

TÜRK DİLİ ARAŞTIRMALARI YILLIĞI

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PROTO-TURKIC: RECONSTRUCTION PROBLEMS

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1. General remarks

1.1 The situation dealt with in this article is quite different from of the other papers which I intend to write in this journal: Whereas the investigation of Khalaj and Khorasan Turkic (and to some degree even the classification of Tungus) is, so to say, new ground in Altaic linguistics, the reconstruction of PTu. (for abbreviations cf. chapter 1.8) is a well-ploughed field. However, since this is a sophisticated problem we continually find new ideas on the subject.

1.2 Any attempt to strictly delimit this article from others in this journal is bound to meet with difficulty. On the one hand, it has a direct relationship to studies of a more particular nature. When, e. g., some scholars affirm that Ttu. has preserved PTu. *d-, *g-, then this thesis does not affect only Ttu. but also PTu., i. e., Tu. in general. In such cases I have preferred to give only some short remarks about the question and to deal with it in "Das Vorosmanische" I an article dealing only with Oghuz problems. The other relationship is that with more general studies: (the Alt. languages.) The classics of Alt. Linguistics (the works of such men as Ramstedt, Kotwicz, Poppe) are also the classics of Turkology. I do not wish to deal with the Alt. problem here, that is not my task. But since I think that the oldest forms of Tu. are reconstructable only by comparing the Mo. (and Tungus) parallels, a consideration of other Alt. languages was inevitable. I endeavored to abstain from Alt. problems as much as possible; I think that when, on the basis of Mo. bora 'grey', we reconstruct Tu. *bōz* < **bōrĭa* it is less relevant and whether we say that **bōrĭa* is the Alt. form or that it is the PTu. form: the main point is that it is a form older than *bōz* and from which *bōz* has taken its origin. To be sure, even for an adherent of the Alt. thesis it often is very difficult to say whether a sound reconstructed in Altaic studies is only found in Mo. and

Tungus or whether it has been a PTu. sound, as well. Cf. for this point chapter 4.4: Some Altaists think that PTu. had y-, never d-, other Altaists mean (on the basis of Greek transcriptions as *dógia* 'funeral' = ATu. *Yoγ*) d- was not only Alt. but still PTu., and Poppe has considered both views. The same holds true for *ń-. As we may assume (and adherents of the Alt. thesis admit this) that loanwords among PTu. and PMo. have existed we often may regard different explanations. E. g., there are rather few sure examples of a comparison Tu. k- = Mo. g-, such as ATu. *kām* 'sickness' = Mo. *gem*. In this case we *a priori* may reflect about the following possible solutions:

- a) Alt. **gām* > Tu. *kām*, Mo. *gem*,
- b) PMo. *gem* → Tu. *kām*,
- c) PTu. **gām* → Mo. *gem*,
- d) an ancient Tu. dialect with secondary g- → PMo. *gem*.

1.3 Our means of reconstructing PTu. forms are limited: Whereas such languages as Indoeuropean (or still more Semitic) are documented in works dating, to well before the birth of Christ, the oldest Tu. documents belong to the 8th century. We may assume that on the basis of internal -Tu. comparisons we may reconstruct *with a certain safety* a PL which is about a millennium older than the oldest documents. This would mean that, e. g., with regard to Indoeuropean we may reconstruct a system for this family as it existed in about 1800 B. C. (Hethit is too much corrupted by a foreign substratum or to allow us to use it with any sense of security). As for Semitic, we may reconstruct the stage of about 4000 B. C., but with Tu. it is possible only to postulate a stage dating to only about 200 B.C. the genuinely original forms (that is super PTu.) are not reconstructable, cf. chapters 4. 9. 10. We find, e. g., *at-* 'to throw' in ATu.; we may on the basis of Khalaj *hat-* (and some comparisons to Mo. and Tungus) reconstruct PTu. **pat-*. If we accept Ščrbak's thesis about vowel quantity (cf. chapter 2.3) we may even assume PTu. **patt-*, and since a geminate in auslaut is unusual in the system of a PL we may reconstruct **patt ɜ-*, but we never can know whether this -ɜ- has been -a or -i or -u or -o (and furthermore the question of gemination remains unclear, cf. chapter 4. 8, and furthermore a reconstruction **pakt ɜ-* would be possible, as well, cf. chapter 4. 6).

This, on the other hand, does not mean that I agree with Sevortjan's extremely sceptical view of the reconstruction of PTu. He explains (1971) that the areal differences of the Tu. languages have very old roots, still of

the undivided PL, but that the actual process of splitting up is rather late - which practically means that for Severtjan (and some other Soviet scholars) the modern dialects are on the same level as ATu. of the 8th century (cf. Doerfer 1971 b, 443-6). In 1973, 36-7, Severtjan even expressed his view that in Tu. a genuine historical - reconstructive working is impossible and that the best basis for historical study is the modern dialects. This is another extreme point. To be sure, on the one hand we cannot reconstruct PTu. as far back as Semitic, but on the other hand we can reconstruct an early stage of Tu. by the means of a) the internal system of Tu. (cf., e. g., chapter 4. 9), b) extrapolation beyond the oldest documents, c) comparison to Mo. and Tungus parallels, d) realizing which modern dialects show archaic features. (cf. the fact that modern Lithuanian is, although a young language, as archaic as, e. g., Latin of Caesar's time. Of course, this is rare and the archaic character must be proved in every special case.) In KhM 269-70 I gave some remarks to this question: Some Tu. languages (Ch. and Khalaj) are extremely important for the reconstruction of PTu., other ones (such as Yakut and Turkmen) are valuable in certain points (e. g., quantity of vowels), still other Tu. languages e. g., Bashkir, are quite useless for the reconstruction of PTu. basic *sounds* and *morphs* (although they may be helpful in reconstructing some special *words*). I. e., of the modern Tu. languages there are only a very few which are helpful for the reconstruction of PTu. (and mostly in a limited range); actually ATu. is the best source for the reconstruction (in case that an explanation based only on modern dialects directly *contradicts* ATu. forms it normally is wrong, the ATu. forms have more probative force). We cannot reconstruct Indoeuropean on the basis of New English, New French, and Bengali, nor can we reconstruct PTu. on the basis of Bashkir, Azerbaijani, and New Uighur. The correct method is: For the reconstruction of CTu. we need ATu. + some facts of *relevant* modern dialects. For the reconstruction of PTu. we furthermore need Ch. (with its older stages, the loanwords in Hungarian) + the Mo. and Tungus parallels.

The parallel drawn by Severtjan with Indoeuropean is wrong: The Tu. languages are much closer to each other than the Indoeuropean branches. Normally we can explain, e. g., a Yakut text, on the basis of ATu. + the normal evolution + (mostly Mo.) loanwords and loan suffixes - but we cannot explain an English text on the basis of, e. g., Old Church Slavonic.

I must confess that in most points I enjoy agreeing with the classical view of such men as Ramstedt and Poppe (with the exception mentioned in chap-

ter 1. 6, point 3). It is useful that new ideas have arisen and that the old views thus have been tested again and again, but I think in a quite overwhelming majority of cases the classical theory has turned out to be correct. The author of these lines has turned back to classical theory in many cases, e. g., in the question of Tu. $h- < PTu. *p-$ (cf. chapter 4. 2) or in the question of rhotacism / lambdacism (cf. chapter 4. 9). In other cases he has always thought the classical theory to be correct (e. g., in the question of final vowels, cf. chapter 2. 8; or in the question of i diphthongs, cf. chapter 3). On the other hand, we must admit that many anticlassical works, such as Ščerbak 1970 a, are extremely valuable not only insofar as they compel us to a new reflection about PTu. but also because they have gathered a great deal of material, and considered many opinions of opponents; i. e., these works are useful from a didactic and bibliographic view point.

1. 4. I have endeavored to abstain as much as possible from polemics. But it is extremely difficult to remain objective in this much litigated field. Normally my refutations have been given in a few words, sometimes I have added my differing views in brackets. This, of course, does not mean that I am always right. Every scholar has the right to err. It must be admitted that many investigations in the field of PTu. reconstruction are highly speculative ("glottogonic"), e. g., Doerfer 1972 (cf. chapter 6. 2); Serebrennikov 1964 b (gerund in: $p < an$ old case, which is preserved in Tatar *balän* 'with'); Dul'zon 1971 and 1972 (cf. chapter 5. 3); Isxakov 1953 (*art* $<$ 'behind' $<$ *arti* $<$ *arın* $<$ *ar*); Gabain 1950a, 590 (*s-* in *s-än* 'thou' as a deictic prothesis); Dmitriev and Kononov 1951, 117 (cf. chapter 6. 1); Deny 1938 (cf. chapter 5. 4); many remarks noted in Räsänen 1957 (e. g., p. 27; the etymology of demonstrative pronouns, 41 *nä*, 52-4 twelve hypotheses about the origin of plural suffix $+LAR$, 75-81 numerals, 160 Bang: passive in $-l-$ $<$ *bol-* 'to become', etc.); Ramstedt 1957, 49 (Tu. directive in. *rU* \leftarrow Chinese *lu*), etc. We very often find a tendency to explain suffixes as originalee independent words. This development sometimes *does* happen (e. g., the Tuvian directive. *DlvA* $<$ ATu. *tapa* 'finding', for other examples cf. chapters 5. 2, 6. 1); but this kind of explanation has been used in too excessive a way. Even Poppe, although being a true disciple of Ramstedt's, criticizes this method of his master's (1953, 21).

A further point where avoiding polemics is difficult is the unhistorical way of reconstruction followed by many Soviet scholars (cf. chapter 1. 6). For a linguist of the old school it is disagreeable to see that, e. g., Ščerbak 1970a,

42 reconstructs PTu. *pilit 'cloud' on the basis of Yakut *bilit* and Altay-Tu. *bulut* - although the oldest attested Tu. form is *bulit* (Clauson 1972, 333): Yakut *bilit* and Altay - Tu. *bulut* turn out to be simple assimilations of *bulit*, one of which is regressive, the other progressive.

1.5 A further difficulty is the fact that the bibliography of the reconstruction of PTu. has over the years, become quite immense. Nobody will be able to cover the whole field. Often remarks which are important for the reconstruction of PTu. are hidden in an article on a special subject of an individual Tu. dialect. I. e., I shall very often overlook important articles and, for the rest, I shall be forced to make a selection. Some colleagues may think that I have made a bad choice and over looked or disregarded some highly important articles ; I ask them to take this for a sign, not of the author's arrogance, but of his ignorance.

Generally speaking, I have confined myself to an explanation of PTu. phonology and morphology, neglecting syntax, etc. And even in the topics dealt with I was compelled to choose those topics which I thought to be most important. For other topics of phonology and morphology cf. Räsänen 1949, 1957. These extremely valuable works have been regarded by me as a kind of standard and, in general, I have normally quoted only works written *after* Räsänen's masterly works. Here are some general notes about subjects not dealt with by me:

Bajčura 1971 (e. g., p. 291) explains that the pitch in the Alt. languages of the East and the South is more on the last syllable of a word, whereas in the West and the North it is more on the first syllable of a word. The pitch on the last syllable is, according to this author, secondary, developed under the influence of a substratum. Several authors have supposed (albeit for different reasons) that the original accent of Tu. was on the first syllable (Gabain 1950, 42; Poppe 1960 143-7; KhM 238, 257-8). For further works of Bajčura cf. my review "Zum Schrifttum des kasantatarischen Gelehrten Üzbäk Bajčura", UAJb 1970.

As to derivation cf., e. g., Gabain 1950 Brockelmann 1954, Räsänen 1957, Ramstedt 1952, Zeynep Korkmaz: *Türkçede eklerin kullanılmış şekilleri ve ek kalıplaşması olayları*, Ankara, 1962, and E. V. Sevortjan's excellent work *Affiksy glagoloobrazovanija v azerbajdžanskom jazyke*, Moskva, 1962. All these works present good material for a reconstruction of PTu. Cf. also the works concerning derivation, syntax, and lexique enumerated in D.

Sinor: *Introduction à l'étude de l'Eurasie centrale*, Wiesbaden, 1963, No. 1655-1710.

As to the Tu. vocabulary cf. Brands (with further information, e. g., *Issledovanija po sravnitel'noj grammatike tjurkskix jazykov*, IV, Leksika, Moskva, 1962).

There are some works concerning the structure of the Tu. words and roots, such as A. Zajaczkowski: *K voprosu o strukture kornja v tjurkskix jazykax*, *Vja* 1961: 2, 28-35; Clauson 1962, 135-9.

Regarding syntax I wish to enumerate *Issledovanija po sravnitel'noj grammatike tjurkskix jazykov*, III, Sintaksis, Moskva 1961; N. Z. Gadžieva: *Metody postroenija sravnitel'no-istoričeskogo sintaksisa tjurkskix jazykov*, ST 2:2 (1971), 26-38, and, above all, Gadžieva 1973. As to general method cf. Makaev.

1.6 As to the history of our problem (or rather as to the different views of the problem) we may mention the following six theories (which I will illustrate by the examples of ATu. *y*- and PTu. *-A, cf. chapters 4. 4. and 2. 8. 2):

(1) The classical view (Ramstedt, Räsänen, Aalto, many Soviet scholars): Turkic is a member of the Alt. family of languages (to which also Mo., Tungus, and Korean belong). Mo. and Tungus are more archaic, whereas Tu. is relatively progressive. This progressive character held true already for PTu. Therefore Alt. **y*-, **d*-, **j*-, **ń*-, and **n*- (mostly preserved in the other Alt. languages) have become one monolithic PTu. *y*- (preserved in ATu., which developed > *y*-, *ǰ*-, *ś*-, etc., in the modern Tu. languages). And Alt. *-A has vanished in Tu., even in PTu. (Mo. *ere* "man" = ATu. *är*).

(2) Poppe follows in many essential points the classical theory. However, he has given a series of refinements (putting Korean a bit apart, constructing the thesis of the Alt. accent and its effects in the modern languages in a more detailed way than Ramstedt, sometimes criticizing Ramstedt's methods, cf. chapter 1.4, trying to find another theory for the features common to the Alt. languages: a common substratum, etc.). I. e., although being a true disciple of Ramstedt's Poppe has found an autonomous position. As to Alt. *-A he shares Ramstedt's views, as to Alt. **d*- he considers both possibilities: a) already PTu. *y*-, and b) PTu. still **d*-.

(3) Doerfer acknowledges most of the classical phonetic laws (cancels some of them, e. g., Alt. **m*- = Tu. *b*-). According to him the words common to Tu. and Mo. are neither Alt. words nor relatively modern Tu. loanwords

in Mo. (of the 6th century, cf. points 4 and 5 beneath), but they are PTu. loanwords in PMo., a situation quite close to real relationship. (More precisely: These were loanwords of a very old Tu. dialect which must have been quite close to PTu.) Just as (1), (2) Doerfer tries to work on the basis of linguistic history; but he thinks that Khalaj is an archaic CTu. dialect and therefore (in some cases) valuable as well. He acknowledges (on the basis of Khalaj *här* and Mo. *ere*) **pärä* 'man' as the PTu. form; i. e., for him *-A is PTu. (neither Alt. nor "euphonic", secondary). Furthermore, he thinks that we have to assume PTu. *d- (not y-).

(4) Clauson's view resembles Doerfer's insofar as he, too, thinks that Alt. words really are Tu. loanwords in Mo. He, too, works on the basis of linguistic history, reconstructing an older Tu. stage from Mo. words and acknowledging the high value of ATu. But there are some differences to the position taken by Doerfer: For Clauson the older Tu. loanwords in Mo. are of forms which are quite close to PTu. (and borrowed at an early date B. C.) but forms of a relatively recent dialect (5. / 6. century). Therefore he regarded *-A (and h-, *p-) as secondary: They contradict his conception of a young loaning (only two centuries before the Orkhon inscriptions). For him older Tu. *är* → *ere* (the -e is "euphonic" in Mo.), and the Mo. h- in such cases as Tu. *ürk-* 'to be frightened' → Mo. *hürgü-* is a "Cockney h-." [Cf. Khalaj *hirk-*, Azerbaijani *hürk-*, etc., chapter 4. 2.] Finally, Mo. d- → Tu. d- is characteristic of a Tu. dialect (oldest layer).

(5) Also in Ščerbak's view (1966 c, 30-2) the words common to Tu. and Mo. are Tu. loanwords in Mo., not later than from the 6./7. century. What sets him apart from (4) is the belief that linguistic history is regarded as less relevant than the modern dialects (cf. chapter 1. 4, to ATu. *bulit*). The Tu. system is reconstructed mainly by modern Tu., the value of the older material is regarded to be on the same level as that of modern Tu. Ščerbak, e. g., reconstructs PTu. *θ- on the basis of Altay Tu. d-, Balkar z-, Kazakh *j̃-*, Tuvianian *č-*, Turkmen y-, Chuvash *ś-*, Yakut s-. [All these forms are secondary, with the exception of Turkmen y- which is exactly = ATu. y-, cf. chapter 4. 4.] Ščerbak's results, e. g. of anlaut consonants, have been established on the basis of four axioms:

a) PTu. can be reconstructed on the basis of the modern dialects, ATu. may be considered but does not matter more than the dialects.

b) In PTu. anlaut we only find voiceless consonants (or vowels). Therefore *θ- is reconstructed (although contradicted by ATu. y-, Mo. parallels

with d-, j-, Greek forms as *dógia*, etc., which all of them point at a *voiced* consonant).

c) Three positions exist: anlaut, auslaut after short vowel, auslaut after long vowel; therefore, e. g., PTu. **ěš* > Ch. *ś*, but **ěš* > l (contradicting examples as CTu. *qĩš* 'winter' = Ch. *xel*, not **xěś*, are regarded as secondarily shortened, from PTu. **kĩš*).

d) Mo. materials (parallels) contradicting modern Tu. dialects are irrelevant, -A in Mo. *ere*, e. g., is secondary.

This unhistoric view is shared (with variants and to a higher or lower degree) by some other Soviet scholars, e. g., Sevortjan, cf. chapter 1. 3, or Kononov (e. g., 1951, cf. chapter 6. 1).

(6) Finally we have to mention the view of such scholars as Illič-Svityč and Dolgopol'skij. They regard all Tu. materials from the view point of their Nostratic theory. As, e. g., Illič-Svityč reconstructs Nostratic p^ʰ: p: b, t^ʰ: t: d, k^ʰ: k: g he tends to find the same situation in the Alt. and particularly in modern Tu. languages, such as Tuvinian (cf. chapters 4. 3, 4. 5). Externally, his view resembles that one mentioned in (1), insofar as he regards vast families of languages (in this point even surpassing (1)); but on the other hand he does not really work on a historical basis, thus he actually is nearer to (5). *Les extrêmes se touchent.*

Of course, there are still more views, e. g., sceptical ones, or such mediating between the six views mentioned above (Tenišev, e. g., works historically in 1967, but not so in 1963; Menges tends to method 6 but generally works on a historical basis, etc.).

1. 7 In spite of all relevance of ATu. for the reconstruction of PTu. one has to consider three facts:

(1) It is very likely that ATu. already was rather distant from PTu. If we compare, e. g., PTu. **bōrĭa* 'grey' to ATu. *bōz* (cf. chapters 3 and 4.9) we realize an enormous difference. Mo. *bora* (which on the basis of some facts possibly may be reconstructed from an older Mo. form **borĭa*, cf. TMEN hw. 297, 395) is nearer to PTu. than ATu. is. We cannot reconstruct PTu. without the aid of Mo. and Tungus parallels. That the PTu. form had an auslaut vowel is quite convincing also from general reflection: cf. the fact that very many PL had words ending in an unstressed vowel which vanished in the course of the historical development (e. g., Old English *nama* > New English [neĭm], Old Arabic *al-ğabalu* 'the pmountain' > New Arabic

al-ğabal, proto Tungus **dili* 'head' > *Evenki dil*, etc.). Generally speaking, we cannot expect that a language of the 8th century A. D. is identical to a PL.

(2) ATu. is a CTu. language. But PTu. can be reconstructed only on the basis of CTu. + Ch. (which has a rather independent position). Taking account of only CTu. materials we never should suppose that CTu. -z, -š may go back to an older *-rj3, *-lj3 (cf. chapter 4. 9).

