- and teleg'h- is the image of a flapping tongue. It appears justified that these roots as well as the homeophonic root telp- with its basic image »to be compressed« (in the synonymic set 13.19 crowd under NARROW) are mere extensions of the roots tel-2 and tel-1, or rather of a unitary fundamental root tel-.

61. By now we have exhausted the analysis of all the significant complex characteristics which in addition to possible nasals contain mere central oral consonants — with the exception of one: the phonemic characteristic **ST**. Let us add here that the semantic content of the characteristics with the reverse order, i. e., of **NS** beside **SN**, **LS** beside **SL**, **LN** beside **NL**, and **LT** beside **TL** is on the whole the same as with the opposed significant characteristics of a considerably higher frequency; this permits the conclusion that they have their origin in metatheses or at least have originated under

the influence of characteristics with higher frequency. With the phonemic characteristic **ST** the explanation is less simple indeed. Although our findings so far have convinced us about the very early origin of the direct phonemic combination **TS**, this combination does not occur in the normal Indo-European phonemic system, and also **TS** as a consonant pair with the intermediate vowel appears only once in our normal phonemic distribution and two or three times in Pokorny's dictionary. On the other hand as a consonant pair **ST** has a very high frequency: of the 63 instances in the REPRESENTATIVE SAMPLE there are 54 in which **S** is followed directly by **T**. If we start from the natural supposition that the phonemic combinations with a higher frequency are of an earlier origin, we would have — contrary to our findings so far — to conclude that the phonemic combination **ST** is older than the phonemic combination **TS**, particularly as a direct combination and subsequently also as a consonant pair with an intermediate vowel. But such a conclusion faces us with the unanswered question why, as a consonant pair with an intermediate vowel, **TS** did not develop — the ratio of 63 **ST** against 1 **TS** in our normal distribution being so unusual that it undoubtedly contains in itself a reason for it. As it is demonstrated by our statistically significant characteristics, the secondary — central or other — vocalisation of the original direct combination of consonants has to be taken as established, otherwise the imitative value of these combinations would be in most instances unintelligible. This has come to light when dealing with the phonemic combination **KN** under 33, and it agrees with the arguments of J. van Ginneken [55] and, more recently, of the Russian linguist V. V. Martynov [58], 17—18, arguments besed on various facts and with reference to a whole series of languages*. If, accordingly, **TS** has not developed into a centrally vocalised consonant pair, this is best explained by assuming that as a normal phoneme **TS** must have disappeared already in the pre-Indo-European period before the vocalisation of the morphemes; its successors might be **S** or **T** in so far as they do not have a direct origin in clicks. But did the phonemic combination **ST** in fact originate from a secundary combination of **S** and **T** phonemes and secundarily achieve such a high frequency? This does not agree with the fact that a large majority of the consonant pairs **ST** is without an intermediate vowel and must therefore have come up before the central vocalisation. Under the existing circumstances the only acceptable explanation seems the following: **ST** developed from the extinguished **TS** not by means of a sound shift but through metathesis, like **NS** from **SN**, **LS** from **SL**, etc., or rather it developed, supported by the respiration, directly from the dental or a dental-like click, similarly to the development of **T** and **S** (53 and 56). The conclusion that, at least in some cases, the Indo-European **ST** developed through a metathesis from **TS**, was made, on the basis of a comparison of Indo-European and Siberian and other languages, also by V. M. Illič-Svityč and by A. B. Dolgopol'skij [59]; their works, however, were unfortunately not accessible to us.

* The non-existence of vowel phonemes in pre-Indo-European has been asserted more over by C. Hj. Borgstrøm in Word 10, 1954, 278, whose paper could not be consulted.

62. The most plausible explanation for the origin of the imitative Indo-European **ST**, which is significant in the concept group TOUCH, is again to be found through a comparative semantic analysis. As the starting point for a simultaneous explanation of the phonogenesis and the imitative value of this complex phonemic characteristic we must take the fact that in its semantic content **ST** considerably differs from the characteristics with the central oral consonants discussed so far. To facilitate the right understanding of what follows, a general description and classification of human movements is necessary, taking into account the parallelism between movements of the organs of speech, and movements of the body and its organs. The first criterion which has already been applied many times is **the criterion of direction.** All the movements, articulatory or non-articulatory, proceed, with regard to the human body, in one or more of the four directions: downwards, backwards, upwards, and forwards. In the articulation of sounds the first two directions are used by clicks; the latter two are used by respiratory sounds.

For another criterion, not discussed so far, it is best to refer to the classification of movements as it has been done for the most full utilization of energy and time in operating machines. According to that classification, the basic arm motions called either »reaches« or »moves« — depending upon whether the predominant purpose of the motion is to transfer the arm from one position to another (reach) or to move an object from one position to another (move) — are divided into three classes: A, B, and C. They are described as follows: »A class A motion is stopped by impact with a solid object. All muscular effort is used to move the arm in the direction of the motion. None is used to slow down or stop the action. A class B motion is stopped entirely by muscular control. No new contact is made in the stopping action. A class C motion is stopped by the use of muscular control to slow the motion before coming to a stop in a grasping or placing action.« Examples of A are: »making a downstroke in hammering«, »pushing a flat sheet of metal against a stop in metal shearing, keeping the hand on the sheet throughout the action«, and »clasping the hands together«. Examples of B are: »making the upstroke in hammering«, »opening a door or a drawer«, »using a rubber eraser in a back-and- forth motion«, and »tossing an object aside«. Examples of C are: »reaching to and grasping desk pad«; »carrying desk pad to desk and placing down«, and »reaching and placing hand on top of desk« [60], 35—50.

The above classification, as we can see, distinguishes in the first line between stopped movements which stop because of the impact on a solid object, and restrained movements which stop predominantly or merely because of the muscular control, i. e., A is opposed to B and C. **This criterion according to which stopped movements are distinguished from restrained ones** can be profitably applied for all movements including those in the articulation of sounds. The categories of stopped, unrestrained movements, and of restrained, unstopped movements must be complemented only by the unrestrained, unstopped movements for the classification to be complete. Such movements are for instance: »draw without muscular restraint«, or »slide (down)«.

If all this is applied to the articulation of sounds, the movements of a click downwards or the returning of the tongue after the completed articulation of **T** downwards is a stopped, unrestrained movement; the movement of a click backwards an unstopped, unrestrained movement; and the movement of the inspiratory or expiratory **S** against the alveoli or the hard palate an unstopped, restrained movement.

63. The semantic content of the phonemic characteristic **ST** permits the conclusion that, in contradistinction to the **S** and **T** characteristics discussed so far, we get in most cases a non-stopped, restrained movement. The root stā- which is in the concept group TOUCH the most frequent radical morpheme with the **ST** characteristic has as its basic meaning »set oneself on one's feet«, »take a stand«, and »set up«; and from the meaning »take a stand« comes the resultative meaning »stand«. Evidence of this exists in all Indo-European languages, e. g., in Gr. histēmi »I set up«, Lith. stoju, stoti »tread« and ChSl. stati »take a stand«, except in Sanskrit and in Germanic languages; in this case as in other instances the primary meaning in Sanskrit has not been preserved. Accordingly, stā- in the synonymic set 12.15 stand refers to the restrained movement of one's legs downwards when one takes a stand (**D 2a.** See Table XVI). In the sets 12.12 put, 12,11 place, and 9.44 build the root stā- refers to a parallel restrained movement of the arms downwards when one sets something up. The same meaning is conveyed in the sets 12.12 and 12.11 by the root stel-3; the meaning »set up« is generally recognized as the basic meaning of this root. The third root with the **ST** characteristic in the sets 12.12 and 12.11 is sed-; its basic meaning is »sit oneself«, i. e., a restrained movement of the whole body downwards. In fact, in all these cases we have to do with two opposite movements: with a basic movement which is directed downwards, and an opposing, restraining movement in the reverse upward direction. The restrained movement downwards, viewed as a whole, is a resultant of both **(D 2a = D 1 + U 2b).**

But the radical morphemes stā- and stel- occur also under 11.16 get, obtain; here, the image of the movement contained in the characteristic **ST** is »reach and grasp«. This is how Buck explains the meaning of the root stā- in Slav. dostati and in the synonymous Ir. adcota. The same applies to the root stel-3 in Goth. gastaldan, having the meaning »get« and the parallel meaning »acquire« which again appears under the root stā- in Arm. stanam »acquire, earn«, and in Lat. praestināre »buy«. Here we are concerned with a restrained forth movement, i. e., a basic movement forwards and a restraining one backwards **(O 2a = O 1 + I 2b).** Irrespective of the directions which are different, the meanings »take a stand«, »sit oneself«, and »set up«, on the one hand and the meaning »get« or »reach and grasp« are related by a common image of a restrained movement. (Compare the examples given in the previous paragraph for the class C motions which are exact parallels to the two categories of restrained movements.) A surprising recurrence of the **ST** characteristic for a forward turned, restrained movement is found in the roots (s)tāi- and ster-3 under 11.57 thief, and 11.56 steal; the

TABLE XVI

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UP

1. unrestrained unstopped movements (no)
1s. STOPPED MOVEMENTS
3. momentary pressing force (lower jaw, lips, tongue; chest)
2b. restraining movements (arms, legs, body)
2a. RESTRAINED MOVEMENTS

OUT — FORWARDS

1. UNRESTRAINED UNSTOPPED MOVEMENTS
1s. STOPPED MOVEMENTS
3. STEADY PRESSING FORCE
2a. RESTRAINED MOVEMENTS
2b. restraining movements (no)

IN — BACKWARDS

1. UNRESTRAINED UNSTOPPED MOVEMENTS
1s. STOPPED MOVEMENTS
3. STEADY PRESSING FORCE
2b. RESTRAINING MOVEMENTS
2a. RESTRAINED MOVEMENTS

DOWN

1. unrestrained unstopped movements (no)
1s. STOPPED MOVEMENTS
3. MOMENTARY PRESSING FORCE
2a. restrained movements (arms, legs, body)
2b. restraining movements (tongue)

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That there exist the described correlations between various variants of the restrained movement and the **ST** characteristic is neatly confirmed by the terms for »stand still«, which in Buck's dictionary unfortunately are not collected. In the already discussed root stel-3 this meaning appears in ON stallra and Lith. stalbuotis (P 1019-20), and it also appears in the root steb(h)- etc. in Lit. stapytis (P 1013). In the above terms there is, within the image of a restrained movement forwards **(O 2a)**, already a predominance of the image of a restraining movement of legs and the whole body backwards **(I 2b)**. This is still more obvious in the root sed-. Under 9.943 the basic meaning of this root is »go«, »walk«: »fitting« is what »goes« together«. The correct explanation — although rejected in WP 2.486 — assumes that, for the meaning »walk« beside the meaning »sit down«, we have to think of the setting up of the legs when walking: the restrained movement of the legs when walking is parallel to the restrained movement of the whole body when sitting down **(D 2a)**. But, as shown by the former case of »stand still«, the movement of the legs when walking is directed not only downwards but also forwards, and the restraining is both upwards and backwards. Thus it happened that in some cases the image of the restraining movement backwards **(I 2b)** became absolutely predominant and so the image of the basic movement forwards got entirely lost. The Avestan compound syazd-, which belongs to the root sed- has the sole meaning »step back, give up«, and the same meaning is contained in sīždyamnā- »falling back«, siždyō »giving up«, and si*ždra- »shy«. And as the formally corresponding Lat. cēdo at the same time denotes »I stride along« and »I give up«, is not the explanation that this is a case of two images — of a restrained and a restraining movement — more natural and more acceptable than any other one? Now, Av. sīždra- »shy« leads us by the way of Lat. sternāx having the same meaning again to the root (s)ter-1. The verbs consternāre and externāre which are

formed with the same nasal element are in their meaning »dismay, disconcert«, but causatively reversed »start with surprise, be astonished«; and this last meaning occurs with the **ST** characteristic in a whole series of other roots. Thus for instance we have under (s)teu-1 the synonyms Lat. stupēre, MLG. stūken, OHG stobarōn and NHG stutzen (P 1033-34), under stā- NHG staunen (P 1009), under stel-3 OE. styltan (P 1033—34), and under steb(h)- Lith. stebe*tis (P 1013). The basic image of all these synonyms is best obtained from the definition »suddenly stand still, recoil« of NHG stutzen in Pokorny's dictionary; in this image the component of the restraining movement predominated just as it did in Av. syazd-.

64. On the basis of the classification of movements, including the articulatory ones, under 62 and on the basis of the corresponding motion analysis of the phenomena referred to by the **ST** imitations under TOUCH, we may understand the imitation mechanism operative in these instances. In fact it is the restrained articulatory movements of **T** in the direction forward and upwards which are most appropriate for rendering the restrained movements of the body and its parts (arms, legs, etc.). The restrained movements of the body and its organs forward or upwards **(O 2a** or **U 2a)** differ from the corresponding articulatory movements of **T** only in that they are either class C motions or class B motions, whereas the articulatory movements of **T** are owing to the touch of the alveoli or hard palate invariably class C motions. This possible distinction is not very important, since both in the phenomena and in the imitation we get consistently a slowed down action of the same basic direction. The imitation of the restrained movements of the body or its parts downwards, for instance when taking a stand or sitting down, shows, it is true, a slightly bigger difference. The roles of the basic and of the restraining movement which together make up the restrained movement, are in this case reversed. While, when we are taking a stand or are sitting down, etc., the basic movement is directed downwards and the restraining movement upwards **(D 2a = D 1 + U 2b)**, in the articulation of **T** the basic movement goes upwards and the restraining one downwards **(U 2a = U 1 + D 2b)**. But since, here again, both in the phenomenon and in the imitation the basic as well as the restraining movement occur in he same vertical line, the imitation remains, in spite of a different emphasis of the one movement and of the other, a faithful one. All this cannot be directly rendered by the articulatory movements of clicks, since these are typically class A motion which are free of any restraining and, moreover, limited to the direction downwards and backwards.

The question that still remains is how the transition from clicks to the respiratory articulation, required by the imitations with the **ST** characteristic, took place and what is the role of the sound **S**. It seems that **S** here arose from a guttural inspiratory fricative which merged with an ingressively but non-respiratorily articulated click. This inspiratory **S** could essentially contribute to the origin of **T** which, likewise, here has to be supposed as an inspiratory sound. The circumstances leading to such a supposition are as follows:

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64. On the basis of the classification of movements, including the articulatory ones, under 62 and on the basis of the corresponding motion analysis of the phenomena referred to by the **ST** imitations under TOUCH, we may understand the imitation mechanism operative in these instances. In fact it is the restrained articulatory movements of **T** in the direction forward and upwards which are most appropriate for rendering the restrained movements of the body and its parts (arms, legs, etc.). The restrained movements of the body and its organs forward or upwards **(O 2a** or **U 2a)** differ from the corresponding articulatory movements of **T** only in that they are either class C motions or class B motions, whereas the articulatory movements of **T** are owing to the touch of the alveoli or hard palate invariably class C motions. This possible distinction is not very important, since both in the phenomena and in the imitation we get consistently a slowed down action of the same basic direction. The imitation of the restrained movements of the body or its parts downwards, for instance when taking a stand or sitting down, shows, it is true, a slightly bigger difference. The roles of the basic and of the restraining movement which together make up the restrained movement, are in this case reversed. While, when we are taking a stand or are sitting down, etc., the basic movement is directed downwards and the restraining movement upwards **(D 2a = D 1 + U 2b)**, in the articulation of **T** the basic movement goes upwards and the restraining one downwards **(U 2a = U 1 + D 2b)**. But since, here again, both in the phenomenon and in the imitation the basic as well as the restraining movement occur in he same vertical line, the imitation remains, in spite of a different emphasis of the one movement and of the other, a faithful one. All this cannot be directly rendered by the articulatory movements of clicks, since these are typically class A motion which are free of any restraining and, moreover, limited to the direction downwards and backwards.

The question that still remains is how the transition from clicks to the respiratory articulation, required by the imitations with the **ST** characteristic, took place and what is the role of the sound **S**. It seems that **S** here arose from a guttural inspiratory fricative which merged with an ingressively but non-respiratorily articulated click. This inspiratory **S** could essentially contribute to the origin of **T** which, likewise, here has to be supposed as an inspiratory sound. The circumstances leading to such a supposition are as follows:

1) **S** as the only consonant of a Indo-European radical morpheme — and particularly if in such a case it occurs in the initial position — expresses mostly movements which are with regard to the human body directed inwards or backwards: it substituted the inwardly directed articulatory componenent of the click and its semantic function. But the articulation of the tongue is in the production of **S** directed forwards and upwards and the lower jaw as well is slightly protruded. It is highly probable that there exists even a connection between the sibilants and the antropological development of chin, since with the more primitive races with pronounced prognathism sibilants are missing [43], 452 ff. Moreover, in opposition to the sucking movement of the click, with the initially closed mouth, the labial opening is enlarged from the very beginning in the production of **S** [15], 418—419. The semantic identification of so different articulatory movements with the click and with **S** thus most naturally must have begun with the identification of the proprioceptive perception of the inwardly directed click movement and of the tactile perception of the inwardly directed air stream (56). And whereas the inspiration supported by the inwardly directed articulatory componenent of the click gave **S**, the inspiration supported by both articulatory components of the click, inwards and downwards, gave an inpirated **TS** or **ST**. The semantic content of **TS** remained the same as that of the click, because the sequence of the proprioceptive and tactile perceptions — first of the movement upwards-downwards and then the streaming of the air inwards — remained strongly similar to the sequence of the perceptions with the click. And the reversed sequence of these perceptions with **ST** — first the streaming of the air inwards and then the movement upwards-downwards — gave **ST** a wholly new semantic content of a movement forwards and upwards. The exact performance of a restrained movement was attained by degrees only. In the first stage of the articulatory transformation **S** and **T** must have been two unrestrained movements of the tongue, sucked in by the stream of air inwards and upwards, stopped by the impact with the alveoli and the hard palate (**O 1s, U 1s + I 1**).

2) It is surprising that in a whole series of synonymic sets along with the morphemes containing **ST**, there occur radical morphemes with an initial guttural characteristic and the meaning »seize, grasp« which are clearly of inspiratory origin. These are especially the roots kap- and ghabh- which occur beside stā- and stel-3 under 11.16 get, obtain. The same inspiratory origin has to be assumed for the root ghed-, ghe-n-d- which gave the English synonym in this series: get [61], 14. The root ghed- is again found in the sets 11.56 steal and 11.57 thief, beside ster- and (s)tāi-, and kap- and ghabh- are found beside sed- and (s)teu- in the set 9.943 fitting. The concept group TOUCH has in its phonemic distribution a numerical superiority of both characteristics **KT** and **KP** and the numerical superiority of these two characteristics taken together gives a significance such as is given within the frame of the general **T** characteristic by the joined consonant pairs **KT + TK**. Therefore we are justified to postulate an inspiratory origin also for the radical morpheme kthē(i)- which is parallel to the roots kap-, ghabh-, ghed- under 11.16

get and for the radical morpheme ghedh-, which is parallel to the roots kap-, ghabh- under 9.943 fitting. The semantic range of the root ghedh- is characterized by the meanings »get at, acquire, find« in Lett. gadît (Vas. 1.283—4) which is missing in Buck's and Pokorny's dictionaries. The motion image underlying all these imitations with an initial fricative guttural and a final stop is that of the inspired air stream and of the closing movement of lips or tongue. The derivation of the roots kap- and ghabh- from a snapping sound (»Schnapplaut«, P 528) shows that the restrained closure of lips or tongue here also developed from an initially unrestrained stopped movement **(O 1s, U 1s + I 1)** and that the original motion is the same as established for the initial stage of the articulatory development of the characteristic **ST.**

The parallelism between **KP, KT** on the one hand and **ST** on the other hand is to be seen particularly clear in the synonymic set 16.62 desire under SMELL, where with most of the radical morphemes the basic meaning is that of an excited, violent breathing in. There we find many radical morphemes with an initial **K**: g'her-, g^{w}hel-, ghreib-, gheldh-, g^{w}hedh-, gheidh-, and keuəp-, the last three possessing a **KT** or **KP** characteristic. A numerous series of other roots belonging here, with the same **K** characteristic, could be added, e. g.: gheig'h- (P 427), ghoilo- (P 452), and particularly g'hē[i]- (P 419 in Grk. chatéō) and g'han- (P 411 in ON gana); for these two the imitation of breathing sounds is generally acknowledged. While the unextended roots with a final vowel or resonant sound seem to exhibit mostly an iterative or durative meaning, with the roots or extended roots ending in a stop the instantaneous meaning of a sudden, strong breathing in is often to be found. The same basic meaning appears in the parallel roots with the **ST** characteristic. A particularly striking example is given by the root sweid- which only because of the undefinite position of **W** has been let apart in our statistic calculation. This root appears in Lat. dēsīderāre, and the meaning »desire« — as well as the meaning »observe« in another compound: consīderāre — is on the basis of an artificial Classical etymology generally derived from sīdus »star, sun, month« etc.; it is supposed that the original meanings were »desire from the stars« respectively »observe the stars«. In fact all these meanings originate from the image of a sudden, strong breathing in, the opening of the mouth being synergetically produced together with the winking of the eyes at a sudden appearing of light. The basic meaning of »breathing in« is directly evident in the root swei- found in Bret. c'houesa under 15.21 smell. The **ST** characteristic here does not reflect only the stopped unrestrained movement of the tongue **(O 1s, U 1s)** but also the stopped unrestrained movements of ribs and chest upwards and of the trunk muscles backwards **(U 1s, I 1s)** produced by the violent breathing in. In other words: the **ST** characteristic reflects simultaneously the violent inspiration and the stopped breath.

Among the roots with the **K** characteristic under 16.62 the closest agreement with the root sweid- is shown by the root keuəp-. Reviewing its various meanings we come, e. g., across the meaning »dismay, disconcert« in Boh.

překvapiti (missing in Pokorny and Berneker*); we know this meaning from Lat. consternāre in the previous paragraph. And a direct — not causative — meaning based on an identical motion image is found in Norw. kveppe (from hveppe) »start back, recoil with fear« (FaT 604). Now we can see that with consternāre, stupēre, styltan etc. we are concerned with stopped breath and only in this connection with the restraining of the whole body (**I 2b**). The recognized identity of the basic image of violent inspiration and stopped breath when starting with surprise or starting with fear, just as well as the recognized connection between a sudden, strong breathing in, a winking and the sudden appearing of light, permits us to understand the systematic appearing of these meanings with the characteristics **ST** and **K**, and in the latter case, especially with **K** and stops. So we get under the root (s)ter-1 — besides consternāre — the meaning »desire« in Grk. strênos »intensive desire, etc.« (P 1022), and under the root ster-2 exactly agreeing with consternāre Goth. stairno »star« (P 1028). The old dispute — whether, besides the root form ster- in the name of stars, a parallel root form stel- has to be assumed [11]; [62], 101 — can be settled remembering that besides consternāre with ster- we have also OE styltan with stel-.

A doublet of Norw. kveppe is kvekke, having the same meaning. Unlike kveppe which remained up till now etymologically unclear, kvekke has been long ago brought in connection with the root $k^{w}ek'$-, $k^{w}eg'$- (P 638, FaT 604, Bern. 1.153—4, 497—8). Once more we find under this root, besides the meaning »start back, recoil with fear« in kvekke, the meaning »get a desire or a demand for something« in SCr. čeznuti. But all the more striking is the simultaneous presence in this root of the meanings »shine«, »appear« in Skt. kāsatē, of the meaning »look« in Skt. cakāsyatē and Av. akasat, and of the meanings »brightness, face, eye« in Av. caks*u-. The presumed disagreement of these meanings, found in the ancient languages, with the Germanic and Slavic meanings pointing to the image of a sudden, strong breathing-in caused that the Germanic and Slavic terms are missing in WP and Pokorny. Nevertheless, if we consider the parallels under the roots sweid- and ster-, all these meanings belong clearly together. In Slovenian we get an example of their genuine connection in two regular forms of the same verbal root. The imperfective verb hlepeti, considered an onomatopoeia, means »desire violently, demand violently« whereas the perfective form of this verb, i. e., hleniti means »flash«, »make a sudden appearance« when speaking of light (Plet. 1.272).

The network connecting morpho-semantically related synonymic sets with parallel denotative chains (23) extends here still further. Besides the SCr. čeznuti »get a desire or a demand for something« we find ChSl. čezną̨ti with the meanings »vanish, pass away, disappear«, and its compound išteznąti combines the meaning »disappear« with the meaning »shudder«, basically

* If even this verb might be modelled on NHG überraschen (B 16.16), its derivation from the verb kvapiti »hurry« with a primary **KP** characteristic, quoted below, shows clearly the persistent force of the basic image of stopped breath and the regularity of semantic transitions within the same denotative chain.

the same as in Norw. kvekke. Now, in the Faeroeran hvökka which is related to Norw. kvekke there is besides the meaning »start back, recoil with fear« a surprising recurring of the meaning »disappear« found in ChSl. čezнąti, išteznąti. The explanation of this semantic development under the root $k^{w}ek$-, $k^{w}eg$-, is given by the examples under the parallel root keuəp-. Thus the Serbo-Croatian verb kopnjeti at the same time means »desire violently« and »swoon«, »disappear«, »melt« when speaking of snow (Bern. 1.566). And Norw. kveppe »start back, recoil with fear« is closely related with Goth. afhvapjan »suffocate, extingush« and afhvapnan »be extinguished« (P 596). Here the basic image by which the meaning »disappear« is brought about is clearly indicated: it is the image of missing air, of stopped breath underlying also the meanings of »desire« and »recoil with fear«. On the basis of these parallels we are justified to conclude that another root with the characteristic **K** + stop, the root $g^{w}hđei(ə)$- under 5.15 thirst in the concept group SMELL, having the meaning »disappear, perish« besides »destroy«, is just an extension of the root $g^{w}hedh$- »beg, desire« appearing under 16.62. The same supposition has to be made for the root $g^{w}hđer$- combining the meanings »run, flow« with »flow away, disappear«. The semantic analysis at least for this instance decides a disputed question of Indo-European phonetics: **đ** has its origin in the earlier **dh**, and **s** in these places in Sanskrit is secondary. The exact correspondence to $g^{w}đher$- »flow away, disappear« with the **KT** characteristic is given by (s)ter-1 with the **ST** characteristic in Alb. shterr »drain, dry up« in the reversed active sense (P 1022).

To complete the description of the morpho-semantic area treated let us quote a few additional examples with the **ST** characteristic, belonging here. The image of being short of breath (**U 1s, I 1s**) is contained also in the meanings of »panting, snorting« and of »zealous, panting endeavour« which are represented under the root keuəp-, e. g., in Boh. kvapiti »hurry« and in kyprý »zealous, busy«, secondarily »fresh«. These have a striking parallel in Lat. strēnuus »strenuous, ardently persistent« under (s)ter-1 (P 1022) and in Lat. studēre »seriously exert oneself for something« under (s)teu-1 (P 1033). And Norw. kveppe, kvekke »start back, recoil with fear« are corresponded to by ChSl. strach »fear« under (s)ter-1 (P 1023) and by Grk. stugéō »I hate, I fear« under (s)teu-1 or steuə- (P 1032, 1035). The meaning »hate« is derived from the meaning »detest, abhorr«, which is in turn derived from the basic image of »shudder«, i. e., from a convulsive taking-in of the breath and from a reflex rebounding when coming in touch with something abhorring, detestable (**I 2b**).

65. The comparison of the **ST** characteristic with the **KT, KP,** and **KK** characteristics gave us the opportunity of a better insight into the various imitations of the restrained and restraining movements, decisive for the significance of these characteristics. At the same time this comparison indicated their connections with the previously not discussed imitations of the stopped inspiratory movements. To facilitate orientation in the otherwise almost unsurveyable material we have prepared a special table (Table XVI) about

the parallel and other movements in which the criterion of being stopped or unstopped, restrained or unrestrained, as well as the criterion of direction have been taken into account. This Table, to which references were made in the preceding paragraph already takes into account all the imitations for which primary clicking articulation is assumed, all the imitations which are likely to be based on an originally inspiratory imitation, and also the imitations which can be explained from the normal expiratory articulation which for the central oral consonant genetically doubtlessly comes last.

Not only the **ST** characteristic but also **T** characteristics in general occur in all three articulatory and morpho-semantic areas, and hence it is appropriate to conclude our explanation of the central oral consonants with a complementary survey of the **T** characteristics. In the synonymic sets 12.11 put and 12.12 place we find, beside the roots stā- and sed-, the roots dhē-2 and dō- which have the same imitation pattern as the first two (**D 2a**), although they do not contain the introductory **S**. The meaning »reach out« in the forward direction (**O 2a**) appears in the pronominal roots to- under 12.44 far and de- under 9.943 fitting, as well as in the root ad-2, which is identical with the prepositional root ad-1 in the meaning »at, to«. On the other hand, the roots tā- and dē- in the concept group NARROW apparently come from a clicking articulation, the first relying on the basic image **D 3**, i. e., of the pressing force downwards, and the second on the basic image of **I 3**, i. e., of the pressing force inwards. If we revert to the concept group TOUCH we find there the root (s)teu-1 under 10.67 push,shove in a meaning completely opposite to the one so far encountered in Lat. stupēre, etc. and in Lat. studēre, etc. The meaning »push, thrust« (**O 1s**) is traditionally taken as the basic meaning of this root; but if the explanation for stupēre, etc. »be astonished« from »to be struck« is possible through an isolated analysis of the root for itself it is wholly impossible to develop »studēre« from »aim at something«, supposed to be arisen from »strike at something«. It is improbable that one single parallel for such a development could be found. In fact, the root (s)teu-1 reveals a transition from the inspiratory meaning »a stopped, inwards directed breath« to the expiratory meaning »unstopped, outwards directed breath, or puff« (from **U 1s**, **I 1s** to **O 1**). Such a meaning of this root is proved — beside the OE stenc in 15.24 smell under BLOW — by the OE steam »steam«, Goth. stubjus »dust«, OHG. stioban »fly about, sprinkle, scatter«, etc. (FaT 1201, 1558) which are not included in Pokorny's dictionary. Along with the meaning »blow« there developed the meaning »thrust« (**O 1s** beside **O 1**). For such a semantic development there are many parallels, thus e. g., b(h)eu-2 »blow (up)« (P 98) has a homonym b(h)eu-1 with the meanings »impressions of hollow sounds« and »thrust«. But the same semantic relations are found in the rhymed roots containing the same dental characteristic: dheu-. The root dheu-4 which appears under 15.24 smell in Goth. dauns and which is designated as having the basic meanings »fly about, sprinkle, whirl esp. of dust, smoke, steam«, »blow«, etc. has also decidedly inspiratory meanings, e. g., Lith duse*ti »draw breath with difficulty, sigh, pant, gasp«, and dusti »get out of breath« (P 270). And under dheubh-

(P 268) we suddenly find East Fris. dufen, duven, dubben »thrust«, although the basic meaning is designated in different terms. Moreover, in the root dheu-2 (P 260) we come across the image of stopped breath **(U 1s, I 1s)** in the meanings »swoon, die, become extinguished« on the one side, and in the meaning »admire«, i. e., »be astonished, be surprized« on the other, meanings all familiar from our discussion of the **ST** characteristic. In the root dheu-3 (P 261) there occurs even the meaning »shine«. With a different **U** diphthong we get further in the root dhau- in the set 9.342 under NARROW the meaning »strangle, suffocate« **(U 1s)**, precisely the same as in Goth. afhvapjan »suffocate, extinguish« under the root keuəp-. A homonymous, but lenghthened, root is dhāu- (P 243), denoting once more »be astonished, be surprized«, and »observe« **(U 1s, I 1s** gives **I 2b)**; and beside it we find again under the root form with the **I** diphthong dheiə- the meaning »see, look«. The semantic range here considerably overlaps with that of the root $k^{w}ek'$-, $k^{w}eg'$-. These formal and semantic relations being found in the radical morphemes with a mere **T** characteristic so surprisingly repeat those appearing in the roots with a **ST, KT** etc. characteristic that it is difficult to doubt about their parallel inspiratory origin and their parallel semantic development.

