

explicit. I am not sure that I agree with the comment that uncertainty negates rationality in decision making; indeed, the introduction of risk makes rational behaviour that the classical model would call irrational. Certainly, too, the introduction of risk brings the model closer to reality, but not at the expense of denying that such an introduction can be handled theoretically. The recent plethora of theoretical analyses of risk in the economics literature bears evidence to this.

In conclusion, I think that the model still stands and is enhanced by the suggestions of Prattis and Legros. Much of the remaining criticism stems from misunderstanding or misinterpretation by the respondents, for which I accept responsibility. I hope my reply clarifies some of the issues involved.

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Are the Sumerians and the Hungarians or the Uralic Peoples Related?

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The camp of the partisans of the Sumerian ideology has been growing for some years. Even CA has given publicity to the advocates of Hungarian-Sumerian affinity, publishing Zakár's (1971) views and some ad hoc comments on them. This discussion has aroused lively interest, as may be seen in subsequent exchanges (CA 14:493, CA 15:326, 357, etc.). The time has come, therefore, to discuss the topic in depth.

THE ORIGINAL ABODE OF THE FINNO-UGRIC AND URALIC PEOPLES

The original abode (*Urheimat*) of the Finno-Ugric peoples is generally believed to have been west of the Urals, near the Volga Bend, in the region of the rivers Belaya, Kama, and Chusovaya. The breakdown of their linguistic unity may have started by 2500 B.C. Uralic unity is held to be 1,000 years older and to have covered a larger part of the same region.

The Ob-Ugrians (Voguls, Ostyaks, and Hungarians) may have lived together on the European slopes of the Urals till the 10th century B.C. Then the Hungarian tribes separated from the others and began their wanderings south-southwestwards. The immense distance between the Hungarian and the other Ob-Ugrian peoples helps to explain the great linguistic, ethnic, cultural, and other differences between them.

From the 5th century B.C. to the end of the 9th century A.D., the Hungarian tribes lived in what is now South Russia, at first in the region of the Kuban, in the northern Caucasus, where they

came into contact with Iranian peoples. At the beginning of the 9th century, they moved to the area of the Lower Don and Lower Dnieper, under pressure of their eastern neighbors, and became part of the confederation of Turkic tribes called the On-Ogur ("Ten Arrows") alliance (hence the name "Hungarians," from the Slavic *ogŭr-*; their own name for themselves is Magyar, phonetically *mɔfɔr*). In that epoch the Hungarians were subjugated by a Turkic upper stratum which was initially bilingual (the surrounding Turkic peoples were socially more organized and had animal husbandry and seminomadic agriculture), but by the end of the migration had been entirely Hungarianized (as the Turkic Bulgars became Slavs). After the dissolution of the On-Ogur federation in the 7th century, the Hungarians became vassals of the mighty Turkic Khazars. By the middle of the 9th century they had freed themselves from Khazar rule. A federation of seven Hungarian tribes and a Khazar tribe, the Kabars or Kavars, moved westward again, impelled by their eastern neighbors, the Pechenegs.

Medieval Latin, Byzantine, and Arab-Persian sources record Hungarian history since the 5th century A.D.; the more remote history of the Hungarians must be largely inferred by linguistic conjecture, and any such inferences can be contested even if the linguistic affinity itself is considered reliable. Anthropological arguments are not always in harmony with the linguistic ones, but they cannot be considered any more valid. I must emphasize, however, that no more trustworthy data exist with regard to the original location of other peoples, for example, the Indo-European, the Altaic, and the Bantu peoples, and in all these cases linguistic inferences furnish the main arguments for the dominant hypothesis. As for the Finno-Ugric people, the finds of the Ananino culture do corroborate the picture sketched by the data of the common linguistic stock and display a hunting-fishing population of the Bronze Age and the beginning of the Iron Age, but they date to about the middle of the 1st millennium B.C. (8th–3d century), i.e., later than the hypothetical period of Finno-Ugric unity. The excavations may, however, represent later Finno-Ugric, chiefly Permian, peoples. Physically the Ananino population was mixed (Mongoloid and Europid), and there was active cultural contact with Caucasia and with western Siberia (cf. Zbruyev 1952).