(3) ATu. is, so to say, not the grand-father of all modern CTu. languages but their grand-uncle. It shows some specific (dialectic) features. Its conditional converb in : sAr, e. g., is a side-form, not just the prototype of CTu. : sA (which is also PTu. because of Ch. : sA, cf. chapter 6. 4). Its imperative 1. pl. : *AL^om* possibly is secondary against : *ALI* (cf. chapter 6. 1). In ATu. the participle in: *GAn* is not a productive form (ATu. has: *GmA* and : *GLI* instead). But : *GAn* is even PTu., not only CTu. (cf. Ch. : An). By the way, I think that Bang (cf. Räsänen 1957, 126) may be right when affirming that: *GAn* is to be analyzed as : G (the well known deverbal suffix) + *An*: SW Turkic: *An* (attested already in al-Kāšgarī: *bar* : *an* 'going' instead of *bar* : *yan*) is not derived from older: *GAn* (cf. Ttu. forms as *dağur-gan* 'fertile', *çalış-kan* 'diligent', *iç-ken* 'drunkard', etc., the real derivations from: *GAn* according to Gadžieva 1973 b, 47; in Khorasan Turkic—which has lost -G- just as the other SW Turkic languages - we often find an infinitive in : *GAn*, e. g., *gäl* : *gän* 'the coming'; on the other hand Khalaj - which has preserved -G- - has: *An*, e. g., *käl* : *än* 'coming', besides : *AGAn*, cf. the article on Khalaj, to follow in this journal).

However, the dialectic features of ATu. are few; just as Old Church Slavonic is not the only source for reconstructing proto Slavonic forms but, in spite of its some what dialectic character, the most valuable one, ATu. is the most valuable source for reconstructing CTu. (and even PTu.), cf. chapter 1. 3. 1. 8. In this article I have used the following abbreviations:

- + a denominal derivational suffix (also plural)
- a deverbal derivational suffix
- . a nominal flexivic suffix (case)
- : a verbal flexivic suffix (e. g., tense)
- ← loaned from
- loaned into
- < developped from

>	developped to
ε	any vowel
Alt.	Altaic
ATu.	Ancient Turkic
Ch.	Chuvash (incl. Bolgar)
CTu.	Common Turkic (= Tu. languages except for Ch.)
hw.	headword
Mo.	Mongolian
PL.	proto language
PMo.	proto Mongolian
PTu.	proto Turkic
Ttu.	Turkish (Turkic of Turkey)
Tu.	Turkic (the general term)
X ₂	X of non-first syllables

2. Vowels

2. 1 Vowels in general.

The classical system of ATu. (and PTu.) vowels is:

a	ī	u	o
ä	i	ü	ö

And this in groups with two quantities each: a and ā, o and ō, etc. The following alternatives have been discussed in modern times:

(1) Doerfer has proposed a threefold quantity: a : ā : â, etc. (cf. chapter 2. 3).

(2) Many authors have presumed an additional vowel *e (cf. chapter 2. 4).

(3) Doerfer has reflected about an additional vowel *ë (a back parallel of *e; a : ë : ī = ä : e : i, cf. chapter 2.5).

(4) Doerfer has reflected about medium vowels γ, γ̃ (in the middle between o and u and ö and ü, respectively). (2) + (3) + (4) would mean a perfect system of medium vowels: a : ë : ī = ä : e : i = o : γ : u = ö : γ̃ : ü (cf. chapter 2.6).

(5) Pritsak has proposed to cancel ī (1963, 32, cf. on this point Ramstedt 1957, 137: ī is "ebenso ursprünglich wie z. B. a", also my review in *Göttische Gelehrte Anzeiger* 216. 277-8, 1962).

(6) Since Illič-Svityč acknowledges (for all Nostratic languages) the Uralic system of vowels (1971, 152) there ought to be no Turkic **ö* (cf. regarding this Doerfer 1973, 79-80 who points to Tu. minimal pairs which prove an opposition *ö* : *ü*).

For diphthongs cf. chapter 3.

2. 2. Ablaut

In some Tu. forms we find variable vowels (*bän* 'I' : *bin.*, most case forms, *biz* 'we' : *baŋa* 'to me', the same for *sän* 'thou', etc.; *käm* : *kim.* 'who', Gabain 1950, 101 writes *k(i)m*, but Tekin 1968, 143 correctly gives ATu. *käm*; *bo* : *mun.* 'this', *ol* : *an.* (?) 'that'). According to Räsänen 1949, 59-63 the Tu. languages show many variants, which might be regarded as original ablaut forms (but cf. Doerfer 1973, 50-1).

The Tu. ablaut is a difficult topic, I will limit myself to an enumeration of opinions. According to Gabain 1950a the original form of 'I' is *bi*, in *bän* we find an ablaut, in *bana ä* has become *a* under the influence of *k*, cf. also Gabain 1970a, 1970b (where she says that *bän* must be explained as the "opening" of *bi* + a deictic element and that *bo* is the opening of *bu*, and where she compares *bi* 'I' : *bu* 'this', and similar forms). Räsänen 1957, 9-10 quotes Ramstedt who regarded *bän* as secondary as well (strengthened accent, stress) and who quotes on p. 15 other explanations of *baŋa*, 29 refers to *bo* ~ *bu*, 40-1 shows that Ch. has *kam* < *käm*, South Siberian has *käm*. Menges 1960, 31 seems to accept an original ablaut in *män* / *men* 'I' : *hiz* 'we', and in *bo* : *mun.*; in 1966 he only accepts *bän* : *biz* and **i* 'he' (singular) : **a* 'they' (plural). [I am not sure whether the traces of **i* quoted in Gabain 1950, 92 are correct; such forms as *inč-ä*, *inč-ip* (or *inč-a*, *inč-γp*) 'so' are rather converbs of a verb **inč-* 'to act so and so' which later may have been contaminated with *an*, 'that'.] Cf. also Menges 1968, 80, 121 where he explains *saŋa* < *sen-γa* "a very archaic form... that did not undergo harmony". In contrast to Menges, Bazin 1961 seems to reject ablaut, at least for him it is not a normal component of Turkic. Poppe 1961, 194 reconstructs **bi* and **män* as a stem, later on generalized and replacing the original nominative form. Čerkasskij 1960 and 1965 purported to find a great many ablaut forms in Tu., even such as *qara-* 'to look' (→ Mo.) and *kör-* 'to see'. Ščerbak 1970a, 39, 179 thinks that *baŋa* < **bäŋä*, a change of the front vowel to a back vowel; i. e., he rejects the idea of an original ablaut in Tu. For ATu. *kēm* : *kim.* 'who' cf. Doerfer 1974a, 190.

2.3 Quantity of vowels

For the history of the problem of long vowels cf. Biišev 1963, Räsänen 1949, 64-73, Ščerbak 1967 and 1970a, 122-38. Lists of roots with long vowels are found in Biišev 1963, 34-57, Isxakov 1955, KhM 188-204, Ščerbak 1966b, 1970a, 193-8, Tekin 1967a, b. Tuna 1960. We shall deal only with some more recent developments.

Ramstedt expresses himself very cautiously about the problem of quantity (1957, 164), he supposes several reasons for the existence of long vowels: a) an old opposition long: short, b) compensative lengthening, c) spontaneous lengthening. Even the correspondence of Turkmen and Yakut in the question of long vowels is not regarded by him as a definite proof for the existence of long vowels in ATu. He does not mention that already in the nineteen thirties a comparison with long vowels in al-Kāšgari had shown that in many cases we find a correspondence with Yakut and Turkmen (cf. Räsänen 1949, 65). Could it not be that the (not merely occasional) discrepancies between al-Kāšgari on the one hand and Yakut / Turkmen on the other hand disturbed this excellent scholar? Menges has put forward the idea of compensative lengthening: ATu. *kō* 'blue' < PTu. *kōkā*, etc. (e. g., in 1968, 75, and already in *Archiv Orientalni* II. 19); this thesis has been rejected by Ščerbak 1967, 37-44, 1970a, 122-38 (p. 132 he quotes many words of the type Tu. *saγ-* 'to milk' = Mo. *saγa-*, where Tu. has short vowels), Tekin 1972, 353-4. In 1953 Korkmaz thought to find long vowels in Anatolian dialects; this idea has been accepted by Biišev 1963, KhM 229-32, Nauta; it has been rejected by Özdendareli 1956 and by Ščerbak 1966b, 153 and 1970a, 47-59. [Their scepticism may be justified, such examples as Ttu. dialectical *gāl-* "to come" = al-Kāšgari, Yakut, H. Khalaj *kāl-*, Turkmen *kāl-* are not convincing: Ptu. **kāl-* is more probable.] Pritsak 1958 has shown that original length has been preserved in Balkar [in *īt* 'dog' we may find an example of the "medium quantity", cf. beneath]. Biišev 1963 has explained long vowels < vowels + *i* (*bäir-* 'to give' > Yakut *biär-*, etc.), this idea has been rejected by Ščerbak 1967, 37-PP Ščerbak has dealt with the problem several times (1966b, 1967, 1970, 47-59, 122-38, 193-8). His relevant theses are: (1) he puts forward the idea that PTu. originally had no opposition long vowel: short vowel but an opposition stressed vowel: stressed consonant, e. g., *át* 'name' : *at'* 'horse' (a kind of lengthening of the consonant or gemination) > *āt* : *at'* > *ād* / *at'* : *a't* (cf. Turkmen *ād* 'name', Tuvinian *a't* 'horse'). [There are two difficulties: What about such oppositions as Turkmen *bōri* 'wolf' : *gara* 'black'?

A PTu. form **bōri* may be admissable but **qar'a*, with a stressed consonant between two vowels, is hardly imaginable, and there is no hint for **qarra* in any modern Tu. dialect. And what about such oppositions as Turkmen *yūrt* 'homeland' : *sanč-* 'to pierce' (*sa'nč-* < *sannč-*?)?] (2) Ščerbak has not dealt with the numerous "exceptions", such as al-Kāšgarī *bāš* 'head': Turkmen *baš*, cf. beneath. (3) He affirms that after a long vowel *s*, *š* have in Ch. become respectively *r*, *l*, whereas after a short vowel these consonants have become *s*, *ś*, cf. 4. 10. Important are Tekin's investigations of quantity in Karakhanid (1967a, b); he has shown that several words show length in all (or several) Karakhanid sources which are short in Turkmen and Yakut, e. g., *āš* 'meal', *bāš* 'head', *kōz* 'eye'. (The same phenomenon has been observed by Iben Raphael Meyer in her unpublisht Copenhagen dissertation: *Vokallaengde i Tyrkisk*, cf. KhM 186). Doerfer has explained that PTu had, not two, but three different quantities (e. g., *a* : *ā* : *â*) which have been preserved in Khalaj and Karakhanid, cf. KhM 183-267, 282-8; 1971, 327; and the article about Khalaj in this journal where all proofs for the original quantity of Khalaj and PTu. have been enumerated. As a practical rule we may give

Karakhanid	Turkmen	Khalaj	=proto-Turkic
defective	short	short	short
defective	short	half-long	half-long
defective	long	long	long
plene	short	half-long	half-long
plene	long	long	long

Nauta has accepted this theory and shows that the Ch. system of vowels is not explicable without it (and this means especially without the aid of Khalaj). Meyer TDAYB thinks that the incongruence between al-Kāšgarī on the one hand and Turkmen/ Yakut on the other hand may be explained by a) secondary (parhabs expressive) lengthening in Turkmen, b) by sporadic shortening in other cases, c) by miswritings in al-Kāšgarī. [Objections: a) Such comparisons as Turkmen *bōri* 'wolf' = Khalaj *bīere* are quite normal; al-Kāšgarī's *bōri* is merely graphic. b) When we consider al-Kāšgarī *bāš* 'head', *qāš* 'eyebrow' = Turkmen *baš*: *gāš* we may ask why just *bāš* has been shortened, whereas *qāš* has not. Khalaj explains this phenomenon quite easily: it has *bāš*, with a medium quantity, : *qāš*. c) "miswritings" such as al-Kāšgarī *bāš* 'head', *āš* 'meal' = Turkmen *baš*, *aš*, but Khalaj *bāš*, *āš* are found also in the other Karakhanid sources, cf. Tekin, op. cit. Is this

a coincidence?) For the correspondence of Turkic quantity in Tuvian cf. Verner 1972.

2.4 *e

As to this point we have to distinguish two quite different problems: (1) Does an opposition e : ä exist in CTu., (2) does an opposition e : ä exist in PTu.? For answering question (2) we have to consider Ch.; for question (1) an investigation of ATu. and its descendents will do (but cf. Nauta, beneath).

Older investigations distinguished PTu. * \bar{a} and * \bar{e} , cf. Räsänen 1949, Poppe 1959. The rule was, according to these authors. Ch. a = Yakut iä < * \bar{a} , Ch. i = Yakut \bar{i} < * \bar{e} ; but many exceptions were admitted, and it was not clear whether a short *e had to be accepted as a special phoneme or only as an allophone of */ä/. Brockelmann 1954, 58-60 gave only limited material. A very important article is that of Thomsen 1957; he showed that we have to reconstruct ATu. ä : \bar{e} and that Azerbaijani e normally < \bar{e} , in some cases (near y-, -y, before i of the second syllable) < ä (as an assimilation). Cf. some critical remarks written by Ligeti in AOH 7. 115-7 (1957). (Thomsen had disregarded that e < ä appears also before -v, -š, -č, and this even in foreign words, such as *čěšmä* 'source' ← Persian *čašma*. Furthermore, the practical consequence ought to have been: *ä : * \bar{a} > \bar{e} .) Poppe 1960, 102-6 still distinguishes ä and e, but he seems to regard e as secondary; it may be that the same holds true for Clauson 1962, 163. Ščerbak 1963 draws the consequence: he distinguishes only *ä and * \bar{a} .

There remained two riddles: Ch. sometimes has a, sometimes i (for both PTu. *ä and * \bar{a}), and Turkmen has sometimes \bar{a} , sometimes \bar{i} (for * \bar{a}). (Ščerbak's explanation that *ä in open syllables became ä in Azerbaijani, whereas in closed syllables it became e, is wrong, cf. *gäl* - 'to come', *käs-* 'to cut', etc., *de-* 'to say', *ešit-* 'to hear', etc.) Ščerbak 1966 a gives a good survey of the older investigation; in 1970a, 29-33 he corrected his views about the Azerbaijani development so that this question is clear now; pp. 153-4 he shows that the Ch. development remains enigmatic (cf. *kil-* 'to come', *ak-* 'to sew' *ir* 'morning', *ar* 'man' = ATu. *käl-*, *äk-*, *ēr*, *är* or *är* [I prefer *är*]). Pritsak 1963, 33 transcribed ATu. ä and \bar{a} (instead of e or \bar{e}). Doerfer 1971 a, 343 (and KhM 240-7, 279, also 1971 b, 439) proposed to suppose PTu. *ä and *e, reflected as a and i respectively in Ch. (doubted by Sevortjan 1973, 44); as to Turkmen he thought CTu. * \bar{a} had become \bar{a} in unstressed position (including such cases as *bāš* 'five'), \bar{i} in stressed position (cf., e. g., *īr* 'early' : *ärtä* id.). Nauta, however, supposes the following situation:

PTu.	Azerbaijani	Turmen	Yakut	Khalaj	Kāšgārī	Ch.
*āā (â)	e	ā	īä	īe	ē	a-,a
*iā (iâ)	e	ī	iä	īe	ē	ya-,a,i

(As to the other quantities ā, iā, ä the situation is unclear in Ch.).

As I have shown in KhM 161-2 (and earlier) we have to assume an opposition PTu. *-i₂ : *ē₂. I based my view on such forms as

ATu. (Brahmi script)	Yakut	Khalaj
<i>iki</i> 'two'	<i>äkki, ikki</i>	<i>äkki</i>
<i>yte</i> 'seven'	<i>sättü</i>	<i>yätte</i>

Meyer 1965, 201-2 has assumed ATu. -e, based on Yakut (e. g., Yakut *börö* 'wolf' = ATu. *böre*, not *böri*). Hovdhaugen 1971, 170 accepted Doerfer's hypothesis but saw a difficulty in the fact that the possessive suffix is +A (+a / +ä / +o / +ö) in Yakut but +i in Brahmi texts. This riddle may be solved: In Yakut we find, e. g., *bas* +a 'his head' (nominative), but *bas* +in id. (accusative), *bas* +ittan ablative, etc., i. e., -E in the nominative, -I(n) in the oblique cases; Khalaj shows the same phenomenon, at least in front vocalic stems, e. g., *äv* +e 'his house': *äv* +in, *äv* +idä, etc. I. e., we may read ATu. (Runic) *yer* +e 'his earth' (nominative), but *yer* +in (accusative), *yer* +in. tä (ablative), etc. This is a particular case of the well known ablaut, cf. chapter 2.2. In Brahmi the nominative had become +I under the analogical influence of the oblique forms (just as in Khalaj in backvocalic stems).

The whole problem of an opposition *ä : *e is still at issue, but, at any rate, one has to consider the opposition -i₂ : -e₂ in ATu. and some other Tu. languages (i₂ : -ē₂ in PTu.).

2.5 *ë?

In the Tu. system of vowels there are two intriguing facts: In some Tu. languages (Ch., Yakut, Tuvian) we often find an i instead of an a of other Tu. languages; but these three languages are not congruent among themselves (on the one hand we find cases as Ch. *il-* 'to take' < *il- = Yakut *il-* = CTu. *al-*; on the other hand we find cases like Ch. *xiräm* 'belly' = Yakut *xarīn*, Ch. *uyāx* 'moon' = Yakut *iy*). Cf. the enumeration of such cases in Emre 1949, 369-70, 408-10; Räsänen 1949, 80-1; Isxakov 1955, 67; Ščerbak 1970a, 145-8. The explanation of the problem is difficult, according to Räsänen, loc. cit. None of the theses put forward up to now is satisfactory. A high

age of these correspondences (at least in Ch.) is testified by CTu. *yaz-* 'to write' = Mo. *ǰiru-*, Hungarian *ír-*, Ch. *śir-*; CTu. *tāna* 'calf' = Hungarian *tinó*, Ch. *tīna*, and some other examples. At any rate, Bišev's explanation (1963, 16, 67) PTu. *ā > Ch. ĩ is wrong: Neither CTu. *al-* 'to take' nor *garin* 'belly' are long in CTU. (In Khalaj we find *al-*, but *ga'.run*). Poppe 1959, 673 calls the correspondence of most Tu. languages a = Yakut ĩ a "Sonderentwicklung ... die ziemlich häufig, jedoch regellos auftritt". Ščerbak 1963 has tried to find specific phonetic reasons for development a > ĩ in Yakut and Tuvinian; for Ch. a > ĩ he supposes two different Volga substrata with several crossing impacts [which must be very old, of. above.] In 1970a, 145-8 he has revised his opinion concerning Yakut and Tuvinian: *a > ĩ is phonetically not explicable, it is the result of a special dialect of PTu. Serebrennikov 1957 derived Ch. *a > u from a Cheremiss impact [does he think that *a > ĩ is the normal development?]. Doerfer has put forward the hypothesis that we may assume a special PTu. phoneme *ë, between a and ĩ: 1971a, 332, 340-1; 1971b, 439. According to him *ë has become ĩ in Ch., Yakut, and Tuvinian, but a in the other Tu. languages. The many discrepancies between Ch., Yakut, and Tuvinian he explained from the fact that the phonetic law *ë > a started in the center of the Turkish speaking area which has banished ë to the fringes (West = Ch., East = Tuvinian-Yakut); very often CTu. a asserted itself successfully even in the fringe languages but *ëĭ is the relic of an older period. Doerfer pointed to such minimal pairs as Yakut *taŋ-* 'to join' : *tŋ* 'dawn' which prove that *ë and *a different phonemes. He thought that we find relics of *ë (and *e) also in the auslaut: KhM 161-2 ATu. Brahmi *alte* 'six' = Yakut *alta* = Khalaj *alta* (and Yakut *sättä* = Khalaj *yätte* these are not the result of assimilation, cf. loc. cit.). Hovdhaugen 1971, 170; and Meyer 1965, 201-2 have accepted -e (e. g., in **yätte* why then not **altë*, as well? (This would only be the logical consequence.) Doerfer's hypothesis has been opposed by Sevortjan 1973, 44 (which, however, gives no reasons) and by Nauta who regards Yakut and Tuvinian a > ĩ as secondary. (I am not sure whether this is correct, cf. the minimal pairs and cf. the concatenation which proves that, e. g., neither -č nor s- may be the reason of a secondary development: CTu. *ač-* 'to open' = Yakut *as-*, CTu. *sač-* 'to strew' = *is-*, CTu. *sanč-* 'to pierce through' = *as - / an'-*.) Remarkable, however, is Nauta's explanation of Ch. ĩ; according to him we find the following developments: PTu. *a (and *iā?) > Ch. a > o > u (Viryal o), *ā > o > u > ũ ~ ĩ (ĩ under certain circumstances, Viryal u ~ ĩ), *â >

$\bar{o} > o > u$ (Viryal o), $*i\bar{a} > \bar{a} > o > u$ (Viryal o); $*i\bar{a} - > ya-$, etc., $*i\bar{a} - > y\bar{a}-$, etc.