Just the meaning »be suffocated« and its causative-transitive counterpart »suffocate« can serve in the explanation of the mutual connection between the motion images, marked in Table XVI with 3. STEADY PRESSING FORCE. We find this meaning, besides in the already mentioned dhau-, with a **ST** characteristic in the root stĕīb(h)- (P 1016) in NE stifle, in the root (s)teig- (P 1016) in OHG irsticken, NHG ersticken, and in the root (s)ter-1 (P 1025) in the transferred meaning »die« in OHG »sterben«, Ir. ussarb »death«. This last transition of meaning was found already with dheu-2, and occurs also under dheu-4 in Grk. thánatos »death« (P 266). Now, the meaning »suffocate« reappears with a **T** or **TN** characteristic in the root dhem-, which comes up in the set 10.33 blow under BLOW and in the set 15.34 taste under SMELL. The meaning »taste« points to a former clicking articulation **(D-3)**, but the meaning »blow«, is, on the contrary, a typical expiratory meaning **(O 1)**. The intermediate stage with the image of stopped breath is represented by OHG dempfen, tempfen »suffocate, damp«, for which we get probably because of the etymological connection with dampf »steam« in Pokorny the sophisticated meaning »to suffocate with steam«. But the morpho-semantic area of the root dhem- is not exhausted with this. Here belong also ON dammr »dam«, Sw. damm »dam, pond«, Dan. dam »pond«, and Goth. faurdammjan »dam up, hinder«, which cannot be reliably classified anywhere else (FaT 135, P 239). The meaning »pond« well agrees with the ON dy »mud, mire, morass« and other meanings referring to moisture under dhem-, thus confirming the origin of the root from the oral images of tasting (56). The meaning »dam«, however, is connected with the image of a stopped breath. But how? We must remember our analysis of the **KN, PN** and **TN** imitations under 33. As a basic perception, common to all these imitations we established the perception of constriction and tightness in the pharynx when the body is exerting strong physical effort and the breath is at the same time being

stopped. With the characteristic **TN** we additionally established the perception of a stretched, tensed tongue. These perceptions represent the basic imitation pattern also for the meanings »dam, dam up« and »hinder« in the root dhem-. The distinction from the meaning of tasting in ON dāmr under 15.34 lies in the fact that ON dāmr contains beside the clicking articulatory image also the image of a lowered velum with a closure against the oral tract while in ON dammr »dam« we get the image of a raised velum with a closure against the nasal tract in connection with the image of a stopped expiration. In the clicking articulation of **TN** the tongue goes from the alveoli down and backwards, while in the stopped expiratory articulation of **TN** it resists with all force against the alveoli. Hence the meaning »dam (up)« and »hinder«. The image of a stopped expiration (**I 3** towards nasal tract, and **O 3** towards the oral opening) accordingly differs in its origin from the image of a stopped inspiration (**U 1s, I 1s**), which we discussed so far, although in its final effect the two coincide. Because of the final effect the two images intermix, so much so that the OHG dempfen »suffocate« might after all be classified under **U 1s, I 1s** just as well as under **I 3, O 3**. The classification under **U 1s, I 1s** clearly comes into consideration only where we do not find the meanings »dam (up)«, »hinder«, and the like.

It is significant that such meanings frequently come up also with the roots containing a **ST** characteristic but no nasal element. Thus we get under stā- OE stōwian »keep back«, MLG stuwen, NHG stauen »dam (up)« (P 1008), under the extended root stāk-, stek- Skt. stakati »withstands« (P 1011), and under the above quoted stēib(h)- and (s)teigh- Arm. stipem »I press, I compel« and OHG stecken »stick fast«. Further we find under the root steb(h)- Skt. stabhnāti »he checks, hampers«, and with the reversed order of the operating forces also »he supports« (P 1012). With the root (s)ter-1 there comes up beside the meaning »shy« in Lat. sternāx suddenly a contrary meaning »stubborn«, present in Norw. sterra »resist, struggle against«; in this last word we find also the parallel meaning »make efforts, exert oneself«. Although in these cases we are in all probability concerned with a stopped expiration (**I 3, O 3**), it is nevertheless not possible to determine in all the cases whether the initial image is one of taking breath in or giving breath out; clearly, we here assist to a process of inspiratory images passing into expiratory ones. In the root stāk-, stek- we find for instance — beside the meaning »withstand« in Skt. stakati and the meaning »rope, cable« (i. e., »what is strung stiff«) in OE staeg — a markedly inspiratory meaning in Dan. staakandet »short of breath«, ON stakkadr »short«, and in Lith. stokti »to start to lack«, stoka »shortage«. These last meanings have a parallel under deu-3 (P 219) in Gr. déō, déomai »I miss, am short of«, and since déomai means also »I beg, I desire«, the basic inspiratory image (**U 1s, I 1s**) is obvious; it is also confirmed with the apparently contrary meaning in MHG zouwe »haste«, zouwen »hurry« (i. e., »pant«) as well as by the meaning »fear« in the probable extension of the same root: dwei- (P 227). The meaning »slow« in Ir. doe, the meaning »far« in Skt. dūram under 12.44, and the additional meaning »succeed« (i. e., »glide smoothly off one's hands«) in MHG zouwen

point even to the morpho-semantic area of the clicking articulation; Skt. dūram is under 12.44 a synonym for the Lat. longē, derived from the root del-5 with the basic meaning »draw«. But also with deu-3 the expiratory meaning is already appearing, e. g., in Ved. duvas- »advancing, pressing forward«, which gives evidence of an extraverted motion image.

66. The decision whether in a given instance we have to do with an image of a stopped breathing-in or breathing-out is easiest with the radical morphemes containing at the same time a **T** and an **N** characteristic, such as dhem-. A parallel to dhem- is the root stem- (P 1021), where the nasal is the third morphemic element. Beside the meaning »check, hamper« **(I 3, O 3)** we have here the meanings »stutter, stumble, thrust« **(O 1s)** and »shove« **(O 2a).** But the closest parallel to dhem- is the root tem-2 (P 1063) where only the initial dental is varied. Skt. tamyáti »he swoons, faints«, tamati »he is suffocated« are an image of stopped expiration transferred into the inspiratory image of unsuccessful breath-drawing; the prevented respiration is causatively expressed in tamayati »he suffocates« **(I 3, O 3** gives **U 1s, I 1s).** The meaning »fainting-fit, swoon« reappears in Ir. tām, which at the same time denotes »death«. That we really have to do with a stopped breathing-out is best demonstrated by the meanings »torment, oppress« in Russ.-ChSl. tomiti, which are typical of the **TN** characteristic with the basic image of constriction and tightness in the pharynx. The parallelism with the radical morpheme dhem- goes still further. Various extensions belong to tem-2: temes-, temə-, etc. appearing in Skt. tamas- »darkness«, tamsra- »dark«, and in related words of the same meaning in most of the Indo-European languages. The meaning »darkness« is clearly built upon the meaning »fainting-fit, swoon« and represents only a further semantic development of the stopped breathing-out. This development is exactly repeated also with dhem-, where we find Gr. themerōpis »serious, looking gloomily«, OHG timber »dark, obscure, black«, ON dimmr »dark«, Ir. dem »black, dark«, Norw. daam »dark«, ON døkkr, and OHG tunkal »dark«, etc. The derivation of this meaning from »being gray as mist, as smoke«, given by Pokorny, would be possible in itself but is not probable in view of the astonishing parallel under tem-2 and other morpho-semantic relatedness. A further relatedness of this kind is found as soon as we look at the homonym tem-1, found under 9.22 cut in the concept group SHARP. This root has not only the later specialised meanings »cut« and »hack, chop«, but also an earlier, undifferentiated meaning »strike« as evident from the ORuss. tjąti (P 1063); and besides it also conveys the oral meaning »nibble« in Gr. ténthēs and téndo, téntho. These are typical meanings of the clicking morpho-semantic area **(D 1s).** Téndō and ténthēs are parallel to ON dāmr »taste« under 15.34 taste, and to NE tongue under 4.26; we should not forget also Bret. tan'va under 15.31 taste which goes back probably to the form tem- and not ten- (P 223). The meaning »strike« appears in the root dhen-3 (P 249), merely with a varied final nasal, and here belongs among others also Ne dump »dull blow, thud«.

In opposition to these meanings of the clicking morpho-semantic area, the root ten-1 which contains the **TN** characteristic and which is conspicuously represented in the concept group TOUCH, contains again the basic image of a stopped expiration with the nasal closure and the tongue strongly pushed against the alveoli **(I 3, O 3)**. By means of synergism the image of the tongue resisting against the alveoli leads to the image of »draw with one's hands, feet, etc. planted against something«, i. e., a new imitation basis for a general, non-differentiated meaning »draw«, while the stress on the perception of the nasal closure and the constriction in the pharynx leads to the meaning »exert, strain oneself«. The transitive meaning »strain, tense« which occurs in the root may be a causatively reversed »strain oneself« but it may also be derived from the meaning »draw«, since, where we are not concerned with the straining of the muscles but with the straining of external objects, e. g., a rope, thread, etc., this may be achieved mostly by drawing. The only other possibility for straining is the utilization of the gravity for this purpose, namely to suspend a heavy object so that it becomes tense. The meaning »extend« also is derived from the meaning »draw« just as this was established for the meaning »long« (60). If in the traditional treatment of of the root the meaning »extend« is given in the first place, before »draw« and »strain«, this is probably because in the Sanskrit meanings of the non-extended root ten-1 »extend« stands in the first place. Yet — even if we were not to accept the morpho-semantic explanation of the origin of the radical morphemes from the imitation of movements in the mouth — a mere logical analysis of the meanings should have priority before the supposition that it is just from the Sanskrit meanings of the primary root and their sequence that we may determine the basic meaning of a root. In this case we happen to come across the meaning »draw« with the non-extended root form in the Albanian verb ndënj and in the Greek noun tétanos, while in Sanskrit we find it with the extended root form tens- (P 1068). But the meaning »draw« occurs further with the root form tengh- in Av. thang-, directly and in the meaning »to bend the bow« (P 1067). Finally, also Lat. tenēre, found under 11.15 hold in the concept group TOUCH, means only »draw towards oneself«, showing an identical semantic development as occuring in the root del-5 in the same synonymic set (60). Near by, under 9.33 draw the root ten-1 is represented by W. tynnu, which is formally borrowed from the Lat. tendere »strain, extend, stretch«, but no less interesting because of that. For, restored in it as well as in Ir. tennaim »I press, tighten« (LP 61), are the primary meanings of the root which are not contained in Lat. tendo or at least not contained so clearly. The meaning »draw towards oneself« of the root ten-1 is found also under 11.16 get, obtain. Beside the roots stā-, stel-, ghed-, khtē(i)-, ghabh-, kap-, and the reverse pa*k'-, pa*g'-, from the inspiratory morpho-semantic area **(O 2a)**, and beside the roots dheugh- and leuk-, leuk'- which probably come from the clicking morpho-semantic area **(I 1)**, we get here in the root ten-1 an expiratorily motivated motion image for this meaning **(I 3, O 3)**. Only under 9.32 stretch the root ten-1 appears in a derived meaning »extend oneself« and is — in opposition to its basic

image of resisting against something, of drawing, and of being strained — matched with the image of restrained movement **(O 2a)**, there represented in the root stā-.

67. We must omit a closer explanation of the morpho-semantic connection between the root ten-1 and the root (s)ten-1 found e. g., under NARROW in the set 16.39 groan; and the same applies to the further connection with the root sten-2 found in 12.62 narrow. We only want to stress that the basic idea of pressing, which is only a doublet of tenseness (34), is present in both synonymic sets. As regards the root dem- represented under TOUCH in four synonymic sets, attention may be called to the fact that among the Celtic meanings of this root we find »suffer, endure, bear« (P 200), which point to a probable basic meaning of the root »press down«. This meaning might have originated either from the clicking articulation **(D 3)**, as with dhem-, dhen-3 in the previous paragraph and as this is probable also for the meaning »thunder« under (s)ten-1; or from an expiratory, pressing articulation **(I 3, O 3)** with a changed direction downwards. But we must above all try an explanation of the so far not yet discussed meanings of various homonymous roots ster-. We have dealt with ster- mostly as a restrained or restraining movement based on the inspiratory articulation **(O 2a**, or **I 2b)**, and as a restrained movement ster-, classified as (s)ter-1, occurs also under 9.32 stretch. Beside this, under 65 we have, in connection with Lat. sternāx, established for ster-1 another motion image: the image of pressing or resisting against something, which we explained as coming from a stopped expiration **(I 3, O 3)**. This motion image led to the meaning »draw with one's feet, etc. planted against something«, discussed above under ten-1, and so we find (s)ter-1 parallel with the latter under 9.33 draw. With the same meaning (s)ter-1 recurs under 12.62 narrow. But (s)ter-1 appears also in the set 10.23 fall; perhaps the meaning of »resisting or pressing against something« has passed into the meaning of »impact«, as for instance the root stem- in the previous paragraph **(I 3, O 3** passes into **O 1s)**. Actually, under the root (s)ter-1 we find along with the meaning »fall« also the meaning »stumble«, which we met with the root stem- (OE steartlian, P 1023). In the meaning »fall« only the direction of the impact seems to have changed: it is produced in the downward **(D 1s)** instead in the forward direction.

The radical morpheme (s)ter-1, the various motivations of which we have seen, is traditionally designated with the basic meaning »rigid, stiff«; from this meaning all the meanings of human movements in this root should be secondarily derived. In such an explanation, of course, all the connections with the homonymous roots ster-2 and ster-3 are broken off, and so they are with all the enumerated parallels from the inspiratory morpho-semantic area. But the question is whether it is possible without difficulty to derive from the meaning »rigid, stiff« the meanings which we have here come across, or is it not much easier to do the contrary. The meaning »rigid, stiff« and its further applications can be genuinely explained from a convulsive, shaking inspiration when feeling either fear, disgust or cold **(I 2b)**, whereas as a starting point »stiff, rigid« leads to artificial reconstructions. Thus, for

instance, the supposition about the basic image of a stiffly strung rope to explain the meanings of (s)ter-1 in 9.33 draw and 12.62 narrow (WP 2.650) seems to be sophisticated and appears less genuine than our supposition about a stopped expiration with drawing or exerting oneself which is perfectly fitting into the logical structure of our general explication of the Indo-European imitative system.

In the concept group TOUCH, there occur, however, two other homonymous radical morphemes ster-. Ster-5 is found under 9.34 spread out, strew, 12.61 wide, broad, 9.44 build, and 10.67 push, shove; and ster-4 under 9.21 strike. The meaning »push, thrust« **(O 1s)** was met already with the roots (s)teu-1 (65) and stem- (66). There we established that it had developed either parallely with an image of a strong puff **(O 1)** as the image of the impact of a puff against an external object, or from the image of a strong pressing of the tongue against the alveoli and a simultaneous pressing of expiratory air — this image having been equalized with the image of a puff pushed again an external object **(I 3, O 3 gives O 1s)**. We may add that under (s)teu-1 we find also the meanings »stutter« and »stumble«; the images of thrusting at with the tongue, with the fist, with the foot are overlapping. Remembering OE steartlian »stumble«, the appearing of ster-5 under 10.67 causes no surprise. Slightly different is the case of »strike«. In contradistinction with »thrust« which is a forward directed movement, »strike« is, according to the extra-linguistic motion analysis and all the linguistic examples met so far, in first line a downwards directed movement. We are not justified to assume from the outset that with ster-4 under 9.21 represented by the English verb strike we have to do with a secondarily changed direction of movement, especially as the parallel case of (s)ter-1 meaning »fall« rather suggests that here possibly exists a primary motion image independent from the motion image of thrusting. The correct explanation of the meaning »strike« may be arrived at with the help of the meaning »scrape, graze, touch repeatedly carrying the hand over a surface« which is one of the basic meanings under ster-4 (P 1028). This is a type of the movement not yet known from the discussion of the **ST** characteristic. Normally we have to consider it as a combined, double movement, first in the direction back to oneself and then in the direction from oneself forth, in accordance with the English term »back-and-forth«. If, however, the movement is a single one, it is with reference to the construction of the human body to be expected, that we get a single movement backwards. The movement backwards is well known to us from the morpho-semantic area for which we assumed an originally clicking articulation (56). Yet there we had a smoothly running, unrestrained movement **(I 1)**, whereas here the **ST** characteristic points to a restrained movement **(I 2a)** or rather to a twice restrained movement **(I 2a — O 2a)**. The imitation pattern of »scraping, grazing, etc.« resembles to the imitation pattern of a restraining movement which we know from such meanings as »stand still, start back with surprise or fear« **(I 2b)**; instead of a mere restraining movement we have here a fully completed movement in the direction backwards **(I 2a)**.

If now we revert to the meaning »strike« under ster-4 and compare it with the same meaning met in the clicking morpho-semantic area based on the image of an unrestrained movement downwards and backwards, the difference here lies in the analogy with the motion pattern of »scraping, grazing, etc.« In this case, however, we are not concerned with a restrained movement (**I 2a**), but with a stopped movement (**D 1s, I 1s**). According to its component of a stopped movement downwards (**D 1s**) this movement is identical with clicking articulation, but it differs from it through its component of a stopped movement backwards (**I 1s**) because the clicking articulation is unstopped in the backward direction. Just this stopping in both directions is rendered by the **ST** characteristic; we have to do with »rough« strokes as opposed to »smooth« strokes in the case of clicking articulation. Obviously, a role in the basic movement image is played also by **R** as the third morphemic element. This can be seen from the fact that with stel- we find a meaning different from the one with ster-. Under stel-2 — which Pokorny erroneously equalizes with stel-3 — we find only the image of a flat, smooth stroke downwards, the same as established under tel-2 (60). A direct phonemic combination **STL** distinctly revealing its origin from a clicking articulation is found for instance in Lat. stlatta »a kind of ship, broader rather than high and so called because of its broadness«, in lātus from stlātos »broad« and in the certainly here belonging stloppus »the noise to be heard when a cheek is smacked« and »a vessel with a round neck«, i. e., a gurgling one [62], 206. The image of a »rubbed«, rough stroke is missing, just as under ster- the image of a flat, smooth stroke. Under ster-4, namely, we find beside the meanings »strike« also the meaning »rub«, e. g., in OE strīcan (P 1028), just as under ter-3 we find by the side of the basic meaning »rub« also the meaning »strike«, e. g., in W. taro (P 1072). From this we may conclude that almost certainly there exists a genetic relation between stel-2 and tel-2 on the one side, and between ster-4 and ter-3 on the other. Since it is not only **L** that may develop from clicks, but also **R** [51], 35—36, stel- and ster- probably represent two variants of the inspiratory transformation of the original clicks, parallel to the radical morphemes sel- in Lith. salti (P 899) and ser- in Skt. sisarti (P 909) in the meaning »run« or rather to the radical morphemes sel- in Grk. heleîn (P 899) and ser- in Grk. harpádzein (P 912) in the meaning »take, rob«. But the special quality of the **R** articulation in comparison to the **L** articulation has, in the case of ster- and stel- more distinctly as elsewhere, divided the two doublets into »rough« and »smooth«.

In opposition to the inspiratory or rather semi-clicking meanings just discussed, »strew, spread« occuring in ster-5 under 9.34 is a decidedly expiratory meaning. Under (s)teu-1 we have already quoted OHG stioban »fly about, sprinkle, scatter« as an example of a transition from a stopped, inwardly directed breath to and unstopped, outwardly directed breath, and called attention to the coexistence of both meanings under dheu-4. By way of typical examples of the »extraverted« meaning we may add with the root dheu-4 Skt. dhvam*sati »it flies about, scatters, falls to pieces«, dhvasira- »covered with dust, sprinkled with water« (P 269), and with the root (s)teu-1

ON støkkva »to move quickly, spout, burst« (FaT 1168). In all these cases we have to do with powerful emissions of air which — and this clearly points to the oral origin of the image — are optionally accompanied by the ejection of a liquid **(O 1)**. The same image appears under ster-5 and ster-4. Thus we can find, for instance, under ster-5 SCr. strcati »spout« and OE stregdan, which means beside »spout« also »strew« and »distribute« (P 1030). Under ster-4, on the other hand, we get Sw. stril »a small jet of water«, MHG strām, which means also »stream«, Norw. strik, which means also »stroke of wind«, and ON styrkr »strong wind« (1028—9). The origin of the meaning »strew, spread out« seems to be explained. We get, however, an additional information under (s)ter-1 by OHG sturzen, MHG stürzen »fall vehemently, make fall, throw down, pour out« beside »dismay, disconcert« (P 1024). Similarly, NE start has, beside the basic meaning »make sudden movement from pain, surprise, etc.« also the specific nautical meaning »pour out (liquor) from cask« (COD' s. v.). OHG sturzen contains already all the elements of the image occurring under ster-5 and ster-4 and it is clearly demonstrated by it that the meaning »spread out« has come from »strew«, and »strew« from »spout, sprinkle«. On the other hand, since we have beside ster- »strew, spread« also the doublet stel- in ChSl stьlati »spread« (P 1019), Slov. stlati »scatter the litter« (Plet. 2.577), we can see that this stel- is in fact identical with (s)tel-1, e. g., in Grk. stalássō »let run, let flow; trickle, drip« (P 1018). As the meaning »fall« appears simultaneously with »pour out« in OHG sturzen, the derivation of this meaning from »spout, sprinkle« **(D 1s** from **O 1)** has to be considered also for W. syrthio under 10.23, besides a direct derivation from the image of a movement downwards and backwards **(D 1s, I 1s)** or the assumption of a secondary transformation of the meaning »pressing against«.

68. The state when in the human consciousness the perception of the expiration and that of the corresponding expiratory articulation were joined has opened new wide possibilities for a further development of the imitation system. But the most decisive step was made when a bipartite image of the expiration had taken shape: as the emission of the air on the one hand **(O 1)** and as a break through a stopping closure, as an explosion, on the other **(O 1** from **I 3, O 3** or from the »interior« **O 1s)**. It is not a coincidence that we came across the image of a break through a closure in morphemes denoting the ejection of mixed air and liquid. In this case, especially the break through the closure causes a perception of vibration and of a repeated touch throughout the closure which gives a still more distinct image of the explosion. Again it is obvious that the role played by the third morphemic element **R** in the root ster- is important. If in the »rubbed« stroke **R** represented the »rough« element, in the meaning of explosion it represents the denotation of vibration and of a plural touch. All these imitative values of **R** have been listed already under 26—31. But the image of the explosion itself is again bipartite: the break through the closure automatically includes the opening of the closure, the splitting of the closure into two parts. Both these elements are joined in the meaning »burst«, which is found in ON støkkva with the

root (s)teu-1 and which is the basic meaning with »break« and »tear« in their intransitive sense.

We have thus covered a long series of the meanings containing the **ST** characteristic. Beside the numerous meanings which point to the inspiratory articulation, and others which are doubtlessly on the transition from a clicking to an inspiratory articulation, there are numerous meanings containing the ST characteristic for which we must already suppose an expiratory articulation. If we list them once more together, these are: thrust; resist, struggle against — to which we must add be swollen, swell; exert, strain oneself; draw; spout, sprinkle; fall (partly); and burst. It is significant that in these meanings the occurence of the bare **T** characteristic beside the **ST** characteristic has the same and perhaps even a greater consistency than in non-expiratory meanings. The corresponding morphemes are classified either under the radical forms with no shifting **S** or under the radical morphemes with the initial **T**. The meaning »push, thrust« in Dan. støde from (s)teu-1 in the set 10.67 has a **T** parallel in Skt. tundatē and Lat. tundere; the same meaning in Boh. strkati has a parallel in Slov. trkáti (Plet. 2.692). On the other hand Boh. strkati which is assigned to ster-5 has a parallel with **T** in Lat. trūdere from the root ter-3 and a still more near one in Lett. treksne »thrust« from the root (s)ter-1 without a shifting **S** (P 1090). The meaning »struggle against« beside the meaning »exert oneself« in Norw. sterra (P 1022) from the same root (s)ter-1 has a parallel with **T** in ON thrjōtr »a stubborn person«, again from the root ter-3 (P 1095). The meaning »be swollen« which is derived from »be strained, tensed« **(I 3, O 3)** is found under (s)ter-1 with **S** in MHG storzen (P 1024), and without **S** in ON thrūtinn »swollen« (P 1027). The meaning »exert, strain oneself« above in Norw. sterra with **ST** from (s)ter-1 occurs with **T** in OE drōht »strain« (P 1090) from the same root and in ChSl. trud »effort, strain, toil« from the root ter-3 (P 1096). The meaning »draw« in Ir. srengim from (s)ter-1 under 9.33 has a **T** parallel in Lith. traukti ibidem, as well as in SCr. trgnuti »withdraw« which, together with the former, comes from the root ter-3 (Vuk 770, P 1073—4). The meaning »spout, sprinkle« in SCr. strcati and OE stregdan from (s)ter-1 to all appearance recurs without **S** in Lith. trẹsti »dung« from (s)ter-8 (P 1032); that the basic image is the same is shown for instance by Arm. t*or- under this last root, the general, neutral meaning of which is »that flows down, that drops«. The meaning »fall« in W. syrthio under 10.23 and in OHG sturzen from (s)ter-1 has a parallel with **T** in Ir. do-tuit from (s)teu-1 ibidem. And finally, beside ON støkkva with **ST** from the same (s)teu-1 in the meaning »burst« stands with **T** Lith. trukti »tear, break, burst« (all intransitive), which once more comes from ter-3 (P 1074).

These parallels of the **ST** and **T** characteristics are joined by a great number of others as soon as we take **T** not merely as **t** but as a dental of any kind. East Fris. dufen etc. »thrust« from dheubh- has already been mentioned under 65. In the same meaning with the **TR** characteristic, but with a voiced dental, we get Lett. durt »string, thrust« beside Lith. durti »sting« in the root der-4 (P 203, 208); here may also belong the meanings »punch,

stab, kick« in Russ. udarit' from the same root, provided they are not transferred secundarily from the meaning »strike« (Bern. 1.179). »Exert, strain oneself« is probably the basic image of the root derə- »work« in Grk. drēstēr »worker, servant«, dráō »I make, I do« (P 212) and in Lith. daryti under 9.11 do, make. With an initial **dh-** instead of **d-** we have a synonym in the root dherbh- »work« (P 257), where we find OE deorfan »work; perish« and gedeorf »work, toil«. That in both cases we have to do with the imitation pattern **I 3, O 3** with the image of the stopped breath and of the tongue pressed against the alveoli, is suggested also by the parallel Grk. kámnō »work, toil, be weary« with the **KN** characteristic of straining, which appears in the weakened meaning »do, make« under 9.11 (Linguistica VI, 1964, 26). And surprisingly enough we find, beside the root werg'-2 which is the basis of Goth. waurkjan and of NE work in the same set, the homonymous root werg'-3 »be swollen, swell, be full of juice, strength, or anger (P 1169) which in its meaning precisely corresponds to the above quoted MHG storzen and ON thrūtinn. It seems that here the bare **R** characteristic has the same imitation pattern and the same basic image as the parallel **TR** characteristic. In this connection it should be remembered what was said about »pressing« and »work« under 35 with the roots g'en and mag'-. The meaning »draw« occurs with the voiced dental and **R** in Dan. traekke from MLG trekken under 9.33; from the same root der-4 comes, for instance, also Russ. dergat', »pull, tug, pull, out« (P 210) whereas NE draw comes from dherāgh- (P 257). The meaning »spout, sprinkle« is the basic image in the root dher-4, where we find Skt. dhara »stream, jet, drop, sperm« and in the root dher-5, where we come across Russ. dristat' »have diarrhoea« (P 256); the meaning »void excrement« occurs also in the root der-4 in Lett. dirst (4.66 under SHARP). Almost overlapping with OHG sturzen under (s)ter-1 is OHG trōren »trickle, make drip, throw away, which is accompanied by Goth. driusan »fall, fall down« and OE droppian »drop«, all belonging to the root dhreu- in the synonymic set 10.23 under TOUCH. The meanings »drop, drip« and »fall«, reappear once more in the homeophonic root dhreibh- (P 274). The meaning »burst« is in fact the basic image of the root der-4, though the root is traditionally designated only by the causative »split« and by the specialised meaning »skin, flay«: the basic meaning »burst« is shown in Skt. dr*n*aṭi »flies to pieces, bursts« (P 206).

The enumerated meanings show particularly well how the **STR** and the **TR** characteristics overlap. To the imitation pattern of the tongue pressed against the alveoli probably also belongs dher-2 which appears under 11.15 hold in ChSl. drьžati. This is suggested by the Sanskrit meanings of the root: hold back, hold fast, support (P 252), which are known to us from the root (s)ter-1 and from other roots with the **ST** characteristic. We remained a bit longer with these parallels in order to call attention to the remote genetic relation which must underlie all these correspondences. A genetic relation, to all appearances, does not exist only between the meanings and the characteristics for »strike« and »rub« with **STR** and **TR** as was assumed in the preceding paragraph, it seems to be wider. And this also has to be

stressed: not only there but also elsewhere the meaning of the explosion as we have it under der-4 became connected with the meaning »strike« and the meaning »draw«, in the way that the image of the breaking of the closure from the inside into two parts was equalized with the image of breaking or tearing an object from the outside into two or more parts. Thus we get under the same roots such meanings as »burst« and »emit something« on the one hand, and »break«, »tear« on the other. This is well noticeable in the synonymic sets 9.26 break and 9.28 tear in the concept group ROUGH, and in the synonymic set 9.27 split in the concept group SMOOTH. W. torri »break« under 9.26 from the root ter-3 is connected with W. taro »strike« under 9.21 and SCr. trgati »tear« from the same root under 9.28 is connected, as we have seen, with the meaning »withdraw« in the perfective form of that verb: trgnuti. The root dhreu- under 9.26 has the meaning »break (to pieces), crush, shatter« beside the meaning »drop, trickle« and »fall« which we gave above. And the root der-4 under 9.28 does not mean only »tear« beside »burst« but also »strike« in ChSl. etc. udariti under 9.21. In the same way the root del-3 has the meaning »burst« in Skt. dalati »bursts« (P 194) and the meaning »split« in Ir. dlongim under 9.27. The specific meaning of »split«, i. e., »break into parts with the plane of cleavage« as opposed to »break to pieces, crush, shatter« is again formally based on the »smoothness« of **L** against the »roughness« of **R**. As regards their mutual differentiation this may be accounted for, as already mentioned, by different transformations of clicks which imitated undisturbed or turbulent passing of a liquid through the oral tract. Yet if for **L** we cannot suppose any other origin than a clicking articulation, the origin of the sound **R** and its meanings can be attributed also to the vibrating movement of lips and tongue at the moment of a strong and sudden inspiration as well as to the quivering of the tongue pressed against the alveoli when the breath is stopped because of a strong effort. Such a development of the apical **R** might have been supported by the independent development of a pharyngeal and velar **R** in the guttural region and the established differentiation of **R** and **L** was completed by distinguishing between a »sharp« and a »smooth« explosion.

TK is the last characteristic contributing in a higher degree to the significance of **T** under TOUCH. Essentially, what applies to the **KT** characteristic applies also to **TK**. **TK** differs from the former only in so far, beside the meaning »grasp«, it often developes the meaning »touch«. Thus Lat. tangere from tag- or teg- under 15.71 means »touch« whereas Gr. tetagōn means »grasping« (P 1054). A parallel root dēg- is found in Goth. (at)tekan under 15.71 and simultaneously in ON taka under 11.14 seize and 11.13 take. Beside ON taka under 11.13 we find ON thiggja from the root tek-2, and from the same root comes Ukr. taknuty »touch« (P 1058). The root dek'-1 occurs under TOUCH only in transferred meanings, but its basic meaning »take« is clearly evident, e. g., from Gr. dōro-dókos »the one who receives gifts« (P 189). Accordingly, everywhere we get the same imitation pattern **(O 2a)**. It is difficult to determine whether the type **TK** has developed independently from the type **KT** or by metathesis; in any case the same meaning

requires with the initial **K** an inspirated fricative while with the final **K** it requires an inspirated stop. The roots containing a diphthong instead of a vowel are possibly extensions of simpler roots. Thus the meanings »draw« in the root deuk- and »milk« in the root dheugh- in all likelihood go back to a clicking articulation and also deik'-, doig'- in 4.34 finger is probably related to the root dei-1 »shine brightly, glimmer« (P 18) as this is shown by the roots in which the meaning »show« occurs beside the meaning »shine«, e. g., by the radical morpheme $k^{w}ek'$-, $k^{w}eg'$- discussed under 64.

69. **A survey of the imitations with other phonemes.** Since we have already exhausted the space planned for the entire explanation of the imitations, we can now dedicate only a few words to the remaining imitations. All that can be done here is to indicate their place in the imitation system, the chief outlines of which have been delineated by the analyses so far. To explain the labial imitations in the concept group BLOW we must start from the double significance of the phonemic characteristic **PL** in the group BLOW and in the group SMOOTH. Under SMOOTH this characteristic is articulatorily and semantically parallel to the **TL** characteristic in tel-2; it denotes flat strokes with the tongue, and transferred, flat strokes with the hand, foot, or the body. The oral images of flapping with the tongue, rendered by the characteristic **PL**, have already been mentioned under 60, where the roots plab-, blat-, and bhel- were discussed in passing. In the first two roots the traditional etymological science recognizes a formal and semantic relation between the strokes of the tongue and the hand: but the same relation exists also among many homonymous and homeophonic roots which are usually treated as strictly separated. The articulatory difference between **PL** and **TL** lies in the fact that the **TL** characteristic is a successor to the lateral click, whereas the **PL** characteristic is derived from a combination of the lateral and labial click. Since the lips are the softest organ of speech, the **P** element of the characteristic — in the transfer of the oral motion image to the manual motion image — seems to have been brought into connection with the softest part of the hand, i. e., with the palm balls; whereas in the transferred **TL** characteristic the **T** element stands probably for the fingers which are harder and parallel to the tongue. In both cases the **L** element represents the air — or rather, in the cases of splashing, both air and water, which at the stroke of the palm slides out from under the palm: this is an exact parallel to what happens with the saliva or a liquid when flapping with the tongue during tasting. Under SMOOTH, these images are conveyed above all by the root pelə-, and also by the roots pel-6, plēi-, and bh(e)lēu-. The image of sliding is predominant in the root pelk'-, pelg'- under 10.41 creep, crawl, and hence it is closer to the characteristic **SL** than to **TL**. Russ. polosá means »furrow«, and if we look at the synonymic set 8.212 under ROUGH which refers to this phenomenon we shall in fact find there the **SL** characteristic in Lat. sulcus beside two **KL** characteristics in the roots kel-3 and $k^{w}el$-1, and the reversed **LK** characteristic in the root welk-1 which all render the same image of sliding. It is not difficult to recognize the described imitation patterns in

other roots with the **PL** characteristic outside the group SMOOTH and our statistical material, particularly in cases where **P** occurs as voiceless **p**; the fact that in these cases the primary clicking meanings are best preserved agrees with the voiceless articulation of clicks.