The linguistic evidence is based on so-called linguistic palaeontology, which evaluates the plant and animal names common to all or most of the languages concerned, trying to locate the geographical origin of the group in terms of the distribution of these plants and animals. The surviving names indicate that the corresponding notions were known to the group before separation. This method was developed by A. Pictet and V. Hehn and applied by O. Donner and F. Th. Köppen in Finno-Ugric studies at the end of the 19th century. The number of common plant names (though not all occur in every language of the family) is around 70 and that of common animal names 170 (cf. Collinder 1955:202–3). From these, later scholars (I. Sebestyén, P. Hajdú) were able to define the territory precisely. The occurrence of the words "bee" (Hungarian *méh*, Finnish *mehiläinen* [where *-läinen* is a diminutive suffix], Mordvin *mekš*, Proto-Finno-Ugric **mekse*) and "honey" (Hungarian *méz*, Finnish *mesi*, Votyak *mesi*, Proto-Finno-Ugric **mete*) indicate that the eastern boundary of the Finno-Ugric group was the Urals, since the bee did not spread to Siberia before the middle of the 18th century.

The views and results of Finno-Ugric and Uralic linguistics are summarized by Collinder (1955, 1957, 1965) and Décsy (1965). On the problem of the original abode, the papers of Hajdú, Rohan-Csermak, and Sinor in vol. 41 of *Ural-Altäische Jahrbücher* (1969) are of interest. The important books and papers in Hungarian, Finnish, and Russian are omitted here for lack of sufficient room.

In the comparison of language families without written records, such as Proto-Uralic or Proto-Indo-European, the question arises whether similar forms may be attributed to genetic relationship or to borrowing (disregarding other cases of phonetic and semantic parallelism such as chance convergence or sound symbolism). If the similar forms are not numerous—as in the case of Sumerian and Proto-Uralic—the second possibility is more probable. In the case of Primitive "Indo-Uralic," a relatively great quantity of similar items was found; dozens of lexical and some grammatical morphemes (pronouns, nominal suffixes, verb endings) were compared by Collinder (1934), but no regular correspondences (i.e., sound laws) could be stated. Collinder himself was sceptical of conjecturing a genetic relationship. Whereas some items may be borrowed from Proto-Indo-European and some from the so-called Satem group, mostly from Indo-Iranian, it is very likely that most similar morphemes are so by mere chance. This seems especially the case with short grammatical endings like plural *-i*. As I have pointed out (Fodor 1966:68, 141), this form occurs, among others, in many Central Sudanic, Nubian, and Nilotic languages, but we may not infer from this any genetic relationship.

Finno-Ugric and Uralic have also been compared with other language families—with Altaic (Turkic, Mongolian, Manchu, etc.) as early as by R. Rask and with Yukaghir and other Siberian languages (Kamchadal, Gilyak, Chukchee, etc.)—but with no more success than in the comparison with Proto-Indo-European. A Ural-Altaic family is advocated by many experts but contested by almost as many others (cf. Poppe 1965). As for the location of the primitive Uralic and Indo-European tribes during their remote neighborhood (whether their similarities originated from contact or affinity), it seems probable that the Uralic peoples were situated north of the Indo-European. On the original abode of the Altaic languages, there are no firmly based hypotheses. Possible relationships of Uralic with Semito-Hamitic, Munda (India), Bantu, and many East Asian languages have also been investigated. These endeavors are reviewed in the volume of *Ural-Altäische Jahrbücher* cited above by Aalto, Décsy, Wickman, and Veenker. The Sumerian question is discussed by von Bogyay.

Dolgopolsky (1964) tried to apply the principles of mathematical probability to the problem of genetic connexions among protolanguages. He saw the possibility of a common origin for many language families from Europe to Asia that cannot yet be demonstrated by means of the comparative method for lack of sound laws. Milewski (1960) included many Asian and Amerindian languages in his comparisons. Dolgopolsky started from the frequency of phonetic and semantic changes and concluded that 15 morphemes could be considered cognates (sad to say, the negative particle *-n-* and other questionable items figure in his list). His main error was in considering the probability of certain sound changes as valid for all items compared. Regular sound changes are individual cases determined by situation, language, and time interval. Though we can speak of the most frequent sound and semantic changes as linguistic universals (cf. Greenberg 1963, especially the papers of von Koenigswald, Ferguson, Cowgill, and Ullmann), this does not mean that a probable change necessarily takes place in every case. In any event, no statistical probability can be calculated where the number of cases is as small as in the typical sound and semantic changes gathered by Dolgopolsky.

Hypotheses concerning the remote relationship of language families can neither be proved nor refuted in the present state of our knowledge. The topic is merely a question of belief, and it goes back to the theoretical discussion on the origin of human languages. Until the 19th century, the monogenetic principle dominated, under the authority of the Bible. In the positivism of the 19th century, the general view of scientists changed to

polygenesis, but monogenesis was never without partisans (Trombetti 1905) and is today arising anew. Though neither view can be demonstrated or disproved, I am of the opinion that a single origin of human speech does not exclude the possibility that hordes of hominids loosely connected with each other came to use different forms of a primitive speech system, with the result that not all protolanguages can be traced back to a single common language of mankind. Anthropological monogenesis does not necessarily involve linguistic monogenesis.