On the whole, I think that the supposition of a special phoneme PTu. $*\bar{e}$ is a refutable thesis but in the meantime it may remain a working hypothesis.

2.6. $*\gamma$, $*\ddot{\gamma}$?

The Mo correspondence to Tu, o is generally o (e. g., Tu. *bōz* 'grey' = Mo. *borā*), to \bar{o} mostly \bar{o} . But there are many cases where in Mo. we find u and \ddot{u} , cf. TMEN I 78, 99, 102, hw. 60, 294, 304, 397, 1027, 1231, 1550, 1559, 1560 (e. g., Tu. *qozī* 'lamb' = Mo. *qurigan*), cf. also Poppe 1960, 109. I originally explained this phenomenon by suggesting that we find here two sounds midway between o and u, and \bar{o} and \ddot{u} , respectively (i. e., γ and $\ddot{\gamma}$). During the intervening years I have become less convinced of this explanation (some examples of mine were simply false, e. g., Tu. *öd* 'time', which ought to be *üd*, according to the Brahmi script, and thus is a simple correspondence Tu. \ddot{u} = Mo. \ddot{u} ([*üde*], or Mo. *hüker*, the older form of which must have been **höker*, according to older Evenki of Nerčinsk "*hokör*", cf. my article "Ürtungguisisch **ö-*, to appear in UAJb, hence this is a simple correspondence Mo. \bar{o} = Tu. \bar{o} [*öküz*] 'ox')] In 1971 a, 332 I accepted γ , $\ddot{\gamma}$ only for a *dialect* of PTu., not as original PTu. vowels, cf. also KhM 276-7. One may be inclined to save my original idea, pointing to the many variants $o \sim u$ in the Tu. languages (cf. Ttu. *kuzu*, older *quzī* 'lamb' or Ttu. *öyle* 'in the morning', connected with *üd*, cf. in addition Räsänen 1949, 60-1); but I am sceptical regarding this point (cf. TMEN hw. 787, 952, 1231, but also 1353; 1973, 50-1). In the Western Rumeli dialects we very often find \ddot{u} instead of \bar{o} , but this seems to be a simple dialectic feature (particularly of Macedonia) which later spread and it is not a proof of $*\gamma$; cf. G. Hazai: *Das Osmanisch-Türkische im XVII. Jahrhundert*, Budapest, 1973, 331-2; J. Németh: *Le passage $\bar{o} > \ddot{u}$ dans les parlers turcs de la Roumélie nord-ouest*, RO 17 (1951-2), 114-21; 114-21; *Zur Einteilung der türkischen Mundarten Bulgariens*, Sofia, 1956, 17, 24, 37-9; *Die Türken von Vidin*, Budapest, 1965, 33-40.

There are many possible explanations for the exceptions Tu. o = Mo. u (and, what is rarer, Tu. \bar{o} = Mo. \ddot{u}):

- (1) PTu. $*\gamma \rightarrow$ (or =) Mo. u (eventually $<$ Alt. $*\gamma$).
- (2) Mo. u is original, o is an internal Tu. development.
- (3) Tu. o is original, u is an internal Mo. development.

(4) Tu. o was closed originally (o), o Mo. was open (o). We must then suppose: older Tu. $o \rightarrow$ Mo. u , younger Tu. ($o >$) $o \rightarrow$ Mo. o ,

(5) Originally we had Tu. o . some Mo. dialects developed it into o . some into u , later on the Mo. dialects merged

(6) There was an unknown interstrate (mediating language) which changed Tu. $o > u$ because it did not have o .

(7) An old Tu. dialect changed $o > u$, Mo. borrowed from this dialect (later than the borrowings of the type *bora* = *bōz*).

(8) There were two PTu. dialects, with o and with u (or γ or o), Mo. received simultaneously borrowings from both of them.

2.7 O_2

Whereas Gabain (1950, 50) seemed to regard the existence of O_2 in Brahmi and Tibetan script as merely an orthographic phenomenon one has the impression that Bombaci 1952, 100-1 was on the point of recognizing a special phoneme $O_2 = o/\ddot{o}$. Doerfer noted (in TMEN I, 9-12 and hw. 772, 777, 792, 872, 1168, 1784) that we have to assume a special phoneme O_2 , in addition to A_2 , I_2 , U_2 . He proved this by two facts: (1) Mo. parallels (e. g., ATu. "tusu" 'benefit' ought to be *tuso*, according to Mo. *tusa*), (2) by comparisons of the forms in modern Tu. languages. However, a perfect proof of the existence of O_2 in Turkic was given only by Clauson 1966, 13-8: He showed that in Brahmi script some words and suffixes clearly show O_2 (e. g., *qayo* 'which', *art-oq* 'more'), other words and suffixes clearly show U_2 (e. g., *oġu*, 'poison', *iĉ-ür-* 'to cause to drink'). Subsequently, Doerfer made some corrections to Clauson's remarks (1971b, 441; KhM 271-4) He showed that also in Tibetan script O_2 is clearly attested and that (in contrast to Clauson's assertion) Kirghiz has not preserved $*O_2$; furthermore that the phonemic opposition between O_2 and U_2 is neutralized after O_2 and that even after O_1 an opposition $A_2: O_2$ is preserved (cf. *ôpā* 'village' : *opō* 'powder'). Finally, Hovdhaugen 1971 has shown that in Tu. loanwords in Khotanese O_2 is also clearly attested and that an opposition $O_2 : U_2$ exists in this medium. In consequence Thomsen's thesis (1963) seems to be outdated, namely that in Tu. we have to assume $A_2 = a/\ddot{a}$, $I_2 = \ddot{i}/i$, $O_2 = o/\ddot{o}$, $U_2 = \ddot{i}/i/u/\ddot{u}$ (cf. chapter 2.8): We have to divide " O_2 " into \bar{O}_2 and \bar{U}_2 , whereas " U_2 " is A_2 . (I. e., the probable PTu. scheme of non-first syllables is \bar{A} , \bar{I} , \bar{O} , \bar{U} , rarely \hat{A}_2 etc., and $A =$ ATu. A , I , O , U , rarely \bar{A} etc., and \bar{A}). Still of great value however, is Thomsen's Yakut material

which shows that Yakut has changed ATu. $\check{A} > \check{i}/\check{u}/\check{ü}$ (high vowel series), whereas full vowels (with the exception of i_2) normally have become $a/\check{a}/o/\check{o}$ (this holds true even for such cases as PTu. **dagkū* 'rain coat' = Mo. *daqu* = Yakut *saya*), cf. TMEN I, 100, KhM 283. /t must be kept in mind that the Brahmi script sometimes shows variants $O_2 \sim U_2$ (e. g., *qayo* \sim *qayu*); therefore a Brahmi transcription *altun* does not contradict Mo. *altan* 'gold' (which points at PTu. **altōn*).

2. 81 *-A₂-

Mo. A often corresponds to Tu. $\check{i}/\check{u}/\check{ü}$, e. g., Mo. *atar* 'fallow land' = Tu. *atiz*. In Uigur, according to Gabain 1950, 47-50 we find the following series of vowel harmony: A(=a/ \check{a} ; a after back vowels, \check{a} after front vowels), I(= \check{i}/\check{u}), U(= u/ $\check{ü}$), °(= \check{i} after a, \check{i} ; i after \check{a} , i; u after o, u; $\check{ü}$ after \check{o} , $\check{ü}$), cf. also Bombaci 92. The problems are: a) How is ° to connect with Mo.?, b) is $\check{i}/\check{u}/\check{ü}$ the original Tu. form, i. e., how can we explain that in this case we find a fourfold vowel harmony, whereas in all other cases it is only twofold? Here we find the following attempts of solution:

(1) According to Ramstedt 1957, 168 ° is a junction vowel, e. g., *at + im* 'my horse' instead of **at + m*.

(2) According to Poppe 1960, 120-6, 154 Tu. -a₂ (unstressed) has become \emptyset , but Tu. -a₂- (unstressed) has become \check{i} , and - \check{a}_2 - $>$ i. This would be a parallel to *-A₂; *-A₂ could not drop, for phonetic reasons, but it became a higher vowel (with less strength), which, incidentally, often drops (*burun* 'nose' \sim *burn + i* 'his nose').

(3) Clauson 1962, 164 thinks that at least some suffixes were originally unrounded: -*liγ* / -*lig* (never **luγ* / -*liγ*). This corroborates Malov's transcription in *Pamjatniki drevnetjurkskoj pis' mennosti*, Moskva-Leningrad, 1951 (e. g., *olurtim* 'I sat down', instead of *olurtum*). [But why have some I₂ become \check{i}/\check{u} in the course of development, other I₂ $\check{i}/\check{u}/\check{ü}$?]

(4) Pritsak 1963, 32 thought that ATu. normally had ə , a junction vowel, but before k, g, t, r, l, n had A. [One sees no reason of sound physiology for the assumption that, e. g., the junction vowel before d was ə , but before t was A.]

(5) According to Thomsen 1963 we have to assume four series of vowel harmony: A(=a/ \check{a}), I(= \check{i}/\check{u}), o(=o/ \check{o} , instead of u/ $\check{ü}$), U(= $\check{i}/\check{u}/\check{ü}$). [But why is "U" never found in the auslaut, in contrast, e. g., to I?] This thesis was accepted by Meyer 1965, 198-9, who (against Pritsak and Doerfer, cf. beneath)

meant that we have to assume $\bar{i}/i/u/\ddot{u}/$ in ATu., just as in Uighur, because U is noted only after A, I; I is noted only after O, U [erroneous: in Runic ATu. transcriptions such as *bolčün, körür, kišig, qonayin* are frequent].

(6) According to Doerfer KhM 282-8 we have to assume PTu. *-A, *-A- (preserved in Mo.). Later on, *-A dropped, *-A- became a reduced vowel \check{a}/\check{e} (therefore **pärä* 'man' > *är*, but **ägäm* > *ägën*). In Uighur, the reduced vowels split up, assimilating themselves more and more to the surrounding vowels. Later on, when the stress fell upon the syllable with the junction vowel the reduced vowel became a full vowel. (Cf. Ancient Slavonic *sû'nû* 'sleep' > Russian *son* where we find just the same development: Unstressed - \ddot{u} drops, stressed \ddot{u} becomes a full vowel.) The reasons for my opinion are:

a) We never find $-\bar{i}/-i/-u/-\ddot{u}/$ ("°₂") in the auslaut.
 b) °₂ often drops when getting into the inlaut (*burun: burni = burän: burn + i*). Other (full) vowels don't drop.

c) In open syllables we find such ATu. transcriptions as *yazigä* 'to the plain' (with \bar{i} plene), but, e. g., *sabämän* 'my word (acc.)' - if we had to read **sabimän* why do we never find such transcriptions as *sabimän*?

d) In ATu. the reduced \check{a}/\check{e} is never written, just as a/\check{a} . (This means that ATu. orthography resembles that of Sanskrit.)

e) A multiplicity of allophones is typical for reduced vowels. This is why we have our fourfold series.

f) Manichaean (and, to a certain extent Brahmi) transcription confirms my thesis.

g) Mo. forms as *atar = ATu. atäz* (later on *atiz*) also support this thesis.

In a formula: (unstressed short) $a/e > \text{ATu. } \check{a}/\check{e} > \check{a}/\check{e}/\check{o}/\check{ö} > \bar{i}/i/u/\ddot{u}$. (Of course, there may have been even more suballophones and many dialect differences, linguistic developments never are simple. Brahmi, e. g., shows $\check{o}/\check{ö}$ after o/\bar{o} , but $\check{u}/\check{ü}$ after u/\bar{u} , and \check{a}/\check{e} is found only in one Brahmi text; But Manichaean also often shows \check{a}/\check{e} , cf. KhM 287-8, also after preceding u/\bar{u} , etc. = , cf. KhM 287-8.)

As a general rule for the insertion of juncture vowels we may give:

(1) $C_x C_y$ is found only in such cases where C_x is a sonant (n, l, r) or s and where C_y also appears as an anlaut consonant in ATu. (K, t, č, s - but also p, p, which has been an anlaut consonant in PTu., on the other hand, y- does not

appear as auslaut consonant in clusters); in other cases we find a juncture vowel: $-C_x{}^{\circ}C_y$.

(2) $-C_x{}^{\circ}C_y\varepsilon > -C_xC_y\varepsilon$ is found only in root derivatives, not in suffixes (*ayiz*, or better *ayāz* \sim *ayz* + *i* 'his mounth', but *ölög* \sim *ölög* + *i* 'his dead man', not **ölgi*).

2.82 *-A₂

In some cases Mo. (and Tungus) show a vowel (especially -A) where the Tu. parallel has $-\emptyset$; e. g., Mo. *aba* 'hunt' = Tu. *âb*. Here we find two tendencies of explanation:

(1) The *-A is original, that is, a) either originally Alt. (but not Tu., where *-A has dropped early): Ramstedt 1957, 152-6; Poppe 1960, 120, 124, 154; Menges 1968, 75 (and earlier; he thinks that, e. g., Tu. *kōk* 'blue' < Alt. **kökä*, cf. chapter 2.3) or b) originally Tu.: Benzing 1958. [who thinks that an original opposition **-iγa* : **-iγu* > *-i* : *-u* (w) has been preserved in Kipchak dialects; it would rather seem that the infinitive forms go back not to ${}^{\circ}\gamma$ but to $-\gamma u$ and that *-iγ* has become *-u*, cf. *ari-γ* 'clean' > *aruw*, whereas ${}^{\circ}\gamma$ has become *-i*, exceptions may be due to mingling with Oghuz dialects]; Doerfer 1963 (23-5, 52-3, 100, hw. 342, 466, 474, 712, 1590, 1662), 1968 (14-21), KhM 250-8, 1971, 332; cf. also Kara 1965, 9.

This opinion is found in older works, e. g., of Vladimircov, Bang, Dmitriev, cf. Kotwicz 1962, loc. cit. Recently, Bajčura 1967 has defended it: *kōke* is older than *kök*

(2) The Mo.-A is secondary, due to a tendency of lengthening words in Mo.: Kotwicz 1962, 33-46; Clauson 1957, 37 ("euphonic vowel"); Ščerbak (On the methods of studying linguistic parallels (in connection with the Altaic hypothesis), Moscow, 1960, 9; In Mo. there are only words ending in vowel and in voiceless consonants, in all other cases -A is added); also 1966 c, 1967, 41-4; 1970a, 134; Sevortjan 1973, 38.

There are clear proofs for the original character of *-A; e. g., in Mo. we find many monosyllabic words ending in -r (*mör* 'trace', *ger* 'tent', *γar* 'hand', *kir* 'dirt' = Tu. *kir*, etc.); why then has Mo. "added" -A in such cases as *ere* 'man' (= Tu. *är*) or in *bora* 'grey' = Tu. *bōz*, why did it never "add" in such cases where to Tu. -z corresponds Mo. -s, e. g. in Mo. *jes* 'brass' = Tu. *yāz* or *tenggis* 'sea' = *tāñiz* (which is a younger layer according to Ščerbak, cf. chapter 4. 9); why do we find Mo. *ikire* 'twin' = Tu. *ekiz*, but

Mo. *atar* 'fallow land' = Tu. *atiz*? Why "added" Mo. -e in *ere*, but not so in *kir*?

It is inevitable to consider the fact that in Mo. -A appears also after -r, -n, -m and other consonants, well-known in the Mo. auslaut.

In my opinion (KhM 282-8) the PTu. high vowels *-U, *-I (and *-O) were lost very early (a phenomenon well-known for many languages, such as Tungus, French, Ethiopian, which have dropped high vowels earlier than low vowels, cf. ZDMG 117 (1967), 114-6); furthermore *-A > - \check{A} > - \emptyset (**pärä* "man" > *är*), *- \check{A} > -A (**karä* 'black' > *qara*), *- \hat{A} > - \bar{A} (**dilân* 'snake' > *yilân*): reduction of one degree. Cf. also chapter 4.11.

Today I am inclined to believe that *-A at a certain time already was - \check{A} (whereas -I, -U, -O had vanished completely). I. e. we may assume such developments as: **bōriā* 'grey' > **bōriǎ* (= Mo. *bora*, in Mo. **ia*₁ > i, **ia*₂ > a) > *bōr'* > *bōz*, but **atarǐǎ* 'fallow' (ǎ means in this case: o or u or i) > **atarǐǎ* > **atāri* (earlier than **bōriā* > *bōr'*) > **atār'* (= Mo. *atar*) > *atǎz* > *atiz* (cf. l. 3, 4. 9).

But instead of *-A₂ or *- \check{A} ₂- we perhaps better transcribe ǎ₂. Let us presume, e. g., that the PTu. forms of 'fallow' was, not **atarǐǎ*, but **aturǐǎ*; in this case the evolution would have also led to the modern form *atiz*: *atiz* would represent an un-Turkic phonology; Ramstedt's term "juncture vowel" is quite corrects, a vowel had to be inserted at any rate. This reduced vowel may have been similar to modern Ch. ǎ/ě, and therefore the Mo. parallels show a/e. This means: We may write **atār'* (= Mo. *atar*) instead of **atǎr'* (cf. above), but the real PTu. form is not reconstructable on the basis of the Mo. parallels; we simply have to write PTu. **atǎriǎ*. (On the other hand, PTu. **bōriā* - not **bōriǎ* - is clear on the basis of the Mo. parallel + the well-known general evolution mentioned above: that -A is preserved longer than higher vowels; it is rather unlikely that all auslaut vowels at the same time have become -ǎ₂.)

Of course, in some instances -A or other vowels are secondary in Mo., e. g., after -č and final clusters (which are against the Mo. phonology): ATu. *ürk-* 'to be afraid' = Mo. *hürgü-*, *bārk* 'firm' = *berke*, *qilǐnč* 'sin' = *qilinča*.

3. Transition: the diphthongs *iǎ

According to the classical theory PTu. has had an iǐ diphthong which has been preserved in Ch., namely in the anlaut (Ch. *yus* 'hermine' = CTu. *âs*), after *q- (Ch. *yur* 'snow' = CTu. *qâr*), *t- (Ch. *čul* 'stone' = CTu. *tâš*),

*s- (Ch. *šur* 'marsh' = STu. *sâz*); here the Ch. forms are to be derived as follows: **îâš*, **kiâr* (< *xîâr* > *yor*), **tîâlîz*, **sîârî*. Normally the *î* diphthongs appear together with long vowels (more precisely: diphthongical long vowels, cf. chapter 2.3). But in the anlaut we find such cases as Ch. *yux-* 'to flow' = CTu. *aq-* (more precisely: *āq-*, with simple length). Cf. Räsänen 1949, 152, 159, 174-5, with older literature (Ramstedt, Gombocz, cf. also Poppe in AM 1924, Ligeti in MNy 1938). This phenomenon is attested in old Ch. loanwords in Hungarian (e. g., Hung. *sár* [šār] 'yellow' = Ch. *šurā*, 8th century), in Mo. correspondences (*šira* id < **sîār*, CTu. *sârā*γ), and in the well-known name of the Khazar residence *Sarkel* ("White Town", Hebrew *Sarkīl* etc., 7th century).

The classical theory has been accepted by many scholars, such as Nauta (who has constructed a complete scheme of PTu. vowel bundles **ɛ̃*^ʷ, **ɪ̃*^ʷ, **ɛ̃*⁻, **ɪ̃*⁻, **ɛ̃*, **ɪ̃*, with the Ch. correspondences for each of them, cf. chapters 2.3, 2.5); TMEN hw. 237, 855, 1846 (also in PMo.: hw. 237, 248, 395); Doerfer 1971 d, 439; KhM 278-9. Some transcriptions in ATu. Runic script seem to prove that at least *sĩz-* (or *š̃ĩz-*, *š̃ĩz-*) still existed in ATu., cf. Pritsak 1963, 33 ("s² *jaqan-*" = *sîâqān-* 'to think' = Middle Tu. *sâqin-*: (incidentally, I am not convinced that Pritsak's other diphthongs are correct); Tenišev 1971b, 291 directly transcribes *š(a)q(y)n-* = *šâqān-*, and *sûb* 'water' (CTu. *šub*, but cf. Ch. *šivā* = PTu. **sîûb*).