Beside the **PL** characteristic appearing in roots which clearly belong to the morphosemantic area of the clicking articulation, there is under SMOOTH a formally identical characteristic conveying a different meaning. This is the case with the **PL** characteristic in the root bhel-1 under 4.93 bald which very probably contains the inspiratory imitation pattern for rendering a sudden appearing of light. This imitation pattern was outlined under 64, and it is almost certain that the majority of the Indo-European roots denoting »light« are founded in a similar way. E. g., bhel-1 stands in the same relation to (s)p(h)el-2 (P 987) as weid- (P 1125) stands to sweid-. But more decisive for the significance of the **PL** characteristic under SMOOTH is the mingling of the clicking image of a stroke with the expiratory image of a »smooth« explosion, discussed in the preceding paragraph in connection with the root del-3. This image of explosion appears in the root (s)p(h)el-1 in Skt. sphat*ati »tears (intransitive), bursts open« and in sphut*ati »splits itself, bursts open, tears (intransitive)« which are parallel to the same Sanskrit meaning under the root del-3. Just as there, the clicking imitation of a stroke here plays the role of a causing agent of a »smooth« breaking into pieces. In this modified meaning the root (s)p(h)el-1 under SMOOTH occurs four times without the shifting **S** and once with it. The agreement with the same modified meaning in the root del-3 with the **TL** characteristic is to be seen in the fact that in three synonymic sets — under 9.27 split, under 7.26 floor, and under 18.55 tablet — both (s)p(h)el-1 and del-3 occur together.

In the concept group BLOW the **PL** characteristic still has in part the same clicking and inspiratory meanings as in the group SMOOTH. Yet in many cases the transition to the purely expiratory imitation pattern is almost finished; thus particularly in the root bhel-3 under 10.38 blow, 4.51[1] breathe, 4.51[2] breath, 4.46 belly, and 12.83 sphere. Closest to this comes the root bholo- in the synonymic sets for »smell« and »smelling«, which expresses in the first place the extraverted breath. The predominance of the image of extraverted breath in various synonymic sets from the concept group BLOW in opposition to the image of intraverted breath under SMELL has already been pointed out (Linguistica IX, 1, 1969, 17.) This predominance is particularly striking with the phonemic characteristic **PR** where the root bher-2 which is the most frequent radical morpheme in the group BLOW seems to convey exclusively expiratory, explosive images. Distinctly expiratory are also the roots with **P-U** and with **PS** and many other **P** roots; the combination of the **P** characteristic with **U** seems to have decisively contributed to its expiratory meaning. In this sconnection we may call attention to the table of meanings derived from »blowing« elaborated and accompanied by extensive examples from the Indo-European and other languages by W. Oehl [26], Anthropos 16—17, 765 ff. Though Oehl several times attributes to the expiratory images meanings which have to be explained by

inspiratory images, his emphasizing of the great role played by the images of breath in the developement of language is certainly justified. The imitation pattern of strain and stopped breathing with the phonemic characteristic **PN** has been discussed under 33; this pattern **(I 3, O 3)** is found — beside the pattern of expiratory explosion **(O 1)** — with the characteristic **P-U**, and it appears also with the characteristic **SP** in the synonymic set 12.63 thick (in dimension). A basic inspiratory image has to be assumed for the root bheudh- under 15.21 smell; the meaning »taste« of this root under 15.31 in the concept group SMELL points even to a mingling with a clicking image. The same characteristic **PT** in pet-2 under 10.37 fly, 3.64 bird, and 4.393 wing is parallel to the clicking characteristic **PL** in pel-1, occuring simultaneously in these synonymic sets. This reminds one on the parallelism of the homeophonic root pĕd-2 with the root pelə- in the synonymic sets 12.71 flat, 1.23 plain, and 7.26 floor under SMOOTH. And the alternating of an inspiratory and a clicking image, found with bheudh-, reappears in the root tep- under 15.21 smell and 15.34 taste where — as under 1.81 fire — the image underlying the meaning of tep- appears to be already clearly expiratory.

70. If we wanted to begin our explanation with the genetically oldest stratum in the human speech, it would have been necessary to start with the **K** characteristics. Looking at our normal phonemic distribution every observer will be struck with the outstanding frequency of the gutturals which is twice as high as that of any other phonemes. This fact is in surprising agreement with the circumstance that hardly a language of the world is without gutturals, and that in those rare cases where they are absent they are represented by the glottal catch [39], 362, which is produced in the larynx and is itself a guttural in the broad sense of the term. The glottal catch and the laryngeal fricative **h** corresponding to it precede in the ontogenesis of speech the velar gutturals; this is clear from the predominance of laryngeal sounds immediately followed by the velar ones among the sounds which a child first produces [38], 415, 416. Further indications for the phylogenetic priority of the laryngeal and then velar consonants before all other consonants have been mentioned under 40. From the most probable existence of a primary vowel triangle **a-i-u** in the earliest stage of human speech we can infer that as a correlate to **a** in the consonant area there must have existed from the very beginning a laryngeal **h** [58], 12, 17. In the Bushman language, which certainly belongs to the primitive languages, there is beside the clicks a great variety of very frequent guttural consonants whereas other consonants are almost non-existent [43], 435 ff.; [51]. All these indications confirm the supposition that the outstanding frequency of the phonemic class **K** is best explained by seeing in it a massive link with human prehistory and with primitive undifferentiated guttural phonation common to man and animals.

Our statistical data offer other useful information about the phonemic class **K**. All concept groups in which the central and front consonants are significant (with the sole exception of the group TOUCH) have a negatively

significant characteristic **K** as opposed to the positively significant characteristic **K** in the concept group SHARP. Since the speech mechanism represents the integration of the systems of nutrition and respiration [27], 133, and since, as we have seen, the central oral consonants have developed from the function of nutrition, this points to the origin of the phonemic class **K** from the function of respiration, be it vital or phonic. The fact that such an opposition is missing with the group TOUCH is not in disagreement with this conclusion: this is a consequence of the higher frequences of **KT** and **KP** which occur along with **ST** and belong to the inspiratory articulatory and morpho-semantic area. The opposition between **K** and **T** appears inside the group SHARP itself. Both the general characteristic **T** and the specific characteristic **ST**, which have a pronounced significance in the group TOUCH, are negatively significant in the group SHARP, and parallel to this **TK** and especially **KT** which joined are significant under TOUCH show a numerical inferiority in this group. These oppositions and parallelisms, beside the basic opposition between **T** and **K**, reveal the predominant role of the **T** element in the characteristics **KT** and **TK**. And the negative **K** characteristic in the group BLOW shows that, in spite of the later predominance of the expiratory imitation pattern in this group, the real origin of **P** characteristic has to be sought in the clicking morpho-semantic area hence in the function of nutrition. On the other hand, the absence of the negatively significant **K** characteristic in the concept groups ROUGH and NARROW brings these two concept groups closer to the group SHARP. The proximity between these groups is even positively confirmed by the significant characteristics **KN** under NARROW and **KR** under ROUGH. That the **KN** characteristic is based on the imitation pattern of stopped expiration has been already demonstrated, but in view of the oppositions and parallelisms discussed above, a respiratory origin is most probable also for the **KR** characteristic. To determine the place occupied by the **K** characteristic in the entire Indo-European imitation system one more statistical datum has to be taken into account: comparing the normal phonemic distribution of the REPRESENTATIVE SAMPLE with the phonemic distribution of the integrated concept groups in Table XIX we can see that in the joint distribution of our concept groups the phonemic class **K** has a lower frequency than in the REPRESENTATIVE SAMPLE, and that it is in this difference that we must see the principal cause why the two general distribuitions of the consonants differ. There are two places in which the joint distribution of our concept groups shows a lower frequency of the phonemic class **K**: with the two-consonant radical morphemes containing the characteristic **KL** and **LK**, and with the one-consonant radical morphemes containing the characteristic **K-I**. Here the incompleteness of the established morpho-semantic correlations as regards the **K** characteristics has to be taken into account.

71. In the concept group SHARP the general characteristic **K** relates to the denominations for sharp, pointed and loud phenomena; as a specific significant characteristic **SK** occurs beside it. This complex characteristic occurs above all in connection with the first two categories of the phenomena,

while with the phenomena of loudness it is found only seldom. The specific characteristic **KR** is significant only in the concept group ROUGH; since this significance coincides with a general significance of **R** it is obvious that here the **R** element is decisive for the morpho-semantic correlation with rough phenomena. Still from the fact that, of all the **R** combinations, it is only the **KR** characteristic which is significant for itself it follows that the occurence of the **K** element in this characteristic is not accidental and that the morpho-semantic correlations **K** — »sharp, pointed« and **KR** — »rough« are mutually connected. In the introduction to the concept group SHARP (Linguistica IX/1, 1969, 36) this question was already discussed. There we established that the tactile-proprioceptive perception of roughness is frequently combined with that of sharpness, since the discontinuous prominencies of a rough surface are often at the same time sharp. Here we might try to go deeper. If both **K** and **KR** have their origin in the function of respiration we can assume that the connection of the sensation of roughness and the sensation of sharpness also has its origin in the respiratory phenomena. The semantic analysis of the radical morphemes with **KR** and **K** under SHARP and ROUGH confirms this hypothesis. It turns out — if for instance we start merely from the synonymic set 15.76 rough — that the meaning of roughness is associated with the phenomenon of convulsive, shuddering inspiration and with unpleasant »rough« inspiratory phenomena such as rattling in the throat, snoring on the one hand, and with phenomena of harsh crying and hoarseness, i. e., of primitive phonation on the other. Proceeding in the inquiry about the semantic connections of the meaning »rough« we meet further with respiratory and other ejections, such as hawking, belching, retching, and the like. With all these phenomena the sensation of roughness normally implies the sensation of sharpness and pain, especially in the case of violent harsh crying out or ejection. Thus the double meaning of »rough and sharp«, originated in the oral area, is transferred to denominations of manual activities and other phenomena, displaying a **KR** characteristic. The ultimate origin of the imitative **R** in this specific characteristic comes probably from the primitive reflex mechanism of extreme laryngeal closure and the simultaneous vibration of the supraglottic elements present in the physiological alarm cry of panic or any other strong emotional cry (27). In the denominations of sharpness with the bare **K** characteristic a similar development of meaning has to be assumed in view of the fact that the same semantic connections with the described respiratory phenomena occur also here. So with crying the stress is laid upon the violent bursting open of the closed glottis, and with ejection the stress is on the same or on similar violent opening of the oesophagus. These primary images are transferred to denominations of »sharp« manual activities and other phenomena including sensations of sharpness and pain; the origin of the »sharp« **K** characteristic — and also of the inspiratory fricative **K** characteristic treated under 64 — must to all appearance be sought in the same physiological processes which gave birth to the **KR** characteristic. As regards the sensation of sharpness it would be useful to establish whether the articulation of laryngeal and

velar plosives in itself is proprioceptively perceived more intensively than the articulation of other plosives in relation to the neuro-muscular structure of the organs of speech.

The significant **K** characteristic with an initial **K** under SHARP does not include only the **KR** characteristic but also the parallel characteristics **KL** and **KN**. Their mutual relations — the specific meaning »pressing« of **KN** being let apart — are best shown with the meanings referring to loudness, alternatively expressed by these characteristics. A survey of the corresponding roots discloses that in spite of a secondary semantical equalizing the roots having a rough **KR** characteristic of crying were originally clearly opposed to the roots with the smooth and continuously echoing **KL** and **KN**. This was already shown for the examples of crying and singing under 27. Here we may add another suggestive example. In Slovenian we get a clear opposition between kričati »cry, shout« from the root ker-1 under 18.13 and klicati »call« from the root kel-6 in the same synonymic set (Plet. 1.467, 406). Also if we examine in Berneker's etymological dictionary all the corresponding Slavic meanings under krikъ (1.616) on the one hand, and klikną (1.519) on the other, we can see that the meaning »cry, shout« predominates under the former entry, and the meaning »call, anounce«, under the latter. The smooth klik- renders moreover the sounds made by the birds which actually have smooth, ringing voices, as the eagle, the woodpecker, the swan; while the rough krik- renders the sounds made by the birds which have rough or vibrating voices, as the crane and the thrush.

But if in these imitations the voiced **R** and **N** are probably original, **L** after all that has been established concerning its origin is certainly secondary. The essential difference between the **L** as a central oral consonant which has developed from a click, and the **L** here lies in its voicedness. The way how this transition came about is not evident from our statistical material, but it might be remembered that a gap appeared exactly with the characteristics **Kl** and **LK**. And if we examine more closely the Tables XVII and XVIII and the tables for SMOOTH, SMELL, and TOUCH we can see that it is **KL** and **LK** (both numerically superior) which caused that the group SMOOTH has retracted from the groups SMELL and TOUCH and moved closer to the group NARROW. The characteristic **KL** as a successor to the lateral click is parallel to the characteristics **TL** and **PL**, but it is articulated most backward in the mouth cavity. It seems that this characteristic has passed first to the imitation of gurgling (»clucking«) and of smooth swallowing, especially of liquids, and only later to the imitation of smooth sounds, acquiring step by step its final voicedness. In this connection we might point out the fact that in the articulation of **L** a distinct lowering of the entire larynx may be observed [34], 114, and that, on the other hand, particularly the gulping of water causes in general a similar downward movement of the larynx [51], 55. The characteristic **LK** denoting swallowing came into existence probably through a metathesis from **KL**; but it may also originate from a three-consonant characteristic **SLK** combining the characteristic **SL** with the inspiratory characteristic **K**.

72. From all that we know about the role of the phoneme **S** which appears in the complex characteristic **SK**, we must suppose for it the derivation from an originally clicking and a later inspiratory sound. A comparative semantic analysis of the roots sker-, very frequent under SHARP and ROUGH, shows semantic relations which are very similar to the semantic relations with the roots ster- and, it may be added, the roots sper-. Here as well we come across, for instance, the basic images of striking and rubbing, of convulsive inspiration and violent, vibrating explosion. These images are modified only so much that they are normally accompanied by a distinct element of sharpness; hence instead of general striking we get mostly »chopping, digging«, etc., and instead of rubbing mostly »scratching« and »cutting with a knife«. The image of convulsive inspiration appears repeatedly in the meaning »spasm, cramp« and the meaning of explosion, ejection in the meaning »excretion«, both with a clear connotation of sharpness and pain. The last meaning is found also with the **K** characteristic, as is evident from the set 4.66[1] under SHARP. Without the **R** element the characteristic **SK** occurs in the radical morpheme sĕk-2 which is the most strongly represented root in this concept group. This root is in the same relation to the root ak'-2, as (s)ker-4 (P 938) with the shifting **S** to (s)ker-4 without the shifting **S**. If we bear in mind the great importance which the articulatory direction of the sounds has in the linguistic imitations of the movements, we can see the role of **S**. The sharp movement represented by **K**, directed originally in the forward direction, was by the clicking predecessor of **S** directed downwards parallel with the movement of the arm when striking. The inspiratory **S** then indicated the direction back towards oneself with the restrained movements of scratching and cutting with the knife. Though the two-consonant roots with an initial **K-** are independent from the corresponding three-consonant roots with an initial **SK-**, it is nevertheless in connection with the latter only that they seem to have acquired all their parallel motion meanings.

In the formation of the **SK** characteristic another radical morpheme was involved: (s)ka*p- (P 930). This root is most probably related to the inspiratory roots kap- and ghabh-, discussed under 64. The unstopped movement of the mandible and the lips upwards when grasping something with force **(U 1s)** changed into the reverse movement of the lips and mandible downwards parallel to a downward movement of the arm **(D 1s)**. Here also the combination of a click with the guttural was decisive for the determination of the direction. Yet the phonemic combination **K — short A** both with the roots kap-, ghabh- and the root (s)ka*p- shows something else. The articulation of gutturals already implies a slight lowering of the mandible; with the exception of **R** and **L** this does not happen with other consonants [15], 419. If **A** is also present, the downward movement of the mandible is much more accentuated. The movement expressed with **K — A** helped thus in its way to the formation of the meaning of a downward strike in the root (s)ka*p-; the radical form (s)ka*p- was probably only later joined by the form (s)ke*p- through analogy with other morphemes of original neutral vocalisation.

The articulatory feature of the lowered mandible common to **K** and **A** which leads to their preferential combination appears already in the radical morpheme ak'-2 and is the source of the significance of the characteristic **K — short A** in the concept groups SHARP and ROUGH. The positive significance of any short vowels in both groups suggests that the central vocalisation — be it with a short **A** or a short **E** — prevailing in the Indo-European roots, has taken shape in the first line with the roots containing a guttural or a guttural **R.**

73. The question concerning the role of the different quality of the vowels in the Indo-European imitation system finds at least a partial answer through our findings under SHARP and ROUGH. Beside the imitative value of **U** which is proved by the significance of the **U** characteristic in the groups SMELL and BLOW, we can claim an analogous imitative value for **A.** All these values have a distinct motion character. The characteristic **U** renders protruded forward pushed lips which move either in the outward or in the inward direction but always on the same sagittal line. The characteristic **A,** on the contrary, conveys the image of a widely open mouth, either as a starting point for an upward movement or as a result of a downward movement, yet always on the same vertical line. Both characteristics have a feature in common: they represent maximal articulatory movements and extreme positions of the speech organs. Although our material gives no statistically significant information about the **I** characteristic, it can be assumed from many instances that this characteristic represents the third maximal articulatory movement and the third extreme position of the speech organs which is possible, i. e., the pronounced extending of the lips and all supralaryngeal parts of the speech organs to both sides in a transversal line (30). This concludes the picture of the basic motion values of the characteristics **A-I-U***; it goes without saying that they are accompanied by other, especially synergistic motion values, as well as by the auditory ones. The fourth vowel which we must assume already for the pre-Indo-European period, i. e., **E,** plays in the imitation system the role of a neutral element of vocalisation and, in view of its non-maximal articulation, has no motion value or auditory value of distinct quality.

74. Many readers probably will be of opinion that the hypotheses brought forward here to explain our statistical results are too many and that the evidence in many cases is too scarce. We ask them to consider the subjective

* At this stage of investigation the evolution from the supposed primary vowel triangle **a-i-u** to the Indo-European radical diphthongs **ai, āi, ei, ēi, au, āu, eu, ēu,** etc. beside the unreduced radical vowels **ĭ** and **ŭ** remains unclear. Does the Indo-European state result from diphthongizations or extensions, or from both? This problem is closely connected with the fundamental yet unsolved question of syllable formation in pre-Indo-European, i. e., with the genetical relationship between the various root types, especially between the types **CV** and **CVC.** The articulatory-auditory features of **ĭ** and **ŭ,** either in their vowel or semi-vowel function, are in any case identical (8). See also [58] and [59].

circumstances referred to at the beginning and above all the objective disadvantage consisting in the fact that our investigation was necessarily limited to the sole family of the Indo-European languages. Thus a comparison of morpho-semantic facts on a larger scale was prevented which would permit us to avoid mistakes. But we are firmly convinced that the choosen method of investigating the correlation between sound and meaning — and the same time the genesis of human speech — is the right one, and that in spite of possible errors in our interpretation it should be applied systematically to other language groups. Reassuming, the cardinal points of the method are: 1) the statistical treatment of independent synonyms; 2) the systematic establishing of the denotative chains connecting the single members of the synonymic sets; 3) the formal comparison of the linguistic morphemes and the extralinguistic phenomena denoted by them; 4) the preferential attention given to the comparison of the linguistic morphemes with the primary physiological functions of respiration and nutrition from which the human speech originates; 5) the investigating of relevant neurophysiological connections existing in the human body, especially of synergism; 6) the synthesis of linguistical, biological, psychological, anthropological, cybernetical and other scientific findings belonging together. Applied on a large scale by team work and interdisciplinary collaboration these investigations would certainly lead to a considerable progress in our knowledge about language, its complex structure and its beginnings.

To point 5) we may add a reference found after the finishing of the manuscript. In the electrocorticograms made by H. Jasper »the [encephalic] beta rythm from the face area of the precentral gyrus was blocked with the hand area during initiation of a strong contraction such as clenching the first, suggesting« — according to the eminent neurophysiologist — »some spread of the blocking effect throughout the motor system, related possibly to synergistic contractions« [**63**], 22. Very probably analogous findings could be multiplied by specific electrocorticographic as well as electromyographic investigations.

TABLE 1 a
REPRESENTATIVE SAMPLE

	R	L	N	K	T	P	S	
S	7	15	28	54	63	23	0	190
P	58	43	16	25	23	2	7	174
T	51	14	20	38	0	6	1	130
K	112	68	47	6	28	19	10	290
N	12	13	29	25	12	1	2	94
L	1	0	4	38	6	9	4	62
R	0	0	2	11	9	5	1	28
	241	153	146	197	141	65	25	968

TABLE 38 a
SHARP

	R	L	N	K	T	P	S	
S	12	19	33	93	*26*	33	0	216
P	42	28	12	33	16	0	9	140
T	49	33	9	24	0	0	0	115
K	164	79	42	24	5	28	42	384
N	5	7	*0*	28	14	3	2	59
L	0	0	0	*12*	0	9	0	21
R	0	0	5	18	5	2	3	33
	272	166	101	232	66	75	56	968

TABLE 39 a
SHARP

	R	L	N	K	T	P	S	
S	5	8	14	40	*11*	14	0	92
P	18	12	5	14	7	0	4	60
T	21	14	4	10	0	0	0	49
K	70	34	18	10	2	12	18	164
N	2	3	*0*	12	6	1	1	25
L	0	0	0	*5*	0	4	0	9
R	0	0	2	8	2	1	1	14
	116	71	43	99	28	32	24	413

TABLE 3 a
ROUGH

	R	L	N	K	T	P	S	
S	17	21	4	70	25	33	0	170
P	91	25	4	30	4	0	8	162
T	79	8	0	25	0	0	0	112
K	233	54	38	28	4	21	17	395
N	4	8	0	26	8	4	0	50
L	0	0	8	25	0	9	0	42
R	0	0	8	12	13	4	0	37
	424	116	62	216	54	71	25	968

TABLE 8 a
ROUGH

	R	L	N	K	T	P	S	
S	4	5	1	17	6	8	0	41
P	22	6	1	7	1	0	2	39
T	19	2	0	6	0	0	0	27
K	56	13	9	7	1	5	4	95
N	1	2	0	6	2	1	0	12
L	0	0	2	6	0	2	0	10
R	0	0	2	3	3	1	0	9
	102	28	15	52	13	17	6	233

TABLE 13 a
NARROW

	R	L	N	K	T	P	S	
S	0	12	49	*12*	45	16	0	134
P	33	53	36	32	0	0	21	175
T	65	16	20	41	0	4	0	146
K	102	32	98	0	4	12	8	256
N	12	33	53	86	16	0	12	212
L	0	0	4	21	0	0	0	25
R	0	0	0	16	0	0	4	20
	212	146	260	208	65	32	45	968

TABLE 17 a
NARROW

	R	L	N	K	T	P	S	
S	0	3	12	3	11	4	0	33
P	8	13	9	8	0	0	5	43
T	16	4	5	10	0	1	0	36
K	25	8	24	0	1	3	2	63
N	3	8	13	21	4	0	3	52
L	0	0	1	5	0	0	0	6
R	0	0	0	4	0	0	1	5
	52	36	64	51	16	8	11	238

TABLE 2 a
SMOOTH

	R	L	N	K	T	P	S	
S	14	67	41	45	50	13	0	230
P	36	108	23	9	40	0	9	225
T	45	50	22	5	0	0	0	122
K	45	99	13	5	23	9	0	194
N	18	18	5	27	4	0	0	72
L	0	0	22	54	9	18	0	103
R	0	0	0	4	18	0	0	22
	158	342	126	149	144	40	9	968

TABLE 7 a
SMOOTH

	R	L	N	K	T	P	S	
S	3	15	9	10	11	3	0	51
P	8	24	5	2	9	0	2	50
T	10	11	5	1	0	0	0	27
K	10	22	3	1	5	2	0	43
N	4	4	1	6	1	0	0	16
L	0	0	5	12	2	4	0	23
R	0	0	0	1	4	0	0	5
	35	76	28	33	32	9	2	215

TABLE 17 a
NARROW

	R	L	N	K	T	P	S	
S	0	3	12	3	11	4	0	33
P	8	13	9	8	0	0	5	43
T	16	4	5	10	0	1	0	36
K	25	8	24	0	1	3	2	63
N	3	8	13	21	4	0	3	52
L	0	0	1	5	0	0	0	6
R	0	0	0	4	0	0	1	5
	52	36	64	51	16	8	11	238

TABLE 2 a
SMOOTH

	R	L	N	K	T	P	S	
S	14	67	41	45	50	13	0	230
P	36	108	23	9	40	0	9	225
T	45	50	22	5	0	0	0	122
K	45	99	13	5	23	9	0	194
N	18	18	5	27	4	0	0	72
L	0	0	22	54	9	18	0	103
R	0	0	0	4	18	0	0	22
	158	342	126	149	144	40	9	968

TABLE 7 a
SMOOTH

	R	L	N	K	T	P	S	
S	3	15	9	10	11	3	0	51
P	8	24	5	2	9	0	2	50
T	10	11	5	1	0	0	0	27
K	10	22	3	1	5	2	0	43
N	4	4	1	6	1	0	0	16
L	0	0	5	12	2	4	0	23
R	0	0	0	1	4	0	0	5
	35	76	28	33	32	9	2	215

TABLE 3 a
ROUGH

	R	L	N	K	T	P	S	
S	17	21	4	70	25	33	0	170
P	91	25	4	30	4	0	8	162
T	79	8	0	25	0	0	0	112
K	233	54	38	28	4	21	17	395
N	4	8	0	26	8	4	0	50
L	0	0	8	25	0	9	0	42
R	0	0	8	12	13	4	0	37
	424	116	62	216	54	71	25	968

TABLE 8 a
ROUGH

	R	L	N	K	T	P	S	
S	4	5	1	17	6	8	0	41
P	22	6	1	7	1	0	2	39
T	19	2	0	6	0	0	0	27
K	56	13	9	7	1	5	4	95
N	1	2	0	6	2	1	0	12
L	0	0	2	6	0	2	0	10
R	0	0	2	3	3	1	0	9
	102	28	15	52	13	17	6	233

TABLE 13 a
NARROW

	R	L	N	K	T	P	S	
S	0	12	49	12	45	16	0	134
P	33	53	36	32	0	0	21	175
T	65	16	20	41	0	4	0	146
K	102	32	98	0	4	12	8	256
N	12	33	53	86	16	0	12	212
L	0	0	4	21	0	0	0	25
R	0	0	0	16	0	0	4	20
	212	146	260	208	65	32	45	968

TABLE 30 a
SMELL

	R	L	N	K	T	P	S	
S	14	32	112	14	46	14	5	237
P	65	37	14	9	28	0	9	162
T	37	19	23	32	5	28	0	144
K	74	61	19	5	51	28	37	275
N	14	41	14	14	24	5	9	121
L	0	0	0	0	5	19	5	29
R	0	0	0	0	0	0	0	0
	204	190	182	74	159	94	65	968

TABLE 31 a
SMELL

	R	L	N	K	T	P	S	
S	3	7	24	3	10	3	1	51
P	14	8	3	2	6	0	2	35
T	8	4	5	7	1	6	0	31
K	16	13	4	1	11	6	8	59
N	3	9	3	3	5	1	2	26
L	0	0	0	0	1	4	1	6
R	0	0	0	0	0	0	0	0
	44	41	39	16	34	20	14	208

TABLE 14 a
TOUCH

	R	L	N	K	T	P	S	
S	6	12	18	38	119	18	0	211
P	50	33	12	15	32	0	9	151
T	83	21	32	60	3	15	0	214
K	86	41	15	0	51	41	12	246
N	6	6	6	38	6	0	9	71
L	0	0	0	36	0	9	0	45
R	0	0	6	15	9	0	0	30
	231	113	89	202	220	83	30	968

TABLE 18 a
TOUCH

	R	L	N	K	T	P	S	
S	2	4	6	13	40	6	0	71
P	17	11	4	5	11	0	3	51
T	28	7	11	20	1	5	0	72
K	29	14	5	0	17	14	4	83
N	2	2	2	13	2	0	3	24
L	0	0	0	12	0	3	0	15
R	0	0	2	5	3	0	0	10
	78	38	30	68	74	28	10	326

TABLE 23 a
BLOW

	R	L	N	K	T	P	S	
S	0	4	77	9	43	25	0	158
P	120	107	34	43	30	0	47	381
T	13	0	4	21	9	30	0	77
K	120	34	30	4	22	34	0	244
N	17	13	0	13	12	5	0	60
L	0	0	0	22	0	17	0	39
R	0	0	0	0	9	0	0	9
	270	158	145	112	125	111	47	968

TABLE 24 a
BLOW

	R	L	N	K	T	P	S	
S	0	1	18	2	10	6	0	37
P	28	25	8	10	7	0	11	89
T	3	0	1	5	2	7	0	18
K	28	8	7	1	5	8	0	57
N	4	3	0	3	3	1	0	14
L	0	0	0	5	0	4	0	9
R	0	0	0	0	2	0	0	2
	63	37	34	26	29	26	11	226

TABLE XVII
Normalized

REPRES. SAMPLE

	b	a	c	
c	252	117	125	c
a	227	6	57	a
b	61	74	49	b
	b	a	c	

SHARP

	b	a	c	
c	*237*	150	*84*	c
a	285	24	75	a
b	*17*	58	*38*	b
	b	a	c	

ROUGH

	b	a	c	
c	*249*	125	*70*	c
a	325	28	42	a
b	*28*	63	*38*	b
	b	a	c	

NARROW

	b	a	c	
c	284	*85*	*86*	c
a	242	*0*	*24*	a
b	102	113	32	b
	b	a	c	

SMOOTH

	b	a	c	
c	406	*59*	*112*	c
a	157	*5*	*32*	a
b	63	85	49	b
	b	a	c	

SMELL

	b	a	c	
c	353	55	135	c
a	*154*	*5*	116	a
b	*69*	*14*	67	b
	b	a	c	

TOUCH

	b	a	c	
c	267	113	196	c
a	*142*	0	104	a
b	*24*	*89*	33	b
	b	a	c	

BLOW

	b	a	c	
c	359	73	184	c
a	*184*	*4*	56	a
b	*30*	*35*	43	b
	b	a	c	

TABLE XVIII
Actual

REPRES. SAMPLE

	b	a	c	
c	252	117	125	c
a	227	6	57	a
b	61	74	49	b
	b	a	c	

SHARP

	b	a	c	
c	*101*	64	*36*	c
a	122	10	32	a
b	*7*	25	*16*	b
	b	a	c	

ROUGH

	b	a	c	
c	*60*	30	*17*	c
a	78	7	10	a
b	*7*	15	*9*	b
	b	a	c	

NARROW

	b	a	c	
c	70	*21*	*21*	c
a	57	*0*	*6*	a
b	25	30	8	b
	b	a	c	

SMOOTH

	b	a	c	
c	90	*13*	*25*	c
a	35	*1*	7	a
b	14	19	11	b
	b	a	c	

SMELL

	b	a	c	
c	76	12	29	c
a	*33*	*1*	25	a
b	*15*	*3*	14	b
	b	a	c	

TOUCH

	b	a	c	
c	90	38	66	c
a	*48*	*0*	35	a
b	*8*	*30*	11	b
	b	a	c	

BLOW

	b	a	c	
c	84	17	43	c
a	*43*	*1*	13	a
b	7	*8*	10	b
	b	a	c	

TABLE XIX*

A) The Chi-square results for consonant pairs, distinguishing only three phonemic elements **a**, **b**, and **c**, as in tables XVII and XVIII

SHARP	ROUGH	NARROW	SMOOTH	SMELL	TOUCH	BLOW
39.478	27.057	26.491	35.179	39.954	49.296	32.035

B) Significant r. m. s. deviations for the groupings of consonant pairs, distinguishing only three phonemic elements **a**, **b**, and **c**, as in tables XVII and XVIII

SHARP	ROUGH	NARROW	SMOOTH	SMELL	TOUCH	BLOW
4.70	3.30	3.79	3.19	3.87	4.33	3.83
10.16	7.63	7.12	6.81	7.00	8.76	7.30

C) The Chi-square results for the integrated distributions of consonant pairs in the seven concept groups SHARP to BLOW

KK etc.	KR + rk	KN + nk	nn	SN + ns	sl etc.	KL + lk
+ 2.899	+ 0.106	+ 0.027	— 19.105	+ 7.920	+ 4.500	— 9.480
PL + lp	PT + tp	sp + ps	pk + kp	PR + rp	SK + ks	ST + ts
+ 3.404	+ 0.052	+ 4.443	+ 0.775	— 0.254	+ 0.012	— 2.980
		TK + kt	TR + rt	tn et.		SUM
		— 2.376	+ 0.340	+ 0.125		58.798

D) The Chi-square results for the integrated distributions of the singly appearing consonants in the seven concept groups SHARP to BLOW

K	R	N	L	S	T	P
— 11.464	+ 1.819	— 0.273	+ 1.769	+ 3.438	— 1.20	+ 5.934
						SUM
						24.817

E) The Chi-square results of the integrated general distribution of consonants in the seven concept groups SHARP to BLOW

K	R	N	L	S	T	P
— 8.411	+ 1.047	— 0.316	+ 0.058	+ 5.689	— 1.794	+ 7.346
						SUM
						24.661

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* Notes to Table XIX:

At the probability level P = 0.001 the non-significant Chi-square for the distribution under A — taking eight degrees of freedom — is 26.125.