THE SUMERIAN QUESTION

This puzzling language, extinct since the 2d millennium B.C., has so far resisted all genetic comparison (including comparison with Indo-European, Caucasian, Basque, Turkic, Tibetan, and Malayo-Polynesian). The difficulties of reliable research are methodological: for the comparison of Sumerian with another linguistic family, profound knowledge, not only of the languages in question, but also of the scientific literature and the methods of comparative linguistics, is indispensable. One cannot do without a thorough command of the very difficult and problematic cuneiform writing (on the interpretation of the Akkadian cuneiform script, see Reiner 1970). Precisely this knowledge has been lacking up to now in the students of this problem. No partisan of the Hungarian-Sumerian hypothesis is an expert in Hungarian or Uralic linguistics, none of them can read the Sumerian texts, no one is able critically to select the word material to be compared. All use the data of one or another Sumerian handbook (Poebel 1923, Gadd 1924, Deimel 1937, Falkenstein 1949-50, etc.), often without indicating their sources. They apply their "method" to a language of which the writing system offers manifold reading variants (e.g., the clusters *du*, *tum*, *gub*, *gin*, *ra* are written with the same symbol); in which the phonetic shape of many phonemes is uncertain (the vowels, the fluctuation of *ng* ~ *k* ~ *g* in certain positions); in which elisions, insertions, and changes very frequently occur; of which different records (dialects) often display different lexical forms (*nirgal* ~ *širmal* 'chief'); and, last but not least, for which transcription and interpretation do not always agree from one handbook to another. Briefly, they are laymen venturing to pronounce on this scientific topic for the simple reason that Hungarian is their mother tongue (cf. Civil's comments on Zakár's article, CA 13:215).

Only Varga (1942), a Hungarian Sumerologist, has discussed the problem on a scientific level, comparing Sumerian not directly with Hungarian, however, but with the Uralic languages and with Altaic data. In this regard, Varga's rather voluminous inquiry can be considered a good basis for further research. I have to emphasize, however, that these comparisons are on the same level as others on the genetic relationships between two hypothetical primitive languages (e.g., Collinder 1934). Regrettably, Varga's work was published in Hungarian, so his results have not become known to Sumerian experts and have not been evaluated and criticized in detail.

More recently, Papp (1970) has summarized the discussion (again only in Hungarian), analyzing in detail the main theses of Bobula (1951, 1966), Padányi (1963), Nagy (1968), Baráth (1968), and others, some of them unpublished. These writings deal not only with the linguistic affinity of Hungarian with Sumerian, but also with the historical contacts of these peoples and their hypothetical common origin. According to these views, Hungarians were a Sumerian tribe which migrated after the fall of the Sumerian empire, first northwards and then westwards, reaching their present homeland by the 9th century. We have seen how great a gap—3,000 years—exists between the hypothetical coexistence of the primitive Finno-Ugric peoples

before 2500 B.C. and the first documented evidence of the Hungarians in the 5th century A.D. and how large a territory is identified as the original abode of the Finno-Ugric peoples. Within such broad limits, with a little imagination every inspiration displays the semblance of reality, provided no other data are opposed. The argumentation of the Sumerian theory is founded, however, on the supposed linguistic affinity.

Except for those of Varga and Zakár, none of these papers compares Sumerian with the Uralic languages, and all vigorously deny the affinity of Hungarian with the other Finno-Ugric idioms.

Bobula (1951, 1966) is the most pretentious partisan of the Sumerian theory (but see the severe censure of Lotz [1952] concerning the earlier of these papers). Her method is more acceptable in that she deals mostly with Hungarian items of unknown or doubtful origin. She does not deny that several of the Hungarian words she compares with Sumerian have unquestionable Slavic etymons, but she argues (1951:33, 61) for their common Sumerian origin in the last analysis. Regrettably, Bobula does not understand the essence of the sound laws. Instead, she lists the similar forms and the surmised phonemic correspondences, indicating the frequency of occurrence; then, having summarized all her tables, she finds that every five or six Hungarian sounds (letters, properly speaking) correspond to every five or six Sumerian sounds, and vice versa; e.g., Sumerian *d* may remain unchanged in Hungarian or may change into *t* or *f* (spelled as *gy*) or *c* (*ty*) or *ts* (*c*) or *z* or *s* or *ʃ* (*s*), according to her. Nor does she take into consideration that Hungarian has a written history going back at least to the 13th century.