Other investigators are inclined to regard this a secondary phenomenon; according to Serebrennikov 1960, 72 and 1966 Ch. *y-* is prothetic. [Why do we find CTu. *el* 'people' = Ch. *yal*, but CTu. *êšêk* 'threshold' = Ch. *ālā*?] Levitskaja 1969 wished to prove that Tuvinian *x-* = Ch. *y-* < **qh-*, Tuvinian *q-* = Ch. *x-* < **q-*, but she was compelled to admit many exceptions, cf. Doerfer 1974b, 11-12; already Pedersen had tried to explain Ch. *y-*, e. g., in *yur* 'snow' = CTu. *qâr*, < **γ-*, and Ch. *x-*, e. g., in *xur* 'goose' = CTu. *qâz*, < **k-*, cf. Ščerbak 1970, 90. Ščerbak 1964, 35. and 1970a, 148, 165-9, 181 thinks that *y-* in such cases as Ch. *yux-* = CTu. *āq-* is prothetic (cf. above), and in cases as CTu. *qân* 'blood' = Ch. *yun* we find a "sporadic diphthongization", a "realization of long vowels in the form of diphthongs", "a tendency in a phase of development". [Why do we find CTu. *qân* 'blood' = Ch. *yun*, but CTu. *qâz* 'goose' = Ch. *xur*? Which are the special tendencies?] p. 168 (note 76) Ščerbak quotes an interesting theory of Serebrennikov's. Tekin 1972, 355 and Hovdhaugen 1972, 211 seem to think that PTu. *sâ-* in Ch. always becomes *šu-* ("šurâ < *šarî < *siarîγ < *sârîγ"); This

cannot be correct because we also find *su-* 'to count', *su-m* 'number' (with the typical Ch. -m, CTu. *sân*, cf. chapter 4.10).

4. Consonants

4.1 Consonants in general

The PTu. general system of anlaut consonants is a difficult problem. When, e. g., corresponding to Tu. *y-* we sometimes find in Mo. a *d-* it is difficult to say whether a) PTu. had still preserved (Alt.) *d-* or b) already had *y-*, cf. chapter 4.4. Therefore there are very different solutions of this problem: Ramstedt preferred solution b), Doerfer a), whereas Ščerbak has a quite particular view.

An interesting system has been proposed by Tenišev 1963. The author reconstructed the ATu. auslaut system on the basis of modern Yellow Uighur and Salar, finding the following pairs: *q: q'*, *k: k'*, *t: t'*, *p: p'*, *s: s'*. Ščerbak 1970a, 99-100 says that further experimental investigations of Salar and Yellow Uighur must be awaited. Everybody will agree, but this is not the only objection: (1) One has to consider the strong influence of Chinese on these languages; (2) a reconstruction of *p-: p'-* is in contradiction to ATu. *b-* (written just as *-b* which later on has become *-v*); (3) an investigation of the initial labial in S. Kakuk: "Un vocabulaire salar", AOH 14. 173-96 (1962) gives the following results: a) We may find many variants such as *pu ~ Bu ~ bu* 'this', b) we find many cases of the type *Baš, baš* 'head' with derivations as *pašla-*, *Bašla-*; c) in foreign words we find developments such as *pat*, *BaD* 'duck' ← Arabic *baṭṭ*, also *Dat'* -, *D'at* - 'to pull' ← Mo. *tata-*, *t'únya* 'world' → Persian *dunyā* (← Arabic), etc., which clearly show that this is a secondary development; d) as Kakuk has shown (cf., e. g., p. 165-7) the opposition voiceless: voiced is on the point of vanishing (just as in some German dialects, such as Saxonian), on the one hand we find a tendency toward de voicing, e. g., *y- > x'* - (*x'* as *ch* in German *ich 'I'*), on the other hand we find a tendency toward voicing ((*t-*, *k-* > *D-*, *G-*, and even *d-*, *g-*).

However, it seems to be clear that PTu. had no sonants in the anlaut, cf. chapter 4. 9.

4. 2 *p- (h-)

The question of PTu. (and Alt.) *p- is a battle of two theses (cf. Aalto 1955 for the older time):

A. Ramstedt's thesis (at first laid down in JSFOu 32, 1916-20, and finally in 1957, 39): Alt. *p- > Tungus *p-*, *f-*, *h-* (depending on the languages),

Mo. h- (> ∅-), Tu. ∅ - ; in ATu. every trace of *p- or even *h- had already been lost.

B. Bang's thesis (in KSz 17. 119, 1916/7): In some Tu. dialects we find an h-, but this is prothetic, a Cockney h-.

An adherent of Ramstedt's is Räsänen (1949, 150; 150; 1961) according to whom, however, h- has been preserved in some sporadic cases (20 words) in some Tu. dialects (above all, Azerbaijani, Turkmen, Uzbek, New Uighur). [Of Räsänen's 20 "sure cases" in 1961 we may exclude 2, 7, 8, 9, 16, 18.] Poppe 1960, 10 has accepted Räsänen's thesis. Hence Ramstedt's theory, not originally in contradiction to Bang's thesis, was now in striking opposition to it.

Brockelmann (1954), 48) supported Bang: in Tu. h- is secondary, prothetic. Such was also Clauson's theory (1961) according to whom the actual development in the Alt. languages is, not *p- > *f- > h- > ∅-, but Tu. ∅- → Mo. h- → Tungus f- > p-.

According to Doerfer the development is Tu.*p- > *f- > h- > ∅- (resembling Ramstedt, but being an internal Tu. development), cf. TMEN I, 8, 12-3, 92-4, 97-8 (and hw. 60, 226, 313, 314, 339, 346, 347, 348, 1150, 1656), 1968, 1971b, 440-1, 1971c. On the other hand, he thought modern Tu. h- to be prothetic (14 sporadic cases seemed not to be sufficiently convincing), cf. TMEN, hw. 397, 450, 454, 507, 582. After the exploration of Khalaj he changed his view: Khalaj has preserved h- not only in sporadic cases but in many words; and significantly correspondences with Mo. h-, e. g., *hürgü-* 'to fear' = Azerbaijani *hürk-* = Khalaj *hirk-*. In such cases we always find h-, never ∅-. This cannot be mere coincidence; cf. Doerfer 1971 a, 326-7 (and already in ZDMG 1968, 105-6).

A counter-attack has been undertaken by Ščerbak 1970, 81, 181-2: h- is prothetic, developed under foreign influence, Alt. parallels are rare (only Tu. *öküz* 'ox' = Mo. *hüker* = Evenki *hukur*. [Actually we find some other Alt. parallels, namely for the following Tu. words: *uyuq* 'lasso', *oyma* 'felt boot', *arq* 'excrement', *ürk-* 'to fear', *üt* 'hole', *im* 'sign', *ul* 'sole', *atü* 'grandson', *amur* 'rest'.] Similarly, Zejnalov 1972, 76-7 who alleges Azerbaijani dialect forms such as *haftamobil* → Russian *avtomobil*', and Sevortjan 1973, 39-41.

A response is found in KhM 163-5, Doerfer 1973, 15-9: One has to distinguish three things: (1) h- in Khalaj (primary, stable), (2) h- in the written languages Azerbaijani, Uzbek, New Uighur (primary, unstable-sporadic), (3) h- in

some Azerbaijani dialects, in Gagaus, etc. (cf. Gagaus *hatäš* 'fire' ← Persian *ātaš*; here the h- is secondary, unstable - sporadic). To be sure, the fact that h- is prothetic in *some* Tu. dialects does not prove that it is prothetic in *all* Tu. dialects. One has to consider that Khalaj never shows prothetic h- in loan-words, in clear contrast to the dialects sub (3). Doerfer has enumerated the whole of the proofs for the original character of Khalaj h- in 1974 c and in his article in this journal (Khalaj and its relation...). Even ATu. h- may be reconstructed by an indirect method. Talipov 1969, too, thinks h- to be primary, and so do Ligeti (1963, 385 + 1971, 188-) and Tezcan.

According to Illič-Svityč 1971, XIII-IV, 147 one has to suppose Nostratic *p^c- (Tu. ∅ - = Mo., Tungus *p-), *p- (Tu. b. = PMo., Tungus *p-), *b- (Tu. b- = Mo., Tungus b-). Against this theory Doerfer 1973, 81.

4.3 b-

Concerning the problem whether in ATu. (and in CTu). we have to suppose *b- or *p- we find three theses:

(1) We have to suppose PTu. *b-. This is the classical thesis of Ramstedt, Poppe (e. g., 1960, 20), Räsänen (e. g., 1949, 160-1). It is based on such comparisons as Tu. *buzayu* 'calf' = Mo. *burā'u* (Secret History) = Hungarian *borjú*, etc. (We find no trace of PTu. *p- in Alt. parallels to Tu. words). Furthermore, the oldest Tu. documents (in Runic script) clearly show b-.

(2) The strict antithesis is: We have to suppose PTu. *p-. (an early proponent of this thesis was Radloff in his edition of Qutadγu Bilig). It is found in Ščerbak 1964 and 1970, 93-4, 163-4; Abdullaev 1965; Gadžieva 1973a. As proofs for this thesis are considered: a) the fact that in Uighur script b- is not differentiated from p- (Abdullaev) [but it is differentiated not only in the far older Runic script but also in Manichaean and Tibetan scripts while the texts in Brahmi script seem to be a special dialect]; b) *p- has been preserved in some modern dialects (Ch., Khakass, Shor, Kipchak-Uzbek) [but cf. Khakass *pā* 'price' ← Persian *bahā*, *paraxsan* 'poor man' ← Mo. *baraysan*, etc., which may prove that b- > p- is secondary]; c) it is based on the axiom that PTu. only had voiceless anlaut consonants [cf. chapter 1.6].

(3) Clauson 1961 (who has a precursor of sorts in Németh, Nyk 43, p. 453) distinguishes PTu. *b- and *p-, the last preserved in some Ttu. dialects (cf. also Clauson 1962, 170). Against this Doerfer 1968 (p- is secondary, only before voiceless consonants, cf. Persian *but* 'idol' → Ttu. *put*). also TMEN hw. 716, 742, KhM 342.

4.4 ATu. y-

Apart from Mo. and Tungus parallels (for which cf. Clauson 1957, 45; 1962, 160; Poppe 1960, 35; Menges 1968, 92-3; and, on the other hand, TMEN I 62, 89-90, hw. 1773 1787, 1797, 1825, 1837, 1910, 1941, and Ščerbak 1966 c, 25) several authors have thought to find a relic of PTu. *n- or *ñ- in the Hungarian word *nyár* 'summer' → Tu. *ñâr* or *ñâz* (nowadays *yâz*) 'spring', cf. Ramstedt 1957, 74; Clauson 1962, 128; Poppe 1960, 36 (which distinguishes early pre-Turkic *ñ-*, *n-* : late pre-Tu. *y-*); Menges 1968, 92. Cf. regarding this word L. Benkó: *A magyar nyelv történeti-etimológiai szótára*, II. Budapest 1970, 1036. I am not sure whether this comparison holds true, cf. TMEN, hw. 1787. Ščerbak 1966c. 25 means that *n'- cannot be proved for PTu., 32-3 he explains that PTu. *θ- → Mo. d-, n-, j̣-, y-, the oldest layer being d-, n- [n- < θ- ?], later j̣-, and finally y-.

It is a well-known fact that for Tu. y- the Mo. correspondence is d-, j̣- (and sometimes y-). Even if we accept the Alt. thesis the problem remains whether a) PTu. still had preserved d- (which became y- only very late or b) whether the development Alt. *d- > Tu. y- is just a characteristic feature for the splitting off of PTu. from the Alt. famill. Poppe has considered both possibilities (1960, 22: 27). The fact that in Greek sources of the 2nd and 6th century we find *dógia* 'funeral' = ATu *yoy* and *Dáix, Dáiks* = ATu. *Yayiq* seems to prove that possibility a) is preferable, these are true parallels to, e. g., Tu. *yayqu* 'rain-coat' (from *yay-* 'to rain') = Mo. *daqu* (cf. Räsänen 1949, 185 Dmitriev 1955; Clauson 1957, 45 + 1962, 124, 160, 170; Poppe 1965, 59, also 22; TMEN I 97-8, 103-4, hw. 1194, 1784, 1801, 1805, 1806, 1825; Doerfer 1971a, 332-3 + 1971b, 440; Menges 1968, 87-9). Some authors transcribe pre-Tu. d- (Serebrennikov 1960, 72; Poppe 1960, 22; Doerfer 1971b, 440); others transcribe δ- (Clauson 1962, 124, 127, 170; TMEN I 97-8, 103-4; Menges 1968, 87-9 hesitates, but prefers δ-). Those authors which presume several Tu. layers in Mo. have constructed the development PTu. *d- or *δ- > j̣- > y- (cf. Ščerbak 1966 c, 32-3; Clauson 1957, 4-5 + 1962, 37-44, 160, 170, 220; TMEN I 97-8 103-4; Doerfer 1971b, 440; KhM 270). Menges 1968, 87-9 presumed PTu. *d- or *δ- > y-, and in some cases > j̣- (therefore Muslim *j̣abgū* ← Tu. *δabyu*). This development seems to be confirmed by the Mo. doublet *doliy* ~ *j̣oliy* 'ransom' = Tu. *yoluy* < *yoliy*, cf. TMEN hw. 1974, 2124. There seem to have existed some older Tu. dialects which still had j̣-, not y-, cf. TMEN hw. 147, 148, 157, 160, 169, 1784, 1789, 1794, 1812, 1833 and, above all, 1825 (in older Muslim and other sources of the 9th-10th centuries the

normal correspondence of ATu. *y-* is *j̣-*, in Persian sources however *y-*). It would be interesting to investigate Chinese correspondences, cf. TMEN hw. 1812 and 1903 (Chinese *gam* 'post' → Tu. *yam*, Mo. *j̣am*; Chinese *yañ* 'manner' → Tu. *yañ*, Mo. *jañ*). It is broadly assumed that for CTu. *y-* the correspondences in the Ch. loanwords in Hungarian are *sz-* (which problem I will not discuss here), *gy-* (most frequently), *d-* (before *i*, e. g., in *díó* 'nut' = Tu. *yayaq*), and \emptyset - (in *ír-* 'to write' = Tu. *yaz-*); this would mean that Bulgarian was a *j* language, in contrast to ATu. which was a *y* language, cf. Ramsstedt 1957, 59-60; Räsänen 1949, 185; Clauson 1962, 127; Doerfer 1971a, 332-3. But there is another possibility: We may assume that the original Bulgarian sound (8th century) was still *y-* (which has become *j-* or *č-* only in Volga Bulgarian, 13. / 14. centuries). Now according to Gt. Lakó Proto Finno-Ugric sources of the Hungarian phonetic stock, UAS 80, 1968, p. 53-4 we find an old (dialectic?) dichotomy in the Hungarian development of proto Finno-Ugric *j-* (= *y-*): a) *j-* and b) *gy-* [d'], and *j-* becomes \emptyset before *i* (*iv-* 'to drink' < **jiv-*, etc.). Thus *ír-* may be derived from older Ch. **yír-* (cf. chapter 2.5) → Hungarian **jír-* > *ír-*. (And *díó*, older *gyíó*, may be another Hungarian layer.) I. e., we may assume older Ch. *y-*, not *j̣-*.

According to Ščerbak 1964 and 1970a, 159-61 we have to assume PTu. * \emptyset -. This is one of the weakest points of Ščerbak's theory. There is nothing which speaks in the favor of a voiceless dental fricative, cf. chapter 1.6 and Doerfer 1971a, 332-3 (such forms as Yakut *s-*, Kazakh *j̣-* are very young developments of Tu. *y-*, as can be proved by Mo. and Russian loanwords, cf., e. g., Kazakh *j̣ada-*, Yakut *satā-* 'to be unable' ← Mo. *yada-*).

For the question whether Tu. *j̣-* or *y-* is older cf. Serebrennikov 1960, 65-70, Gadžieva and Serebrennikov 1974 (which doubts the original character *j̣-*, thinking *y-* to be older). On the basis of the whole development and on the normal rules of phonetic development now I prefer as that most probable thesis one very similar to that of Menges: PTu. **d-* > * δ - > *y-* > in part *j̣-* (ATu. dialects) ~ *y-* (mostly) > modern forms with *y-*, *č-*, *ś-*, *s-*, etc. But it is very likely that in PTu. **j̣* existed as well (a direct development **d-* > **j̣-* is unlikely, at any rate), the voiced counterpart to *č-* (just as PTu. *d-*: *t-*, *b-*: *p-*, etc.). Such Mo. forms as *šeme* 'carrion' (= Tu. *yēm*), *jada* 'rain magic' (= Tu. *yad*) would be in favor of this thesis. (However, **d-* and **j̣-* must have coalesced rather early; furthermore, many correspondences Mo. *j̣-* = Tu. *y-* must be rather young, such as Mo. *šarim* 'half' = Middle Tu. *yarim*, cf. chapter 2. 8. 1.).

4.5 ATu. t- and k-

According to Ramstedt 1957, 37-41 Alt. k-, t-, p-, g-, d-, b- have become in Tu. k-, t-, ∅-, k-, t-, b-, respectively. This opinion is shared by Poppe 1960, 13, 16 and Räsänen 1949, 153, 158 (against Németh and giving older quotations). In opposition to this view Menges (Fundamenta I, 1959, p. 451; 1968, 86-9 and already in his Qaraqalaq Grammar) thought that Oghuz and Tuvinian have preserved an original opposition *d-: *t-, *g-: *k- (and, furthermore, $\delta > y$, 87-9). e. g., Ttu. *gün* 'day', but *kes-* 'to cut; [going back to PTu. **gün*, **käs-*.] This opinion is shared by Clauson 1962, 161, 170. Illič-Svityč, on a Nostratic basis, even distinguished Alt. *t-, : *d- : *δ-, later on t^c-: t- : d-; *k^c-: *k-: *g-; *p^c-: *p-: *b- (1963- + 1965 + 1971, XIII-XIV, 147). On the other hand, Ščerbak, supposing that PTu. had only voiceless anlauts, reconstructed PTu. *t-, *k- (and *p-): 1964 + 1970a, 88-100 (according to him t- > d-, k- > g- is a CTu. tendency, to be found already in the PL, whereas according to Räsänen these developments are due to a recent Sandhi development); Gadžieva 1973 a has joined Ščerbak. In my opinion we have to distinguish two facts: (1) I think that d-, g- already existed in PTu., *d- developed to y- (cf. chapter 4.4). In TMEN I 97-8, 103-4, hw. 196, 848 I supposed PTu. *d- to be preserved in Mo. in such cases as Tu. *taloy* 'ocean' = Mo. *dalai*, *tarxan* 'tax free man' = *darqan*, but for these words (one of which is a title, the other a word for a phenomenon strange to the ancient Turks) foreign influence (Mo. or a third substratum) may be more likely. (Cf. also TMEN hw. 203, 872, 879, 956, 960; Doerfer 1971a, 331-2.) On the other hand, I think that the following examples are rather clear proofs for an original Tu. *g-: Mo. *gem* 'illness' = Tu. *käm*, *γaγursun* 'chaff' = *qavuz*, *gölöge* 'puppy' = *köšäk* (presumably also *γol* 'river' = *qol*); furthermore the imperative form Tu. : *GIL* < **gīl* 'do!' (cf. chapter 6.1), the plural suffix +*gün* < *gün* 'people' (cf. chapter 5.2). (2) I think that the development Oghuz t- > d-, k- > g- (and of the corresponding Tuvinian sounds) is recent and secondary (to explain according to Räsänen). A connection of Mo. g-, d- with Oghuz g-, d- is not necessary (normally in Mo. k-, t-, correspond to Oghuz g-, d- e. g., Mo. *kerü* 'behind' = Ttu. *geri*, Mo. *temegen* 'camel' = Ttu. *deve*). It can be shown that Oghuz g-, d- are secondary, cf. the article "Das Vorosmanische, in this journal. The same holds true for Tuvinian g- (k-), d-, cf. the article mentioned above and Doerfer 1974b.