The right lower figure under B is the determined standard deviation, and the left upper figure is the number of standard deviations.

At the probability level P = 0.001 the non-significant Chi-square for the distributions under D and E — taking six degrees of freedom — is 22.457. At the same level the non-significant Chi-square for the distribution under C — taking fortythree degrees of freedom — is 77.419.

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POVZETEK

Drugi, sklepni del razlage se nanaša na posamezne signifikantne glasovne karakteristike: na njihovo imitativno vrednost in njihov nastanek iz elementarnih fizioloških funkcij hranjenja in dihanja.

CDU 807.33(497.1)-3

Milan Grošelj

DE NONNULLIS VOCIBUS IN LEXICO LATINITATIS MEDII AEVI IUGOSLAVIAE FASC. I & II OBVIIS

In Lexico, quod auspiciis Consilii Academiarum Scientiarum et Artium SFR Iugoslaviae Zagrabiae MCMLXIX moderantibus M. Kostrenčić, Veljko Gortan, Zlatko Herkov in lucem edi coeptum est, viri docti supra memorati nonnullas voces ut parum certae aut prorsus ignotae significationis potius interpretamento carere voluerunt quam ut quicquam incerti litteris mandarent. Accedit, quod quaedam voces perperam lectae in editiones documentorum irrepserunt. Et priores et posteriores ut explicet, posteritati elaborandum erit. Nos quae temptavimus, infra publici iuris facienda putavimus.

abertare, habertare — ex *adveritare* (q. v.) ortum.

abranis — vox potius bona uxoris a communibus separata significare videtur.

adsugia — ex *axungia* derivatum.

agocium — e gr. agogeion derivatum.

amphisterbus (?), -um (?) — in textu ablativi leguntur: pro habendis suis vellis, amphisterbis et antennis. Atqui s. v. *amplustra* locus simillimus legitur: Carbasa, amplustras et perticas. Itaque sub *amphisterbis* ablativum *amplustribus* latere suspicari licet et lemma ut nihili putandum.

arganger? — falso pro *argagnis*. Cf. s. v. *cavalettus:* cum suis cavalettis et arganis, i. e. iugis. Cf. *arganum, argagnum.*

artatikium? — perperam lectum videtur pro »dricirium«, cf. *dircirium, drecia, dreçera* (ven. dreza, ital. treccia, treccera).

asplus — perperam pro »duplus«, pendens duplus ambos lobos pulmonum designat.

assa maza? — ital. samassa »vas quoddam«. a(s)- protheticum.

arcolinia, arculina? — pellis mustelae (ital. martora ex theod. Marder; per dissimilationem ex *martolina sc. pellis).

arrendare ... hebarum — corr.: herbarum.

ascaratus — pro: ascargatus, cf. *cargum.*

aurifrisium ... praecinctus — corr.: praecinctum.

banbadona? — taberna. Perperam pro: barbadona? Cf. *barbotatus* »superne tectus«, *barbota* »navis tectae species«.

batadurus? — perperam pro *bat(t)adura* »trituratio frumenti«, »furtis« corr. in »furtivis«.

biclurus, bidurus — perperam pro *bic(h)arius, bucarius.* -ch- falso lectum ut -cl- > -d-.

bisama — falso pro serb.-croat. *bližina,* cf. *blischina* »vicinitas«. Ad eundem eventum a. 1386 *circumvicinus*... Dinić Acta II 242/21, a. 1386:... permittere c i r c h a v i c i n o s Stangni et Vlacos se salvare in Stangno.

bobaria? — pestis (bubonaria?).

bombarderius — per errorem typographicum bis positum »mero aliorum drabantorum«, versus praecedens »diere... qui tor-« ad finem perductus non est.

borba? — serb.-croat. *vrba*?

borchinus? — instrumentum rusticum aliquod.

borchula? — collis sinuosus, cf. *burgola.* Cf. locorum similitudinem:

s. v. *burgola:* ascendendo per quandam burgolam... usque ad

s. v. *borchula:* ascendendo super borchulam... usque ad... De sonis vel litteris *c* — *ch* — *g* inter se mutandis cf. *cabia* — *chabia* — gabbia, *cabella* — *chabellum* — gabella, *caifus* — gaifus.

borscuatu — perperam pro: bor (serb.-croat.) sicatus, cf. vocabula textus »arborem desycatam«.

bubare? — ventilare, cf. ital. buffo »impetus venti«.

bussedo ? — vas quoddam, cf. 2. *busus... bussus, bussa.*

bussoleta? — silva, nemus, cf. *bucedus* (med. lat. buschetus, ital. boschetto).

bustare? — perperam pro: *buscare* (cf. ital. busca) »indagare, explorare«.

cadelepum?, cadelepus? — pro: cadaleptum (gr. katálepton) »nummi minuti vel pondera minuta«.

caffa? — idem atque »gabbia«. Cf. Boerio 294 s. v. GABIA: dicesi anche caffa.

2. *campanella*... malium (?) — corr.: macium; cf. ital. macis, mace, macio, angl. mace, theod. Macis(blüte). Cf. Meyers Konv.-lex. Bd. XIV (1906) s. v. Myristica: »Der zerschlitzte, fleischige, rote Samenmantel bildet die Muskatblüte (Macis, Macisblüte) des Handels.« Propter formam nomen campanae inventum est.

canifer... (regis — corr.: (regis).

canpancia?: vas vel instrumentum aliquod. Cf. *campacella.*

capitosus?: forsitan cognomen vel agnomen.

carari: iudices carari? — quibus viae carrariae curae sunt. V. textum s. v. 1. cararius.

carescere? — de pretio salis dicitur, quod »carum« fit.

carissea? — idem atque *carita* »navis genus«.

carito? — pro: *canto, cantonus* (q. v.).

carlescus? — dictus a Carolo, cf. *carlenus.*

cartiçare? — carta vectigalis soluti munire.

cataneum... status? — pro: cataverium status (?) = indutiae, quibus status quo servatur. Cf. *catavera, cataveraria, cataverius.*

cauca? — vitis.

cavara? — corr.: cavare, inf. subst. indecl. »fodere«. Cf. *bibere,* indecl., n.

cerga? — (serb.-croat.) tentorium. Cf. ad rem *celega, celiga* »barcarum tegumentum«.

çeveda? — iecur?

choe? — pro: chocha (cf. *coca, caucha*) »navigii species«.

cia? — pro: cilia.

cici de fide — pro: eici de fide.

cignis ... renum ciglar — perperam repetitum e lemmate *ciglar*. Deest lemma *cilica, cilizza.*

cimator ... tondit — corr.: tondet.

civientes? — pro: s(a)evientes.

clamare ... per preconem Comunis — contextus deest, nam »nem per eundem cr. f. ...« falso translatum e lemmate *clamatio.*

clauoulium ... cum c l a u o u l i o necessariis et consuetis — corr.: cum clausulis.

corbatium? — idem atque *curvecia, corvecia* »lorica«.

costrare? — corr.: compraestare »reddere«. Cf. *compraestare* »mutuum dare«.

crancram? — corr.: oramoram »nunc ipsum« (ad instar ital. or ora, lat. horam horam).

crigmola? — corr.: corgnola, i. e. *corniola* (ubi cf. Monum. Zagr. XI 126/7).

curseta? — demin. *cursa, cursus?*

dechela? — corr.: de czeha (q. v.).

decisio ... fide occulata — corr.: oculata. Cf. s. v. *demactatio.*

delidere ... delisa: delisa subst. delicia (lat. deliciae) est. Sensus epistulae est: etiamsi id, quod imperatur, iucundum non est, tamen faciendum est. Cf. *beneficiensa.*

depolliasset, depulasset — interpretationi repugnat oppositio »depolliasset sed non werberasset (sic!)«. Subesse videtur *depilare* (cf. *decapillare*).

derg — corr.: breg (serb.-croat.), v. s. v. *bregh, bregus.*

descenuta? — pro: desten- verbi distinere »captum tenere«, cf. ital. distenimento.

desdare? — mittere, cf. ital. disdare »remittere«.

desenum, decenum? — forsitan idem quod *decena* (q. v.): »locus, ubi *decena* stare consueverat.«

destromittere? — pro: destro mittere, i. e. tempore idoneo (cf. infra »si potest«), cf. *destrum* »opportunitas ...«

dextrum 4. — locus »opportunus«, quem »mundavit ab immundiciis«, erat »latrina«.

dircirium? — cf. *drecia, dreçera, drezetia, artatikium.*

dridisticus? — officialis, qui tunicam subuculam (cf. *drednycza)* porgebat. Per errorem pro: dre/idnisticus.

drina? — pro: doctrina.

drullia? — trochlea. Cf. *dradere* »tradere«, *druda* (theod. traut).

elitum? elitus? — pro: epatum »iecur«, cf. *epar.*

emisorie? — pro: emiss- »expressis verbis.«

encenssarium? — pro: innecessarium.

enors — per errorem pro: egurfa, cf. *eger... egurfa.*

ensenia, pl., n.? — signifer (cf. francogall. enseigne, m.).

ersanus?, ersanum? — arcanum, n. Cf. *erra* »arrha«.

erulus — theod. Erle »alnus«.

estragare — pro: estravagare »vagari«.

esuarium? — cibaria.

excersitus? — orbatus. Cf. ac-cersitus »mit Gewalt herbeigezogen« (Georges s. v. *arcesso*).

expeliasti — expulisti.

facata? — faces, teda.

faganelum? — pro: fazanelum, v. *fazolus.*

farnita? — faretra.

favarius?, fauarius? — ital. favaria (lat. L. cercis siliquastrum, theod. Judasbaum). V. etiam s. v. *fimatus.*

felçus... vadit ad Valdrinto usque ad — nonne recte »a(b) V.«?

1. fersa — idem quod *2. fersa.*

firmum? — possessio (ital. fermo).

fimatus? — per errorem pro: fimbriatus: »cercis siliquastrum, Judasbaum«. Cf. *favarius.*

POVZETEK

V Zagrebu je začel izhajati slovar srednjeveške latinščine Jugoslavije. Izdaja ga poseben medakademijski odbor, v uredniškem odboru so M. Kostrenčić, V. Gortan in Z. Henkov. Slovar zajema latinščino dokumentov srednjega veka, v kolikor so bili pozneje objavljeni v tiskanih edicijah. Poznejšim prepisovalcem in izdajateljem nekatere besede niso bile jasne, tudi uredniki tega slovarja so takšne besede ponekod rajši pustili nerazložene, kakor da tvegajo kaj negotovega. Pisec tega članka je poskusil nekaj takega gradiva pojasniti.

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Bojan Čop

BEITRÄGE ZUR INDOGERMANISCHEN WORTFORSCHUNG VIII*

35. Gr. *etheirō*

ist ein homerisches Wort, bekannt aus Ph 347: *khairei dé min* (sc. *alōē'n*) *hóstis etheirēi;* Liddell-Scott s. v. übersetzen »tend, till«, also etwa »pflegen, besorgen« und »bearbeiten, bebauen, bestellen«. Vgl. auch Hesychs Glosse *etheirēi: epimeleías axiō'sēi.* Wahrscheinlich gehört hierher[1] auch (so Liddell-Scott s. v. *etheirō*) Orph. Arg. 929 *khryséais pholidessin etheíretai* »he is *decked with* golden scales«, wo die Bedeutung besser als »ist geschmückt« denn als »ist gedeckt« verstanden wird. Die Etymologie ist noch nicht gefunden, Versuche bei Boisacq, *DEGr.* 217f. und Frisk, *Gr. EW.* I 447. Digamma im Anlaut ist ausgeschlossen.

Man kann von idg. **edh-* oder **jedh-* oder **sedh-* ausgehen. Die dritte Möglichkeit ergibt keine Anknüpfungen. Die ersteren zwei dagegen können beide richtig sein, wenn wir an folgendes toch. Verbum anknüpfen: B *yəṭ-* = A *yəṭ-* »schmücken«, das nur *Kausativum* bildet: B Präs. 3. Sg. *yat-əššəⁿ*, Med. 3. Pl. *yat-əskentrə;* Prät. II 1. Sg. *yāt-wa,* Med. *yāt-amai;* Part. Prät. *yaitu* (aus **ye-yt-u*), wozu Subst. *yaitor;* A Präs. Med. 3. Sg. *yat-atər*, Part. *yat-māⁿ*, Kaus. Präs. Med. 3. Sg. *yt-əštər* usw., Opt. Med. 1. Sg. *yt-āšīmār;* Prät. II Med. 3. Pl. *yetānt,* Part. Prät. *yetu* (aus **yaitu* usw.). Vgl. Schulze-Sieg-Siegling, *Toch. Gr.* 459; Thomas-Krause, *Toch. El.* II 129 und 226; Krause, *Westtoch. Gr.* I 273f. Dazu noch die Ableitung B *yetwe* »Schmuck, Nebenzeichen des Buddha« mit Pl. *yetwi* (Mask.) = A *yetwe* ds. (Pl. Fem. *yetweyu, yetweyəntu, yetweñ*), vgl. Thomas-Krause a. O. 130 und 227.[2]

Der toch. Verbalvokalismus ist mit idg. kurzem *-e-* glatt erklärbar. Nur das *-e-* von *yetwe* wird dadurch nicht klarer: es kann eine uralte Dehnstufe

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* Die bisherigen Aufsätze derselben Reihe: I (Nr. 1—3) in *KZ.* 74, 1956, 225—232; II (Nr. 4—10) in *Die Sprache* III, 1956, 135—149; III (Nr. 11) in *Die Sprache* VI, 1960, 1—8; IV (Nr. 12—14) in *Slav Rev.* XI, 1958, Anh. *Linguistica,* 49—68; V (Nr. 15—22) in *Linguistica* VIII, 1966—1968, 165—175; VI (Nr. 23—26) erscheint demnächst in KZ.; VII (Nr. 27—34) in Linguistica IX, 1969, 187—196.

[1] Dies *etheíretai* gehört kaum zu *étheira* (auch Pl.) »Mähne des Pferdes, Helmbusch, Haupthaar«, auch »Löwenmähne, Borste des Ebers«, nach Frisk, *Gr. EW.* I 446 als »ist (mit Schuppen) bedeckt«, der hier an Bildungen aus nominalen Stämmen erinnert, die Schwyzer, *Gr. Gr.* I 722f. behandelt.

[2] Es ist aus lautgeschichtlichen Gründen wahrscheinlich, dass A *yetwe* direkt aus B *yetwe* entlehnt ist. Man erwartet A **yatu,* vgl. *katu* Anm. 3!

darstellen, idg. also **(j)ēdh-wo-s;* doch ist diese Annahme mit einer anderen ersetzbar, wenn man die idg. Wurzel als **jedh-* mit uraltem, idg. **j-* bestimmt: *yetwe* dann aus **jodh-wo-s;* da nun die *o*-Stufe in den Bildungen mit dem Suffix *-wo-* im Tocharischen auch sonst vorzukommen scheint,[3] ist also die zweite Annahme richtiger; dadurch kann eine Entscheidung auch in betreff des idg. Anlautes getroffen werden: es ist eher an ein **jedh-* als an ein **edh-* zu denken. Im Griechischen kann ja idg. **j-* zunächst zu *h-* werden und dann durch die Hauchdissimilation schwinden.[4]

Wie die idg. Flexion des Verbums **jedh-* aussah, ist schwer zu erraten, toch. A *yatatə̂r* und *yatmā*^{n} können zugunsten eines thematischen Präs. **jedho-* sprechen.[5] Das gr. Verbum nun ist von einer Ableitung ausgegangen, die urspr. **jedh-ero-* lautete = urgr. **hethero-* »sorgend u. dgl.« oder »Besorgung u. dgl.«[6]; wie gr. *himeírō* »sich sehnen, verlangen, wünschen« von *hímeros* »Sehnsucht, Verlangen« ausgeht (vgl. Frisk, *Gr. EW.* I 726, mit unnötigem Zweifel) und eine ältere Verbalform von der Wurzel **ais-, *is-* »wünschen, begehren, aufsuchen« (Pokorny, *Idg. EW.* 16) ersetzt (ai. *ē'ša-ti* »sucht« aus **āis-e-ti?* oder *anv-išá-ti* »sucht auf« = av. *išaiti* »wünscht« aus **is-é-ti?*), ebenso hat unser Denominativum wohl ein älteres primäres Verbum = toch. *yat-* usw. ersetzt. Auf ähnliche Weise wurde im Toch. das primäre Verbum durch das gleichbedeutende Kausativum auf *-ske-* ersetzt.

Da die Bedeutung »schmücken« im Gr. und im Toch. präsent ist, kann angenommen werden, dass das idg. Verbum etwa »sorgend behandeln« o. ähnl. bedeutete. Daraus entwickelte sich der Sinn »schmücken« als eine Spezialisierung. Vgl. frz. *parer* »zurichten, bereiten, aufputzen« und »schmükken, zieren« u. a.

36. heth. *haš(š)-*

bedeutet nach neueren Forschungen »Span« vom Seifenstrauch od. ähnl., vgl. (gegen Friedrich, *Heth. Wb.* 62) Friedrich, *Heth. Wb.*, Erg. 1, 5 b [»Span(?) (oder anderer Holzteil) der Seifenpflanze«, nach Bossert]; zur Flexion vgl. Friedrich 62 und Kronasser, *Etym. d. heth. Spr.* 161: Nom. Sg. *ha-a-aš*, Akk. Sg. *ha-aš-ša-an*, also ein uraltes Wort mit konsonantischer Flexion; sekundärer Nom. Sg. jedoch auch *hašša-š*.

Es ist zwar sehr möglich, dass die Länge im Nom. Sg. *ha-a-aš* erst im Einsilbler auf heth. Boden entstanden ist, doch wird man wohl ein idg. Wort

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[3] Vgl. auch *pet-we* »Ufer« mit Pl. *petwi:* wohl aus idg. **pot-wo-s* zu gr. *pót-mo-s* »Los, Schicksal« usw. von der Wurzel **pet-* »auf etwas los- oder niederstürzen, fliegen, fallen« (Pokorny, *Idg. EW.* 825f.). Gegen eventuelles **-ē-* in der ersten Silbe, das lautgeschichtlich zulässig ist (mehr darüber in einer besonderen Untersuchung), spricht unmittelbar B *ket-we* = A *katu* (Mask.) »Geschmeide« mit B Pl. *ketwi:* da *k-* nicht palatalisiert ist, handelt sich in betreff des ersten *-e-* wohl um idg. **-o-*.

[4] Vgl. Schwyzer, *Gr. Gr.* I 303 (idg. **j-* > gr. *h-*) und 261 (Hauchdissimilation).

[5] Es gab im Idg. auch eine thematische Präsensklasse, wo als Themavokal allein *-o-* auftrat: dies ist im Toch. erhalten, als sog. Präsensklasse III (und Konjunktiv III), vgl. ohne geschichtliche Folgerungen Krause-Thomas, *Toch. El.* I 200f. und 225f., Paradigma S. 263.

[6] Zum Suffix **-ero-* vgl. Brugmann, *Grdr.*^{2} II 1, 356f.

mit Ablaut: Nom. Sg. **Hōs*, Akk. Sg. **Hos-m* rekonstruieren dürfen. Dadurch erhält man ein Paradigma uralten Gepräges. Es ist nun sehr wahrscheinlich, dass unser Wort zu folgenden idg. Wörtern gestellt werden muss, die ich in *Slav. Rev.* XII, 1959/60, 182ff. und 192 als eine zusammenhängende Gruppe vorgestellt habe:

a) lit. *asýs, esýs* »Schachtelhalm, Schafthalm, equisetum«, auch *esiūklis, esiūkle* und dial. *asiūklis* (zu den lett. Entsprechungen *aši, ašas, ašavi, ašavas, ašenes, ašk'i, ažg'i* und zu den unbefriedigenden Versuchen über die Etymologie des lit. Wortes vor meinem Aufsatz vgl. Fraenkel, *Lit. EW.* 124);

b) lat. *arista* »Granne an der Ähre, Ähre, Borsten, Fischgräte« aus ält. **as-istā*;[7]

c) gr. hom. *ē"ia* etwa »Spreu, Getreidehalme« (Od., Pherekr. 161); vgl. Hesych. sub *ē"ia:... kaì ákhyra...* »Spreu« (mit Zitat aus Homer); Hesych. kennt noch *eiaí: áletoi kaì alésmata. tôn ospriōn tà apokathármata* und *eīoi: ospriōn tà kathársia;* vgl. dazu noch Phot. *ē"ia: tēn tôn ospriōn kalámēn. houtōs Eratosthénēs* »Überbleibsel von Hülsenfrüchten« (wozu noch Schol. zu Hom. Od. II 289 und Eustath. 1445, 42);

d) mir. *ēorna* »Gerste«, wohl aus älterem **es-or-njā* nach Pokorny, *Idg. EW.* 343 unter **es-en-* usw. »Erntezeit, Sommer« (was jedoch keinen guten Anknüpfungspunkt für das ir. Wort bildet);

e) hierher stelle ich jetzt noch ein lit. Wort: *asnìs* (neben *ašnìs*) »längere, hervorstehende Haare eines Pelztieres, Roggenschösslinge, Schneide, Schärfe der Sense«, wo die letzteren zwei Bedeutungen sicher der Kontamination mit *aš-ni-* sein Leben verdanken (vgl. auch Fraenkel, *Lit. EW.* 18); dazu *asn-ìngas* »stachelig«.

Es ist klar, dass alle diese Wörter eine idg. Wurzel, noch mehr, ein Wurzelnomen, bestehend aus »Laryngal« + Vokal + *s*, voraussetzen: das heth. Wort oben ist direkter Zeuge dafür; lit. *a/esýs* setzt ein urspr. Adjektiv **as-ia-*, **es-ia-* (s. noch unten) voraus, worin *-ia-* das bekannte idg. Adjektivsuffix **-io-* ist; auch lat. *ar-ista* kann aus einem Wurzelnomen hergeleitet werden; schliesslich ist gr. *ē"ia* wohl aus einem **ēs-ijo-* entstanden, ebenfalls urspr. Adjektivum; daneben scheinen mir. *ēorna* und lit. *asnìs* ein *r/n*-Stamm zu sein, idg. etwa **Hes-er-*, **Hos-er-* und **Hos-en-*.

Was die Farbe des Wurzelvokals anbelangt, war ich in *Slav. Rev.* XII noch zurückhaltend, obwohl ich damals schon zugunsten des *e*-Vokalismus vor allem mir. *ēorna* anführte (S. 185); für den *e*-Vokal sprechen noch gr. *ē"ia* und lit. *esýs*, vor allem aber die Nr. 37 unten! Somit scheint der *e*-Vokal ursprünglich zu sein; *a-* in lit. *asýs* ist dialektisch; in lat. *ar-ista* kann es entweder aus dem Reduktionsprodukt **ᵉ* entstanden sein oder es ist dem Einfluss von idg. **ak'-* »scharf, spitz, kantig« (Pokorny, *Idg. EW.* 18ff.) zu verdanken, vgl. speziell lat. *acus* »Spreu«.

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[7] Wie aus Walde-Hofmann, *LEW.*³ I 67 zu ersehen ist, hat schon Bezzenberger, *BB.* 23, 298 *arista* mit lit. *asýs* usw. verglichen, richtig, wie oben im Text gezeigt. Dass lit. *asýs* usw. finnischen Ursprunges sei (Thomsen bei Walde a. O.), ist völlig unwahrscheinlich, vgl. dagegen Fraenkel, *Lit. EW.* 124. Etruskische Herkunft von *arista* ist trotz *genista* aus der Luft gegriffen.

Es ist nur noch die Bedeutung übriggeblieben. Hier muss man zuerst feststellen, dass die Bedeutungen ziemlich auseinandergehen; doch kann ein gemeinsamer Bedeutungskern angesetzt werden, wenn wir sorgfältig die angeführten Wörter untersuchen.

Lit. *asn-is* »Stachel« setzt ein **asn-* »Stachel« voraus. »Scharf, spitz« wird von lat. *arista* vorausgesetzt, vgl. lat. *agna* »Ähre« und ahd. *ahir, ehir* »Ähre« von **ak'-* oben; zu mir. *ēorna* »Gerste« vgl. gr. *akostē'* ds. von **ak'-;* zu gr. *ēia* in beiden Bedeutungen vgl. got. *ahana* »Spreu« und d. dial. *Agen* »Stengelsplitter vom Flachs oder Hanf«; schliesslich ist mit lit. *esỹs* usw. »Schachtelhalm usw.« finn. LW. *ahma* »equisetum« zu vergleichen, das aus germ. **ah-ma-* in schwed. dial. *âm* »Sumpfgras« stammt und wie die übrigen Parallelen aus idg. **ak'-* hergeleitet ist. Alle hier angeführten Ableitungen aus unserem **Hes-* sind also Benennungen der Pflanzen bzw. Pflanzenteile, die »scharf, spitz, stachelig« sind. Dasselbe muss nun auch von heth. *haš(š)-* festgestellt werden. Denn »Span« ist ebenfalls ein »spitzer« Holz- bzw. Stengelteil, »spitz« gerade wegen der Herstellungsweise (»abbrechen, absplittern« u. a.). Vgl. von idg. **(s)p(h)ei-* »spitz, spitzes Holzstück« (Pokorny, *Idg. EW.* 981) ai. *sphyá-* (Mask.) »Holzspan usw.«.

Alles zusammengenommen könnte man von jetzt an eine abstrakte Wurzel **Hes-* »spitz, scharf« annehmen. Jedoch ist es augenscheinlich besser, an ein ganz konkretes Substantivum zu denken, das etwa **Hōs,* Akk. Sg. **Hos-m,* Lok. Sg. **Hes-i* (mit der Nebenflexion **Hes-er/en-*) lautete und ganz konkrete »spitze Teile« der Pflanzen und gewisser Tiere bezeichnete (»Dorn, Stachel, Span; Gräte, spitzer Zahn u. a.«). Zum Tierbereich vgl. unten Nr. 37!

37. kelt. **esōk-s*

mit Gen. **es-ok-os* wird als gallisches Lehnwort im Lat. bewahrt: *esox, esocis* (Mask.) »ein Rheinfisch, wahrsch. Lachs«; vgl. ir. *ēo,* Gen. *iach,* mkymr. *ehawc,* nkymr. *eog,* akorn. *ehoc,* mbret. *eheuc* und *ehoc,* nbret. *eok* (daraus bask. *izokin)* »Lachs« (Pedersen, *Kelt. Gr.* I 73; zur Flexion vgl. ebda. 252: das oben dargestellte urspr. Paradigma erlitt Umbildungen: *-ok-* drang z. T. in den Nom. Sg. ein, *-ōk-* in die obliquen Kasus);[6] zur Etymologie vgl. Walde-Hofmann, *LEW.*[3] I 421; keine annehmbare Verknüpfung.

Es ist schwer zu erraten, wonach die Fische benannt werden, wenn es sich um Völker handelt, die nicht von der Fischerei lebten; und das sind eben die indogermanischen Völker in der älteren Zeit. Bei solchen Völkern jedoch kann leicht zur Verwechslung der Fischarten kommen; tatsächlich sind sich der »Lachs« *(Isospondyli)* und einige andere grössere Fischarten äusserlich sehr ähnlich. Unter diesen Fischarten ist vor allem der »Hecht« zu erwähnen, dessen wissenschaftlicher Name heute *Esox lucius* heisst; schon dieses Beispiel zeigt zur Genüge, wie die Namen der Fische von einer Art auf andere übergehen können, wenn die sie führenden Völker (Indogermanen)

[8] Bei diesem Suffix handelt es sich also um etwa dieselbe Vokalabstufung wie bei gr. *alō'pēx,* Gen. *-ĕkos* »Fuchs«.

keine gute Fischer sind (im Gegensatz zu den uralischen Völkern z. B.). Nun gibt es gerade darin m. E. die Lösung des etymologischen Problems: *esox* kann ursprünglich der Name des »Hechtes« oder einer eng verwandten Fischart gewesen sein. Ein recht eigentümliches Merkmal dieser Fischart sind »scharfe, spitze, zurückgebogene Zähne«; tatsächlich nannten danach diesen Fisch die Germanen: **hakuda-* (Mask.) in ags. *hacod, *hakida-* in ags. *hacid,* ahd. *hachit, hechit* (vgl. formell russ. *kógot'* »Klaue, gekrümmte Eisenspitze«, osorb. *kocht* »Dorn, Stachel«!), vgl. Pokorny, *Idg. EW.* 538. Etwas Ähnliches muss in tscheremissischer Benennung des Hechtes *nuž-yol* stecken: *nuž* ist »Nessel« (*nùžer* »Nesselgesträuch«), jedenfalls eine stechende Pflanze, *-yol* steht für *kol* »Fisch«, s. Collinder, *Fenno-Ugric Vocabulary* (Stockholm 1955) 42.

Da nun das idg. Suffix **-ōk-/-ok-* evident Adjektiva abundantiae (»mit x versehen, reich an, dessen Eigentümlichkeit x ist«) bildete, so kann man unser **es-ōk-s* als »**es*-artig, **es*-haftig« auffassen und, darin Anspielung auf die spitzen Zähne = schlicht »Spitzen, Stacheln« sehend, das in Nr. 36 besprochene idg. **Hes-* usw. »spitzer Pflanzen- bzw. Körperteil« hierin suchen. **es-ōk-s* eig. = »mit Spitzen (= spitzen Zähnen) versehen«!

38. toch. B *astare*

neben *āstre* »rein« (Pl. *astari, āstri*) = A *āštər* ds. (Pl. *āštre*) mit dem Subst. B *āstər* »das Reine«, wozu noch das Abstraktum B *astar-ñe* = A *āštr-one* »Reinheit« (vgl. Thomas-Krause, *Toch. El.* II 83 und 165, 168; Krause-Thomas a. O. I 100, § 111, 4).

Das substantivische B *āstər* braucht nicht uralt zu sein, es kann sekundär zum Adjektiv auf *-re* gebildet sein, wohl nach dem Muster von *lyip-ər* »Rest« u. a., die deverbal sind (*lyip-* zu *lip-* »übrigbleiben«); es ist also nicht nötig, in unserem Fall ein verbales Stammwort (etwa **ast-* »rein sein«) anzunehmen. Wir können also vom Adjektiv ausgehen, das wohl eine uralte Bildung auf **-ero-* darstellt.

Van Windekens, *Lex. tokh.* 8 verbindet unser Wort mit idg. Wort für »Stern« (gr. *astē'r* usw.), was richtig sein wird. Wenn ich hier nochmals diese Etymologie betrachte, so geschieht das aus besonderen Gründen, vor allem um eine neue idg. Wurzel zu gewinnen.

Das idg. Wort für »Stern« kommt in mehreren, formal wie phonetisch verschiedenen Bildungen vor:[9]

a) mit erhaltenem Anlautsvokal und mit Formans **-ter-:* in heth. *aštira-* (vgl. Friedrich, *Heth. Wb.* 37) und in gr. *astē'r, -éros,* kollekt. *ástra, ástron* »Stern, Gestirn«;

b) mit erhaltenem Anlautsvokal und mit Formans **-tel-:* arm. *astł,* Gen. *astełˇ* »Stern, Gestirn«;

c) ohne Anlautsvokal, mit Formans **-ter-:* bret. *ster-enn,* korn. *ster-enn* (Pl. *steyr*), kymr. *ser-en* (Pl. *ser*), mir. *ser;* got. *staír-nō,* ahd. *ster-no,* anord.