As far as Zakár's (1971) short report and longer comments are concerned, his view is identical with that of Varga, though he does not analyze this volume. In another paper, Zakár (1972) lists his word material, but this comparison does not meet the elementary requirements of the linguistic method; nor does it reach the level of Bobula's comparisons. I cannot descend here to the particulars of this list, but I would comment on the comparisons of "head" in the earlier article. The *j* phoneme of Hungarian *fej* 'head' is not a replacement of an earlier *-d-* dropped between two vowels, as in Finnish *pää* from *pädä*, as stated by Zakár (1971:223), quoting others. Finnish *pää* originated not in **pädä*, but in **päjä*. Hungarian *fej* changed by analogy with forms with possessive suffixes (*feje* 'his head'); the original form was *fő*, as it has remained in the poetic style and in the everyday meaning 'chief'. Zakár's "sound laws" are simply allusions to similar changes in the languages concerned.

As far as Zakár's general methodological observations are concerned, my earlier argumentation holds true. Beyond this, it is not clear what Zakár intends to prove with his figures referring to glottochronology, since they are not the result of lexicostatistic or glottochronological computations, but merely of a numerical summing up of his similar items. Moreover, glottochronology is not suited to the search for genetic relationships; it would be a cause of "filius ante patrem." Glottochronology is a very controversial method (cf. Swadesh 1950, 1952, 1955, Lees 1953, Gudschinsky 1956, Hymes 1960, and their antagonists Hoijer 1956, Fodor 1961, Bergsland and Vogt 1962). Lexicostatistics, properly speaking, can be useful in subgrouping related dialects (cf. Heine 1968: 262-63 and 1973) if the method is applied with due care. Without really cognate items, however, it is inconclusive. It can facilitate the selection of the material to be compared if the number of items is very large (at least 1,000), but it does not replace the evidence of the phonetic laws.

Zakár (1972) also mentions the glottochronological investigations of the Uralic and Turkic languages carried out by Raun (1956), in which it can be seen that the items common within Uralic range between 20% and 70% of the basic word stock and not just 57 words. The core certainly common with the Finno-Ugric languages amounts to some 1,000 morphemes.

Even the Finno-Ugric words of Hungarian range between 20% and 25% compared with other roots (Tolnai 1924, Vermes 1941-42), but their usage in everyday speech is so frequent that their occurrence reaches 80%.

Bobula, Zakár (misinterpreting some Hungarian linguists), and other adherents of the Sumerian theory allude to the structural resemblance of the languages in question. The similarity of the grammatical structures of the languages compared has no relevance at all for a common origin if the cognateness of the contrasted grammatical morphemes (of similar or different function) cannot be shown by stable sound laws. Modern English, with its many monosyllabic roots and little formal modification, is more like Modern Chinese (which was not always monosyllabic) with regard to some structural features than it is like Anglo-Saxon or Latin or Russian. In any case, major structural linguistic types are not numerous, and the 3,000 or more languages of the world can be divided into a few groups independently of their origin. Furthermore, one Sumerologist (Kluge 1921) is of the opinion that Sumerian cannot be compared structurally with the Finno-Ugric stock, but should instead be compared with Hamitic and many Sudanic languages. But the way, Meinhof (1914-15) made the first observations concerning some Sumerian and African (Bantu and Hamitic) structural and lexical parallels.

CONCLUSIONS

To sum up, scientific comparisons of Sumerian and Uralic with Hungarian should be made with a view to investigating the possibility of (1) a remote relationship or cultural contact between Sumerian and the Uralic language family and (2) an early contact between the migrating Hungarian tribes and peoples of Sumerian or Mesopotamian culture. It is relatively unlikely that the Hungarians directly contacted ethnic groups still preserving the Sumerian language, but it is possible—as Papp (1970:290-91) agrees—that some Sumerian words entered Hungarian through other (Caucasian, Iranian, and Turkic) languages. Thus a few of the fancies of the adherents of the Sumerian theory might turn out to be real Sumerian borrowings in the last analysis. Such new, verified data might then contribute to a more precise history of the migration of the Hungarian and other tribes before the 10th century in southern Russia.

These investigations must be performed by scholars trained in studies of the languages in question, and they must begin, among other things, with the evaluation of Varga's comparisons. Occasional Sumerian loanwords in Hungarian cannot be demonstrated, however, without a thoroughgoing study of the question of the early Caucasian contacts of the Hungarian tribes (including lexical borrowings), and this is also a neglected field of research. Again, in investigating the surmised Sumerian-Uralic affinity, one ought to clear up the unsolved problems of Uralic and Indo-European (and Altaic) relationships and the origins of these primitive peoples.

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