4.6 -t- < *-qt-

In some cases Tu. -t- seems to go back to an older *-qt-, cf. TMEN hw. 8, 141 (?), 413, 680. Are we allowed to assume CTu. *at* 'horse' (Khalaj *hat*, Mo. *aγta*) < PTu. **pakta*?

4.7 Alternation of consonants

According to Pritsak 1961 we find an alternation of voiced and voiceless consonants in some Tu. suffixes; this was rejected by Ščerbak 1970, 95, 105. Çağatay 1954 enumerates many variants $\tilde{n} \sim G$. It seems quite unclear whether in PTu. there was a regular alternation of the type Finnish *katu* 'street': *kadun* 'of the street'.

4.8 As is well known the Ch. numerals show two "status": absolutus, with gemination e. g., *ikkě* 'two', and constructus (before a noun) *ikě* (*kil*) 'two (houses)', cf. Dmitriev 1955, 261-4, Serebrennikov 1964, 135-8 (who explains these forms by a Mari impact, but we find relics of gemination of numerals in many other Tu. languages, as well, namely in *äki* \sim *äkki*, *yäti* \sim *yätti* 'seven', etc., cf. Räsänen 1957, 77-8, Benzing in *Fundamenta* I, 730; in KhM I tried to show that Turkmen *bāš* 'five' is a constructus form).

According to Tekin 1971 geminate consonants very often are a relic of an original length (Turkmen *garrī* 'old' < *qarī*, etc.), whereas Gadžiev 1971 thought that geminates give the word an expressive character (indeed most words containing geminates mark quantity and quality). This problem (which deserves further attention) is connected with the question of vowel quantity, cf. chapter 2.3: Ščerbak has presumed that short vowels originally stood before geminates, e. g. CTu. *at* 'horse' < *at*' (with stressed t, i. e., *att*). This seems to be just the contrary of Tekin's assertion; but all these assertions may be compatible by the assumption of different layers (different times of development).

4.9 Rhotacism and lambdacism

There is no problem in Tu. reconstructive grammar that has aroused passions quite so much as the question of rhotacism and lambdacism. When we find e. g., a comparison as CTu. *ekiz* 'twin': Ch. *yěkěr*, Mo. *ikire*, Manchu *ikiri*, which sound is original, z or r? (I. e., a kind of r, because we also find such comparisons as Tu. *qara* 'black' = Mo. *qara*.) This seems to be an "Altaic" problem, because when we accept the Alt. theory r' (or something similar) seems preferable for the congruence of Ch., Mo., and Tungus (but Menges, an adherent of the Alt. theory, has preferred z); on the other hand, when we prefer the theory of loaning a development Tu. z > dialectal -r' → Mo. r → Tungus r seems preferable (but Doerfer prefers PTu. *r'). We find remarks about the history of the problem in the following works: Räsänen 1949, 22-3,

Pritsak 1964, Tekin 1969, Ščerbak 1970a, 84-8, Nauta 1972, cf. also Dmitriev 1955 a, 6. Here I shall give only some recent developments:

Bouda 1947 has shown that variants $l \sim \check{c} \sim \check{s}$ are found throughout the world, both with a change $l > \check{s}$ and with $\check{s} > l$; Serebrennikov 1960 has shown that $r > z$ exists as well as $z > r$ in many languages. I. e., the problem is not solvable from a general viewpoint. Therefore we find two traditional lines of explanation and some recent developments:

(1) CTu. $z, \check{s} < r'$ (or r'), l' (or l'). Cf. Räsänen 1949, 22-3; Ramstedt 1957, 103-14; Poppe 1960, 77, 81; Serebrennikov 1960, 62-5, 70-1 and 1971a. This is, so to say, the classical view. Poppe 1952 supposes $*r\check{i} / r\check{i} > r' > z$.

(2) CTu. $z, \check{s} > \text{Ch. } r, l$. Cf. the quotations in Räsänen 1949, 22-3 (Né-meth, Benzing). Menges adhered this thesis formerly (e. g., *Anthropos* 49, 1954, 1111); but in 1968, 94-100, he hesitates: comparisons with extra-Alt. languages show contradictory results. Another adherent of this thesis is Clauson (e. g., 1962, 128 where, on the basis of Hungarian *nyár* 'summer', he reconstructed Tu. $*\check{n}\check{a}z > y\check{a}z$).

(3) Ščerbak 1961 doubts all comparisons Ramstedt has given for Tu. -š- = Mo. -l- [but some of them are convincing, e. g., Tu. *köšäk* = Mo. *gölöge*, cf. chapter 4.5]. In 1964, in 1966 c., 30-2, and in 1970 a, 84-8 he explains that a) long vowel + š > CTu. š, Ch. l, but short vowel + š > CTu. š, Ch. ś; long vowel + s > CTu. z, Ch. r, but short vowel + s > CTu. s, Ch. s. [But cf. such words as CTu. *qış* 'winter' = Ch. *xěl*, not $*xěš$; CTu. *kāz* 'to rove' - not $*kāz$:-; CTu. *yās* 'funeral', *ās* 'hermine', not $*yas$, $*as$, etc., which all are against Ščerbak's rule; in his list in 1970a, 193 sqq. Ščerbak reconstructs $*kīš$ 'winter', *kās* 'to rove', etc., but these are not the really attested forms. Cf. also such minimal pairs as *kāz* 'to rove': *kās* 'to cut'] b) š-, according to Ščerbak, is found in *šiš* 'ulcer', *šāš* 'to be stupified'. [These are only two words, and they go back to older *sīš*, *sāš*-, cf. M. Räsänen, *Versuch eines etymologischen Wörterbuchs der Türkischen Sprachen*, Helsinki 1969, 405, 424.] c) According to Ščerbak 1966, 30-2 the Tu. forms with -r(-) in Mo. belong to the 6./7. centuries (at least), the forms with -s to the 7./8. centuries. [But when Tu. s is older, as Ščerbak assumes, and z and r are younger, why not contradictory development?]. In passing, one might note that the opinion that the comparison Tu. -z(-) = Mo. -r(-) belongs to an older layer, -z = -s to a younger, is shared by Clauson 1962, 37-41 and TMEN 98-9 (the words with -r- show many archaic features, those with -s do not, cf. Tu. *böz* 'grey' = Mo. *bora*, with -A, but Tu. *yüz* 'brass' = Mo.

˘jes, we never find *˘jese or similar forms). Cf. Tekin 1969, 55-6 who gives another refutation of Ščerbak's views.

(4) According to Pritsak 1964 $z < *rti's < *lti$, i. e., l or r with a collective suffix + ti. Refuted by Tekin 1969, 53-4, Róna-Tas 1970, 224-6, Ščerbak 1970a, 85.

(5) According to Biišev 1965 a) -r and -z often are suffixes, b) z goes back to *δ. Refuted by Ščerbak 1970a, 85; Tekin 1969, 54-5; in fact, subhypothesis a) may be partly correct, cf. beneath.

(6) Emre 1949, 94-6 thought to find variants in such forms as *köz* 'eye': *kör-* 'to see', *tüş* : *tül* 'dream'. This would mean that r/z, l/š are mere allophones of the same PTu. phoneme. A more modern stage of this theory is found in Tekin 1969 whose theory is that originally we had -z, but -r- (or that *-r has become -z?); cf., e. g., *sämüz* 'fat': *sämri* - 'to become fat'. Objections: a) As a proof of this theory Tekin cites mainly disyllabic words as *köküz* ~ *kökräk* 'chest'. But it seems clear that these are two different suffixes (more precisely: root derivatives) of **kökä* (cf. Mo. *kökön*); -z is a well-known derivative of body parts (*omuz* 'shoulder', *ayız* 'mounth', etc., cf. chapter 5.2). Why, e. g., do we have *bögür*: *bögräk* 'rein' (Mo. *bögere*), why not **bögüz* : *bögräk*; why do we have *äkiz* 'twin': *äkizäk*, why not *äkiz*: **äkiräk* (Mo. *ikire*), etc.? Also the suffixes +s^oz 'without' and '+sIrA- 'to be without' are not directly connected (they contain different vowels, cf. *ög* + *sirä* 'to faint' : *ög* + *süz*, better *ög* + *söz*, 'fainting'). b) There are many minimal pairs such as *kär-* 'to stretch' : *küz-* 'to rove', *yâr* 'steep shore': *yâz* 'spring'; cf. Nauta 1972, 4. This proves that -r and -z are different phonemes. c) We find several examples of roots with -z-, such as *yazı* 'plain', *qozı* 'lamb', *qazı* 'sausage', *azu* 'or'.

(7) Meyer 1970 thinks that an ATu. opposition r: z exists and that z is the original sound. [I should say that the opposition CTU. r: z is more original than Ch. r = r, but this gives no hint as to original sound of z: r' r˘, z?] Meyer explains that Ch. *kuś* 'eye' ← Kasan Tatar *küz*, cf. regarding this point Doerfer 1971 a, 337-40 and here chapter 5. 2.

(8) Róna-Tas 1970 thinks that many old dialect variants r ~ z (l ~ š) exist. [I should cancel most of this comparisons, e. g., *yaz-* 'to notch' ~ *yâr-* 'to split up', recte: *yaz-*: *yar-*; and, e. g., Tu. *têz* 'swift' presumably has nothing to do with *târk* id, but is a loanword from Persian *têz*, etc.] In 1971 Róna-Tas quite convincingly remarks: "It remains a mere speculation as to

what the actual phonetic value of these sounds would have been. It is more important ... that r_1 and r_2 and l_1 and l_2 respectively must have been in phonological opposition". He thinks that such cases of correspondence which contain CTu. $z, \check{s} =$ Ch. $r, l =$ Mo. r, l are always Ch. loanwords in Mo.

(9) Tenišev 1971 a proposes two stages of older Tu.: Early CTu. (with only r, l , among other features) and Late 2CTu. (with an opposition $r, l: z, \check{s}$). He does not tell how he imagines the splitting up of these originally uniform sounds.

(10) Nauta 1972 thinks PTu. distinguished $r: X (= z, r^\vee, \text{ or } r')$ in monosyllabic words (he quotes minimal pairs as *kär-* : *küz-*, cf. above). But in polysyllabic words according to him we find no phonological distinction between r and X since $-r$ is found after stressed vowels, $-z$ after unstressed vowels. [I am not sure whether he is right, because we find such words as *bö'g^or* = Middle Tu. *bögür*, *bögräk* on the one hand, and on the other hand we find such words as *aya'z* 'frosty night' - which is not derived from *ây* 'moon' -, etc.].

(11) Sanžeev 1974 does not try to give a solution of the problem concerned here, but he shows (in a very lucid manner) which points of view have to be considered for a final solution of the problem. According to him, both developments are possible a priori: $r > z$ ($l > \check{s}$) and $z > r$ ($\check{s} > l$). He points to the fact that to the Tu. correspondence $-z$ (*köz* 'eye') :: $-r$ (*kör-* 'to see') Mongolian sometimes corresponds just the opposite relation: *sonor* '(ability of) hearing' :: *sonos-* 'to hear'.

(12) According to Tekin 1974 we even find an alternation $l \sim s$ in Turkic and Mongolian. [But the number of examples seems too scarce.]

Doerfer has always been irresolute as to the problem of whether z, \check{s} , or r' , l' (r^\vee, l^\vee) were original. He called this an "unsolvable problem" (TMEN I 98-9 and hw. 68, 486, 1466, 1595, 1898 + 906, 1194, 1534; 1971a, 342-3; 1971b, 438; KhM 275). But I am now convinced that r', l' (or similar forms) may be somewhat more likely than z, \check{s} ; i. e., I have returned (in a sense) to Ramstedt's and Poppe's classical solution. And this for the following reason:

The systems of anlaut consonants and of inlaut/auslaut consonants differ greatly in the Tu. language. Almost all authors agree in supposing that in the Tu. PL the anlaut consisted only of acclusives, affricates and fricatives ("con-sonants"). Ramstedt and his school, e. g., have this system (where PTu. is = ATu.):

(h < *p-) t k č s
 b y (< *d-, etc.)

Ščerbak's system is (cf. chapters 4. 2. 3, 4, 5, 10):

p t k č s *θ (> y) š

Doerfer's system is (= Alt. anlaut system minus sonants):

*p t k č s
 b d g ž (?)

(Only Clauson supposed such sounds as *n', *x in the anlaut.) On the other hand, for the in-/auslaut all scholars agree that (in. addition to p, t, k, č, s, b, d, g, y) we find the following sounds (most of which are sonants):

m n ñ ɳ
 r z l š

Ščerbak has tried to find š- in the anlaut, but we have seen that this is extremely unlikely. Now let us suppose that z < r^x (= some kind of r or some kind of r + another sound or other sounds) and š < l^x. In this case we should have an "additional inlaut - / auslaut system" (additional to the anlaut consonants, which may appear in all positions)

m n ñ ɳ
 r r^x l l^x

And this would produce a quite simple (and, as I think, convincing) rule which, in contrast to Ščerbak's internal Tu. system, shows no contradiction to the historical and comparative facts):

"In PTu. con-sonants were admitted in all positions, sonants were admitted only in the in-/auslaut".

So much for the internal Tu. system. May we reconstruct a still older stage by means of other (also external) facts?

As has been shown in chapter 3, in PTu. ĭ diphthongs existed (* *kiân* 'blood' > CTu. *qân*, etc.) As we have seen in chapter 2. 8. 2 short auslaut vowels existed (**pärä* 'man' > *är*, etc.). Combining these facts, we may suppose that, e. g., r^x is = PTu. *rĭə (e. g., CTu. *bōz* 'grey' < **bōrĭa*, cf. Mo. *bora* - Mo. has never preserved ĭ diphthongs but it has preserved -r- and -a). Generally speaking, we may explain:

z < *rĭə
 š < *lĭə
 ñ < *nĭə

(Cf. CTu. *qōn* 'sheep' = Mo. *qoni(n)*. To *ń* cf. Nadeljaev 1963. Ščerbak 1970a, 170, Räsänen 1949, 205-9, Clauson 1962, 91, Zieme 36-7.) Furthermore, in some cases *ń* may have developed from older **m'* cf., e. g., Doerfer 1974 a, hw. 65 (CTu. *tōń* mud = Ch. *tum* < PTu. *tōm'* or **tōm̃* < **tōm̃* [not **tōm̃a*]). And furthermore, the possibility of an old **ñ* exists (cf. Räsänen 1949, 200-3). This means, the PTu. system of sonants was:

r l *n* n m (-rɛ, -rɪɛ, etc.)

After the dropping of unstressed short vowels a later stage of PTu. contained the following additional sounds:

rɪ lɪ *ñ* ñ m̃ (or r', etc.) < -rɪɛ, etc.

which in CTu. have finally become

z š *n* ń ń

and in Ch.

r l *n* n m

(*n* still preserved in Ch. loanwords in Cheremiss, nowadays $n \sim m$, depending on the surrounding vowels).

The fact that Ščerbak could find no example for *š- (although his system required it) proves that CTu. š cannot be original but must go back to *l̃ɛ, generally speaking, to a sound which could not appear in the anlaut; it is Ščerbak's error which has led us to the right way.

Now let us regard the external facts.

(1) (Cf. KhM 275. instead

In Hungarian it is not l that corresponds to CTu. š but rather lcs = [l̃], and- rj (in the auslaut always r) sometimes corresponds to CTu. -z-. Cf. CTu. *běšək* 'cradle' = Hungarian *bölcsó*, older *belesé*, CTu. *yēměš* 'meal' = Hungarian *gyümölcs*, older *gyemelcs* and similar forms, CTu. *buzāgū* 'calf' = Hungarian *borjú* (but, e. g., CTu. *hökěz* 'ox' = Hungarian *ökör*). I. e., the Bolgar-Ch. loanwords in Hungarian do not correspond to modern Ch., they seem to show some stage as *l̃š, *ry (or *r̃ž?).

(2) In Mo. on the one hand we find such parallels as CTu. *köäšk* = Mo. *göli/öge*, *bōz* = *bora* (simple l, r): but on the other hand we also find (cf. Ščerbak 1966 c, 32) CTu. *äšgäk* 'ass' = Mo. *elʹigen*, CTu. *qoryušun* 'copper' = Mo. *qoryolʹin* (cf., however. TMEN, hw. 1466: Middle Tu. (*qoruyžin*). Perhaps we may add CTu. *ašug* 'knuckle, ankle' = ? Mo. *alču* 'a part of the knuckle' (TMEN hw. 531). These forms are quite similar

to the Hungarian forms, they seem to reflect something like $-l_j^{\vee}$ -, $-l\check{c}$ - ($-l\check{s}$ -?). On the other hand, Mo. always shows $-r$ -. (But possibly the variants *birayu* 'calf', classical written language, \sim *bura'u* Secret History, may be a reflex of PTu. $*bur\dot{\imath}ag\ddot{u}$, cf. TMEN hw. 237.) Possibly Mo. loanwords with $-l$ - and those with $-l_j^{\vee}$ - belong to different layers. At any rate, both Hungarian and Mongol show that $*r\dot{\imath}\varepsilon$ and $*l\dot{\imath}\varepsilon$ have taken a somewhat different development (in this point Nauta is right), and this is reflected by the fact that in modern Tu. $*r\dot{\imath}\varepsilon$ has become a voiced z , $l\dot{\imath}\varepsilon$ a voiceless \check{s} .

Relying on these external facts I would like to suggest that the following development is possible (demonstrated by means of the term for 'ass, donkey'): PTu. $*\dot{\imath}l\dot{\imath}\varepsilon + g\ddot{a}k\ddot{u}$ $>$ $*\dot{\imath}l\dot{\imath}\varepsilon^{\vee}g\ddot{a}k\ddot{u}$ (1st Mo. layer) $>$ $*\dot{\imath}l\dot{\imath}g\ddot{a}k$ $>$ $*\dot{\imath}l_j^{\vee}\dot{\imath}g\ddot{a}k$ (2nd Mo. layer, Hungarian) $>$ $\dot{\imath}g\ddot{a}k$ (and in Ch. $*-l_j^{\vee}$ - $>$ $-l$ -). This would mean: (1) that I have returned to Ramstedt's classical solution, (2) that CTu. r and $\dot{\imath}$ are derived from one original phoneme, followed by different vowels or diphthongs, e. g.,

bögür (older *bö'gär*) 'rein' $<$ $*bögärä$ (Mo. *bögere*)

atüz 'fallow land' $<$ $*atar\dot{\imath}u$ or similar.

Here we may suppose a development: $*atar\dot{\imath}u$ $>$ *atar\dot{\imath}* or *atar'* (\rightarrow Mo. *atar*) $>$ *atär* (similar forms in Ch.) \sim *atöz* (CTu., ATu.) $>$ *atüz* (Middle Tu., modern dialects).

As in this case a relation *kör*- 'to see': *köz* 'eye' would be explicable thus: PTu. $*k\ddot{o}r-\varepsilon$ - 'to see' (with a suffix $-\varepsilon$): $*k\ddot{o}r-\dot{\imath}\varepsilon$ 'eye' (with a suffix $-\dot{\imath}\varepsilon$) this would be, in a sense, a justification also of Tekin's theory.

To recapitulate these suggestions as well as those of chapter 1.3, we may suppose three different PTu. stages before CTu. and ATu., e. g., PTu₂ $*at\varepsilon-r\dot{\imath}\varepsilon$ (where the first ε may be a , the second cannot), $*bög\varepsilon-rä$ $>$ PTu₂ $*at\varepsilon-r'$ (\rightarrow Mo. *atar*), $*bög\varepsilon-r\ddot{e}$ (\rightarrow Mo. *bögere*) $>$ PTu₂ *at\varepsilon-r* (CTu. and Ch. still unseparated) $>$ CTu. *atöz*, *bögër* (close to CTu.) $>$... modern languages. Or, in reverse, we find prior to ATu.:

CTu. = the language before certain dialectal features of ATu., quite close to ATu. but more comprehensive (e. g., h -throughout valid)

PTu₁ = the time when Ch. and CTu. still formed a unity, but already with loss of auslaut vowels (h -)

PTu₂ = the time of Tu. loanwords in Mo., auslaut vowels lost excepted for $*-A$ ($*f$ -)

PTu₃ = oldest imaginable time, with all auslaut vowels (and *p-) preserved.