[9] Vgl Pokorny, *Idg. EW.* 1027f.

stjar-na, weiter ahd. as. *sterro,* ags. *steorra* (von **ster-es-?*); gr. *teré-ōn* (Gen. Pl.) und *teírea* »Gestirne«;[9a]

d) ohne Anlautsvokal, mit Formans ** -tel-:* lat. *stēlla* aus **stēl-nā* (zu **-nā* vgl. got. *staírnō*);[10]

e) zu c) oder zu d) gehören: ai. *str'-bhiš* (Instr. Pl.), *tāras* (Nom. Pl.) usw., av. *star-.*

Es ist von vornherein wahrscheinlich, dass das Wort für »Stern« ein Nomen agentis mit den Suffixen **-ter*[11] und **-tel-*[12] ist. Die Wurzel, z. T. **as-,* z. T. schwundstufig **s-,* z. T. (in ai. *tāras, tarā* Fem., gr. *téres-*) sogar vollständig geschwunden (wohl in Nachahmung der echten Fälle mit *s-* mobile, nachdem die Struktur des Wortes dunkel geworden war), muss etwa »leuchten« bedeutet haben: **(a)s-tér-, *(a)s-tél-*[13] also = »Leuchter«; zur Bed. vgl. sl. **gvězdá* mit lit. *žvaigzdē* usw. »Stern« zu idg. **g'hweigʷ-* »leuchten, Schein« (Pokorny, *Idg. EW.* 495); oder apr. *lauxnos* »Gestirne« zu aksl. *luna,* lat. *lūna* (z. B. Trautmann, *Apreuss. Sprdenkm.* 370). Nun wird dieser Bedeutungsansatz direkt durch eine gr. Gruppe bestätigt, die von *astē'r,* jedoch wahrscheinlich in dessen breiterer Bedeutung, ausgegangen war: *asteropē'* »Blitz«, auch *steropē', astrapē', stropā', storpā'* ds., mit dem Verbum *astráptō* (später auch ohne *a- stráptō*) »blitzen« (zur Gruppe, auch zum Formalen, Frisk, *Gr. EW.* I 170 und 173). Hier ist es unmöglich, an die allgemeine Bedeutung »Stern« zu denken, denn »Blitz« kann daraus nicht gewonnen werden. Vielmehr muss »Leuchter« od. ähnl. in dieser alten[14] Ableitung noch erhalten sein.

Wenn also **(a)s-tér/l-* urspr. »Leuchter«, »der Leuchtende« bedeutete, so ist der Weg zum toch. Wort offen: urtoch. **asᵉro-s* »rein« muss urspr. »klar«, dies aber aus »leuchtend« gewesen sein. Das Wort ist augenscheinlich eine denominative Ableitung auf *-o-,* die nahe an die altindischen vrddhierten Bildungen[15] kommt, ist also direkt von **astér-* in dessen breiterer Bedeutung ausgegangen, vielleicht sogar mit Vrddhi, vorurtoch. also **āstᵉr-ó-s* »der **astē'r*-Ähnliche«. Dass das Toch. nicht **astē'r* »Stern«, sondern nur **ster*

9a Bei Pokorny a. a. O. fehlt die toch. Entsprechung: B *śćirye,* Pl. *śćiriñ* (Fem.), A **śre,* Pl. *śreñ;* vgl. van Windekens, *Lex. tokh.* 132.

10 Zur Urform des lat. Wortes vgl. Walde-Hofmann, *LEW.*³ II 587f. mit Lit. Hier auch zum Glottogonischen.

11 Vgl. Brugmann, *Grdr.*² II 1, 336ff.

12 Brugmann a. a. O.; dazu heth. *-talla-,* vgl. Kronasser, *Etym. d. heth. Spr.* 174ff., wodurch sl. *-tel-* als alt bewiesen wird. — Brugmann a. O. 339 stellt auch unser **(a)s-ter-* und **(a)s-tel-* »Stern« zu dieser Kategorie, ganz in Einklang mit unserer Auslegung, nur dass er daraus und einigen anderen dunklen Fällen eine neue Gruppe (»Sonstiges«) macht.

13 Die ursprüngliche Flexion ist wohl **ás-tēr/l,* Gen. Sg. **str/l-és* usw.; mit ∂_1 in gr. *astē'r,* toch. *astare* usw. zu rechnen (van Windekens, *Lex. tokh.* 8) ist unnötig. Das *a-* im Gr., Arm. und Heth. kann und soll voller Vokal sein.

14 Gr. *(a)stra-p-* usw. enthält ein uraltes denominatives *p*-Suffix, worüber ich an einer anderen Stelle handle; schon die Anwesenheit dieses Suffixes zeigt, dass die Gruppe um *(a)stra-p-* in sehr alter Zeit, sicher im Urindogermanischen, verselbständigt war, demnach auch ihr Bedeutungskern urindogermanisch ist.

15 Zu sekundären Ableitungen mit Vrddhi in der Wurzelsilbe vgl. Brugmann, *Grdr.*² II 1, 158; Wackernagel-Debrunner, *Altind. Gr.* II 2, 103ff.

hat, ist belanglos, da es sich um eine uralte, wohl ursprachliche Bildung handelt, die dazu mit der Spezialisierung von **(a)stē'r* »Leuchter« nichts zu tun hat.

Krogmann und van Windekens bei Frisk, *Gr. EW.* I 171 dachten in betreff der Wurzel unseres Nomen agentis **(a)s-tér/l-* »Leuchter > Stern« an die idg. Wurzel **as-* »brennen«; doch ist die Wurzel **as-* »brennen, glühen« (Pokorny, *Idg. EW.* 68f.) bedeutungsmässig kaum zu vergleichen, denn bei ihr kommen Wörter mit Bedeutungsinhalt heraus, die unsrer Wortgruppe gerade entgegengesetzt waren: ai. *ā'sa-* »Asche, Staub« mit *ásita-* »schwarz«, gr. *ásbolos* »Russ«. Wichtiger noch ist der Umstand, dass dies **as-* »brennen, glühen« im Heth. anlautendes *H-* hat: *hašša-* »Herd«.[16] Unser Wort beginnt im Heth. mit reinem Vokal: *aštira-* »Stern«. Das ist eine Tatsache, die auch von den Nicht-Laryngalisten beachtet werden muss.

Wir sind demnach berechtigt, eine neue idg. Wurzel, **as-* »leuchten, hell, klar« ohne den anlautenden »Laryngal«,[17] anzusetzen.

39. heth. *hanzana-*

bedeutet nach Laroche[18] »schwarz«; zur Morphologie vgl. Belardi, *Riv. St. Or.* XXV, 1950, 31, der an Adjektiva verwandter Sprachen erinnert, die auf **-no-* ausgehen: gr. *morph-nó-s* »dunkelfarbig«, ai. *maliná-* »schmutzig, schwarz« usw.; weiter Kronasser, *Etym. d. heth. Spr.* 184, der unser Wort ganz falsch unter *-anzana-* (was soll das bedeuten?) anreiht und mit Worten »ohne Grundwort« abtut.

Da nach Belardi richtig *-ana-* als Suffix angesehen werden muss, ist *hanz-* die Wurzel. Wenn indogermanisch, wogegen doch nichts spricht, dann kann es zu folgender idg. Sippe gestellt werden: idg. **nsi-* »schmutzfarbig; Schmutz, Schlamm« sicher in gr. *ási-s* »Schlamm (eines Flusses)«, *ásios* »schlammig« (Pokorny, *Idg. EW.* 771; unsicher ai. *ási-ta-* »dunkelfarbig, schwarz«, da es auch zu **as-* oben unter Nr. 38 gehören kann). Im Griech. kommt Reduktionsstufe vor; im Heth. sollte silbisches **n* zu *a* werden,[19] demzufolge haben wir hier mit Vollstufe der Wurzel zu tun; sie wird im Idg. etwa **Hans-* oder **Hons-* lauten. Der Wandel von **-ns-* zu heth. *-nz-* (= */nts/*) ist eine bekannte Tatsache.[20] Auch die Bedeutung ist ja leicht erklärbar: man hat oft beoba-

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16 Ebenso gehört hierher heth. *hat-* »vertrocknen« aus idg. **Haz-d-;* mehr darüber anderswo.

17 Gegen die in den laryngalistischen Kreisen allgemein akzeptierte These, dass im Vorurindogermanischen jedes Wort mit Konsonant anlautete, wobei vor dem in historischen Sprachen erscheinenden vokalischen Anlaut einst »Laryngal«, und zwar immer, standen, meine ich — und werde dies auch beweisen — dass es von jeher Wörter gab, die mit reinem Vokal anlauteten: so z. B. unser **as-* »leuchten, hell, klar« in Opposition zu **Has-* »brennen, glühen«. Die ursprünglichen Verhältnisse scheinen im Anatolischen noch bewahrt zu sein; vom Schwund eines speziellen »Laryngals« im Anlaut vieler Wörter im Anatolischen kann keine Rede sein. Mehr darüber in meiner Laryngalarbeit, Teil I und II.

18 *RA.* 47, 41.

19 Dazu z. B. Čop, *Lingu.* IV, 1961, 57ff.

chtet, wie neben »Schlamm« u. ähnl. »schwarz« steht; vgl. bei Pokorny 499 gr. *ilýs* »Schlamm, Kot«, *eilý: mélan* Hesych., lett. *īls* »stockfinster«, aksl. *ilъ* »lutum«.

40. heth. *halzā(i)-*

ist ein Verbum der *hi*-Konjugation, Klasse II 2 b: Präs. 1. Sg. *halzihhi*, 2. *halzešti, halzāitti*, 3. *halzāi*, 1. Pl. *halzijaweni, halziwani*, 2. *halzijatteni*, 3. *halzijanzi*, Med.-Pass. 3. Sg. *halzijari, halzija;* Prät. 1. Sg. *halzihhun*, 2. *halzāit*, 3. *halzāiš*, 1. Pl. *halzijawen, halziwen*, 3. *halzēr;* Imper. 2. Sg. *halzāi*, 2. Pl. *halzišten* usw.; Part. *halzijant-* usw. Abweichungen nach der *mi*-Konjugation sind unbedeutend und sicher sekundär: Präs. 1. Sg. *halzijami*, 2. *halzijaši*, Med.-Pass. 2. Sg. und 3. Sg. *halzijattari*. Vgl. Friedrich, *Heth. Wb.* 49; Kronasser, *Etym. d. heth. Spr.* 540f. Bedeutung: »laut (herbei) rufen; einladen; aufbieten; nennen; aussprechen; (laut vor)lesen«; vgl. vor allem Goetze, *Tunn.* 31—40 mit sehr vielen Belegen. Das Verbum ist glücklicherweise nicht auf das Hethitische beschränkt, denn es kommt auch im Luwischen vor: Stamm *halta-, halti-* »appeler« bei Laroche, *Dict. Louv.* 39; belegt sind Formen: Präs. 3. Sg. Akt. *halta-tti*, Med. *halti-ttari;* dazu das Nomen actionis: *hald-att(a)-* »appel«.

Pedersen, *Hittitisch* 121 betrachtet unser Verbum als »einen zweisilbigen Stamm« auf *-ē-;* das *-z-* ist aus *-t-* entstanden, wie die luw. Form *haltittari* beweist. Doch ist seine Etymologie S. 177, Anm. 1: < **qeltē-* zu gr. *kaléō* (oder sogar zu *kélomai*?) wohl falsch.[21] Seine formale Analyse S. 121f. ist aber im Allgemeinen anzunehmen: zum sl. Typus *kričati* aus **krik-ē-ti* usw.

Der idg. Typus auf *-ē-* hatte in der Wurzel Schwundstufe, wie z. B. lat. *videō* beweist. Verlangen wir für heth. *halzā(i)-* mit luw. *halta/i-* dieselbe Vokalisation, dann wird man darin ein idg. **Hlt-ē-* sehen dürfen. Die Vollform der Wurzel **Hlt-* kann entweder **Helt-* oder **Hlet-* gelautet haben. Die erstere der angeführten Grundformen führt zu keiner Anknüpfung, die zweite lässt dagegen eine gute Etymologie zu.

Im Lateinischen gibt es ein Substantiv *lessus*, Mask. »Totenklage«, das bis heute unerklärt geblieben ist. Es ist ein altlateinisches Wort, das Cicero aus den XII tab. zitiert, vgl. Walde- Hofmann, *Lat. EW.* I 787 (auch zu Deutungsversuchen).

Wenn wir das Wort der *u*-Deklination zuschreiben (das ist unsicher), dann ist aus lautgeschichtlichen Gründen nur éine einzige Urform möglich: **letˢ-tu-s;* die Wurzel ist also **let-*, augenscheinlich in der Vollstufe, was evident zum *tu*-Stamm stimmt.[22] Wenn man das anatolische Verbum berück-

[20] Vgl. zu diesem Phänomen Laroche, *RHA.* VII, fasc. 45, 1945-46, 3ff.; es scheint, dass der fragliche Wandel nicht zweifelsfrei ist.

[21] Auch andere versuchten ihr Glück in der Annahme, heth. *h-* sei auch mit idg. gutturalen Verschlusslauten erklärbar: so brachte unser *halzā(i)-* mit idg. **g'al-* zusammen Hammerich, *Laryngeal before Sonant* 60 nach *Lg.* 28, 446; anders Juret, *Voc. étym. de la lg. hitt.* 20: zu germ. **lathōn* »einladen«; günstig über die letzte Etym. Polomé, *Lg.* 28, 451; doch ist hier die Grundbedeutung dunkel, vgl. Feist, *Vgl. Wb. d. got. Spr.*[3] 323, jedenfalls nicht »rufen«.

sichtigt, dann ist von idg. **Hlétˢ-tu-s* auszugehen; bekanntlich schwindet der »Laryngal« im Lat. wenigstens im Anlaut ohne Spur.

Die Bedeutungen sind leicht vereinbar: »Totenklage« besteht ja in »lautem Rufen und Singen speziell dazu gemachter Gesänge«, vgl. skr. *naricanje, kukanje* usw.; skr. *kukati* »wehklagen« ist mit lit. *kaukti* »heulen, von Hunden oder Wölfen« (Pokorny, *Idg. EW.* 536) verwandt. Was die ursprüngliche Bedeutung unserer Wurzel **Hlet-, *Hlt-* war, ist natürlich beim Vergleich von nur zwei Worteinheiten nicht auszumachen; eine Art »lauten Rufens« war sie aber ganz sicher. Auch jede weitere Analyse (etwa in **Haˣl-* + Wurzeldeterminativ *-t-*) ist verfrüht; doch kann man folgende idg. Gruppen zum Vergleich heranziehen: a) **alā-* »hallo!« bei Pokorny 29 (z. B. gr. *alalaí* u. a. »hallo, hurra!«, lit. *alúoti* »hallo schreien«, aksl. *ole* Interjektion; vgl. lit. *nu-aldé-ti* »erschallen«); b) **el-* Schallwurzel bei Pokorny 306 (z. B. gr. *ólolys* »Heuler, weibischer Mensch«, *ololygē'* »Klagegeschrei« u. a., anord. *jalmr* »Lärm«, lit. *algóti* »zusammenrufen, nennen«). Vor allem die zweite Gruppe ist bedeutungsgeschichtlich recht passend.[23]

41. toch. B *yetse,*

A *yats* »obere Haut« = ai. *chavi* ist ein maskulines Substantiv, dessen Zuordnung zur Flexionsklasse V 1, wo alte maskuline *o*-Stämme erhalten sind, wohl richtig sein wird. Vgl. zu dieser Klasse Krause-Thomas, *Toch. El.* I 128ff.; zu *yetse/yats* Thomas Krause II 228 und 128; ebda. I 54, § 25, 1 a noch über die Entsprechung toch. B *-e-* = A *-a-*. Nach van Windekens, *Lex. tokh.* 169 unerklärt.

Die Affrikata *-ts-* kann entweder auf idg. **-tj-* oder auf idg. **-dhj-* zurückgeführt werden. Wählen wir die zweite Möglichkeit, so können wir das folgende baltische Wort vergleichen: lit. *óda* »Haut, Leder«, lett. *âda* »Balg, Haut«; daraus finn. *vuota* »geschundene, rohe Haut vom Rindvieh oder Pferde«; zur Etymologie (noch unklar) vgl. Fraenkel, *Lit. EW.* 515f.

Die Bedeutungen stimmen gut überein; wenn man die toch. Bed. »obere Haut« betrachtet, so ist sie besonders gut mit derjenigen des finn. Lehnwortes zusammenzubringen; die toch.-balt. gemeinsame Bedeutung wird wohl nicht allzufern von der finn. Bed. liegen.

Die lautliche Seite ist etwas schwieriger: zwar ist balt. *-d-* auch auf idg. **-dh-* zurückführbar, womit man Anschluss an toch. **-dhj-* bekommt; der Vokalismus ist aber diskussionsbedürftig. Der toch. Anlaut *y-* findet sich im Balt. nicht wieder, konnte dort auch nicht abfallen; folglich ist es einer toch. Prothese zuzuschreiben. Diese kann jedoch nur vor einstigem palatalem Vokal erfolgen; in B *-e-* = A *-a-* steckt also nicht idg. **-o-*, sondern vielmehr idg. langes **-ē-;* vgl. ganz die gleiche Vokalentsprechung in B *meñe* = A *mañ*

[22] Die *tu*-Stämme hatten seit jeher sehr oft Vollstufe der Wurzel, vgl. ai. *mán-tu-š* »Rat, Ratschlag; Ratgeber«, Inf. *kár-tu-m, kár-tav-ē* »machen« usw.; Brugmann, *Grdr.*² II 1, 440ff.

[23] Man muss warten, bis im Hethitischen eine Schallwurzel mit *h-* im Anlaut und *-l-* im Inlaut erscheint.

»Mond, Monat« aus idg. **mēnēs*.[24] In toch. *yetse/yats* steckt also ein idg. Substantiv **ēdh-jo-s*. Mit diesem stimmt balt. **ādā* dann gut überein, wenn wir einen Ablaut *-ē-: -ā-* annehmen, der besonders im Baltischen bekannt ist.[25] Das balt. Wort also aus älterem, idg. **ādhā* (statt **ōdhā*).

42. gr. *ákaska:*

hēsýkhōs, malakōs, bradéōs bei Hesych. ist aus Kratinos (frg. 126) genommen, Bed. »sanft, mild« (Adv.); anders Pind. frg. 28: *akaskāi;* davon *akaskaíos* »sanft, mild« in Aesch., Agam. 741. Man vergleicht gr. *akē'*, Fem. »Schweigen, Ruhe« (spät), wovon Akk. *akē'n* (Adv.) »mild, sanft, leise, still« (seit Hom.!), dazu noch *akā* (dor.), Adv. ds. (Pind.); weiter *ēka* »leise, still, langsam, ein wenig« (seit Hom.) und seine Sippe; das letzte gehört zu lat. *sēgnis* »langsam, träge«, setzt also ein idg. **sē-k-* voraus, s. Frisk, *Gr. EW.* I 627; s. auch Ders. *akéōn* S. 52.

Es ist wohl anzuzweifeln, dass unser *ákaska* einfach zu *akē'* usw. gehören könnte; dagegen spricht die Form, die bei dieser Etymologie unüberwindliche Schwierigkeiten verursacht (»mit eigenartiger Bildung« nach Frisk 51). Viel besser wäre es, darin eine etymologisch verschiedene Bildung zu sehen, die zur Sippe, die ich oben *Lingu.* IX/2, Nr. 28 erörtert habe, gehört. *ákaska* ist dann in *a-* copulativum[26] und den nominalen Stamm **qə-sk'o-* »Ruhe, Halt« zu zerlegen; **qə-sk'o-* (event. auch **-sk'-ā*) stimmt dann im Suffix unmittelbar mit bsl.-alb. **qē-sk'o/ā-* »Aufhören, Ruhen« > »Zeit« (alb. *kohë*, sl. *časъ*, apreuss. *kīsman).* Die Schwundstufe im Griech. wäre ursprünglicher als die Vollstufe im Bsl. und Alb.; die Bedeutungen stimmen gut überein.[27]

43. heth. *punuš-*

ist ein athematisches Verbum mit der Bedeutung »fragen; ausforschen; (gerichtlich) untersuchen«; es flektiert nach der Klasse I 1 e (Friedrich, *Heth. El.*[2] I 85f.): Präs. Sg. 1 *punuš-mi*, 3. *punuš-zi*, Pl. 1. *punušš-ueni*, 3. *punušš-anzi;* Prät. Sg. 1. *punušš-un* (auch *pu-u-nu-uš-šu-un!*), 2. *punuš-ta*, 3. *punuš-ta*, Pl. 1. *punušš-uen*, 3. *punušš-ir;* Imper. 2. Sg. *punuš*, 3. *pu-u-nu-uš-du*, 2. Pl. *punuš-tin*, 3. *punušš-andu;* Verbalsubst. *punušš-uar;* dazu Iter. *punušk-*.[28]

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[24] In dieser Entsprechung, wo toch. B *-e-* = idg. langes **-ē-*, spielt ein Art von Vokalharmonie eine grosse Rolle. Mehr an anderer Stelle.

[25] Dieser Ablaut kommt sogar in anit-Wurzeln bzw. leichten Basen vor, vgl. lit. *sēd-éti* »sitzen«: *sóstas* »Sessel«, *sodinù, sodìnti* »setzen, pflanzen«, idg. **sĕd-* »sitzen« Pokorny, *Idg. EW.* 884ff. Es ist also möglich, in unserem Falle eine uridg. kurzvokalische Wurzel anzunehmen, etwa **edh-* »schinden«?

[26] Dazu Frisk I 1.

[27] Es ist wohl möglich, dass auch andere Wörter mit *ak-* hierher gehören; so vor allem *akéōn* »schweigend, stumm« (Hom.), das als Partizip eines **a-kejō* (urspr. **-ē-jō?)* gut zu osset. *än-cain* usw. »aufhören, ruhen, Halt machen«, sogd. *an-čāy-* »aufhören, Halt machen« (s. oben Nr. 28) stimmt: *a-* des gr. Verbum etymologisch und funktionell = iran. **ham-* (osset. *än-*, sogd. *an-).*

[28] S. Friedrich, *Heth. Wb.* 173; Kronasser, *Etym. d. heth. Spr.* 405.

Die Verknüpfung mit gr. *pe-pný-menos* »verständig« wird von Kronasser, *Etym. d. heth. Spr.* 405 als »ganz zweifelhaft« widerlegt, da im Griech. von *pneu-* »atmen« auszugehen ist. Schon *Vergl. Laut- und Formenl. des Heth.* 220 rechnet er unser Verbum zu den Fremdwörtern. Ähnlich auch *Etym. d. heth. Spr.* 405, wo er eine Reihe Verbalstämme auf *-uš(š)-* zitiert, die fremde Herkunft zulassen. Gegen diesen Missbrauch muss man protestieren: auf diese Weise muss jedes Wort in den indogermanischen Sprachen, das »keine überzeugende Analyse zulässt«, als fremd erklärt werden.

Die Schreibung mit Plene-Vokal *pu-u-*, die oben zweimal festgestellt wurde, weist doch auf eine Aussprache mit *-u-* auch in der ersteren Silbe: */punus(s)-/*, nicht */pnus-/* (Kronasser 405: »kann weder behauptet noch widerlegt werden«), ist zu lesen. Dann kann man auch eine gute Etymologie finden.

Im Griechischen existiert eine Wortgruppe, die mit ähnlichem Bedeutungsinhalt und vergleichbarem Grundstamm den Weg zur Lösung des etymologischen Problems um *punuš(š)-* eröffnet:

Präs. *piný-skō*, auch Med. (spät *piný-ssō*), Aor. *e-pinyssen* Hom., Part. Aor. Pass. *pinys-theis Pythag.* »besonnen machen, zur Besinnung mahnen«; *a-pinýssō* »unbesonnen, ohne Besinnung sein« Hom.;

Subst.*piny-tē'* »Klugheit, Verstand« (Hom. usw.);

Adj. *piny-tós* »klug, verständig« (Hom. usw.);

Abstr. *piny-sis: sýnesis* Hesych.;

dazu das primäre Verbum *piny-mi* in Hesych. *pinyménen: synetē'n.*

Zur Möglichkeit von Verbindung dieser griechischen Gruppe mit dem gr. Perf. *pépnymai* usw. »besonnen, klug sein, bei Besinnung sein« (Hom. usw.) und seiner Gruppe vgl. Frisk, *Gr. EW.* II 508f.; die Schwierigkeiten im Ablaut sind jedoch zu gross, um diese Verknüpfung gutheissen zu können. Richtig wird jedoch die alternative Deutung des gr. *piny-* bei Frisk sein:[29] dissimilatorisch aus **pu-nu-*[30] und zu idg. **peu-* »erforschen, begreifen, verständig sein« (Pokorny, *Idg. EW.* 827) in lat. *putō* »rechnen, berechnen, vermuten, meinen«, aksl. *is-pytъ* »perscrutatio« und *pytati, -ajō* »scrutari, quaerere«.

Mit dem gr. **pu-nu-* (also mit einem Suffix *-neu/nu-*) ist heth. *punu-* in *punu-š(š)-* direkt identisch. Die Bedeutung »fragen, ausforschen u. ähnl.« kommt ja auch im sl. *pytati* vor. Das auslautende *-s-* wird eine alte Zutat sein, die im Hethitischen auch sonst zu beobachten ist,[31] die aber auch im Griech. vorkommt: in Aor. *e-piny-s-sa* und *piny-s-theis.* Ein geschichtlicher Zusammenhang dieser beiden Erweiterungen ist ganz möglich. Es ist weiter möglich, dass wenn die Bedeutung unserer Wurzel urspr. »klug sein, verständig sein« ist, **pu-nu-* demnach urspr. »besonnen sein« bedeutete *(pinýskō* wird sekundär kausativ dazu sein, viell. unter dem Einfluss von *pinýssō,*

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[29] Zur Etymologie vgl. Boisacq, *DEGr.* 785 und Frisk a. O. 509 (mit Lit.).

[30] Zur Dissimilation *-u- . . . -u- > -i- . . . -u-* vgl. Frisk 509; Schwyzer, *Gr. Gr.* I 258 (Zweifel). Die Dissimilation dieser Laute muss schon im Urgriechischen stattgefunden haben, denn nur so ist myken. *i-ju* »Sohn« erklärbar (Lautung noch */hüjús/?).*

[31] Zu diesen Erweiterungen im Heth. jetzt ausführlich Kronasser, *Etym. d. heth. Spr.* 394ff. Zum Idg. Brugmann, *Grdr.*[2] II 3 I, 336ff.

insoweit dies alt und aus *pinytós* abgeleitet), heth. *punuš(š)-* eig. desiderativ ist: »klug sein wollen« = »ausforschen u. a.«, demnach mit desiderativem *-*s*-[32] Vgl. gr. *pýstis, peusis* »Frage« zu *peúthomai, pynthánomai* »erfahre, nehme wahr, wache«.

Zu merken ist noch die Möglichkeit der geschichtlichen Identität des heth. Iter. *punušk-* mit gr. (Kaus.) *pinýskō,* wenn dies < **pinys-skō.*

44. heth. *šā-*

oder *šāi-* »grollen, zürnen; hassen« ist ein ziemlich gut bezeugtes Verbum (vgl. Friedrich, *Heth. Wb.* 174f., 183, 188; Ders., *Heth. El.* I[2] 88f. unter den »einsilbigen Stämmen« der Klasse I 2 b; Kronasser, *Etym. d. heth. Spr.* 465): 3. Sg. Präs. *šāi* (Kr.), 3. Pl. Präs. *šānzi;* 1. Sg. Prät. *šānun* (Kr.), 3. Sg. *šāit,* 3. Pl. Prät. Med. *šāntati,* Imper. 3. Pl. *šandu* (Kr.), Part. *šānt-* »zornig«, Verbalsubst. *šāwar* »Groll, Zorn«.[33]

Entgegen der Behauptung von Friedrich a. a. O., dass es sich um einen einsilbigen Wurzelstamm handelt, können wir feststellen, dass der Stamm *šā-* sogar den historischen Hethitern als zweisilbig erschien: das Verbalsubstantiv *šāwar* wird ja einmal sogar *ša-ra-a-u-wa-ar* KUB VII 13 Vs. 30 geschrieben; vgl. dazu Götze-Pedersen, *Murš. Sprachl.* 31, wo *-ra-* statt *-a-* als falsche Schreibung wegen der Schwäche der heth. *r*-Lautes erklärt wird. Das wäre jedoch etwas schwierig; viel eher ist es zu *-ra-* gekommen, weil der Schreiber ein */sa'awar/* mit Hiatus oder sogar laryngalem Verschlusslaut zwischen den ersten zwei *a* hörte. Somit ist der Stamm eigentlich als *šaa-, šāi-* anzusetzen. Da der Hiatus im Urindogermanischen unbekannt war, muss zwischen dem Wurzelvokal *-a-* und dem zweiten Stammvokal (*-a-* bzw. *-i-,* eher */-e-/*) ein Konsonant ausgefallen sein. Dieser kann entweder *-w-* oder *-j-* sein;[34] da bei der Hypothese vom *w*-Ausfall keine gute Etymologie gefunden werden kann, versuchen wir mit *-j-.* Hier bietet sich eine gute Anknüpfung.

Bei Pokorny, *Idg. EW.* 877 findet man die Gruppe **sāi-* »Schmerz, Krankheit, versehren«, die u. a. in folgenden Wörtern fortlebt: gr. *haimōdía* »eine Art Zahnweh« (**sai-mo-*); **sai-ro-:* ahd. usw. *sēr,* ags. *sār* »schmerzerregend«, anord. *sārr* »verwundet, schmerzerregend« (> finn. *sairas* »krank«), got. *sair* Ntr. »Schmerz«, ahd. *sēr* ds., ags. *sār* »Wunde, Schmerz«, anord. *sār* »Wunde«; **sai-tu-:* air. *sāeth* »Leid, Krankheit«, kymr. *hoed* »Leid«; **sai-wo-:* gr. *aiānḗs* »grausig, düster«, lat. *saevus* »wütend, schrecklich, streng«, lett. *sievs* und (**sī-wo-*) *sīvs* »scharf, barsch, beissend«; endlich lit. *šai-ž-ùs* »rauh, scharf«. Die Bedeutung dieser Wurzel war ursprünglich ganz konkret »rauh, beissend, scharf«, daraus zuerst vom Geschmack und Tastgefühl, erst dann aufs Seelische übertragen, wie das deutlich lat. *saevus* zeigt. Vgl. lett. *sīvs* auch

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[32] Zu solchen Bildungen Brugmann a. O. 344ff.; doch steht hier eine *i*-Reduplikation und die Flexion ist thematisch. Im Heth. kommt ausserhalb unseres (zweideutigen) Verbums kein anderer Fall mit desiderativer Funktion vor.

[33] Vgl. noch *šauwanijawant-* »zornig«.

[34] Ein *-w-* ist in den Stämmen *hā-* »glauben, für wahr (zuverlässig) halten« und *lā-* »lösen« ausgefallen, also aus **Howo-* und **lowo-* nach *Lingu.* IX/2, 1969, 193f.

»grausam, scharf, intensiv, streng, kühl, zurückhaltend, auf seinem bestehend« und sogar »karg« (Mühlenbach-Endzelin, *Lett.-deutsch. Wb.* III 856). Hierher scheint weiter zu gehören lit. *siela* »Leid, Gram, Kummer; Gewissen«, *sielótis* »sich sorgen«, vgl. Trautmann, *Apreuss. Sprachdenkm.* 423. Das Hethitische hat unsere Wurzel in verbaler Funktion bewahrt, was mit der Altertümlichkeit dieser Sprache übereinstimmt und auch sonst beobachtet werden kann.[35] Seine aufs Seelische übertragene Wurzel hat Bedeutungsparallele nicht nur in lat. *saevus* oben, sondern auch in idg. **aig-* »verstimmt, unwirsch, krank« (Pokorny 13), vgl. hier lat. *aeger* »verstimmt, unwohl, krank«, anord. *eikenn* »wild, wütend«, ags. *ācol* »erregt, bestürzt«, aksl. *jędza* »Krankheit«, slov. *jeza* »Zorn« gegen anord. *ekki* »Schmerz, Kummer«, afries. wieder *inc* »erzürnt« u. a.

Morphologisch ist unser Verbum leicht zu erklären: es handelt sich eigentlich um dieselben Urformen wie bei den Verba auf *-ā(i)- (hatrā(i)-* »schreiben«, Klasse I 3): wie hier in der 3. Sg. Präs. auch *-āi* vorkommt, so auch unser *šāi;* 3. Pl. Präs. *-anzi* aus **-ā-jo-nti,* ebenso *šānzi* aus älterem **šāj-onti; šānun* wie *hatrānun* sekundär für älteres **šāja-un;* 3. Sg. Prät. *hatrāit* wie *šāit* aus **-ā-je-t* usw.

Es ist nur ein wichtiger Unterschied zu registrieren: vor *-nt-, -nz- (*hatranzi, *hatrandu, hatrant-)* scheint in der Klasse I 3 zu einer übermässigen Verkürzung des einstigen **-ā-jo-nt-* gekommen zu sein, so dass Plene-Schreibung unbekannt ist; bei den (in betreff der Wurzelstruktur) einsilbigen Stämmen scheint der ehemalige Hiatus noch erhalten zu sein, demzufolge Plene-Schreibung *ša-a-an-,* sprich */sa'an-/.*

45. heth. *zena-*

»Herbst« mit der Erweiterung *zen-ant-* ds. (Friedrich, *Heth. Wb.* 260 b) ist wohl ein indogermanisches Wort, da sonst die Bezeichnungen der Jahreszeiten ererbt sind, vgl. *gim-* mit *gimmant-* »Winter« aus idg. **g'him-, *g'hjem-; hamešha-* mit *hamešhant-* »Frühjahr« = urgerm. **ameza-* in ahd. *amar(o)* usw., nhd. *Emmer* »triticum dicoccum, Sommerspelt, Sommerdinkel« bei Čop, *Slav. Rev.* VIII, Anh. *Lingu.* (Ljubljana 1955), S. 30f.[36] Wir sind also berechtigt, darin ein indogermanisches Wort zu suchen, jedoch lehrt *hamešha-,* dass es nicht unbedingt ein allgemeinindogermanisches Wort sein muss. Es kann sich um eine speziell hethitische Neuerung handeln, die aber mit indogermanischen Mitteln gebildet wurde.

Die Etymologie von Benveniste, *BSL.* 50, 1954, 34f. (der diejenige von Goetze — aus **deino-* »Tag« — S. 35, Fn. 3 ablehnt, wohl mit Recht), wonach man mit bsl.-germ. **osen-* »Herbst usw.« vergleichen sollte, ist phonetisch unhaltbar, da ja heth. *z* = idg. *s* nicht bewiesen ist, ja sogar als verfehlt gelten muss, s. Čop, *Lingu.* IX, 1969, 43ff.

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[35] Vgl. z. B. *waš-* »kaufen, erwerben«, im übrigen Idg. nur Nomina (**wesno-* bzw. **wosno-* »Kaufpreis« Pokorny, *Idg.* EW. 1173); *up-* »aufgehen« (von Gestirnen), sonst nur Adverbia und Präpositionen (**upo* »unten an etwas heran« Pokorny 1106f.); *neku-* »es wird Abend, es dämmert« (sonst nur **noqwt-* »Nacht« Pokorny 762f.); u. a.

[36] Dazu gehört weiter das allgemeine *wet- (witt-)* »Jahr«.

Es gibt glücklicherweise eine intern hethitische Etymologie, wenn man unser Wort an heth. Verbum *zeja-* »kochen, intr.« (3. Sg. Präs. *zejari*, 3. Pl. *zejanta* usw.) anknüpft. Kurz darüber schon *Živa Antika* VI, Skopje 1956, S. 42 und 49, weiter *Lingu.* VI, Ljubljana 1964, 42. Es ist von der Auffassung des »Herbstes« auszugehen, wonach dies die Zeit der »Reife« (der Früchte, des Obstes) ist. Nun werden oft die Benennungen für »reif« bzw. »reifen« aus den Ausdrücken für »kochen (trans. od. intr.)« gewonnen, da das »Gekochte« ebenso wie das »Reife« schmackhaft, das »Ungekochte, Rohe« ebenso wie das »Unreife« unschmackhaft ist. So bedeutet ai. *pácyatē* »reift«, urspr. »wird gekocht«, ai. *pak-vá-* ist »gekocht« und »reif«, *pāká-* »das Kochen, Backen, Reifen«, gr. *pép-ōn* von der gleichen Wurzel = »reif«, toch. AB *pək-* bedeutet »kochen, zum Reifen bringen«, Med. »kochen (intr.), reifen«, toch. B *pikul* = A *pukəl* »Jahr« von derselben Wurzel scheint urspr. »Herbst« bzw. »Reifezeit« bedeutet zu haben, womit es genau dem heth. Wort entspricht. Vgl. zu **peqʷ-* »kochen« bei Pokorny, *Idg. EW.* 798.

Formal ist unser Wort eine Ableitung auf **-no/ā-* von dem in *zejari* lebenden Stamm *ze(j)-*, idg. wahrsch. **tē(i)-*, vgl. *Živa Ant.* a. O. Unser Nomen **tē-no/ā-* bedeutete urspr. »das Gekochtwerden > Reife«. Zum idg. Suffix **-no/ā-* als Formans der Verbalabstrakta vgl. Brugmann, *Grdr.*[2] II 1, 260ff. Im Heth. ist an solchem Suffix völliger Mangel, was aus leicht zu erratenden Gründen sekundär ist. Vgl. zu heth. *-na-* Kronasser, *Etym. d. heth. Spr.* 181ff.; derselbe rechnet unser *zena-* zu primären *a*-Stämmen (S. 165), was völlig unbewiesen war. Jetzt ist es damit anders bewandt.

46. gr. *askós*

»die abgezogene Haut«, gew. »der daraus gefertigte lederne Schlauch«, ist ein uraltes gr. Wort, belegt seit Il., doch ist keine gute Etymologie gefunden worden, vgl. Boisacq, *DEGr.* 88 und Frisk, *Gr. EW.* I 165 mit lit.[37]

Nach Liddell-Scott usw. bedeutet das Wort: 1. »skin, hide«, eine späte Bedeutung, aus Pap. Fayûm I.—II. Jh. nach Chr.; gewöhnlich 2. »skin made into a bag«, bes. »wineskin«, seit Il.; 3. »paunch, belly« bei Archil. u. a.; später noch 4. »bellows« und 5. »bagpipes«. Es ist die Pflicht der guten Methode, dass man von den Bedeutungen 2. und 3. ausgeht, die die ältesten sind. Dass *askòn deirein* vorkommt, besagt wohl nichts über die ursprüngliche Bedeutung unseres Wortes, denn es ist klar, dass die Behandlung *deirein* ja die einzige ist, die unser Produkt zur Welt zu bringen vermag.

Im Böotischen kam der Eigenname *Waskō'ndas* zum Vorschein. Dieser bestätigt wohl die ohnehin gegebene Möglichkeit, dass im Anlaut unseren Wortes ein Digamma stand; bei Homer ist zwar keine Spur desselben gefunden worden, doch handelt es sich bei unserem Wort um eine technische Spezialität, die auch sonst durch ständige Neuerung der Lautstrktur der moderneren Zeit angepasst wurden, was schliesslich in die hom. Poesie eindrang.[38]

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[37] Am billigsten ist der Vergleich mit gr. *askéō*, worüber aber ganz anders Čop, Slav. Rev. V—VII, 1954, 229 und 237.

Die urgr. Form unseres Wortes war also **waskó-s*. Trennt man nun die Laute *-skó-* als ein Suffix[39] oder ein Sufflixkonglutinat[40] ab, so erhält man als Wurzel *wa-;* dies wird aus idg. **wn-* mit sonantischem *-n-* entstanden sein und zu folgenden idg. Wörtern gehören:

a) lat *venter, -tris* »Bauch«;[41]

b) ai. *vani-šthú-* »Mastdarm oder ein in der Nähe des Netzes liegender Körperteil«, ahd. *wan(a)st, wenist* »Wanst«, nhd. *Wanst* auch »Blättermagen«, isl. *vinstr* »Blättermagen«, norw. dial. *vinstr* (Fem.) »Labmagen« (< **winistrō*), gr. *ē'nystron* »Labmagen«.

Vgl. Pokorny, *Idg. EW.* 1105. Alles andere bei diesem S. 1104f. muss entfallen.[42]

Die unter a) und b) zitierten Wörter erinnern ohne Zweifel sehr an die gr. Bedeutung »paunch, belly«, s. oben, obwohl diese sekundär aus »Schlauch« entwickelt sein kann; alle diese Wörter bezeichnen weiter Körperteile, die nach der dem Balg oder dem Schlauch ähnlichen Form bekannt sind. Es ist also am besten von »Schlauch, Balg« auszugehen, so dass das gr. Wort die ursprüngliche Bedeutung bewahrt hat. Aus »Schlauch, Balg« zu »Bauch« und »Magen« ist nur ein kurzer Schritt, vgl. ir. *bolg* »Sack, Bauch, Hülse usw.«, got. *balgs* »Schlauch« — anord. *belgr* »abgestreifte Tierhaut, Balg, Bauch«, ags. *bielg* usw. »Balg, Beutel« > engl. *belly* »Bauch« bei Pokorny, *Idg. EW.* 125f.[43]

47. toch. B *wen̯ts*

mit A *wes* übersetzt das ai. *mūtra* »Harn« vgl. Thomas-Krause, *Toch. El.* II 143 und 243. Nach Krause-Thomas, *Toch. El.* I 55, § 27, 2 gehört das Wort zu den Beispielen von A *-ē-* = B Nasalvokal vor *s, ts;* ebda. 69, § 47, 2 wird in A der Schwund von Anusvāra (in B erhalten!) konstatiert und eine einstige *i*-Epenthese angenommen: A *wes* demnach aus ält. **wais* wie A *es* (= B *āntse, ān̯tse*) »Schulter«. Es ist also klar, dass man von einem urtoch. **wens* ausgehen muss, wie auch *es/āntse* aus urtoch. **ānse* (idg. **ōmso-s*) entstanden ist. Die Flexion ist mir unbekannt, nach Krause-Thomas a. O. 102, § 122 gehört das Wort zu den in B im Nom. Sg. auf *-ts* auslautenden Wörtern wie *pets*

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[38] Vgl. dazu Chantraine, *Gramm. hom.* I 155: »Cette défaillance (das Fehlen jeder Spur des Digamma) apparaît surtout dans des termes du vocabulaire technique ou populaire«. Beispiele S. 155—157 *(hēlos, eïros, histiē* u. a.).

[39] Vgl Brugmann, *Grdr.*[2] II 1, 477ff.

[40] In diesem Falle erweitert aus einem *es*-Stamm **wen-es-*.

[41] Obwohl morphologisch dunkel (vgl. Walde-Hofmann, *LEW.*[3] II 751), enthält es sicher die hier behandelte Wurzel **wen-*.

[42] So sicher die Sippe des ai. *udáram* »Bauch, Anschwellung des Leibes usw.«. Diese verbindet mit unserem **wen-* ja nur der anlautende Konsonant **w-* (**wed-ero-* usw. »Bauch«). Höchstens kann zu unserem **wen-* noch germ. **wantha-* bei Pok. unter 4 gehören.

[43] Morphologisch ist unsere Sippe etwas schwierig; die zugrundeliegende Wurzel war **wen-* »Schlauch, Balg«; daraus ein *es*-Stamm in gr. **waskós,* ahd. *wan(a)st;* daneben **wenis-, *wonis-* und **wenus-*, mit dentalem Suffix erweitert. Abseits stehen lat. *venter* und germ. **wantha-*, wenn hierher.

»Gatte«, was aber irreführend ist, denn das letzte Wort, in A *pats*, ist irgendwie aus einem *i*-Stamm idg. **poti-* entstanden, sein *-ts* ist also Palatalisierungsprodunkt, etwas ganz Anderes als unser *-ts/s*. Da im Nom. Sg. *we^{n}ts* = *wes* kein Vokal auf *-ts/-s* folgt, auch keine Spur eines einstigen Vokals vorhanden ist,[44] ist es wirklich schwierig die ursprüngliche Flexion zu erraten. Möglichkeiten: *u*-Stamm (vgl. die Anm. oben) kaum anzunehmen, da *u*-Umlaut zu erwarten; urspr. Stamm auf *-n-* mit Nom. Sing. auf **-ōn*,[45] kaum zu verteidigen, da andere Kasus unbekannt; einstiger einsilbiger *s*-Stamm, durch das Ai. unten nahegelegt, dennoch schwierig.[46] Wie es dem auch sei, jedenfalls ist die Urform des uns sichtbaren Wortteiles, B *we^{n}ts* = A *wes* eindeutig ein idg. **wons-* (idg. **o* = toch. B *e*).

Keine Etymologie ist mir bekannt geworden, ausser derjenigen von van Windekens, *Lex. étym. tokh.* 160, der A *wes* »excrément« (sic!) zu ai. *viš-* usw. »excrément, ordure« usw. stellt (idg. **weis-* »zerfliessen, fliessen (oft in FlN); auch vom tierischen Samen; besonders von der Feuchtigkeit und dem Geruch faulender Pflanzen, unreinen Säften, Gift« Pokorny, *Idg. EW.* 1134), ohne B *we^{n}ts* zu kennen.

Ich stelle die toch. Wörter, idg. **wons-*, zu lat. *vē(n)sīca* »die Blase, Harnblase« (übertr. »Geschwulst«), ai. *vastí-š* »Harnblase«, zu den Wörtern also, die bisher zu lat. *venter* »Bauch« u. a. gestellt zu werden pflegten (vgl. Walde-Hofmann, *LEW.*[3] II 750f.; Pokorny, *Idg. EW.* 1105). Es ist klar, dass die Sippe bei Pokorny aus Unvereinbarem zusammengestellt wird, so dass auch unsere zwei Wörter für »die Blase« ohne Gewissenszweifel von den übrigen getrennt werden dürfen. Das lat. Wort enthält ein denominatives Suffix *-īca*, das etwa »enge Verbundenheit mit, Gemachtsein aus etwas, was das Grundwort bezeichnet« zu bedeuten scheint, vgl. z. B. Brugmann, Grdr.[2] II 1, 496 u. a. und vor allem *lectīca* »Sänfte, Tragbett; Tragbahre« von *lectus* »Lagerstatt usw.«, *lōrīca* »Kettenpanzer« eig. »Riemenpanzer« von *lōrum* »Riemen«. Lat. *vē(n)sīca* verbürgt also ein idg. **wens-* oder **wns-* »Harn«; die breitere historische Bedeutung kann mit bekannten Prozessen in der Semasiologie erklärt werden.

Das altindische Wort ist schwieriger; trotzdem kann auch hier ein denominatives *-ti-* abgetrennt werden, das ebenso wie lat. *-īca* »enge Verbundenheit usw.« bedeutet, vgl. das alte Wort ai. *pat-tí-* »Fussgänger« = apers. *pas-ti-* zu ar. *pad-* »Fuss«, *yuva-tí-* »jung, junges Weib« = ahd. *jugund* »Jugend«, idg. **juwn-ti-*, von **juwen-* »jung, Junge« u. a., vgl. Wackernagel-Debrunner, *Altind. Gr.* II 2, 639ff., § 473. Es ist also auch hier von einem Wurzelnomen, diesmal von **wns-* »Harn«, auszugehen.

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[44] Folgte z. B. ein *-i-* darauf, so hätte man *-š*. War dagegen das Wort ein *u*-Stamm *(*wons-u-s)*, so sollte der Stammauslaut *-u-* den Wurzelvokal labialisieren.

[45] Die Endung **-ōn* der mask. und fem. *n*-Stämme schwindet m. E. im Tocharischen vollständig; mehr darüber an einer anderen Stelle.

[46] Wenn nämlich der *s*-Stamm **wons* im Nom. Sg. erhalten wäre, so erwartete man urtoch. **wen* mit Abfall des auslautenden **-s;* war dagegen der Akk. Sg. **wons-m* die zugrundeliegende Form, so hätte man schon wieder **wenš* usw. mit *-š* zu erwarten, vgl. zu den *us*-Stämmen: Part. Pf. B *kekenu* »(mit etwas) versehen«, Akk. *kekenoš*, wo *-oš* sicher aus älterem **-us-m* entstanden ist.

Idg. **wons-*, **wens-*, **wns-* kann nur drei Ablautstufen eines einst ablautendes **wenes-* repräsentieren, das von **wen-* »Wasser, Woge« usw. abgeleitet ist: bei Walde-P., *Vgl. Wb.* I 253 haben wir ahd. *undea* samt Verwandten »Woge, Welle, Flut« (urgerm. **unthi-*, **unthiō*). Von demselben **wen-* kann nun auch ags. *wōs* »liquor, succus« mit anord. *vās* »Feuchtigkeit« stammen,[47] das aus germ. **wansa-* entstanden ist und direkt zu toch. **wons-* usw. gestellt werden muss. Zur Bed. »Harn« — »Wasser, Feuchtigkeit« vgl. u. a. lat. *ūrīna* bei Pokorny, *Idg. EW.* 80.

POVZETEK

Doprinosi k indoevropskim besednim raziskavam VIII

35. Gr. *etheirō* »oskrbujem, obdelujem«, tudi »okrasim« spada kot star **jedh-er-jō* k toh. AB *yəṭ-* »krasiti«, kar je iz ievr. **jedh-;* sem toh. B *yetwe* »okras« iz ievr. **jēdh-wo-s* ali (bolje) **jodh-wo-s.* Vse izhaja iz ievr. prezenta **jedhe-ti* »skrbno obdeluje«.

36. Het. *haš(š)-* »iver milnega grma« gre na ievr. konsonantno deblo **Hōs,* akuz. **Hos-m;* spada naprej k skupini, ki sem jo obdeloval v *Sl. Rev.* XII 182ss.: a) lit. *asýs, esýs* »preslica«, b) lat. *arista* »osina na klasu, klas, ščetina, ribja kost« iz **as-istā,* c) gr. hom. *ē'ia* »pleve« s sor., d) srir. *ēorna* »ječmen« iz **es-or-njā,* e) lit. *asnìs* »daljše, štrleče dlake živali z runom itd.«. Vse to gre na korensko deblo, ki je bilo rekonstruirano že za hetitščino: nom. **Hōs,* akuz. **Hos-m,* lok. **Hes-i* itd.; ta substantiv je označeval rastlinske dele, ki so »ostri, šilasti, trnovi«; rabil se je tudi za takšne živalske dele, kot kaže nasl. t.

37. Kelt. **esōks,* gen. **esokos* (lat. *esox* itd.) »losos«; pri tem gre verjetno za zamenjavo s podobno ribjo vrsto, »ščuko« (znanstv. ime zadnje je *esox lucius!); *es-ōk-s* je prv. ime »ščuke« ali pod. vrste; značilnost teh rib so ostri, nazaj zapognjeni zobje, po katerih so »ščuko« imenovali Germani: **hakuda-* itd.; prav tako Čeremisi: *nuž-yol* »ščuka« je sestavljeno iz *nuž* »kopriva« in *kol* »riba«. Torej je **es-ok-* prv. pridevnik s pomenom »ki ima šilaste zobe, koničast« in k t. 36.

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41. Toh. B *yetse,* A *yats* »vrhnja koža« gre k lit. *óda* »koža, usnje«, let. *âda* »koža, meh«; prv. pomen vseh je nekako »odrta koža«; toh. beseda gre na ievr. **ēdh-jo-s,* balt. beseda pa na ievr. **ādhā* (nam. *ōdhā*), prevojna alternacija *ē : ā* je znana iz baltskih jezikov.

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45. Het. *zena-* »jesen« (letna doba) je ievr. beseda že zato, ker so tudi sicer het. oznake letnih dob in leta samega ievr. izvora; tako gre *zena-* k het. *zeja-* »kuhati se« (med. glagol), pri čemer je »jesen« čas »zorenja«, pojem »zoreti« pa često nastane iz pojma »kuhati se, kuhan biti« (paralele iz ievr. korena **peqʷ-* »kuhati, peči«).

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Idg. **wons-*, **wens-*, **wns-* kann nur drei Ablautstufen eines einst ablautendes **wenes-* repräsentieren, das von **wen-* »Wasser, Woge« usw. abgeleitet ist: bei Walde-P., *Vgl. Wb.* I 253 haben wir ahd. *undea* samt Verwandten »Woge, Welle, Flut« (urgerm. **unthi-*, **unthiō*). Von demselben **wen-* kann nun auch ags. *wōs* »liquor, succus« mit anord. *vās* »Feuchtigkeit« stammen,[47] das aus germ. **wansa-* entstanden ist und direkt zu toch. **wons-* usw. gestellt werden muss. Zur Bed. »Harn« — »Wasser, Feuchtigkeit« vgl. u. a. lat. *ūrīna* bei Pokorny, *Idg. EW.* 80.

POVZETEK

Doprinosi k indoevropskim besednim raziskavam VIII

35. Gr. *etheirō* »oskrbujem, obdelujem«, tudi »okrasim« spada kot star **jedh-er-jō* k toh. AB *yət-* »krasiti«, kar je iz ievr. **jedh-;* sem toh. B *yetwe* »okras« iz ievr. **jēdh-wo-s* ali (bolje) **jodh-wo-s*. Vse izhaja iz ievr. prezenta **jedhe-ti* »skrbno obdeluje«.

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Mitja Skubic

IL CONGIUNTIVO NEL GOLDONI

1. Nelle sue commedie dialettali, Goldoni spesso ricorre al congiuntivo. La forma è tanto frequente e tanta è la coerenza nell'uso che ci testimonia della popolarità del congiuntivo nel veneziano parlato del suo tempo. E ancora non sapremmo elencarne tutte le forme, giacché, nel presente almeno, una speciale per il congiuntivo esiste quasi solo per la 3.a persona (come nell'indicativo, anche nel congiuntivo coincidono la 3.a del sg. e la 3.a del pl.). Pochi sono i verbi che mostrano una forma a parte per il congiuntivo nella 1.a pers. sg. Citiamo dalla *Casa nova:* »fe conto che *sia* morto per vu«, I, 6; »E no le vol che *maledissa* sta casa e che *diga* roba de quel strambo de so fradelo«, II, 5; »se no volè che *vaga,* lasserò star«, II, 6; »bisognerà che *dipenda* da ela«, I, 6; »ghe son, bisogna che ghe *staga*«, I, 2; »Bisognerà che *m'inzegna* da qualche altra banda«, I, 15. Quasi inesistente la 2.a pers. sg.; »*Siestu* benedeta, dove che tu xe«, *Rusteghi,* II, 3. La scarsità della forma nel congiuntivo è da riconnettere alla scarsità della 2.a pers. in generale nelle commedie.[1] Non ci sono forme del congiuntivo nel plurale: »avanti che lo *spartimo,* fèvelo mostrare«, *Baruffe,* I, 5; »acciò che *vegni* a discreditar la mia casa«, Rusteghi, II, 3; »son vegnua a posta, acciò che *parlè*«, *Rusteghi,* III, 2.

E' da mettere in rilievo la coincidenza delle forme dell'indicativo e del congiuntivo nella 3.a pers. della I coniugazione[2]: »E senza nissun che *v'intriga* i bisi«, *Rusteghi,* I, 5. Solo nelle *Baruffe* troviamo per la 3.a pers. e così anche per la 1.a, la forma in *-e:* »Avanti che Checca mia sorella *se maride,* m'ho da maridare mi«, I, 1; »Cosa voléu che *fazze?* Per sta volta lassè che ghe li *mande*«, I, 5. Istruttive, paragonate al passo del I, 1, le parole dette da Isidoro (il quale si dichiara 'venezian', II, 15): »Se no volè che Checca *se marida* prima de vu«, III, 22. Che manchi la forma e non che sia sparita

[1] Accanto a 'ela' e 'vu' c'è poco posto per 'tu'. Danno del 'tu', e ancora non sempre, i padri ai figli: »Cossa *meriteressistu,* frasconcela!« e »*Tasè* là, ve digo. Co la maregna no se parla cussì. Gh'*avè da portar* respeto; l'*avè da tegnir* in conto de mare«; e solo per esigenze dello stile (una forte agitazione o rabbia addirittura) i coniugi fra di loro: »(*Senti* sa, no me far el mato, che povereto ti)«; »*Ti* me la *pagherà,* desgraziada« in *Rusteghi,* rispettivamente III, 4; II, 3; II, 14; I, 9. — E' piu frequente la 2.a pers. nelle *Baruffe,* dal tono più confidenziale.

[2] Si veda per il fenomeno Stussi, *Testi veneziani del Duecento e dei primi del Trecento,* Pisa, 1965, p. LXVII. Ha constatato lo stesso fenomeno per l'istrioto di Dignano Tekavčič, *Današnji istroromanski dialekt Vodnjana,* Rad JAZU, 348, Zagreb, 1967, p. 274.

la nozione, è provato dalle forme del congiuntivo nell'imperfetto, dove il paradigma è completo nel senso che, se d'una parte il sg., per ragioni fonetiche, ha una sola forma, quelle del pl. *andassimo, vedessi* sono ben salde. Inoltre, i passi dove ad una forma dell'indicativo viene accostata, in situazione analoga, un'altra dove la nozione del congiuntivo risulta dalla forma stessa testimoniano chiaramente dell'esistenza del congiuntivo: »e nol pol soffrir che so nevodo *butta* via el so malamente, e che el *se fazza burlar*«, *Casa nova,* I, 6; »No voggio Che el *varda* quella putta, Che el *vaga* in casa, e che el ghe *porta* i fiori«, *Campiello,* II, 10.

2. L'impiego del congiuntivo è molto ampio, ed è coerente; tuttavia, in qualche passo non riusciamo a trovare una ragione valida per l'uso ed è possibile che si tratti di attrazione; il modo della reggente s'impone anche nella rispettiva dipendente: »Se mia muggier savesse che *me umiliasse* a mio barba, poveretto mi«, *Casa nova,* I, 7; »Credo che la sia ela mi, che no *voggia*«, *Rusteghi,* II, 2.

3. L'uso del congiuntivo nel Goldoni dialettale non si scosta sensibilmente da quello che mostrano testi letterari in lingua e che ancora oggi le grammatiche normative prescrivono come uso da seguire.

Troviamo il congiuntivo soprattutto nella sfera voluntativa; anche nelle indipendenti: »La *vada* in casa, la *se fazza veder,* la *fazza* almanco *sospettar* che sta finezza vegna da VS.«, *Bugiardo,* I, 1; »Se gh'*avesse* fortuna!«, *Campiello,* I, 1. Lo troviamo soprattutto nelle subordinate che esprimono volontà o desiderio: »Voria che me *tornessi a dir* chi xe sto vostro patron«, *Servitore di due padroni,* I, 2; »el paron el vol che la *sia* all'ordene avanti sera«, *Casa nova,* I, 1.

Possiamo includere nella sfera voluntativa anche le subordinate finali: »acciò che no i *disesse,* che m'ho maridà senza gnente a sto mondo«, *Casa nova,* II, 9; »feme un segno, acciò che anca mi *possa secondar* la spiritosa invenzion«, *Bugiardo,* I, 10.

4. Notiamo un rigoroso impiego delle forme del congiuntivo nella sfera dell'opinione o del giudizio personale; includerei qui anche espressioni affettive, di stato d'animo: un'azione o uno stato espressi nella subordinata non sono constatazioni di una realtà, ma sono visioni soggettive. Espressioni e verbi che ricorrono nella reggente sono *dire, aver in testa, far conto, credere, pensare,* verbi impersonali, sintagmi con essere, superlativi o espressioni di idea superlativa, ecc. Basterà illustrare l'uso con pochi esempi: »ma me par impussibile, che no i *diga* gnente a la puta«, *Rusteghi,* II, 6; »La me dise che la gh'ha un barba... Lo so anca mi che la gh'ha sto barba, e che el xe rico, ma i dise che el *sia* in còlera co la nezza«, *Casa nova,* II, 5; »Mo za, co no fazzo mi, no gh'è pericolo che nissun *fazza*«, *La buona madre,* I, 3; »Questa la xe fursi la prima volta, che da un mal *sia derivà* un ben«, *Bugiardo,* II, 12; »questa saria la meggio cossa che la *podesse far* a sto mondo«, *Bugiardo,* II, 10.

Sempre nella sfera dell'opinione personale, la subordinata mostra regolarmente il congiuntivo quando la principale appare in forma negativa o interrogativa: »Mi no digo che el *sia* ricco, ma el xe un galantomo«, *Casa nova,*

II, 9; »Cossa? (No sento ben quel che la *diga)*«, *Campiello,* II, 1; »Saveu dove che el *staga?*«, *Casa nova,* II, 10; »Saveu gnente che Titta Nane *abbia licenzià* Lucietta Panchiana? — Sior si, ho sentio a dir che el la gh'ha licenzià«, *Baruffe,* II, 13; »E la mia quanti anni Credereu che la gh'*abbia?*«, *Campiello,* I, 2.

5. Il congiuntivo è usato inoltre nella sfera della potenzialità: la realizzazione puo essere chiaramente mostrata come incerta, perché supposta nel futuro; oppure è presentata come potenziale, senza riguardo alla sfera temporale: »avanti che i *vegna,* lo vorave fenire sto merlo«, *Baruffe,* I, 1; »Sta inclinazion ghe xe poche putte che no la gh'*abbia*«, *Bugiardo,* I, 17; »per mia desgrazia non ho avudo nissun che me *avvertissa* e che me *coreza*«, *Casa nova,* III, 13; »In te l'altra casa gh'avevela nissun riflesso, che ghe *dasse* in tel genio?«, *Casa nova,* II, 7; »Gh'è nissun che *voggia* altro, *Baruffe,* I, 2; »Mi si che me mariderò; ma ti? No ti troverà nissun che te *voggia*«, *Baruffe,* III, 16; »no son de quei omeni che *patissa* la spienza«, *Rusteghi,* II, 3; »Xe anca assae trovar una serva che *diga* ben della so patrona«, *Casa nova,* II, 3.

Anche qui abbiamo quasi sempre un elemento di negazione nella principale, solo che non si tratta di subordinate dichiarative; poi, il fatto di aver una negazione nella principale è meno importante del contenuto della subordinata, cioè della potenzialità, espressa per mezzo del congiuntivo,[3] giacché alcuni passi quest'elemento negativo non ce l'hanno. Anche *nissuno* non va sempre preso come elemento di negazione, cfr. ancora: »Siora Rosina, vardè de là se ghe *fusse* nissun che *l'andasse* a chiamar«, *Casa nova,* II, 7. Sta di fatto, però, che nelle commedie veneziane non appare mai l'indicativo nella subordinata quando la reggente contiene una negazione.

Il congiuntivo esprime, inoltre, un'azione non realizzata nelle diverse specie delle modali: »ghe voggio ben, come se la *fusse* una mia sorela«, *Casa nova,* III, 3; »In casa mia? no vien nissun senza che mi lo *sapia*«, *Rusteghi,* II, 5.

6. Il congiuntivo è usato, poi, per esprimere la concessione e la condizione. Nelle concessive il verbo si trova nel congiuntivo dopo le congiunzioni *se, benché, se anche;* l'indicativo appare dopo *si ben che:* »Un mario alocco no lo torave, se el me *cargasse* de oro«, *Una delle ultime sere di carnovale,* I, 2; »perchè voggio ben a sta puta, benché no l'al *conossa,* o no la lo *voggia conosser*«, *Rusteghi,* ult.; »Mi mo, vedela, sto poder no lo gh'ho, e se anca el gh'*avesse* . . .« *Casa nova,* II, 9; »Una casa lontana, e vo' trovarla . . . Quando *fosse* ben anche una cantina«, *Campiello,* IV, 5; »e per retirae che *staga,* le gh'averà sempre la drento più spasso, più libertà«, *Rusteghi,* III, 1; »si ben che no la gh'*ha* donzelon, ghe la poderia domandare«, *Baruffe,* I, 10; »La me fa rider, siben che no ghe n'*ho* voggia«, *Casa nova,* II, 7.

Il congiuntivo appare, inoltre, nel periodo ipotetico, solo nella protasi, per esprimere un'ipotesi potenziale o irreale. Il periodo nel Goldoni non conosce il tipo ereditato dal latino, cioè *-ssi/-ssi.* Si trovano questi tre tipi:

[3] Sono da accostare tali esempi, credo, a quella categoria in cui Regula e Jernej, *Grammatica italiana descrittiva,* Berna, 1965, p. 212—213, giustificano l'uso del congiuntivo col »contenuto generalizzato«.

-ssi/-ia ma se *m'avesse da maridare,* no *vorria,* che un lustrissimo gh'avesse tanta premura, *Baruffe,* III, 12
Se la *fusse andada, l'averia fatto ben, Casa nova,* III, 7

-ssi/-ave Titta Nane, se lo *podesse avere,* mi lo *chiorave, Baruffe,* II, 12

-ssi/-eressi Se gh'*avessi* la dota, *ve marideressi?* — Mi sì, lustrissimo, che me marideria, *Baruffe,* II, 12

E' del tutto isolato il tipo »Ze *potezzi, verrei«, Campiello,* III, 10, che ricorre una sola volta ed è probabilmente la ricerca di avvicinarsi al tipo toscano, nato cioè da una precisa richiesta stilistica.

Inoltre, Goldoni, per esprimere un'ipotesi irreale, quella messa nel passato, irrealizzabile, cioè, ricorre poche volte anche all'indicativo dell'imperfetto in ambedue le parti o nella sola protasi: »Se *saveva* che gh'aveva da esser in casa sta so sorela, da quella che son, che no lo *toleva«, Casa nova,* I, 11; »Se no *vegniva so cugnada,* la burla *sarave andada* pulito«, *Casa nova,* II, 8.

La frequenza dei tre tipi risulterà dalla tabela che segue; è da notare l'assoluta assenza del tipo *-ssi/-ssi* il quale pur ricorre in alcune parlate venete ed era conosciuto nei monumenti dell'antico italiano, cfr. Rohlfs, par. 744.

	Campiello	Baruffe	Una delle ultime sere	Rusteghi	Casa nova	La bona madre
-ssi/ia	1	3	4	1	5	5
-ssi/ave	1	4	8	7	9	13
-ssi/-eressi	—	2	1	—	1	1

7. L'uso del congiuntivo nelle commedie veneziane del Goldoni è dunque essenzialmente quello che si trova in lingua letteraria; dato che si tratta, nelle commedie, di una lingua colloquiale, possiamo dedurne che il congiuntivo era, nel Settecento, patrimonio della lingua parlata. Non sembra che si sia verificata una recessione rispetto ai primordi del veneziano; se però la nozione di congiuntivo è viva, meno resistenti appaiono le forme in alcune persone, dando cosi l'impressione dell'indebolimento dell'uso.