Cf. also chapter 4. 10.

4.10 *-m (or *-m³) : *-mA

The normal assumption is that in cases like CTu. *qırqın* 'slave girl' = Ch. *xārxām* (Volga Bolgar *xīrxum*) CTu. -n represents the older stage of Tu. (Räsänen 1949, 205, etc). In 1967, I proposed the contrary (cf. also TMEN hw. 1219, 1916, Doerfer 1971, 438-9). In my opinion we have to assume:

PTu.*-m > Early Bolg. -m, Ch. -m = Mo. -m, but CuTu. -n

PTu.*-mA > Early Bolg. -mA (Ch. -m) = Mo. -mA, CTu. -m.

This assertion was based on old material (comparisons with Mo., Volga Bolgar, and Hungarian Bolgar forms such as *szám* = *sâm* 'number' < **sâm* = CTu. *sân*). In 1966 Levitskaja had explained -m as secondary, she pointed to dialectal variants Ch. -m~n. Hovdhaugen, on the basis of these same modern variants, contradicted Doerfer; he supposed that an original phoneme /-n/ in some stage of its historical development had three allophones [n], [ñ], [m] which, later on, became stable, according to the consonant before they stood, /n/, /ñ/, /m/. Doerfer 1974a responded, showing that the modern variants are statistically rare (in some cases presumably hypercorrect forms) and that one finds no condition on which [-n] might have become a stable /-m/. Ščerbak 1970, 170 meant that Ch. -m was found after labial vowels [cf. Hungarian *szám* → Ch. 8 th century *sâm*, etc.] "but there are exceptions"; he reproached Doerfer for not having regarded the quantity of vowels. [But I did; cf. Ch. *śum* 'side' = CTu. *yân*, Ch. *yun* 'blood' = CTu. *qân*, which proves that after â we may find both -m and -n, etc.]. Furthermore he said that dialectal variants ought to be regarded (cf. above).

Today I should prefer, not PTu. *-m, but *-m³, cf. chapter 1.3 7 (where -³ may be -∅ in some cases, and in other cases it had been lost at an early date, cf. chapter 2.82). On the whole, I should imagine the following development of *-m³, *-mA as possible (the dates of the years are free inventions):

PTu ₃	<i>sâm³</i>	<i>dâmâ</i>	8 Cent B.C.
PTu ₂	<i>sâm</i>	<i>ḍâmě</i>	4 B.C.
PTu ₁	<i>sâm</i>	<i>ḍâm</i>	0
CTu.	<i>sân</i>	<i>ḍâm</i>	4 A.D. (> yām6/7A.
(Ch ₃)	<i>sâm</i>	<i>ḍâm</i> or	yām)
ATu.	<i>sân</i>	<i>yēm</i>	8 A.D.
(Ch ₂)	<i>sâm</i>	<i>yēm</i>	

Middle Tu.	<i>sân</i>	<i>yëm</i>	11/14 A.D.
(Ch ₁)	<i>sâm</i>	<i>čëäm</i>	(> sãm, śem 15/16A)
Turkmen	<i>sân</i>	<i>im</i>	
(Modern Ch.)	<i>som /sum</i>	<i>*šim</i>	

Cf. also chapter 4.9. In this scheme I have taken into consideration, apart from ATu.: (1) Ch. -m, (2) Greek *dógia*, Mo. *daqu* (cf. chapter 4.4), (3) Mo. -A (cf. chapter 2.82), (4) the threefold quantity of Khalaj (cf. chapter 2.3). Instead of **dāmā* we may prefer **jāmā*, cf. chapter 4.4. Here is a list of the possible developments of all relevant sounds:

	-m ³	d- j-	g-	p-	iə	-A -3	-riA
PTu ₃	-m ³	d- j-	g-	p-	iə	-A -3 > ə	-riA
PTu ₂	-m	δ- j-	g-	f- > h-	iə	-Ǟ -	-riǞ
PTu ₁	-m	δ- j-	g-	h-	iə	-	-ri or-r'
CTu.	-n	δ- > y-j	-?	h-	ə	-	-z
(Ch ₃)	-m	y- j-	?	?	iə	-	ri or-r')
ATu.	-n	y- ~ j-	k-	h-	ə	-	-z
(Ch ₂)	-m	y- > j-	k-	?	i	-	-ri or-r')
Middle Tu.	-n	y-	k-	-	ə	-	-z
(Ch ₁)	-m	č-	k-	-	i	-	-r
Turkmen	-n	y-	g-, k-	-	ə	-	-z
(Ch.)	-m	ś-	k-	-	iə	-	-r)

As may be seen by this list, *d- and j- must have merged at a certain period. In some cases we may distinguish substages (PTu_{3a}, PTu_{3b}; PTu_{2a}, PTu_{2b}, CTu_b); I did not separate them here, cf. also Doerfer 1974c, where I have supposed a development **pärä* 'man' > **färä* > **härä* > *här* > *är*.

However, we have to consider the following facts:

(1) It is likely that dialects already existed in the Tu.PL (languages without dialects are very rare, this holds true even for the languages of antiquity).

(2) The development of these dialects may have been an unequal rate. Some developed earlier, others later (this may be the reason for PTu_{2a,b} and CTu_{a,b}). No language in the world shows the same pace of development in all dialects, some are more archaic, some are more progressive.

(3) Some dialects may have become extinct but nonetheless may have left traces in modern Tu. or in Mo. (Extinction of dialects and even languages is

a well-known phenomenon. Cf. Old Greek of which among the three original dialects - Doric, Ionic, Aeolic - only Ionic, i. e., Attic, has survived.)

(4) It is impossible that the ATu. stage (e. g., containing only k-, t-, b-) is identical to the PTu. stage, and it is impossible that before ATu. only one older stage could have existed. (Every language develops continuously.) But it is not likely that the modern dialects (which are relatively close to each other, with the exception of Ch. and, perhaps, Khalaj) go back to several PTu. dialects. It is far likelier that the CTu. dialects (presumably including Khalaj) go back to one PTu. dialect (just as the modern Greek dialects do not go back to the several dialects of Old Greek but to a *koinē* which was Attic). Of course, this PTu. dialect may have undergone some influence from other PTu. dialects, cf. (3).

5. The noun

5.1 Double declension

Double declension is a well-known phenomenon in many languages (e. g., Caucasian, Uralic, Altaic). This problem has been investigated, above all, by Gabain (1950 a, 1970a, 1970b) and by Blagova (1968, investigating accumulation of suffixes in general, 1970, 1971). In Tu. this phenomenon is found: (1) in pronouns (formally suffixes of onstrumental, accusative, locative, genitive, and adverbial = *n*, *I*, *.dA*, *.ñ*, *.DI* used as infixes, before other case suffixes; *n*, however, is regarded by Gabain to be a remainder of an old oblique stem); (2) in the ablative (*.DA .n*, *.DI.n*, in modern dialects also terminalis. *GA.čA* and other forms); (3) in the dative *.KA* and the locative *.DA*, which according to Gabain have to be analyzed as *+K.A* and *+t.A* (doubtful, cf. chapter 5.4); (4) for some ATu. ablative forms. *dAn*. *dAn* cf. Blagova 1970 (a better solution is offered by Tekin 1968, 134).

5.2 Plural

We find two tendencies: A. to explain that PTu. had very few plural suffixes (or none at all), B. to explain that PTu. had many plural suffixes, most (or all) of which may be compared to the suffixes of other Alt. languages. Normally the following suffixes are enumerated for Tu.: *+LAr*, *+(A)n*, *+t*, *+z*, *+s*, *+gün* (and sometimes *+LAK*).

A. According to Gabain 1950b *+gün* is not an original plural, *+An* is an intensive form rather than a plural, *+t* is a foreign ("Mongolian") plural (*+s*, *+LAK* are not mentioned at all, for *+z* cf. beneath). We find essentially

the same view in Brockelmann 1954 (which, however, accepts $+An$ as a plural form). According to Ščerbak 1961, 131; 1968, 109-10; 1970, 92, 94 $+t$ and $+s$ are of foreign origin; Clauson offers the same opinion (1972, 257 *išbara* $+s$, 483 *tegi* $+t$, titles); Ščerbak even explains (1970, 87-9) that $+LAr$, the most usual Tu. plural suffix, is of non-Turkic origin (because no satisfying etymology for this suffix has been found - cf. Räsänen 1957, 52-4 who enumerates 12 explanations of $+LAr$) and says that $+An$ is a loan suffix from Persian 1970, 92-3).

B. Ramstedt 1952, 54 regards $+t$, $+s$ as genuine Tu. plural forms (an Alt. heritage), on 56 he explains $+LAr$, simply as Mo. $+nAr$, from **nar*, preserved in Yakut *nār* 'wholeness, totality' (refuted by Poppe 1953, 50). In the same year (1952) Poppe and Sinor found a very ingenious system of explaining the Alt. plural suffixes (the authors' systems were very similar, Poppe made some corrections to Sinor in FUF 31. 26-31, 1953/4). According to these scholars all Alt. plural suffixes are formed by some basic suffixes ($+t$, e. g. Mo., $+t = Manchu +tA$, vocalized; Tu. $+LAr = +LA$, vocalized $+L$, plus $+r$). In the same year Pritsak found 28 Tu. plural (or collective) suffixes in Tu. tribal names (rejected by Doerfer in TMEN II, 168-9). Menges 1968, 111-2 regarded "*l-ar* (or *la-r*)", $+t$, $+An$ as the original Tu. plural forms. Kononov 1969 shows a system quite similar to Poppe and Sinor (and just as Pritsak he is inclined to recognize Tu. plural forms in tribal names), e. g., $+LAr < +I$ plus $+r$; he distinguishes productive, non-productive, and secondary suffixes. According to Vietze 1969 all Alt. plural suffixes are derived either from mere genuine plural suffixes or from a combination of class suffixes (similarly to the situation in the Bantu languages) + genuine plural suffixes; $+An$, $+t$, e. g., are regarded as Tu. suffixes, $+LAr$ is analyzed as class suffix $+LA$ + plural suffix $+r$. Serebrennikov 1970 reports on Poppe, Sinor 1952, etc.; he thinks that $+LAr$ goes back to an old collective suffix $+LA$ which may survive in Balkar $+LA$ [but cf. Balkar $+at +lar.ĩ$ and other case forms, the elision of $-r$ is a secondary development]. Aznabaev-Psjančičin 1971 suppose a PTu. form like **taγ +al* 'mountains' (similar to Tungus $+I$), to which later on a collective suffix $+r$ was added.

It seems that we must reject the two extreme opinions of Ščerbak (which leaves no Tu. suffixes at all) and of Pritsak (which acknowledges by far too many Tu. plural suffixes); it is clear that $+An$ and $+LAr$ are good Tu. suffixes (that $+LAr$ is not explicable does not matter: Most suffixes of most languages are not explicable); on the other hand it seems rather likely that the

rare suffixes (limited to titles of apparently foreign origin) $+t$ and $+s$ are not originally Tu. (Ščerbak seems to be right when explaining that forms such as *tegin* 'prince': *tegit* 'princes', quite typical for Mo., are very unusual for Tu.: both ATu. titles with a plural in $+t$: *tegin* and *tarxan* 'free man', are of Juan-juan origin, cf. TMEN, hw. 879, 922; and the assumption that *išbara* $+s$, as well as *išbara*, is a direct loan from some Indian language is plausible, cf. Kurdish *beg* 'prince', but also *beg* $+ler$ 'princes': this language, too, has borrowed both forms, singular and plural). Doerfer's original assumption was that at least $+t$ is genuine Tu. (TMEN I 5-6, hw. 222, 288, 879, 1531 - but cf. 733, 1073); the problem is difficult. Here are some special plural problems:

According to Gabain 1950b, 60, 85 the plural suffix $+gün$ (*iniygün* 'younger brothers', *käliñün* 'daughters-in-law', she even quotes forms as *alquγun* 'altogether', which seems doubtful) are to compare to Mo. "gu'un" 'man' [correctly *kü'ün*]. Kononov 1951 thinks a special Tu. possessive form $+K$ is found in such words as *yan-a-q* 'cheek', *ay-a-q* 'foot', etc.; "*-kün, -gün*" may be connected with $+K$ [but the correct form is only $+gün$, incomparable to $+K$, the possessive character of which is dubious]. Pritsak 1952 quotes $+G^n$, $+K^n$ [only $+gün$, is correct]. Räsänen 1957, 54 compared "*-GUN*" to Tu. *kün* 'people'. [This theory is quite plausible, but I should derive $+gün$ from PTu. **gün*, cf. chapter 4.5, later on $>$ *kün*, cf. TMEN, hew. 1689]. Menges 1968, 112 accepted Räsänen's thesis (as an alternative he mentions a comparison to Tungus $+gIn$ - which is impossible because of the difference of the vowels). Kononov 1969 quotes "*KUN*" [correctly $+gün$] among his secondary plural forms. Vietze 1970, 489-90 regards $+gün$ as a class suffix $*+qu$ $*\gamma u$ plus a plural suffix $+n$. According to Ščerbak 1970, 93 a plural form in $+gün$ does not exist at all: *käliñün* is a diminutive [but in the original text, cf. Tekin 1968, 237, it is surrounded by three plural forms], and we have to read *ini* $+yägün$ [the last word is not attested in ATu., cf. Clauson 1972, 170, who reads *inīgün* for paleographic reasons].

Generally $+z$ is regarded to be a dual suffix (*biz* 'we', *siz*, 'you (pl.)', *ikiz* 'twin', parts of the body as *ayiz* 'mouth', *köz* 'eye'); so Gabain 1950b, 64, 85 (who compares Mo. $+s$, as does Sinor 1952, rejected by Poppe FUF 31, 1953), 1970a; Kononov 1961, 117-8; Poppe 1952, 76; Brockelmann 1954, 150; Räsänen 1957, 55; Vietze 1969, 485 (who even believes one finds a dual suffix $+r$ in Mo., comparable to Tu. $+z$); the source of this opinion may be

Bang (Túrán 1918). Opponents of this thesis are: Ramstedt 1952, 143 (-z is a deverbal noun, e. g., in *kö-z* 'eye', cf. *kö-r-* 'to see'); Menges 1968, 112 (+z is only a derivative suffix, not a dual, but a nomen dualitatis); Clauson 1962, 143 + Ščerbak 1970, 90-2 + Doerfer TMEN hw. 792, 1193 (according to these authors +z is not a dual suffix: we find it in terms for parts of the body which are not paired, such as *ayiz* 'mouth', on the other hand, we find many terms for paired body parts without +z, such as *büt* 'leg'; Doerfer has shown that we have to distinguish three Tu. suffixes, according to the Mo. parallels: a deverbal suffix +*rAn, cf. Tu. *ûz* 'master' = Mo. *uran*, a root derivative for body parts +r', cf. Tu. *boyoz* 'neck', *boyozla-* 'to strangle' = Mo. *boyorla-*; a derivative suffix +r'A in *ekiz* 'twin' = Mo. *ikire*; incidently, I am not convinced that we find a plural in *biz* 'we': perhaps this is a different word, not connected with *bän /bin* 'I', just as Mo. *ba* 'we' is a word different from *bi* 'I', or Latin *nos* is a word different from *ego*, cf. for the whole problem my review of Vietze in UAJb 42, 246-7, 1970).

In Tu. a possessive suffix in +sI exists; in CTu. it is normally found after vowels, whereas +I is found after consonants (in Ch., this rule does not hold, however). Cf. the numerous opinions concerning this problem in Räsänen 1957, 18, 22. Some authors believed that in +sI we find a parallel to the Mo. plural suffix +s (e. g., Ramstedt 1952, 69; Pritsak 1957, 140-3). Opponents are: Vietze 1969, 484; Ščerbak 1970c, 93-4; Doerfer 1971a, 337-40 (who thinks, basing on the situation in Ch., that +Is is a suffix of close connection). Most probable solution: Originally only +sI and later on, *Räs+si* 'its piece' *Räs+si* 'its eye' etc. > *käs+t*, *Röz+i* etc; from this a new suffix -I (after consonants).

Kononov 1951, 117-8 and 1969 believes to have found a dual suffix +K in such forms as *yan-a-q* 'cheek', etc., *gäl-di-k* 'we came', *at+la+q* 'horses' (cf. also Menges 1968, 111-2); cf. on this topic Tekin 1972, 358-9 (only Middle Tu. +la.qa [$<$ +lar.qv?], Clauson 1966 (+aq $<$ +yaq).

5.33 Possessive suffixes

As to the 1st person sg. +^om 'my' it has often been supposed that this suffix is derived from an older *mi 'I' (Räsänen 1957, 20) or from *män 'I' (Ramstedt 16). This seems to be plausible. But very unclear is the explanation of the 2nd person sg. +^on̄ 'thy', cf. Räsänen 1952, 20 (Bang's deictic element is a *nescio*). Ramstedt's explanation (1952, 72) *sän* 'thou' $<$ *sn* $<$ *hn* $<$ *n̄* has been taken up in a sense by Dul'zon 1971, 1972; it cannot convince.

For $+sI$ of the 3. person sg. and pl. cf. chapter 5.2, *finis*. Cf. also chapter. 2. 4, 5 for the vowel change $-E: -In$.

5.4 Case

The original case system of ATu., which may have been quite similar to that of PTu., seems to have been

(1) nominative	.(no suffix)
(2) genitive	. ^o η (after vowels $.n^{\circ}\tilde{n}$)
(3) dative	.KA
(4) accusative	. ^o G (after pronouns $.I$ or $.nI$)
(5) locative / ablative	.DA
(6) ablative	.DA \sim .DA.n \sim . D.n
(7) instrumental	. ^o n
(8) terminalis-prolative, "equative"	.čA
(9) directive	.GarU., GAR., .rU., .rA.
(10) adverbialis	.DI

Some other forms are rather derivative suffixes, such as $+s^{\circ}z$ 'without', $+t^{\circ}n$ (cf. Gabain 1950, 89: only in attributive position, never adverbial), $+yA$ (*ber +yä* 'northern', etc., only attributive, never adverbial, just as Tu. $d+AKI$; I do not agree with Clauson 1972, 370 who thinks $+yA$ to be a variant of $.rA$); other forms are attached only to some cases and are rather derivatives forming adverbs, e. g., $+LA$ (*tañ +la* 'in the morning'), $+t$ (*üs +t* 'above', cf. Isxakov 1953), $+k$ (*üs +k*, id.), $+t^{\circ}rti$ (*üstürti*, id.) Tekin 1968, 137-8 believes to have found a comitative suffix *.ligü*, but all other investigators give other readings, hence this suffix is unclear. Here are some remarks:

Ad (1) According to Gabain 1950a, 586 a special oblique case exists in such forms as *iki .n ara* 'between the two' (cf. 1950, 86, 99 too). This seems to be the same $-n-$ as in the possessive declination, e. g., *bô: mun*, 'this', $+E: +In$ 'his', etc. At any rate, this seems not to be a special case suffix.