POVZETEK

V svojih beneških komedijah uporablja Goldoni konjuktiv približno tako, kot ugotavljamo to v knjižni rabi; le oblik za nekatere osebe ni, pa daje jezik komedij vtis, da je uporaba manjša. Ker gre za pogovorni jezik, moremo sklepati, da je beneščina Goldonijevih dni poznala široko rabo tega glagolskega naklona.

CDU 80(048.1)

Poročila, ocene in zapisi — Comptes rendus, récensions, notes

Angelico Prati, *Etimologie venete* a cura di Gianfranco Folena e *Giambattista Pellegrini*, »Civiltà Veneziana. Dizionari dialettali 4«, Istituto per la collaborazione culturale, Venezia — Roma 1968, str. LX — 211.

Italijanistika će još dugo čekati na svoga Wartburga i na toliko željeni pendant FEW-a pa su stoga svi dijalektalni etimološki rječnici koji se pojave veoma dragocjeni pa makar i bili nepotpuni kao ovaj koji je napisao i uvodnom studijom *I dialetti veneti* (str. XLIII—LIV) popratio genijalni autodidakt Angelico Prati (1883—1961) a posthumno su ga objavili G. Folena, ujedno autor i sažetog ali bogatog predgovora *Ricordo di Angelico Prati* (str. VII—XI), i G. Pellegrini koji je ujedno sastavio bibliografiju radova pokojnog prijatelja (str. XII—XXIV) i vrlo koristan *Indice delle voci degli scritti* (str. XXV—XLII).

Autor, koji inače ima u svom opusu od 141 jedinice, uglavnom etimološke prirode, i takva znamenita djela kao što su etimološke bilješke u kolektivnom *Dizionario di marina medioevale e moderna* (Roma, 1937), čuveni etimološki rječnik *VEI* (Milano, 1951) i *Dizionario valsuganotto* (Venezia—Roma, 1960) koji, ironijom sudbine, nije stigao vidjeti tiskan iako je izašao iz štampe prije njegove smrti, nazvao je svoje djelo skromno »Mletačke etimologije« jer u njemu nisu obrađeni etimoni svih riječi mletačke dijalekatske grupe nego samo onih koje su razni autori i, ponajčešće, on bili prije obradili što u dijalektalnim rječnicima što u leksikološkim studijama, člancima i miscellama koji se tiču govora Triju Venecija. Prati na žalost nije stigao obraditi i mletačku toponomastiku, kako ga je G. Folena nagovarao, a ni rječa osobna imena (na ta se osvrće samo ako su prešla u apelative) jer ga je u tome spriječila prerana smrt pa će italijanisti biti i dalje upućeni, što se toponomastike tiče, na djelo D. Olivieri, *Toponomastica veneta*, kojega je drugo popravljeno izdanje izašlo u istoj seriji 1961. godine.

Kako priređivači nigdje ne govore u čemu se stvarno sastoji njihova intervencija, to primjedbe koje ćemo iznijeti idu na račun našeg autora koji je, na str. 1—211, obradio oko šest tisuća natuknica s ukupno više desetaka tisuća dijalektalnih formi, uvijek precizno lokaliziranih i vrlo često popraćenih bibliografskim podacima. Nezgodno je spominjati koji sve leksemi nedostaju (jer je autor vjerojatno znao da E. Rosamani sprema rječnik mletačkih pomorskih izraza pa nije uzeo u obzir mnoge takve termine, većinom grecizme).

Ograničit ćemo se na primjedbe uz svega par leksema:

Iako su mnogi autori priznali slavensko porijeklo riječi *muci!* (str. 109), Prati i tu ostaje pri mišljenju koje je dao u *VEI*. Za hrvatsko porijeklo ne

samo te riječi nego i firentinskog substandardnog *buci!* usp. Ž. Muljačić, *Su alcune voci italiane di origine croata,* »Atti del VII Convegno del Centro per gli Studi dialettali italiani (Torino-Saluzzo, 18—21 maggio 1970)«, Torino 1971 str. 91—94.

Za *intima* (str. 85) usp. i Ž. Muljačić, *Dalmatske studije II (tunđela »jastuk«),* Filozofski fakultet u Zadru, »Radovi«, 5 (1963—1964), str. 70—82.

vissola »višnja« (str. 201) neće biti germanskog porijekla, kako misli Prati, već najvjerojatnije grčkoga kako drži, argumentirajući svoje mišljenje i porijeklom same biljke koja se iz Male Azije proširila u Evropu, M. Cortelazzo, *L'influsso linguistico greco a Venezia,* Bologna 1970, str. 255. Time se i etimon odgovarajućih rumunjskih i naših riječi potpunije uklapa u etimon koji je uočio već REW 1433, 2, s time da je naše *š,* s obzirom da je M. Vasmer utvrdio: »Es finde sich nirgends ein slavisches *š* aus griechischem *s*«, refleks rumunjskog u kome latinsko i grčko *s* pred palatalnim vokalima pravilno prelazi u *š* (usp. SIC > *si,* SEPTEM > *sapte* i sl. Za povijest te riječi koja treba tek da se izradi usp. i A. de Vincenz, *Methodisches zur Frage der frühesten Beziehungen zwischen den slavischen und den romanischen Sprachen,* »Das östliche Mitteleuropa in Geschichte und Gegenwart. Acta Congressus historiae Slavicae Salisburgensis in memoriam SS. Cyrilli et Methodii anno 1963 celebrati«, Wiesbaden 1966, str. 118—122.

Alberto Vàrvaro, *Storia, problemi e metodi della linguistica romanza,* Napoli 1968, str. 414.

Taj priručnik povijesti romanske lingvistike i njenih problema i metoda ne kani zamijeniti odgovarajuće poglavlje u knjizi C. Tagliavinija, *Le origini neolatine,* Bologna 1964[4] (v. o njoj našu recenziju, *Linguistica 6,* 1964, str. 95—100) kako skromno ističe autor u pregovoru. S naše bismo strane dodali da je autorova namjera bila dati studentima bolji i suvremeniji pregled povijesti romanistike od Vidosova jer taj nizozemski romanist mađarskog porijekla nakon talijanskog izdanja svog priručnika (1959) nije mijenjao glavni tekst nego samo bilješke, i to nebitno (usp. španjolsko izdanje iz 1963. i njemačko iz 1968. god.). Kako povijest romanistike zaprema u biti samo prvi dio Vidosove knjige (173 str.) a ovdje je glavna iako ne i jedina tema, to je očito da je Vàrvaro kvantitativno daleko ostavio iza sebe svog prethodnika. U čemu je kvalitetno bolji odnosno potpuniji, vidjet će se niže.

Za razliku od l i n g v i s t a Vidosa koji je, u doba kad je pisao nizozemski izvornik svoje knjige (tiskan 1956. god.) bio vrlo skeptičan prema strukturalizmu, naš je autor, iako po temeljnom usmjerenju f i l o l o g, pokazao mnogo dobre volje i prema tom pravcu i prema generativnoj i transformacijskoj gramatici i razumijevanja kako za njihove teoretske postavke tako i za njihova praktička ostvarenja na području opće romanistike i proučavanja pojedinih romanskih jezika (najviše se zadržao na radovima strukturalista A. Martineta i H. Weinricha). Treba mu priznati da je pokazao i mnogo više zanimanja za velike romaniste 19. st. nego Vidos koji je svu povijest romanistike do pojave lingvističke geografije zbio u tridesetak stra-

nica dok taj period ovdje zahvaća, uz prekide, više od polovice knjige. Stoga se i moglo dogoditi da su ovdje dobili i tako mnogo prostora odjeljci o F. Diezu (kojemu je posvećeno cijelo jedno poglavlje, str. 51—83), H. Schuchardtu (str. 91—104; s dva zanimljiva dijagrama o raščlambi romanskog jezičnog prostora koji su današnjim romanistima redovno nepoznati; i str. 150—164, gdje se spominju i novija mišljenja o tzv. kreolskim jezicima) i W. Meyer-Lübkeu (str. 141—150 i 170—179). U odnosu na Vidosa strukturalizmu je posvećeno mnogo više prostora (str. 329—401) što je ipak manje od onoga što nalazimo u najnovijem historijskom presjeku kroz zadnja tri desetljeća romanske lingvistike što ga je engleska romanistica Rebecca Posner objavila, pod naslovom *Thirty years on* (str. 393—579), kao dodatak u novom neizmjenjenom izdanju čuvenog priručnika I. Iordana i J. Orra, *An Introduction to Romance Linguistics. Its Schools and Scholars*, koje je nedavno (1970) objavio oxfordski nakladnik Basil Blackwell. Kako je taj presjek i obimniji i bolji od Vàrvarova, upućujemo na našu recenziju (izlazi uskoro u *Archivio glottologico italiano)*. Što se tiče znanstvene literature na talijanskom jeziku, medjutim, Vàrvarova zadnja dva poglavlja *Ferdinand de Saussure*, str. 329—355, i *La linguistica strutturale*, str. 357—401, zadržavaju i dalje punu vrijednost jer su odgovarajući dijelovi u petom, znatno dopunjenom izdanju Tagliavinijeva priručnika (str. 43—56), uza svu svoju briljantnost suviše kratki.

Ostaje nam, dakle, da usredotočimo našu pažnju na prvih devet poglavlja. To su: *Dalle prime grammatiche provenzali alla linguistica comparata*, str. 11—50; *Friedrich Diez*, str. 51—83; *Apogeo e contestazione della concezione naturalistica del linguaggio*, str. 85—122, *I Neogrammatici*, str. 123—164; *Lo studio del sostrato*, str. 165—197; *La geografia linguistica*, str. 199—231; *La linguistica idealistica*, str. 199—231; *Le nuove metodologie dello studio lessicale*, str. 249—286, i *Problemi di linguistica storica*, str. 287—328. Djelo sadrži i 10 karata (za koje postoji popis) i brojne dijagrame (za koje popis nedostaje).

Autoru moramo priznati da je višestruko premašio cilj koji je sebi bio postavio: njegov priručnik koristit će ne samo talijanskim studentima nego i talijanskim i netalijanskim romanistima. Pored već spomenutih prikaza o velikanima romanistike iz 19. st. svi će strani romanisti biti zahvalni Vàrvaru za odjeljke posvećene djelovanju nekoliko velikih Talijana (kao što su Dante, F. Biondo, G. I. Ascoli, M. Bartoli, B. Croce i B. Terracini) na području struke; ti odjeljci ponekad prelaze u vrijedne male medaljone. Kako je autor po svom znanstvenom interesu u prvom redu hispanist, to su mnoga pitanja u vezi s iberoromanskim jezicima, osobito španjolskim, i podaci o hispanistima ovdje obilniji nego u većini priručnika ove vrste. Sva poglavlja nisu podjednako historiografska: peto koje govori o supstratu i deveto sadrže, s mnogo osjećaja za mjeru, i mišljenja lingvista koji u njih strogo kronološki ne bi spadali o pitanjima koja se tu razmatraju. Ističemo kao posebno zanimljive odjeljke o amerindijskom supstratu u Latinskoj Americi (str. 189—197) o tome što mora znati romanist koji proučava tzv. srednjovjekovne *scriptae* (tu su koncizno doneseni rezultati L. Remaclea i C. T.

Gossena, str. 305—316) i što mogu romanisti koji se sami ne bave proučavanjem toponima očekivati od rezultata toponomastike, osobito historijske (str. 316—328). Malo je Talijana koji kao Vàrvaro kritički gledaju na Bartolijeve arealne norme i koji tako moderno misle o etimologiji pa će i odgovarajuća poglavlja osobito osmo koje pretpostavlja znatan teoretski korak naprijed zanimati sve romaniste.

XI Congreso Internacional de Lingüística y Filología Románicas. Organizado por el Consejo Superior de Investigaciones Científicas. *Actas.* Publicadas por Antonio Quilis con la colaboración de Ramón B. Carril y Margarita Cantarero, I—IV, Madrid 1968, str. XVI — 2220.

Od 7 plenarnih predavanja i 162 referata koji su bili održani na XI međunarodnom kongresu romanista u Madridu od 1. do 9. IX 1965. tiskano je u ovim monumentalnim Aktima koji su nedavno (tek 1970, a ne 1968. god. kako na njima stoji) izašli njih 150. Nedostaje jedno predavanje (P. Aebischer, *Anthroponymie et linguistique)* i 18 referata. Dodajmo preliminarno da su tu objavljena samo tri referata sudionika iz SFRJ (autori su im: A. Grad, J. Kolonomos i M. Skubic, v. niže) dok su nam od referata N. Banaševića *(Pour une édition critique des »Notes sur la Servie«)* i B. Nasteva *(La place de l'aroumain dans la Romania balkanique)* poznati samo rezimei (tiskani u programu Kongresa, str. 89 i 134—135) a od onih V. Draškovića *La versification du »Pèlerinage de Charlemagne«)* i S. Škerlja *(Le classement de la matière syntaxique)* samo naslovi.

Kao što se i moglo očekivati s obzirom na veliki broj kongresista iz Španjolske, Portugala i Latinske Amerike (164 od svega 433 sudionika) i na mjesto održavanja Kongresa, najveći se broj tema (njih 55) tiče iberoromanskih jezika i književnosti a zatim francuskog i okcitanskog (29). Mnogo je manje pažnje bilo posvećeno italoromanskim jezicima (talijanski 8, furlanski 2) i rumunjskom (6). Ostatak se tiče opće lingvistike i filozofskih disciplina u vezi s jezikom (20), opće romanistike s vulgarnim latinskim (21 + 2) i komparativnih odnosno kontrastivnih studija u kojima se tretiraju obično po dva geografski udaljena romanska jezika (7). Prilozi su podijeljeni na 19 sekcija na osnovu problematike koja se proučava; sekcije 14.—19. (= IV sv.) i poneki prilozi iz ostalih sekcija (3 plenarna predavanja, tiskana u I sv., i skoro cijela 4. sekcija *La latinidad periférica en la época antigua y moderna)* tiču se isključivo Iberoromanije.

Zbog ograničena prostora osvrnut ćemo se samo na referate koji se bave značajnijim lingvističkim i filološkim pitanjima. Nećemo se, dakle, baviti prilozima koji se bave disciplinama pomoćnim za romaniste. Najprije ćemo se osvrnuti na radove općelingvističkog i romanističkog sadržaja a zatim na one koji se bave pojedinim romanskim jezicima, od rumunjskoga do portugiškoga. Paginacija se ne prekida pa nema potrebe da citiramo i sveske ako im znamo dimenzije: I (do 420. str.), II (1060), II (1710), IV (2220).

Pri citiranju zadnjom brojkom obuhvaćamo i priključene diskusije (ukoliko ih ima).

Od općelingvističkih priloga ističu se posebno plenarna predavanja K. Baldingera *(Problèmes fondamentaux de l'onomasiologie,* str. 175—213) i B. Migliorinija *(L'uditorio ideale del locutore e del coniatore di parole,* str. 117—130). Zadnji rad bio je u međuvremenu tiskan i u »LN«, XXVI, 1965, str. 101—108. B. Hála *(La palatalisation,* str. 1115—1123) daje dobar fonetski prikaz raznih vrsta palatalizacije u romanskim i neromanskim jezicima. A. de Vincenz ističe paralelizam nekih fonoloških i semantičkih kategorija razvijajući učenje E. Coseriua i drugih semantičara strukturalista *(Pour une typologie des structures sémantiques,* str. 693—702) a W. Rothe s pravom ustaje protiv shvaćanja da se jezici »kvare« udaljavajući se od flektivnog »savršenstva« te tu tobožnju dekadenciju proglašava mitom koji treba ukloniti iz lingvistike skupa s mnogim drugim albocentričkim predrasudama *(La décadence des langues: un mythe,* str. 365—375). Konačno, finski romanist J. Ahokas nastoji razgraničiti folklor, etnografiju i dijalektologiju ukazujući ujedno na mogućnosti interdisciplinarne suradnje na tom području *(Des rapports de la dialectologie et du folklore,* str. 1427—1437).

Od romanističkih priloga istakli bismo osobito plenarno predavanje I. Iordana koji, iako se ne smatra strukturalistom, žali da romanska lingvistika sporo usvaja suvremene metode i sve više gubi pravo na časni naslov *praeceptrix linguisticae (Problèmes généraux de la linguistique romane,* str. 103—116).

Žaliti je da *Versuch einer neuen Typologie der romanischen Sprachen* koji najavljuje E. Coseriu nije još objavljen jer rad tog istaknutog panromanista *(Sincronía, diacronía y tipología,* str. 269—283) predstavlja zaista nesvakidašnji prilog klasifikaciji romanskih jezika u eri generativno-transformacijske gramatike s kojom se autor ne slaže u potpunosti iako je sam prije Chomskoga došao do nekih postavki koje se obično njoj pripisuju. I J. Pohl sprema klasifikaciju po novim kriterijima *(Un cas notable de redondance: ordre, fonction, sémantique,* str. 661—667). Njom se bave i Rumunji D. Copceag *(Elementos para una tipología general de los idiomas románicos,* str. 255—268) i G. Ivanescu *La formation des langues romanes occidentales,* str. 303—310) dok Španjolac J. Mondéjar studira *La caracterización de las lenguas románicas,* str. 311—325, u namjeri da na moderan način impostira problem arhaizma kojim se bavi i B. Foster *(Le concept de l'archaïsme dans les langues romanes,* str. 1479—1487). Poljak S. Widlak zanima se za eufemizam *(Le fonctionnement de l'euphémisme et la théorie du champ linguistique: domaine roman,* str. 1031—1052) dok O. Ducháček analizira *Les problématiques de la théorie des champs linguistiques,* str. 285—297.

Distribucionalistički studira gramatičke morfeme u imenskoj grupi M. Manoliu *(Innovations dans la structure du groupe nominal roman. Relations obligatoires au niveau des séquences de morphèmes,* str. 1281—1296) dok J. Klare nastavlja, uz pomoć teoretskih postavki W. E. Bulla, polemiku B. Pottiera i H. Lüdtkea s IX romanističkog kongresa o *Aspects structuraux de la position de l'adjectif épithète en roman,* str. 1251—1262.

Specifičnosti rumunjskog suvremenog leksika ističe W. Bahner *(Le néologisme et le problème de la synonymie en roumain comparé à d'autres*

langues romanes, str. 637—647) dok W. Bal ukazuje na široko polje rada koje čeka romaniste na afričkom tlu *(Trabajos de filología románica y temas de investigaciones lingüísticas relacionados con el África negra*, str. 425—436).

L. Michelena utvrđuje, na osnovu najstarijih baskijskih romanizama, da je latinsko »s« bilo dorsalno (kao u talijanskom) a ne apikalno (kao španjolsko »s«) *(Lat. s:el testimonio vasco*, str. 437—489). U prapovijest romanske deklinacije imenica vode nas D. Gazdaru *(Privilegio del acusativo o sincretismo de los casos en español?*, str. 1769—1784) i R. Harris *(La structure des paradigmes en latin vulgaire*, str. 391—398). H. Lüdtke drži da su arabizirani Berberi, gros arapskih vojski na Pirenejskom poluotoku, odgovorni za aglutinaciju arapskog člana u posuđenicama što se dogodilo ne samo u španjolskom nego i u jezicima islamiziranih plemena od jezera Čad do Atlantika, zbog istog, berberskog posredništva a čega nema u Siciliji jer tamo nije bilo Berbera *(El beréber y la lingüística románica*, str. 467—472; usp. i kritičke primjedbe G. B. Pellegrinija). A. Niculescu prati na širokom planu različite romanske podsisteme učtive forme ličnih zamjenica *(Fenomeni di diversificazione e interferenza nell'espressione pronominale della cortesia*, str. 1327—1341) dok E. Tanase drži da je vokativ zapravo nominativ II lica imenica *(De la cuarta categoría morfológica del sustantivo: la persona*, str. 1395—1403). W. Mańczak razvio je i na tom Kongresu svoju poznatu teoriju o frekvenciji morfema kao načelnom uzročniku »nepravilnog« fonetskog razvoja *(Développement irrégulier dû à la fréquence d'emploi en français et en espagnol: données numériques*, str. 549—559). Th. Berchem geolingvistički studira razvoj i iradijaciju katalonskog i okcitanskog perifrastičnog perfekta *(Considérations sur le parfait périphrastique VADO + INFINITIF en catalan et gallo-roman*, str. 1159—1170). Konačno, M. Sandmann proučava neke probleme romanske paratakse koje nisu riješili G. Antoine, W.-D. Stempel, B. Pottier i M. Dessaintes *(Problemas de parataxis*, str. 1369—1381).

Jedan stari pravac istraživanja, više shvatljiv u doba kad je trebalo isticati romanstvo rumunjskog jezika nego danas, nastavljaju Rumunji iz SR Rumunjske A. Avram *(Parallèles phonétiques et phonologiques roumaino-portugaises*, str. 1067—1078), F. Sădeanu *(Parallèles espagnols-roumains dans la syntaxe du verbe*, str. 1865—1874) i O. Tudorică *(Algunas concordancias fraseológicas rumano-españolas*, str. 1903—1910) i emigranti V. Buescu, *Concordances arabo-turques en portugais et roumain*, str. 1171—1184) i E. Lozovan *(Latinité d'Afrique et de Dacie*, str. 457—466). Svi ti članci sadrže i dobre metodološke uvode i obilnu bibliografiju. S druge strane, G. Brun *El fonetismo español frente al francés*, str. 1717—1731) i J. Lago Alonso *(Consideraciones sobre el uso del indefinido y de la forma »SI« + potencial en español y en francés*, str. 1785—1789) studirali su te teme u kontrastivne svrhe.

Tri briljantna rada svjedoče o visokoj razini koju je postigla rumunjska lingvistika (I. Coteanu, *Prémisses pour la reconstruction du lexique proto-roumain*, str. 539—547; D. Macrea, *La terminologie scientifique et technique dans la langue roumaine contemporaine*, str. 715—726; i C. Maneca, *Considerazioni sopra la frequenza dei vocaboli nella lingua romena letteraria*, str.

561—595); svi se obilato služe tehnikom matematske lingvistike i kombinatorike. Značajni su i sintetski prikaz A. Rosettija *Sur le roumain commun*, str. 1139—1148, i na rumunjskom materijalu egzemplificiran *Sur la notion de »interdialecte«* B. Cazacua, jedan od rijetkih radova s područja standardologije u romanistici (str. 1457—1467).

Uz *Esquisse d'une phonologie générative de l'italien* R. J. Di Pietra (str. 1079—1090) u kome je upotrebljen stariji generativni model kojeg se autor kasnije odrekao ističu se, na području italijanistike, samo dva rada: Rumunjka A. Giurescu dolazi distribucionalističkom metodom do zaključka da su talijanske posvojne zamjenice zapravo posvojni pridjevi *(Y a-t-il un pronom possessif en italien?*, str. 1217—1224) a J. Palermo dodaje nove argumente u prilog teze o latinsko-romanskom kontinuitetu na Siciliji *(Le problème de la continuité du latin en Sicile*, str. 399—412). Radovi T. Franceschija i G. B. Pellegrinija o talijanskim dijalektološkim atlasima danas su prilično zastarjeli zbog kašnjenja u tiskanju tih Akata. Suradnici Lingvističkog atlasa Sredozemlja požalit će što G. Massignon čija se *L'ancienne barque de pêche en Corse*, str. 1549—1566, ovdje objavljuje, nije više na životu.

Izmedju brojnih francističkih radova (među kojima se nalazi i rad slovenskog romanista A. Grada, *Quelques remarques sur la syntaxe des pronoms personnels sujets en a. français*, str. 1225—1244) ističu se svježinom pogleda ovi prilozi: J. Warthelet-Willem *(Considérations sur le lexique des chansons de geste françaises*, str. 619—634) studira epske klišeje u onomasiološkoj perspektivi po metodi koju je inaugurirao na toj građi, ostavši skoro usamljen, H. E. Keller, u čuvenoj monografiji o vokabularu Wacea; H. Lewicka (ne znajući za u to doba tek obranjenu tezu Ch. Rohrera) na suvremen način analizira francusku tvorbu imenica za akciju *(Pour une histoire structurale de la formation des mots en français*, str. 649—659); A. Rey, u opsežnom radu *Structure et diachronie en sémantique lexicographique*, str. 669—691, sluti novine koje će generativna gramatika unijeti u leksik a H. G. Koll misli uspjeti gdje su E. Lerch i K. Vossler zakazali tražeći *Critères, méthodes et exemples pour l'étude des rapports entre langue et »pensée nationale« dans la Romania, notamment en français*, str. 921—950. Dok Al. Lorian dokumentirano prodire u jedno zanemareno područje *(Les latinismes de syntaxe en français*, str. 1263—1280) a G. Moignet studira s guillaumističkih pozicija povijest sistema lične zamjenice *(Pour une systématique historique: l'histoire du système du pronom personnel français*, str. 1315—1326), Rumunjka S. Reinheimer prati odnose dvaju francuskih sufiksa zadržavajući se najduže na suvremenoj sinkroniji *(Les suffixes -iser et -/i/fier en français*, str. 1361—1368) a Poljakinja U. Dambska-Prokop pronicljivo ulazi u *Problèmes syntaxiques dans le »nouveau roman«* (str. 1185—1195).

Sve će romaniste zanimati plenarno predavanje *Où en sont les études sur la langue catalane* (str. 45—101), u kome je A. M. Badia Margarit opisao mučnu sadašnjicu tog jezika koji se bori za svoja prava u javnom životu čemu je mnogo pripomogla njegova znanstvena afirmacija na međunarodnom nivou prigodom VII romanističkog kongresa u Barceloni. Ostala 4 ka-

talanistička priloga (od kojih neki zahvaćaju i gaskonjsko odnosno okcitansko područje) zanimat će samo specijaliste.

Španjolski je u središtu pažnje 2 plenarna predavanja (M. Alvar, *Estado actual de los atlas lingüísticos españoles*, str. 151—174; R. Lapesa, *Evolución sintáctica y forma lingüística interior en español*, str. 131—150) i 32 referata (od tih su 5 posvećena judeo-španjolskome:: među njima za nas su osobito važni radovi J. Kolonomos, *Observations sur les différences entre les parlers judéo-espagnols de Bitola (Monastir) et Skopje (Üskub)*, str. 2145—2149, i Rumunja M. Sale, *Elementos balcánicos en el judeo-español*, str. 2151—2160. Zanimljivo je da među bugarskim hispanizmima koji su svi došli u taj jezik preko drugih jezika ima veoma malo posuđenica iz židovskog španjolskog (usp. I. Petkanov, *Los elementos léxicos españoles en la lengua búlgara*, str. 2085—2096).

Od radova koji se tiču starošpanjolskog spomenut ćemo, uz rad slovenskog romanista M. Skubica *(Pretérito simple y compuesto en los primeros textos castellanos*, str. 1891—1901) samo dva rada: S. Sola P. de Roncal daje novo, uvjerljivo tumačenje za riječ *rades* kod G. de Bercea, pjesnika 13 st. *(Nueva interpetación de »rades« en Berceo*, str. 609—618) a J. Martínez Ruiz obradjuje novopronađene arhivske dokumente iz Granade (1565—1969. god.), važne za *Thesaurus nominum (Antroponimia morisca granadina en el siglo XVI y su interés para la onomástica hispánica*, str. 1935—1956).

Ostali se radovi bave većinom suvremenim španjolskim. Ističemo jedini rad pisan novijom generativnom metodom C. P. Otera *(El otro* »se«, str. 1841—1851). S. Mariner osvjetljava *El femenino de indeterminación*, str. 1297—1313, tj. morfeme *la, las* i sl. u idiomima tipa *por las buenas, me la pagaras* itd., dok L. Sáez Godoy istražuje kako se sve u španjolskom može izraziti ideja budućnosti *(Algunas observaciones sobre la expresión del futuro en español*, str. 1875—1890. A. Llorente Maldonado de Guevara autor je dvaju priloga: u prvom studira jedan prelazni govor *(Algunas características del habla de la Rioja Alta*, str. 1981—2003) a u drugom etimološki obrađuje *La toponimia árabe, mozárabe y morisca de la provincia de Salamanca*, str. 2005—2021. Za studij jezika u kontaktu zanimljiv je prilog V. Lamíquiza *(Galicismos del espanol parisiense*, str. 1927—1933) koji je obradio francuski utjecaj na govor 270.000 Španjolaca što žive u Parizu. Koje je opozicije evropski standard izgubio u regionalnoj varijanti glavnog grada Meksika saznajemo iz značajnog priloga J. M. Lope Blancha *(La reducción del paradigma verbal en el español de México*, str. 1791—1808). Nastoji odvojiti dvije strane komponente španjolskog leksika G. Colón u *Acerca de los préstamos occitanos y catalanes del español*, str. 1913—1925. Uz vrlo bogatu bibliografiju L. B. Kiddle svrstava u 4 glavne pojmovne grupe hispanizme koji su prodrli u stotinjak amerindijskih jezika od Kalifornije do Ognjene Zemlje *(Hispanismos en las lenguas indígenas de América*, str. 2069—2084). Filologe i lingviste će zanimati opsežna studija A. Porquerasa Maya o španjolskom pendantu francuskog i talijanskog idioma za neizrecivo *(Función de la fórmula »no sé qué« en textos literarios españoles (siglos XVIII—XX)*, str. 2161—2181, studija G. E. Sansonea o prodoru talijanskog jedanaesterca u španjolsku književnost

(F. Imperial e la penetrazione dell'endecasillabo italiano in Spagna, str. 1669—1701) i rad J. Arcea koji uspoređuje original Tassova *Aminte* i prijevod J. de Jáureguia *(Italiano y español en una traducción clásica: confrontación lingüística,* str. 801—816).

Od luzitanističkih radova ističemo samo tri: A. Tovar raspravlja o novouočenim supstratima *(La lengua lusitana y los sustratos hispánicos,* str. 491—497), S. Elia daje bogat opći uvod u *Diacronia e expressivismo fônico,* str. 1091—1104, a C. Micusan *(A propos d'une classification morphologique et sémantique des locutions adverbiales en portugais contemporain,* str. 1811—1822) daje uz temu odličan općelingvistički uvod, koristan i za nespecijaliste.

Manlio Cortelazzo, *L'influsso linguistico greco a Venezia,* »Linguistica«. Collezione di monografie originali o tradotte di linguistica generale, speciale ed applicata diretta da Carlo Tagliavini, 2, Bologna 1970, str. LXVIII—384.

Za razne talijanske »sjeverne« i »južne« grecizme postoji već priličan broj studija i sintetskih djela pa se čini skoro nevjerojatno da Venecija, nekad i sama istaknuti dio Bizantskog Carstva i njegova pomorskovojna i trgovačka baza, na važnoj liniji između isto tako bizantske enklave Grada i Ravenskog Egzarhata, nije dosada bila s te strane dolično obrađena. Tog se posla prihvatio poletni M. Cortelazzo kome već dosad dugujemo brojne veće i manje radove o leksičkim utjecajima grčke i druge istočnosredozemne provenijencije u talijanskome.

Autor je grecizme u mletačkome podijelio u dvije skupine: *grecismi attivi* (str. 1—257) su takve posuđenice koje su se u Veneciji upotrebljavale i često još uvijek upotrebljavaju u govoru dok su *grecismi passivi* (str. 259—338) takvi grecizmi koji se obično tiču grčkih realija a najčešće se nalaze samo u dokumentima venecijanskih trgovačkih i upravnih kancelarija na Levantu i u Grčkoj (Cipar, Kreta, Eubeja, Peloponez) pa je sva prilika da se u metropoli i nisu govorili. Nije obuhvatio općeromanske grecizme koji su došli preko vulgarnog latinskog a obuhvatio je arabizme (npr. *arsenàl,* kome je posvetio opširan članak, str. 28—33) i turcizme koji su u mletački došli *preko* grčkoga, što je — oboje — opravdano s gledišta suvremene lingvistike.

U opsežnom predgovoru (str. XI—LXVIII) autor se osvrnuo na dosadašnje studije o grčkoj jezičnoj ekspanziji koju, što se Venecije tiče, dijeli na 4 perioda da zatim upozori na neke konstante u distribuciji grecizama po semantičkim sferama i na neke zakonitosti u njihovu fonetskom izgledu. Dolazi do zaključka da se može s puno prava govoriti i o *oberitalienische Gräzität* ali da se taj ne iscrpljuje u leksičkoj iradijaciji iz Ravenne i iz Venecije. Sigurno je da grecizmi u nekim talijanskim dijalektima, smještenim u podnožju Alpi i daleko od mora, nisu tamo bili »parašitirani« pa ako im se ne može naći traga u srednjovjekovnim dokumentima spomenutih dvaju najjačih centralnih grecizama u tom dijelu Italije, onda treba rješavati slučaj po slučaj, s mnogo strpljivosti. Ne treba gubiti iz vida ni moguće dalmatsko

(a mi bismo dodali: i hrvatsko) posredništvo. Na dalmatsko je posredništvo u nekim slučajevima pomišljao P. Skok s kojim se autor ne slaže u konkretnim etimološkim rješenjima, usp. npr. *argola, arigola,* str. 24—26, koju Cortelazzo izvodi izravno iz grčkoga.

Što se termina *colomba* »kobilica lađe« tiče, Cortelazzo (str. 67—68) mu ne vidi porijeklo u dalm. **kolóuna* < *COLUMNA* već ga vezuje za grčki ho kólumbos. Ne prihvaća ni Vinjinu etimologiju za ihtionim *baràcola* koji izvodi (str. 37—38) iz druge grčke forme, tradicionalnog etimona za tu riječ (ho bátrahos). Za *condura* prihvaća, s bračnim parom H. i R. Kahane, (str. 71—72) da je došla preko nepoznatog dalmatskog refleksa grčke riječi he kontoûra, -ndoûra. Za *rassa* »vrst gruba vunena sukna« odbija svaku vezu s imenom stare Raške i izvodi je iz grčkog tà rása »stoffa rasata quae pilos non habet« (str. 200—201).

Za *togna* »udica« odbija tradicionalnu etimologiju koju je prihvaćao i P. Skok i predlaže novu (od tà tónia »macchine, arnesi da tirare«, str. 247). Suprotno Skoku, drži da je hrv. *tunja* venecianizam a ne grecizam.

Mogli bismo još nabrajati brojne novosti koje sadrži to vrijedno i izvanredno dokumentirano djelo, neophodno za sve koji se bave pitanjima romanstva, slavenstva i greciteta na Jadranu u srednjem vijeku i kasnije pa bi ga iz tih razloga morali nabaviti svi naši povijesni i lingvistički instituti.

Ž. Muljačić

Horace G. Lunt, »Attempt at a Generative Description of the Slovene Verb« [= Poskusen generativni opis slovenskega glagola]. Izšlo na straneh 133—87 dela: Rado L. Lenček, THE VERB PATTERN OF CONTEMPORARY STANDARD SLOVENE [= Zgradba glagolskih oblik v današnji knjižni slovenščini]. Bibliotheca slavica. Založil Otto Harrassowitz. Wiesbaden, 1966.

Slovenci se lahko pohvalimo s tem, da smo že v prvem desetletju po nastanku zdaj tako pomembne jezikoslovne smeri, imenovane TRANSFORMACIJSKA GENERATIVNA SLOVNICA, dobili prvo monografijo, pisano v duhu te šole: delo o fonologiji slovenskih glagolskih oblik, ki ga je spisal harvardski univerzitetni profesor Horace G. Lunt in ga posvetil znanemu jezikoslovcu Romanu Jakobsonu ob njegovi sedemdesetletnici. — Na to delo se bomo v pričujočem prispevku sklicevali z imenom *Poskus*.

Namen tega prikaza je predvsem olajšati branje *Poskusa*. Vse (maloštevilne) kritične opazke so izrečene z občejezikoslovnih stališč. Strokovno oceno — to vključuje prevero gradiva pa primerjavo z drugimi obdelavami in zgodovinsko razlago iste snovi — prepuščamo slovenistom.

1. Snov *Poskusa* sodi v t. i. FONOLOŠKO komponento generativne slovnice. To komponento pojmujejo kot avtomat (v kibernetičnem smislu tega izraza), ki se »hrani« s t. i. FONOLOŠKIMI ZAPISI stavkov. V avtomatu so v natančno določenem zaporedju nanizana FONOLOŠKA PRAVILA. Ta delujejo takole: prvo fonološko pravilo obdeluje fonološke zapise stavkov, drugo fonološko pravilo pa obdeluje zapise, ki jih dobi od prvega. Vobče velja: vsako fonološko pravilo P_n obdeluje zapise, ki jih dobiva od fonološkega pravila P_{n-1}. Zadnje fonološko pravilo avtomata daje iz rok to, kar avtomat »izloča«, namreč FONETIČNE ZAPISE stavkov v predpisani univerzalni fonetični transkripciji. Tako fonološka komponenta izpolnjuje svojo nalogo — podeljevati fonetično interpretacijo sintaktično in pomensko že interpretiranim stavkom.

Vsak fonološki zapis stavka je brez ostanka sestavljen iz fonoloških zapisov BESED. (Fonološki zapisi besed se v *Poskusu* imenujejo UNDERLYING FORMS.) V doslej priobčenih fonoloških komponentah slovnic se fonološka pravila delijo na taka, ki predelujejo zgolj besede ali dele besed, in na taka, ki predelujejo tudi/samo zapise, večje od besed in kajpak manjše od stavkov. V *Poskusu* je govor samo o prvi vrsti fonoloških pravil.

V ponazoritev naj kratko pokažemo, kako izdela fonološka komponenta fonetični zapis nedoločnika *kosíti* in deležniške oblike *kosíl* (*Poskus* str. 151). Pri izdelavi teh oblik sodelujejo predvsem pravila PC7 (PC = pocikličen, o

tem glej spodaj § 3), PC8 in PC10. Pravilo PC7 pretvori vsak /l/ in /v/ v /w/, in sicer na koncu besede in pred soglasnikom iste besede. Pravilo PC8 zbriše naglasna znamenja v besedi razen najbolj desnega. Pravilo PC10 pretvori preostalo naglasno znamenje v znamenje besednega naglasa. Torej:

fonološki zapis	k'os + 'i + ti	k'os + 'i + l
PC7	—	k'os + 'i + w
PC8	kos + 'i + ti	kos + 'i + w
PC10	kos + í + ti	kos + í + w

Zakaj je potrebno razločevati med fonološkimi in fonetičnimi zapisi? Na to mora kajpak odgovoriti jezikovna teorija, ne slovenska slovnica, zato vprašanje v *Poskusu* sploh ni obravnavano. Bralcu, ki ga zadeva zanima, priporočamo zlasti delo: N. Chomsky in M. Halle, SOUND PATTERN OF ENGLISH, založba Harper and Row, New York, 1968 (v nadaljnjem se sklicujemo na to knjigo z oznako *SPE*). Tu lahko podamo le kratko pojasnilo. V slovnici je treba pokazati, kaj je v jeziku pravilno in kaj ne. V jeziku je vse pravilno napovedljivo. To vrsto pravilnosti je mogoče formalno izraziti na nešteto načinov, eden teh je sedanja zgradba fonološke komponente v generativni slovnici: vse, kar je v fonologiji jezika nenapovedljivo, je izraženo v fonoloških zapisih in s prijemi za izjeme, pravila pa izražajo napovedljivo. Primer: zadnji glas slovenske oblike *grad* se izgovarja nezveneče (medbesedni sandhi zanemarjamo); pred sklonili — ta se pri *grad* začenjajo s samoglasniki — pa se isti glas izgovarja zveneče. Na fonetični ravni torej menjava [t] ~ [d]; še natančneje, zobniški zapornik je enkrat zveneč, drugič nezveneč. Razzvenitev je v tem primeru, ki je le eden mnogih, napovedljiva: vsak zobniški zapornik je namreč nezveneč pred odmorom ali nezvenečim soglasnikom iste besede, sicer je zveneč. Fonološka komponenta izrazi to takole: fonološki zapis imenovalnika/tožilnika *grad* se ne glasi /grat/, temveč /grad/ (razen v preglednicah izpeljav bomo nefonetične zapise stavljali med poševne oklepaje); med fonološkimi pravili pa eno spremeni oznako [+ zveneč] v [— zveneč] v že omenjenih okoljih.

Napovedljivost je nujna lastnost jezikovne pravilnosti — ni pa zadostna! V tem grmu tiči velik zajec, saj bi radi vedeli, kakšna je LINGVISTIČNO RELEVANTNA napovedljivost ali — bolj po domače — kako različni smejo biti fonološki zapisi od fonetičnih. To vprašanje je bilo resno zastavljeno šele v letih po izidu *Poskusa* in pravega odgovora še ni. Vsekakor je zdravo izhajati iz t. i. ZAHTEVE PO FONETIČNEM REALIZMU: fonološki zapisi naj bodo kar se da podobni fonetičnim. To nam na primer pri izbiranju med /kot/ in /kod/, tema mogočima fonološkima zapisoma veznika (ne samostalnika!) *kot*, olajša odločitev za /kot/. Žal pa je zahteva po fonetičnem realizmu za zdaj izražena tako splošno, da še ne more pomagati izbirati med resnično zanimivimi konkurenčnimi fonološkimi zapisi. Poglejmo naslednje. Koren glagola *molčáti* je v *Poskusu* fonološko zapisan /mlk/. Pustimo vprašanje, zakaj ne /ow/ namesto /l/, o čemer v *Poskusu* ni pojasnila. Zanima nas, zakaj /k/, ne /č/, saj se [č] izgovarja v vseh oblikah glagola *molčáti*. Fonem /k/ je vnešen v fonološki zapis /mlk/ zaradi besedotvornih

sorodnikov kot *mólk, umolkníti* ipd. Tu je vir težav. Nesporno je, da so člani besedne družine, v kateri je beseda X, lahko soudeleženi v izpeljavi izgovora besede X iz njenega fonološkega zapisa v tem smislu, da deluje eno ali več fonoloških pravil na en način, če ima beseda X take in take besedotvorne sorodnike (npr. zlasti tako in tako besedotvorno podstavo), in spet drugače, če beseda X nima takih sorodnikov.

Npr. angleški korenski samostalniki kot *effort* 'napor' imajo besedni naglas na prvem zlogu, na drugem zlogu pa ni naglasa in je zato samoglasnik tega zloga povsem oslabel: ['efət]. Če pa je ob taki besedi besedotvorna podstava z besednim naglasom na drugem zlogu, ima sicer samostalniška izpeljanka glavni besedni naglas na prvem zlogu, kot *effort*, drugi zlog pa ne oslabi, temveč ohrani »polni« samoglasnik podstave. Taka beseda je samostalnik *export* ['ekspo:t] 'izvoz' (ne ['ekspət]), katerega podstava je glagol *export* [iks'po:t] 'izvažati'. Glej *SPE* str. 36—38, 96.

Primeri, kot je pravkar navedeni angleški, pričajo, da je treba vključiti v fonološko teorijo tako ali drugače formalizirano naslednjo formulacijo: »Če obstaja besedotvorni sorodnik s takimi in takimi lastnostmi, stôri to in to, sicer ne.« Nikakor pa nimamo pravice do veliko ostrejše hipoteze, da lahko besedotvorni sorodniki besede X vplivajo na sestavo fonološkega zapisa besede X — da je torej dovoljeno v fonološkem zapisu glagola *molčáti* zaradi besed kot *mólk* zapisati /k/ namesto /č/. A prav to je bilo dovoljeno v času, ko je nastal *Poskus*, in tudi v času, ko je izšel *SPE*. Posledica je, da so nekateri fonološki zapisi v *Poskusu* dokaj odmaknjeni od fonetičnih danosti in da so fonološka pravila, ki jih je bilo treba poklicati na pomoč, da bi take fonološke zapise predelala v tém prirejene, empirično ustrezne zapise izgovarjave, vsaj z vidika dobesedno razumljenega fonetičnega realizma manj sprejemljiva. Pisec *Poskusa* je še smel upati, da bo v bližnji prihodnosti uspelo DOKAZATI, da je dovoljeno/treba besedotvorne sorodnike upoštevati tudi v fonoloških zapisih, mi pa, ki smo medtem doživeli izid knjige *SPE*, ki je vsa v znamenju takega pojmovanja in se obilno ukvarja tudi z jezikovno teorijo, o čem takem dvomimo, kajti v *SPE* ni zaželenega dokaza. Zato slej ko prej ostaja naloga, da je treba vsak odmik od izgovarjave v fonoloških zapisih utemeljiti brez sklicevanja ali tihega pristajanja na upoštevanje besedotvornih sorodnikov pri sestavljanju fonoloških zapisov. Pisec *Poskusa* se je problema jasno zavedal, saj pravi na str. 142, kjer omenja težave s fonološkimi zapisi korenov: »Nazadnje se bo mogoče pokazalo, da je najboljša rešitev vseh teh vprašanj v vrnitvi k tradicionalni ločitvi oblikoslovja od besedotvorja, vendar naj ponovim, da se mi zdi vredno raziskovati, kaj sledi iz poskusov, da bi ju združili.« Iz *Poskusa* vidimo, da sledi iz takega združevanja dokajšnja abstraktnost nekaterih fonoloških zapisov in nekaterih fonoloških pravil, ne vemo pa še, ali je tolika stopnja »nefonetičnosti« tudi NUJNA.

S pravkar povedanim je ozko povezan pojem supletivizma. Nesporno je, da supletivizma ni na primer v spregi glagola *kosíti*, da pa so supletivne tvorbe v spregi glagola *íti* (prim. *grém, šèl* itd.). Med tema skrajnostma je brez števila prehodnih primerov, za katere pogrešamo načelno merilo supletivnega. Primer: v spregi glagola *kláti, kóljem* opažamo na fonetični ravni

menjavanje *klá-* ~ *kól-*. Je to supletivno ali je treba izhajati iz enega fonološkega zapisa in formulirati fonološka pravila, ki iz edinega vira izdelajo *klá-* in *kól-*? Menjavanje opažamo tudi v spregi glagolov kot *kupováti, kupújem*: na fonetični ravni *-ová-* ~ *-új-*. Je to supletivno ali ne? Pisec *Poskusa* (str. 184) nastavlja pri *kláti* fonološka zapisa /kəl/ (ki preide s pripono /á/ v *klá-*) in /kol/. Ker v *Poskusu* ni pravila, ki bi izvajalo /kol/ iz /kəl/ ali narobe, štejemo tvorbi /kol/ in /kəl/ za supletivni in v tem duhu nadaljujemo razmišljanje. Pri *kupováti* izhaja *Poskus* (str. 162—63) iz enega fonološkega zapisa pripone, namreč /owa/; fonološka pravila predelajo /owa/ v *-új-*, če sledi sedanjiška pripona /e/:

fonološki zapis	owa + e
P4	owj + e
P5	uwj + e
P7eB	uj + e

Od uporabljenih pravil je P5 postulirano zgolj zaradi glagolov kot *kupováti*: v *Poskusu* je obravnavano samo v zvezi s temi in malo verjetno je, da potrebuje slovenska fonologija to pravilo zunaj glagolskih oblik. Vprašamo: zakaj se je pisec *Poskusa* pri brezpriponskem glagolu *kláti* odločil za supletivizem, pri glagolski priponi v *kupováti* pa za pravilno menjavo *-ová-* ~ *-új-*? Na to še ni odgovora — kot rečeno, ne v prvi vrsti po krivdi pisca *Poskusa*, temveč ker je tako stanje fonološke vede.

2. 1. Vsak fonološki zapis slovenskih glagolskih oblik vsebuje po *Poskusu* morebitno predpono (eno ali več), koren, glagolsko pripono (razen če je glagol brezpriponski), morebitno nesklepno obrazilo (sèm sodijo na primer sedanjiške in velelniška pripona) in končnico (med te gredo na primer sklonila in osebila). Splošni izraz za take dele oblik je MORF. Primer: fonološki zapis oblike *zavérovana* je /za — wér + 'ow'a + n + a/ (str. 162); zapis vsebuje pet morfov: /za/ je predpona, /wér/ je koren, /'ow'a/ je glagolska pripona, /n/ je nesklepno obrazilo trpnega deležnika, /a/ je končnica, /—/ in /+/ sta mejni znamenji.

2. 2. Segmentom morfov pravimo tu FONEMI, v *Poskusu* pa so to MORPHOPHONEMES. (Izrazi kot FONEM in FONOLOŠKI nimajo v naši rabi nič skupnega s klasičnim naukom o fonemih!) V *Poskusu* so našteti naslednji fonemi slovenskega knjižnega jezika: dolgi samoglasniki /i ę a ǫ u/, kratki samoglasniki /e ə o/, zvočniki /w j r l m n/ in nezvočniki /p t k b d g s š z ž c č f h/. Črke med poševnimi oklepaji so seveda le udobne okrajšave pravilnejših, a okornih zapisov v t. i. DISTINKTIVNIH OZNAKAH.

Glede razčlembe slovenskih glasov na distinktivne oznake beri: M. I. Lekomceva, TIPOLOGIJA STRUKTUR SLOGA V SLAVJANSKIH JAZYKAH, Moskva, 1968 (o slovenskem jeziku str. 99—117 s preglednico distinktivnih oznak na str. 106—107).

V seznamu fonemov *Poskusa* ni nekaterih glasov, ki so navedeni v delu J. Toporišič, SLOVENSKI KNJIŽNI JEZIK I, str. 121—22. Glede *ê* in *ô* glej § 2.3 tu spodaj. Glas *à* izvaja *Poskus* iz dolgega poudarjenega /a/ pred /w/

ali /j/ v zadnjem zlogu besede, npr. *končàl*; krajšanje opravi pravilo PC12a. Glede *i* se pisec *Poskusa* ni mogel odločiti, ali bi ga vključil v seznam fonemov ali s posebnim pravilom izvajal iz /ə/ pred /j/, npr. *bìl*; delno pa ga izdeluje pravilo A7. O *u* se v *Poskusu* ne govori. Ni jasno, kakšne odprtostne stopnje sta /j/ in /w/. Glasovi *dz, dž* in mehkonebni *n* niso obravnavani; *n'* in *l'* sta razčlenjena v /nj/ in /lj/. Oklevajoče omenja pisec *Poskusa* še fonem /kratki a/, glej str. 180.

Glas [v] nastane vedno iz /w/ pred samoglasnikom iste besede s pravilom P8. Da bi ne bilo treba *v* vključevati v seznam fonemov, se izhaja iz /w/ celo v primerih, pri katerih ne slišimo menjave [v] ~ [w], npr. *vídeti* iz /wíd + 'ẹ + ti/. V *Poskusu* je to utemeljeno takole (str. 141): »Idealna generativna slovnica si pomaga s kar se da malo fonemov.« Tolike varčnosti bi po mnenju pisca tega prikaza ne smeli nadrejati zahtevi po fonetičnem realizmu.

2. 3. V fonemskih zapisih nahajamo dve naglasni znamenji: znamenje NAGLAŠLJIVOSTI ', ki se piše pred samoglasniškim znamenjem, h kateremu sodi, in OSTRIVEC ', ki mu je mesto nad samoglasniškim znamenjem, kateremu je prirejen. V fonemskem zapisu je lahko več znamenj naglašljivosti in največ dva ostrivca, niso pa nujno vsa samoglasniška znamenja v fonološkem zapisu opremljena s kakim naglasnim znamenjem. Primer: /č'es + + á + ti/ *česáti*. Fonološka pravila *Poskusa* zagotavljajo, da je v zapisih izgovora glagolskih oblik samo po en besedni naglas.

Na uvedbo znamenja naglašljivosti v fonološko komponento slovenskega knjižnega jezika je pisca *Poskusa* navedla znana Jakobsonova misel, da je narava naglasnih razmer v slovenskih, srbohrvaških, ruskih itd. besedah načeloma taka kot na primer v japonščini: eden ali več začetnih zlogov v besedi se izgovarja z visokim tonom, vsi naslednji z nizkim; besedni naglas je napovedljiv iz razpodelitve teh tonov po besedi: uresniči se na najbolj desnem zlogu z visokim tonom. Razpodelitev visokih in nizkih tonov pa je odvisna od tega, kateri morfi so v besedi: nekateri morfi se vedno izgovarjajo z visokim tonom, drugi z nizkim, tretji zdaj eno zdaj drugo; v *Poskusu* so prvi zapisani z znamenjem naglašljivosti, drugi niso, tretji pa včasih so, včasih niso. Morf/zlog z znamenjem naglašljivosti se imenuje NAGLAŠLJIV. V *Poskusu* se štejejo za naglašljive vsi morfi, ki niso nenaglašljivi. Nenaglašljivi morfi glagolskih oblik pa so (str. 146—47): vse predpone in vse končnice razen /é/ deležnika na *-é*; od nesklepnih obrazil sta nenaglašljivi sedanjiška pripona /e/ in obrazilo trpnega deležnika /en/. Za primer vzemimo fonološki zapis /k'os + 'i + ti/ *kositi* (tu /ti/ kot nedoločniška končnica ni naglašljiv) in poglejmo, kako izdelajo fonološka pravila besedni naglas te oblike. Pravilo PC8 zbriše vsa naglasna znamenja v besedi razen najbolj desnega; tako dobimo /kos + 'i + ti/. Nato spremeni pravilo PC10 preostali ' v znamenje besednega naglasa: /kos + í + ti/. Tako je glede naglasa že dosežen zaželeni fonetični izid.

Pravkar povedano kajpak še ni vsa resnica o besednem naglasu slovenskega knjižnega jezika. Nekateri morfi glagolskih oblik namreč za sabo ne

dovoljujejo visokih tonov. Taki morfi so na primer nekateri glagolski koreni. V *Poskusu* so označeni z ostrivcem na svojem samoglasniku, npr. /kǫ́s + 'i + ti/ *kósiti*. (Ta ostrivec ni isti kot ostrivec, ki označuje v večini fonetičnih zapisov mesto besednega naglasa!) Naglasno pravilo A2 zbriše v takih primerih vsa naglasna znamenja v besedi desno od najbolj levega ostrivca, tako da dobimo /kǫ́s + i + ti/, kar je že pravi fonetični izid, kar zadeva besedni naglas. (Seveda mora A2 delovati pred pravilom PC8, kajti le-to bi sicer zbrisalo ostrivec! Pred A2 pa deluje A1, ki prepreči, da A2 ne bi zbrisal ostrivca na končnici /ę́/ in na obrazilu /ęč ~ ǫč/ deležnikov sedanjega časa.)

Včasih tudi nekatere glagolske pripone ne dovoljujejo za sabo visokih tonov. V takih primerih so v *Poskusu* označene z ostrivcem nad samoglasnikom. Primer: v fonološkem zapisu osnove ijevskega glagola *kósiti* na glagolski priponi ni zapisan ostrivec (/kǫ́s + 'i/), v fonološkem zapisu osnove prav tako ijevskega glagola *nosíti* pa je (/n'os + í/). Le delno se da napovedati, kdaj smejo kaki glagolski priponi slediti visoki toni in kdaj ne: na primer če je koren glagola označen z ostrivcem, glagolska pripona gotovo ni, in narobe; glagolski priponi /ę/ in /owa/ ne omejujeta visokega tona; če je v fonološkem zapisu glagolska pripona /nǫ/, je nujno ostrivec na njej ali na korenu — itd.

Nadaljnji zapletljaji so v zvezi z odprtostjo in dolžino poudarjenih *e* in *o*. Če je v fonološkem zapisu nastavljen dolg samoglasnik, /ę/ ali /ǫ/, je ta pod fonetičnim poudarkom dolg in ozek, npr. *kósiti* iz /kǫ́s + 'i + ti/. Če je v fonološkem zapisu vpisan kratek samoglasnik, /e/ ali /o/, je ta pod fonetičnim poudarkom širok, glede dolžine pa velja: v zadnjem zlogu besede ostane glas kratek, v drugih zlogih se podaljša; npr. fonološki zapis trpnega deležnika /k'os + 'i + 'en/ konča na fonetični ravni kot *košèn*, ustrezna oblika ženskega spola /k'os + 'i + 'en + a/ pa se izide v *košêna*, za kar poskrbi pravilo PC11b.

A tudi fonološko kratki samoglasniki so v izreki včasih ozki. Znani taki primeri so 1) nekatere oblike glagolov premičnega naglasnega tipa: *nósi, nóšen* (*:nôsil* — oblike, dodane v oklepaju, kažejo običajnejši izgovor fonološko kratkega samoglasnika), *kréne, okrénjen* (*:krênil*), *čéše* (*:česal*); 2) deležniki na *-l* ijevskih oksitonskih glagolov s predpono, kadar je *l* zadnji segment v besedi: *pokósil* (*:pokôsi*); 3) deležniki na *-l* nekaterih brezpriponskih oksitonskih glagolov, kadar je *l* zadnji segment v besedi: *védel* (*:vêde*), *rékel* (*:rêče*). — To stanje se doseže s pravili A3, A4, A5a in PC9. Prva tri pravila podelijo kratkim samoglasnikom, ki naj bi bili v izreki zaprti, naglasno znamenje ", pravilo PC9 podaljšuje in oži /e o ə/ v /ę ǫ a/, če so ti samoglasniki označeni z znamenjem ". (V formulaciji pravila PC9 na str. 149 *Poskusa* bi pred neenačajem pod *e* in *o* ne smelo biti pik!) Tako je zagotovljen zaželeni fonetični izid. Znamenje " se s pravilom PC10 spremeni v znamenje besednega naglasa.

Dokaj neprisiljeno je v *Poskusu* poskrbljeno za naglasne premene kot *nosíti* proti *nósim*, in sicer izhajaje iz fonoloških zapisov, v katerih ni naglasnih menjav:

fonološki zapis	n'os + í + ti	n'os + í + 'i + m
A2	—	n'os + í + i + m
P11	—	n'os + i + m
A4	—	n''os + i + m
PC8	nos + í + ti	—
PC9	—	n''o̩s + i + m
PC10	nos + í + ti	nó̩s + i + m
	nositi	*nósim*

(Vsa pravila, uporabljena v teh izpeljavah, so opisana drugod v pričujočem prikazu.) Bistvena je v tej zvezi zgradba sedanjiške osnove; iz podatkov v § 2.1 zgoraj sledi, da je le-ta enaka glagolski, PODALJŠANI za sedanjiško pripono. V izpeljavi oblike *nósim* zbriše sedanjiška pripona glagolsko in njen ostrivec s pravilom P11 in tako zagotovi besedni naglas na edinem preostalem naglašljivem samoglasniku, namreč na korenskem.

3. Končno naj spregovorimo še o velelnikih. Ti so najbolj zapletene glagolske oblike slovenskega knjižnega jezika — sodeč po pripomočkih, ki jih ima *Poskus* posebej zanje.

Vsak fonološki zapis velelnika se začenja s sedanjiško osnovo, obdano z okroglimi oklepaji, sledi velelniška pripona /í/ (vedno z ostrivcem) in — zunaj ednine — končnica, npr. /te/. Primer: /(k'up + 'ow'a + e) + í/ *kupúj*, /(k'up + 'ow'a + e) + í + te/ *kupújte* (str. 163). Okrogli oklepaji naznanjajo, da se uporabljajo v izpeljavi teh besed nekatera fonološka pravila — namreč CIKLIČNA — po krogih. Ciklična so v *Poskusu* nenaglasna pravila P1 do P14 in naglasna pravila A1 do A7. (Pravila, ki so na vrsti za cikličnimi, so POCIKLIČNA; v *Poskusu* so taka pravila PC1 do PC15.) Ciklična pravila delujejo takole: naj bo

$$\underset{2}{V}(\underset{1}{W}(\underset{1}{X})\underset{2}{Y})Z$$

kjer so V, W, X, Y in Z morfi (po eden ali več), fonološki zapis neke besede. Številke pod oklepaji smo dodali tu za pomoč pri razlagi; oklepaji z enakimi številkami gredo skupaj. Kadar opisujemo sestav besed, kot je zgornja, pravimo, da je oklenjeno VLOŽENO v oklepajoče.

Ciklična pravila obdelajo najprej samo najgloblje vloženi del X. Ko je ta prvi krog mimo, se po dogovoru oklepaja štev. 1 samodejno zbrišeta. Tako postane WXY najgloblje vloženi del besede. Vsa ciklična pravila delujejo zdaj na WXY in tako opravijo drugi krog. Nato se zbrišeta oklepaja štev. 2. Ta postopek bi se ponavljal, dokler bi bilo kaj vloženih delov. Ker je v našem primeru vloženih delov že zmanjkalo, obdelajo ciklična pravila samo še celo besedo VWXYZ, kar se šteje za tretji krog. (Zatem nastopijo pociklična pravila, ki delujejo seveda neciklično, na celo besedo.)

Žal je tolika moč modela izkoriščena le pri izdelovanju velelnikov, in še tu le delno: ni fonološkega zapisa, pri obdelovanju katerega bi morala ciklična fonološka pravila ubrati več ko dva kroga; resnične uporabe pravil v OBEH krogih iste izpeljave je sorazmerno malo — pisec *Poskusa* sam ugo-

tavlja, da je na primer med naglasnimi pravili táko le pravilo A2 (str. 154). Zelo malo je t. i. ODLOČILNIH primerov. Odločilni so v tej zvezi fonološki zapisi, iz katerih fonološka komponenta ne izdela zaželenih zapisov izgovora, če v teh fonoloških zapisih izpustimo oklepaje, in torej pravila uporabimo neciklično, ostalo pa pustimo nespremenjeno. V tem smislu so odločilni samo množinski velelniki kot *nosíte, krenîte* (zgolj ta naglasni tip samo teh dveh glagolskih vrst), edninski kot *nôsi* in *krêni* pa le, če se naglasno pravilo A6 razume tako, da mora biti med razveljavljanjem naglasnega znamenja " velelniška pripona še vedno zaznamovana z ostrivcem. Vendar je mogoče tudi odločilne primere »ozdraviti« z določbo, da se pri izdelovanju teh oblik izjemoma preskoči naglasno pravilo A2. (Ne da se pa te določbe razširiti na VSE velelnike!) Taka rešitev je v skladu s formalnimi prijemi, ki so sicer uporabljeni v *Poskusu.*

V ponazoritev navajamo izpeljavi velelnikov *nosíte* in *krenîte* iz fonoloških zapisov *Poskusa* (str. 152, 158), vendar brez oklepajev in s skokom čez pravilo A2, ki briše naglasna znamenja desno od prvega ostrivca v besedi. Pravilo P11 briše samoglasnik pred samoglasnikom iste besede; v naših izpeljavah deluje dvakrat zapored, kar fonološka teorija dovoljuje in kar še ni simptom cikličnosti. Naglasno pravilo A4 podeljuje naglasno znamenje " samoglasnikom v morfih, za katerimi sta zaradi kakega prejšnjega pravila (npr. P11) zginila ostrivec in samoglasnik prvega sosednega morfa v isti besedi. Pravilo A6 razveljavlja delovanje pravila A4 v velelnikih, tj. vzpostavlja v zapisih stanje, ki je bilo pred delovanjem pravila A4. Posebej bodi opozorjeno, da mora pravilo A2 delovati pred pravilom P11, ne mogoče obratno; glej izpeljavo oblike *nósi* na str. 152 *Poskusa.*

fonološki zapis	n'os + í + 'i + í + te	kr'e + nǫ́ + e + í + te
A2	—	—
P11	n'os + í + te	kr'e + n + í + te
A4	n"os + í + te	kr"e + n + í + te
A6	nos + í + te	kre + n + í + te
	nosíte	*krenîte*

Uporaba pravil po krogih je torej odveč. Ta izid je bil zaželen. Vnaprej bi namreč pričakovali, da določajo moč fonološke komponente razmere v osrednjih oblikah glagolskega in drugih morfoloških sestavov, razmere pri obrobnih oblikah, kot je velelnik, pa da delno sledijo iz pravil, nastavljenih zaradi razmer v osrednjih oblikah, delno pa da so pač, če so zapletene, izjemne, torej izražene s prijemi za izjeme. To »naravno« stanje je z odpravo krogov iz fonološke komponente *Poskusa* doseženo. Moti zdaj samo še to, da sta kar dve od sedmih naglasnih pravil — A6 in A7 — vpeljani zgolj zaradi velelnikov. Bolje bi bilo, ko bi *Poskus* iste zadeve urejal na ravni fonoloških zapisov (že v fonoloških zapisih bi se lahko zapisalo, da je velelniška pripona edninskih velelnikov nenaglašljiva in kratka) in s prijemi za izjeme (naglasni pravili A3 in A4 naj bi ne delovali v velelnikih). Isti prijemi za izjeme lahko poskrbijo tudi za morebitne izjeme izjem. S temi spremembami bi zadeve, o katerih je govor, prešle s področja napovedljivega v svet nenapo-

vedljivega/nemotiviranega, kar bi odražalo dejansko stanje v tisti izreki slovenskega knjižnega jezika, ki pozna le nemuzikalen naglas — in prav to izreko *Poskus* opisuje. — Ne vemo pa, kaj storiti po razveljavitvi pravil A6 in A7 z velelniki kot *čákaj*, za katere v sedanji verziji fonološke komponente skrbi A7, in ne razumemo sklepne opazke o *čákaj* na str. 168, kjer beremo, da izvede prenos naglasa v tem velelniku pravilo A7 z mehanizmom, ki je že tako potreben za nekatere druge — ni povedano, za katere — primere.

Seveda pa navzlic odpravi krogov iz izpeljav velelnikov še ni dokazano, da v fonološki komponenti slovenskega knjižnega jezika ni krogov. Mogoče so potrebni zaradi razmer v besedotvorju ali pa jih terja izreka z muzikalnim naglasom (o kateri zdaj uvodno z generativnega stališča M. Halle, »Remarks on Slavic Accentology«, *Linguistic Inquiry* II, 1971). To bodo — upajmo — pokazale prihodnje raziskave.

4. Pisec *Poskusa* je vložil v sestavljanje fonoloških zapisov in pravil velik ustvarjalni napor. Prikazal je več ko dvesto primerov in na videz nepregledno gradivo je uredil tako, da učinkuje dostopno. Tako je izdelal odskočno desko za nadaljnje delo — tudi na naslednji višji kakovostni stopnji, ki bi bila v tem, da bi z raziskavami generativne fonologije slovenskega jezika, knjižnega in narečij, prispevali novo v teorijo naravnih jezikov.

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