Ad (2) The PTu. form is unclear. Ramstedt 1952, 25 (cf. also Räsänen 1957, 56-8, Menges 1960, 15-20) derived $.^{\circ}\eta$ from Alt. $.n$. This is impossible, cf. Poppe 1953, 5, who supposed a development from $.n +KI$ 'belonging to' [which form, however, is not attested in ATu., Gabain 1950]

> $.ñ + KI$, afterwards a separate case suffix $.ñ$. Many authors (e. g., Brockelmann 1954, 153; Gabain 1970b, 135) think that the genitive originally had been a derivative, an adjective suffix ("the roof of the house = the roof belonging to the house"). From a morphological point of view this thesis is not tenable: the possessive suffixes are postposed to derivatives, e. g., $baš + līq + im$ 'my kerchief', but they are preposed to the genitive: $baš + im.ñ$ 'of my head'. Grønbach (cf. Menges 1960, 16) and Deny 1938, 55 derived the genitive from $nñ$ 'thing' [unlikely because $.n^{\circ}ñ$ is a secondary and late form]. Ščerbak 1971 supposed that the original Tu. possessive suffix of the 3rd person was, not $+I$, but $+In$ (cf. beneath, and chapter 2. 2, 4, 5); he says that the $-n$ in the genitive form after vowels ($.n^{\circ}η$) and in the pronominal accusative ($.nI$) is a relic of this possessive form. I am not sure whether we may explain this $-n$ and the $-n$ of the oblique (cf. point 1) from the possessive, which is $+E : +In$ (after vowels $+sE, +sIN$): Why do we find *Bayırqu.* $n^{\circ}η$, why not $*Bayırqu + sñn^{\circ}ñ$? I should prefer to say that here we find an impact of the pronominal declension for which $-n$ is quite characteristic ('at us' in ATu. not $*biz.dä$, but $biz.^{\circ}n.tä$, etc.) It is well known that in many Tu. languages the originally pronominal and the normal nominal declensions have merged (e. g., Eastern Tu. *at.ni* 'the horse', accusative, just as ATu. *bular.ni* 'these', accusative, and on the other hand, *qol+i.da* 'in his arm', without $-n$, in analogy to *qol-da* 'in the arm', etc., cf. here point 3). As I have shown in *Morphologie*, in ATu. we find an archaic genitive in. $^{\circ}G$, e. g., *süñü.g batämü qârây sökëpän* 'the snow which had the depth of a lance' - this would mean that the normal ATu. genitive *in. $^{\circ}ñ$* goes back to older $+n.G <$ pronominal $+n$ plus $.G$ (which again means that in the oldest PTu. the genitive and the accusative had the same form). Cf., above all, ATu. *biz.^{\circ}η* 'our', which clearly is derived from $*biz + ^{\circ}n.g$ (cf. *biz + ^{\circ}n.tä* 'at us', $biz + ^{\circ}n.kü >$ $biz^{\circ}äñ$ 'to us' etc.); If the genitive was $*.^{\circ}n$ a form $*biz + ^{\circ}η.^{\circ}η >$ $biz n^{\circ}η$ would be expected). We also find several examples in the Runic inscriptions which may be regarded as genitives in. G (one of them cf. Tekin 1968, 127). I. e., the genitive is $*.η <$ $*.η.g$ (and forms as *biz.^{\circ}ñ* 'our' led to *at.^{\circ}n* 'of the horse', etc., one of the oldest cases of the merging of the nominal and the pronominal declensions, just as later ATu. or Middle Tu. *at.ni* 'the horse', accusative, instead of *at.ïγ*, etc.).

Ad (3) For older investigations cf. Räsänen 1957, 59-60. Bang supposed that $.KA$ goes back to an older form $+K.A$, i. e., to two elements (cf. point 5, in this chapter). This thesis has been widely accepted, even by modern schol-

ars, cf. Serebrennikov 1964 a, 1971b (this author believes that we find $+K$ or $.K$ in Turkmen *yoqarîq* 'upwards', and other examples). Menges 1968, 110, Gabain 1970a, 1970b (and already in 1950 in StO 14:5). The supposed ATu. dative in $.A$ is sometimes compared to a corresponding Mo. case in A (e. g., Tekin 1968, 130). However, the existence of a PTu. case suffix $.K$ is strongly denied by Ščerbak 1973. When investigating the proofs for an ATu. dative in $.A$ we find the following results: $+yA$ (cf. above) is a derivative suffix, not a dative (it corresponds to modern Tu. $.DA +KI$, is used only attributively); $.A$ is found only after $-K, -G$ (i. e., $-GKA, -KKA > -KA$, a mere phonetic development, cf. Räsänen 1957, 59), $-A$ in *üzä* 'above' (the etymology of which is unclear, cf. Gabain 1950, 139 versus Tekin 1968, 150), finally $.A$ in some pronominal forms. In ATu we always find *at.qa* 'to the horse', but in but in the pronominal declension:

1. sg.	$at + \ddot{i}m.a \sim at + \ddot{i}m.qa$
2. sg.	$at + \ddot{i}\eta.a \sim at + \ddot{i}\eta.qa$
3. sg./pl.	$at + \ddot{i}\eta.a < at + \ddot{i}\eta.qa$
1. pl.	$at + \ddot{i}miz.qa$
2. pl.	$at + \ddot{i}\etaiz.qa$

It is evident that even here most forms show $.KA$. Furthermore, I think that 2 nd. sg. $at + \ddot{i}\ddot{n}.a$ clearly developed from $at + \ddot{i}\ddot{n}.qa$. This is a quite normal phonetic change in Tu. (cf. Räsänen 1949, 195); from ($at\ddot{i}\ddot{n}qa >$) $at + \ddot{i}\ddot{n}a$ (versus $at\ddot{i}\ddot{n}$ 'thy horse') a "falsche Abtrennung" (false cut) could occur quite easily: $at + \ddot{i}\ddot{n}.a$. And this false cut was expanded to the 1. sg. $at + \ddot{i}m.a$. (Incidentally in later times this development continued, so that most modern Tu. languages have, not 3.rd sg. $at + \ddot{i}na$, but $a + \ddot{i}\ddot{n}.a$) I.e., the original Tu. dative suffix is only $.KA$, not $.A$.

Ad (4) There is a dispute as to whether the original accusative of pronouns was. nI (cf. *bular.ni* 'these', which, however, may be secondary) or $.I$; e. g. 73, 154-5, Ščerbak 1971; most authors suppose $.I$: Räsänen 1957, 58-9, Ramstedt 1952, 29, Gabain 1950a, 586. The communis opinio seems to be confirmed by Khalaj $.I$.

Ad (5) Many authors have supposed that $.DA$ is derived from older $+t.A$ or $.t.A$ (the $-t-$, at any rate, is wrong, cf. chapter 6.3, it ought to be $-d-$), this applies to Gabain, Sinor (cf. Räsänen 1957, 61-2). Menges 1968, 110, Gabain 1970a (and even as early as 1950 in StO 14:5), 1970b. Since $+t$ exists only as a derivative suffix (cf. Menges 1968, 110), whereas $.A$ does not exist at all (cf. point 5) this seems to be doubtful.

Ad (6) The suffixes *.DA.n*, *.DI.n* seem to be a case of double declension (cf. chapter 5.1), unless the *-n* is the suffix of pronominal declension or of the oblique case. The original case form seems to have been *.DA*, cf. Räsänen, 1957, 62-3, Poppe 1953, 7 (against Ramstedt 1952, 36), Ramstedt 1952, 46, Menges 1968 (but $+t^{\circ}n$ is a different suffix than *.DI.n*).

Ad (7) The normal form seems to be $^{\circ}n$, but there are some hints for **In* (Gabain 1950, 89). The Turkmen temporal adverbs *gışın* 'in the winter', *yāzın* 'in the summer' seem to show secondary length.

Ad (8) This case suffix (which always is unstressed) is usually called "equative", and mostly it is used as a case of comparison ("like, as"), but there are such examples as *qayo yol.ča baryuluqumın ariti bilmāz mān* 'I do not know which way to go' (prolative, Gabain 1950, 165) and *bel.ča boyoz.ča suwda yorip* 'up to the hips and the throats going in the water' (terminalis, cf. KhM 165). The abstract case of comparison may be derived from this concrete case (e. g., "so big as I" < "big up to me" = "so big that he reaches up to my bigness"). A proof for this assumption is the fact that in Khalaj *.čA* is the normal locative. Cf. also Gadžieva 1973b, 134-5, Serebrennikov 1971 b, 277-8. Deny has derived *.čA* from *čaq* 'time, measure'. Cf. regarding this explanation TMEN hw. 1045, Kotwicz 1962, 191-4, Räsänen 1957, 70-1; it seems doubtful, cf. Serebrennikov, loc. cit.

Ad (9) The original form is *.GARU* (not **.KArU*, it has nothing to do with the dative in *.KA*, in contradiction to Räsänen 1957, 65-6). Furthermore we find the suffixes *.rU*, *.rA*, also well-known in Mo., cf. Räsänen 1957, 63-4. To derive *.rU* from Chinese *lu* is impossible, cf. Poppe 1953, 9 (refuting Ramstedt 1952, 49), Menges 1960, 26. Interesting are Ščerbak 1970b, Abdullaev (A. Z.) 1974 (the hypothesis *qarī* 'arm' > *GArU*, which divided into its component syllables, becoming > *.GA* on the one hand and > *.qA* on the other hand, seems to be bold).

6. The verb

6.1 Imperative forms

The Tu. imperative forms (1 st. pers. sg. : *AyIn*, with I plene in Runic ATu.; 2 nd sg. : *GIL*, for the various Tu. forms cf. Caferoğlu 1971; 3 rd sg. /pl. : *zUn*; 1. pl. : *AL^om*; 2. pl. : *ñ*) have always been a crux doctorum. We find many hypotheses concerning them in older works, cf. Räsänen 1957, 204-10. The following explanations are frequent : *GIL* < *qil* 'do' (Ramstedt 1952, 83, considering two other possibilities, as well, Brockelmann 1954, 225), *z*

izUn = Mo. *:sU* (Ramstedt 1952, 84, Gabain 1950, 110, and Menges 1968, 139), *:AL^om* < older *:ALI* (Ramstedt 1952, 118, Brockelmann 1954, 228, and Menges even in 1968, 139-40).

We find the following suggestions:

(2 nd sg.) Menges loc. cit. compared *:GIL* (with -G-) to Evenki *:kAI* (with -k-), Alt. **qï-* (= Mo. *ki-*, occurring in Middle Mo., Arabic script, but: < **ki-*, not **qï-*), Tu. *qï-l-* (what is -l-?). I believe that we must suppose PTu. *gïl-* 'to do' (an original PTu. *q-* would have remained). For the rest, to me the etymology *:GIL* < **qïl* 'do' is convincing.

(3 rd sg./pl.) Dmitriev (cf. Räsänen, loc. cit.) and Kononov 1951, 117 think that *:zUn* is connected with the possessive suffix *+sïn* [impossible for phonetic reasons]. Tekin 1972, 361 connects "*-sUn*" with Mo. *:tU(GAy)* [impossible]. Even the comparison with Mo. *:sU* seems to be erroneous: Tu. -z- ought to be = Mo. -r- (Middle Tu. *:sUn* is secondary, perhaps on the basis of examples as *at:zun* 'he may throw' > *at:sun*, and this form expanded to cases as *al:sun* 'he may take').

(1 st. pl.) The hypothesis that *:ALI* is the original form could be correct. This would be another proof for the fact that ATu. is only a dialect; however, the matter is not absolutely clear (Baskakov's derivation in Kotwicz 1962, 362, note 60: *:LIm* < *:LIKImIz* is impossible, of course, just as *:AyIn* < *:GAy + mAn*).

6.2 Aorist and vocalic converb

In Tu. we find a participle (also forming predicative forms, "verb forms") with a durative meaning and with the forms *:ər* namely *:Ur* or *:Ar* or *:Ir* (after vowels mostly *:yUr*, rarely *:r*). A correspondent converb (gerund) in *:ə* exists (with a durative meaning, as well). It shows the same vowels as the participle. (This fact has not always been realized, Brockelmann 1954, 245 even expressly denied it, although it had already been recognized by Abū Haiyān in 1313; most scholars ignored it. But it was remarked upon by Bang in 1917, cf. Räsänen 1959, 139, by Pritsak 1963, 34, Tuna 1964, Doerfer 1972, Zieme 50-4.) As I have said, some verbs show the allomorph *:Ur* (e. g., *yāt:ur* 'he lies'), other verbs show *:Ar* (e. g., *at:ar* 'he throws'), other verbs show *:Ir* (e. g., *tě-t:ir* 'he is called'). We find lists of the distribution of these allomorphs in Bombaci 1952, 93, Brockelmann 1954, 230-1 (Brockelmann distinguishes two different gerunds: *:A* and *:U/I*, he has not realized that this is one morpheme); Gabain 1950, 111-2, 121-2, Tekin 1968, 180-2, 177, Tuna 1964, Zieme 50-4.

The different vowels of the allomorphs have always been a difficult problem for Turcologists. I have found the following attempts of explanation (apart from some older hypotheses, to be found in Räsänen 1957, 139):

(1) Ramstedt 1952, 86 (who did not know the allomorph *:Ir* and did not realize the connection of *:ɜr* with *:ɛ*) thought that *-A-* is a relic of a PTu. *-A-* stem, cf. ATu. *süq:ar* 'he presses' = Mo. *šiqā-*, on other cases *-U-* would be the norm. Rejected by TMEN I 101-2 (cf. cases as Mo. *hürgü-* 'to fear' = Tu. *ürk:ār*, *bütü-* 'to stop' = *büt:ār*, *emgeni-* 'to suffer' = *ämgän:ür*, etc.).

(2) Kotwicz 1962, 213, 276-88, 302 thought that *-A-* was a durative suffix; accepted by Gadžieva 1973b, 96. [In how far is *at:ar* 'he throws' durative, whereas *yāt:ur* 'he lies' is not?]

(3) Pritsak 1963, 34 and Tuna 1964 tried to find phonetic explanations. According to Pritsak the original vowel (U?) was delabialized > I, then after *s*, *š*, *z*, *č*, *t*, etc., became A. According to Tuna we find, e. g., in monosyllabic roots, *-A-* after *s*, *š*, *z*, *č*, *k*, *t*, *p*, *n*, *ń*; I after *d*, *g*; U in other cases. But the author was compelled to admit several exceptions (*al:i*, *sür:ä*, *yat:u*, etc). Cf. above: after the same *-t-* we find *:Ar*, *:Ur*, *:Ir* (*at-ar*, *yāt:ur*, *tēt:ir*).

(4) Serebrennikov 1971b, 276-7 wished to connect the aorist in *:ɜr* with the directive in *:rU* (cf. chapter 5.4). This resembles an older theory of Bang's Cf. regarding this Brockelmann 230, lines 11-14 from the bottom of the page.

(5) Since all attempts of a phonetic or morphologic explanation of the allomorphs have failed (cf. Räsänen 1957, 139) two authors acknowledged: "the suffixal vowel is rather unstable and seems to be determined by usage for every word individually" (Menges 1968, 131); the choice of the allomorphs is "lexikalisch bedingt" (Zieme 50).

(6) This seems to mean that there must be some semantic reason for the allomorphs. Doerfer (1972, 331-40) has tried to find an explanation on the basis of the assumption that *-U-* originally was "inversal", an "action" remaining within the sphere of the subject (therefore *yāt:ur* 'he lies', but also in the passive, e. g., *at-ül:ur* 'he is thrown', in the reflexive, etc.), *-A-* was "adversal", marked an action going from a subject to an object (therefore *at:ar* 'he throws'), *-I-* was "reversal", marked an action, going to an object and coming back to the subject (therefore *al:ir* 'he takes', and also in the causative forms: to order somebody to undertake an action for one's own use). However, Doerfer was forced to suppose that in a later development this original system had been enormously transformed; i. e., his hypothesis was extremely speculative.

Another problem is why we find :yUr, :yU after vowels (-y- is not a "Hiatusstilger" in ATu., cf. *bašla:p* 'beginning' = Ttu. *bašla-y-ıp* etc.). May we suppose that the original suffix was not -U- but -iU- (cf. chapters 3, 4. 10)? I. e., *yāt:ur* < PTu. **dāt:iūr*? This i may have disappeared after consonants (which is the quite normal development), but became y after vowels (*bāš-la:yur* 'he begins' < **bālīz-lā:iūr*).

6.3 Preterit suffix :D

For older explanations of this suffix cf. Räsänen 1957, 142, 229-30, Kononov 1951. Nowadays the generally accepted theory is that this suffix is derived from an infinitive in +t plus possessive suffixes, cf., e. g., Brockelmann 1954, 237; Gabain 1950, 112, etc. This thesis is concincing in so far as such developments as "my doing" > "I did" are quite frequent also in other languages, e. g., in Sanskrit and Persian (cf., e. g., Hans Jensen, *Neupersische Grammatik*, Heidelberg, 1931, 142-3). On the other hand, the thesis is dubious in so far as the original form of the preterit contained a -d-, not a -t- (e. g., *bāšlad°m*, not **bāšlat°m* 'I began'); this has been recognized, on the basis of Chuvash, by Poppe and Räsänen (cf. Räsänen 1949, 165, also Pritsak 1961). Therefore Doerfer 1972, 335-6 has supposed a "Zeittensor" (temporal tensor) :d-.

Some Soviet scholars have tried to explain "-dī" from "-dīq", including Baskakov 1951 (and his note 49 in Kotwicz 1962, 360): **aldīq män* > *aldīm*; Kuznecov 1960: *män alduq* > *aldu(q)man* > *aldīm*; Serebrennikov 1960; Gadžieva 1973b, 42. The communis opinio is represented, e. g., by Brockelmann 1954, 237-9 who separates the perfect form from the participle in :dUK and who explains the 1st. person pl. *alduq* 'we took' (attested later than ATu. *aldāmāz* > Middle Tu. *aldīmiz*), from this participle. The communis opinio is correct for the following reasons: (1) a development PTu. -K- > ∅ is not attested elsewhere; (2) the suffixes of the preterit tense had originally been possessive, cf. above; (3) we find (in the old texts and even today in New Uighur and other Tu. dialects) a clear opposition of vowels: *al:d°m* 'I took' (with a suffix :d- + connective vowels in fourfold quality), *al:d-i* 'he took' (with the well-known suffix of the 3rd. person): *al:duq* 'we took' (with U); (4) that *al:duq* (originally conjugatable in all persons) has become solely the first person plural is easily explicable for semantic reasons: Whereas the second person plural means 'you and you' (the third person plural 'he and he'), the first person plural has the most general meaning: It may mean 'I and you and he' (never 'I and I'), cf. the facts (1) that many

languages distinguish a first person plural exclusive and inclusive and (2) that the general pronoun *on* ('one') in colloquial French is often used for *nous* 'we', etc.

Some scholars (Serebrennikov 1960, Kotwicz 1962, 312, Gadžieva 1973 b, 93, 290-1) have explained "*dïq*" from "*-dï*" + a "resultative" *-q*; impossible for reasons (3), (4), quoted above. Kononov 1951, Dmitriev (cf. Kononov), Širaliev 1966 have thought that *-K* is a plural suffix; this is impossible for the same reasons. Also the older theory that *:dUK* is connected with (perfect II) *:yUK* must be rejected (Räsänen 1957, 228, Nasilov 1966, 101-2), just as the connection of "*-dï*" (= *:d-*) with forms as *burdï* 'screw', etc. (Gadžieva 1973b, 290): The Tu. suffix of instruments is, not *-dI*, but *-dU* (cf. TMEN III, 257).

6:4 Conditional in *:sA*, *:sAr*

This suffix has found many explanations, cf. Räsänen 1957, 214; Menges 1968, 132-3; Tenišev 1971c; Gadžieva 1973b. We find two main tendencies: (1) to explain *:sA(r)* from a deverbal suffix *-sA-* (or *-s-*) + aorist suffixes (already Bang, cf. furthermore Baskakov 1953, Menges 1968); (2) to explain the suffix from originally independent verbs, either (Manchu) *se-* 'to say' (Ramstedt 1952, 131; rejected by Poppe 1953, 15) or *sa-* 'to think' (Bang, Brockelmann 1954, 240; Gabain 1959, 39). My objections against this thesis are: (1) an aorist **sâ-yur* would be more probable; (2) *:sA* is short in Turkmen, whereas *sâ-* is long (*sâ-n* 'number'); (3) originally *:sAr* has been a converb (cf. Pritsak 1963, 44; Tekin 1968, 185-6). Baskakov's opinion (in Kotwicz 1962, 360, note 49) that *:sA* < *-°GsAr* ('he wishes to...') cannot be accepted; Menges' theory (1968, 132-3) that ancient Osmanli *:IsAr* (future) is the same suffix as Atu. *:sAr* has been refuted by Tekin 1972, 360 (the Osman form < Middle Tu. *-°GsAr*, cf. above, this is a correction also for A. A. Bodrogligeti, Finite forms in *-isar*, *-isär* in fourteenth century Turkish literary documents, AOH 23, 171, 1970). The general development seems to be *yaz:sar* (converb) 'when he writes' > *yaz-sar män* (and other personal forms, ATu.) > *yaz:sa män* (etc., Karakhanid) > *yaz:sa-m* (etc., modern languages, with possessive suffixes, just as the preterit), cf. Brockelmann 1954, 239; Menges 1968, 132-3; Tenišev 1971 c; i. e., *:sAr* is older than *:sA*. But this assumption is dubious: (1) Gadžieva 1973b, 327-34 has shown that ATu. has also preserved *:sA* in the allomorph *:čA* (*bol:ča* 'when he became'; Tekin 1968, 186 enumerates this as a special kind of converbum praeparativum, but it actually has the same temporal-conditional meaning 'when, if' as the converbum "conditionale", and a similar phonetic development is found

in *bol:čun* = *bol:zun* 'he may be', cf. Tekin 1968, 187); (2) Ch., which is very distant from the other Tu. languages (that is from CTu.), has :sA as a converbum temporale (Ch. sometimes drops -r, nbut very seldom, and it is not likely that it has dropped it just in this case); (3) since a phonetic change -r > ∅ is nota usual phonetic development in CTu. it seems that :sA is original and that :sAr ("preserved" in Yakut) is a local development, a side form of PTu., cf. chapter 1. 7.; cf. also Gadžieva 1974.

7. BIBLIOGRAPHY

- Aalto, Pentti, "On the initial *p-". *CAJ* 1.8-16, 1955.
- Abdullaev, A. Z., *Razvitie napravitel'nogo padeža v tjurkskix jazykax. Sprache, Geschichte und Kultur der altaischen Völher*. Ed. G. Hazai, P. Zieme. Berlin, 1974. pp. 59-63.
- Abdullaev, F., "O kipčaksko-oguzskix sootvetsvijax p//b, b//m, b//v (po materialam xorezmskix govorov uzbekskogo jazyka)", *Voprosy tjurkologii* (ed. V. V. Rešetov), Taškent, 1965, 55-65.
- Aznabaev, A. and Psjančin, V., "K probleme istoričeskogo razvitija affiksa množestvennogo čisla -lar v tjurkskix jazykax", *ST* 2: 5. 11-20, 1971.
- Bajčura, Ū. Š., "K voprosu o fonetičeskoj strukture slova v tjurkskix jazykax v svjazi s drugimi altajskimi jazykami", *Filologija i istorija tjurkskix narodov*. Leningrad, 1967, 7-8.
- , "Instrumental'nye dannye ob udarenii i intonacii v altajskix jazykax". *Problema obščnosti altajskix jazykov*. Leningrad, 1971, 279-92.
- Baskakov, N. A., "Pričastie na -dy/-ty v tjurkskix jazykax". *Trudy MIV*, 1951:6, 205-17.
- , "K voprosu o proisxoždenii uslovnoj formy na -sa/-se v tjurkskix jazykax". *Akademiku Vladimiru Aleksandroviču Gordlevskomu k ego semidesjatiletiju sbornik statej*. Moskva, 1953, 35-63.
- Bazin, L., "Y-a-t-il en tur c alternances vocaliques?". *UAJb* 33. 12-6, 1961.
- Benzing, Johannes, "Γ final dans les langues turques". *Mélanges Jean Deny* 1958, 51-60.
- Biišev, A., "Pervičnye" dolgie glasnye v tjurkskix jazykax. Ufa, 1963.
- , "Sootveststvie -r//z v altajskix jazykax". *Issledovanija po uigurskomu jazyku*. Alma - Ata, 1965, 192-205.

- Blagova, F. G., "Tjurkskij affiks'al'nyj pleonazm v sravnitel'no-istoričeskom areal'no-lingvističeskom osveščeni". *VJa* 1968: 6, 81-97.
- , "Tendencija k usloženiju tjurkskogo padežnogo sklonenija". *VJa* 1970: 1, 60-81.
- , "K istorii razvitija mestoimennogo i imennogo padežnyx sklonenij v tjurkskix jazykax". *ST* 2: 2. 39-49, 1971
- Bombaci, A., "Probleme der historischen Lautlehre der türkischen Sprache". *UAJb* 24. 89-105, 1952.
- Bouda, Karl, "Lateral und Sibilant". *Zeitschrift für Phonetik* 1.48-53, Berlin, 1947.
- Brands, Horst W., *Studien zum Wortbestand der Türksprachen*, Leiden, 1973
- Brockelmann, Carl, *Osttürkische Grammatik der islamischen Litteratur-Sprachen Mittelasiens*. Leiden, 1954.
- Caferoğlu, Ahmet, "Türkçemizdeki -ğil ve -gil emir eki". *TDAYB* 1971. 1-10.
- Çağatay, Saadet, "Türkçede ñ ~ ğ sesine dair", *TDAYB* 1954, 15-30.
- Clauson, Sir Gerard, *An etymological dictionary of pre-thirteenth-century Turkish*. Oxford, 1972.
- , "The Turkish y and related sounds." *Studia Altaica* 33-45. Wiesbaden, 1957.
- , "The initial labial sounds in the Turkish languages". *BSOAS* 24. 298-306, 1961.
- , *Turkish and Mongolian Studies*. London, 1962.
- , "Three notes on early Turkish. 3. The vowels -o-/-ö- in the second syllable of early Turkish words". *TDAYB* 1966, 13-8.
- Čerkasskij, M. A., *Tjurkskij vokalizm i singarmonizm*. Moskva, 1965.
- , "K voprosu o genezise singarmoničeskix variantov i paralelizmov v tjurkskix jazykax". *VJa* 1960: 4, 53-61.
- Deny, Jean, "Exist-t-il des préfixes en turc?" *Bulletin de la Société de Linguistique de Paris* 39. 51-65, 1938.
- Dmitriev, N. K., "Sootvetstvie l/š." *Issledovanija po sravnitel'noj grammatike tjurkskix jazykov* I. 320-1. Moskva, 1955.
- , "Sootvetstvie r/z". *Issledovanija po sravnitel'noj grammatike tjurkskix jazykov* I. 322-5. Moskva, 1955.
- , "Sootvetstvie r/d/t/z/δ/j". *Issledovanija po sravnitel'noj grammatike tjurkskix jazykov* I. 326-8. Moskva, 1955

- , "Dvojnye soglasnye v tjurkskix jazykax". *Issledovanija po sravnitel'noj grammatike tjurkskix jazykov* I. 261-4. Moskva, 1955.
- Doerfer, Gerhard, "Türkisch -n > tschuwaschisch -m?", *UAJb* 39. 53-70, 1967
- , "Zwei wichtige Probleme der Altaistik". *JSFOu* 69: 4, 1968.
- , "Ein altosmanisches Lautgesetz im Kurdischen". *WZKM* 62. 250-63, 1969.
- , *Bemerkungen zur Methodik der türkischen Lautlehre*". *OLZ* 66, 325-44, 1971 (a)
- , "Gedanken zur Gestaltung eines idealen türkischen Wörterbuchs". *OLZ* 66. 437-54, 1971 (b)
- , "Der Imperativ im Chaladsch". *FUF* 39. 295-340, 1972
- , *Lautgesetz und Zufall*. Innsbruck, 1973.
- , "Tschuwaschisch -m < urtürkisch *-m (> gemeintürkisch -n)". *UAJb* 46. 158-96, 1974 (a)
- , "Bemerkungen zu den sojonischen Anlautklusilen". *UAJb* 46. 11-7, 1974 (b)
- , "Eine seltsame alttürkisch-chaladsch Parallele". *TDAYB* 1974 (c), pp. 1-24.
- , "Khalaj and its relations to the other Turkic languages". Cf. this journal
- , *Vergleichende Morphologie der altaischen Sprachen*. Still unpublished.
- Dul'zon, A. P., "Nekotorye voprosy metodiki rekonstrukcii obščetjurkskoj sistemy zvukov". *ST* 2:2, 17-20, 1971.
- , "Proisxoždenie altajskix pokazatelej množestvennogo čisla". *ST* 3: 2.3-15 (1972).
- Emre, A. C., *Türk lehçelerinin mukayeseli grameri. I. Fonetik*. İstanbul, 1949
- Gabain, Annemarie von, "Die Pronomina im Altürkischen". *ZDMG* 100. 581-91, 1950 (a)
- , *Altürkische Grammatik*. Leipzig 1950 (b)
- , "Das Altürkische". *Philologiae Turcicae Fundamenta* I. 21-45. Wiesbaden, 1959.
- , "Primäre und sekundäre Kasus im Altürkischen". *Studies in general and Oriental linguistics*. (Hattori Festschrift), 131-7. Tokyo, 1970.
- Gadžiev, T. I., "O proisxoždenii geminat v tjurkskix jazykax". *ST* 2:6. 26-31, 1971.

- Gadžieva, N. Z., "Gluxoe načalo slova v tjurkskom prajzyke". *ST* 4:4.3-10, 1973 (a)
- , *Osnovnye puti razvitija sintaksičeskoj struktury tjurkskix jazykov*. Moskva, 1973.
- , Dva istočnika proisxoždenija uslovnogo perioda v tjurkskix jazykax. *Sprache, Geschichte und Kultur der altaischen Völker*. Ed. G. Hazai, P. Zieme. Berlin, 1974, pp. 251-6.
- Gadžieva, N. Z. and Serebrennikov, B. A., "Byl li načal'nyj j v tjurkskix jazykax pervičnym?". *ST* 5: 3. 75-82, 1974
- Hovdhaugen, Even, "Turkish words in Khotanese texts". A linguistic analysis. *Norsk Tidsskrift for Sprogvidenskap* 24. 163-209. 1971.
- , "Some remarks on the development of nasal phonemes in Chuvash". *UAJb* 44. 208-12, 1972.
- Illič-Svityč, V. M., *Opyt sravnenija nostratičeskix jazykov...* Moskva, 1971.
- , "Altajskie dental'nye: t, d, δ". *VJa* 1963: 6
- , "Altajskie guttural'nye: *k', *k, *g". *Sbornik Étimologija 1964 1964* (Moskva, 1965).
- Isxakov, F. G., "Nekotorye predpoloženiya o proisxoždenii konečnyx t i d v slovax *ast, üst, ald, art* i. t. p.". *Akademiku Vladimiru Aleksandroviču Gordlevskomu k ego semidesjatiptjatiletiju sbornik statej* 124-36. Moskva, 1953.
- , "Xarakteristika otdel'nyx glasnyx sovremennyx tjurkskix jazykov". *Issledovanija po sravnitel'noj grammatike tjurkskix jazykov* I, 60-114. Moskva, 1955.
- , "Dolgie glasnye v tjurkskix jazykax".. *Issledovanija po sravnitel'noj grammatike tjurkskix jazykov*, I. 160-74. Moskva, 1955.
- Kara, G., *Le dictionnaire étymologique et la langue mongole*. Budapest, 1965
- KhM= Doerfer, G., *Khalaj materials*. UAS 115. Bloomington, The Hague, 1971.
- Kononov, A. N., "Proisxoždenie prošedšego kategoričeskogo vremeni v tjurkskix jazykax". *Tjurkologičeskij sbornik*, I. 112-9. Moskva, Leningrad, 1951.
- , "Opyt rekonstrukcija tjurkskogo deepričastija na -(°)p, -(°)b, -(j)°b, -(°)pan, -(°)ban, -(°)ban, -(°)bany, (°)banyη(n)". (Materialy k sravnitel'no-istoričeskoj grammatike tjurkskix jazykov.) *VJa* 1965:5, 100-11

- , *Pokazateli sobiratel'nosti-množestvennosti v tjurkskix jazykax*. Leningrad, 1969.
- Kotwicz, W., *Issledovanie po altajskim jazykam*. (Russian translation of the Polish original from 1953: *Studia nad jazykami altajskimi*.) Moskva, 1962
- Kuznecov, P. I., "Proisxoždenie prošedšego vremeni na -dy i imen dejstvija v tjurkskix jazykax". *Tjurko-mongol'skoe jazykoznanie i fol'kloristika* 40-71. Moskva, 1960.
- Levitskaja, L. S., "Zametki o fonetike čuvaškix govorov". *Voprosy dialektologii tjurkskix jazykov*, IV. 182-5. Baku, 1966.
- , "Ob odnom vozmožnom ob-jasnenii sootvetstvija čuvaškogo J. obščetjurkskomu Q". *Issledovanija po tjurkologii* 63-7. Alma-Ata, 1969
- Ligeti, L., "Uráli török jövevényiszavaink kérdéséhez". *MNy* 59. 381-93, 1963.
- , "A propos du "Rapport sur les rois demeurant dans le nord". *Etudes tibétaines*, dédiées à la mémoire de Marcelle Lalou 166-89. Paris, 1971.
- Makaev, È. A., "Voprosy postroenija sravnitel'noj grammatiki tjurkskix jazykov". *ST* 2:2.21-5, 1971.
- Menges, Karl H. *Morphologiesche Probleme*. Wiesbaden, 1960
- , "Ablaut in Altajic?". *UAJb* 38. 1-3, 1966.
- , *The Turkic languages and peoples*. Wiesbaden, 1968
- Meyer, Iben Raphael, "Bemerkungen über das Schriftsystem des Runentürkischen". *AO* 29. 183-202. Havniae, 1965
- , "Klassifikation und Rhotazismus". *AO* 32. 159-65. Havniae, 1970.
- , "Kāšyarī und einige Probleme der Vokallänge im Türkischen". *TDAYB* 1974.
- Nadeljaev, V. M., "Čtenie orxono-enisejskogo znaka Ʒ i étimologija imeni Ton'ukuka". *Tjurkologičeskij sbornik* 197-213. Moskva, Leningrad, 1963.
- Nasilov, D. M., "Prošedšee vremja na -jūk/-juq v drevneujgurskom jazyke". *Tjurkologičeskij sbornik* 92-104. Moskva, 1966
- Nauta, Ane, "Rhotazismus, Zetazismus und Betonung im Türkischen". *CAJ* 16. 1-13, 1972.
- , *Historische Lautlehre des Tschuwaschischen*. (Dissertation, not yet published.)
- Özdendareli, M. N., "Türkçede uzun ünlüler". *Türk Dili* V, 54. 348-54, 1956.
- Poppe, Nicholas, "Plural suffixes in the Altaic languages". *UAJb* 24. 65-83, 1952.

- , "Bemerkungen zu G. J. Ramstedt's Einführung in die altaische Sprachwissenschaft". *StO* 19:5, 1953
- , "Das Jakutische". *Philologiae Turcicae Fundamenta*, I. 671-84, 1959
- , *Vergleichende Grammatik der altaischen Sprachen*. Teil I. Vergleichende Lautlehre. Wiesbaden 1960
- , *Introduction to Altaic linguistics*. Wiesbaden, 1965
- Pritsak, O., "Stammesnamen und Titulaturen der altaischen Völker". *UAJb* 24. 49-104. 1952.
- , "Tschuwaschische Pluralsuffixe". *Studia Altaica* 137-55. Wiesbaden, 1957.
- , "Die ursprünglichen türkischen Vokallängen im Balkarischen". Jean Dery Armağan. *TDKY* 173. 203-7. Ankara, 1958.
- , "Die Herkunft der Allophone und Allomorphe im Türkischen". *UAJb* 33. 142-5, 1961.
- , "Das Alttürkische". *Handbuch der Orientalistik* 1: 5:1, Turkologie, 27-52. Leiden, Köln, 1963
- , "Der "Rhotazismus" und "Lambdazismus"". *UAJb* 35. 337-49, 1964.
- Räsänen, M., *Materialien zur Lautgeschichte der türkischen Sprachen*. *StO* 15, 1949.
- , *Materialien zur Morphologie der türkischen Sprachen*. *StO* 21, 1957.
- , "Tü. anl. *h-* als Überbleibsel des alt. *p-*". *UAJb* 33. 146-8, 1961.
- Ramstedt, G. J., *Einführung in die altaische Sprachwissenschaft*. I, Lautlehre. Helsinki 1957. II. Morphologie, Helsinki, 1952.
- Róna-Tas, A., "Some problems of Ancient Turkic". *AO* 32. 209-29. Havniae, 1970.
- , "On the Chuvash guttural stops in the final position". *Studia Turcica* 389-99. Budapest, 1971.
- Sanžeev, G. D., Zur Frage des sogenannten Rhotazismus und Lambdazismus in den altaischen Sprachen. *Sprache, Geschichte und Kultur der altaischen Völker*. Ed. G. Hazai, P. Zieme. Berlin, 1974, pp. 505-9.
- Ščerbak, A. M., (review of Ramstedt 1957, 1952). In: *NAiA* 1961: 4, 228-32
- , "O tjurkskom vokalizme". *Tjurkologičeskie issledovanija* 24-40. Moskva, Leningrad, 1963.

- , "Tjurkskij konsonantizm". *VJa* 1964: 5, 16-35
- , "O fonologičeskoj oppozicii glasnyx po priznaku rastvora v tjurkskix jazykax". *NAiA* 1966: 1, 121-8 (1966 a).
- , "Tjurkskie glasnye v količestvennom otnošenii". *Tjurkologičeskij sbornik k šestidesjatiletiju A. N. Kononova* 146-62. Moskva, 1966 (b)
- , "O xaraktere leksičeskix vzajmosvjazej tjurkskix, mongol'skix i tunguso-man'čžurskix jazykov". *VJa* 1966: 3, 21-35. (1966 c).
- , "O proisxoždenii pervičnyx dolgix glasnyx v tjurkskix jazykax". *VJa* 1967: 6, 34-47.
- , "O tjurko-mongolo-tungusskix svjazax v morfologii". *NAiA* 1968: 1, 104-16.
- , *Sravnitel'naja fonetika tjurkskix jazykov*. Leningrad 1970 (a)
- , "K voprosu o formax na *-ra, -ru, -ry* v tjurkskix jazykax". *ST* 1:6. 28-33, 1970 (b)
- , "Formy čisla u imen v tjurkskix jazykax". *VJa* 1970: 3, 87-99 (1970 c)
- , "O nekotoryx osobennostjax obrazovanija padežnyx form v tjurkskix jazykax". *VJa* 1971: 1, 84-8
- , "Suščestvoval li v tjurkskom prajazyke datel'no-napravitel'nyj padež na *-k*?" *ST* 4: 3. 59-62, 1973.
- Serebrennikov, B. A., "Zur Geschichte der *a*-Laute im Tscheremissischen und Tschuwassischen". *UAJb* 29. 224-30, 1957.
- , "Zur Geschichte der Bildung des Perfekts in den türkischen Sprachen". *AOH* 12. 163-8, 1960 (a)
- , "O nekotoryx spornyx voprosax sravnitel'no-istoričeskoj fonetiki tjurkskix jazykov". *VJa* 1960: 4, 62-72 (1960 b)
- , "K voprosu o proisxoždenii élementa *k* (*g, q, γ*) v okončanii datel'no-napravitel'nogo padeža v tjurkskix jazykax". *KSINA* 83. 69-71. Moskva, 1964 (a)
- , "Über tschuwaschische Themen". *AOH* 17. 130-8, 1964 (b)
- , "Zur Frage nach dem Ursprung der prothetischen Konsonanten *v* und *j* im Tschuwassischen". *AOH* 19. 57-65, 1966
- , "O nekotoryx častnyx detaljax processa obrazovanija množestvennogo čisla *-lar* v tjurkskix jazykax". *ST* 1: 1. 49-53, 1970.
- , "Čto bylo pervičnym *r*² ili *z*?" *ST* 2: 1. 13-9, 1971 (a)

- , "O nekotoryx problemax istoričeskoj morfologii tjurkskix jazykov". *Struktura i istorija tjurkskix jazykov* 276-88. Moskva, 1971 (b)
- Sevortjan, È. V., "O sodержanii termina "Obščetjurkskij"". *ST* 2: 2.3-12. 1971.
- , "K istočnikam i metodam pratjurkskix rekonstrukcij". *VJa* 1973: 2, 35-45.
- Sinor, Denis, "On some Ural-Altaiic plural suffixes". *AM* 2. 203-30, 1952.
- Širaliev, M.Š., "Affiksy 1-go i 2-go lica množestvennogo čisla s širokimi glasymi (na materiale dialektov i govorov azerbajdžanskogo jazyka)". *Tjurkologičeskij sbornik* 135-6. Moskva, 1966.
- Talipov, T., "K voprosu o genezise *h* v sovremennom ujugurskom jazyke". *Issledovanija po tjurkologii* 172-84. Alma-Ata, 1969.
- Tekin, Talât, "Determination of middle Turkic long vowels through 'arūd". *AOH* 20. 151-70, 1967 (a)
- , "Long vowels in "Atabatu'l-Ḥaqā'iq". *JSFOu* 68:5, 1967 (b)
- , *A grammar of Orkhon Turkic*. UAS 69. Bloomington, The Hague, 1968.
- , "Zetacism and sigmatism in Proto-Turkic". *AOH* 22. 51-80, 1969.
- , "Türk dil ve lehçelerinde ünsüz ikileşmesi". *Hacettepe sosyal ve beşerî bilimler dergisi* 3: 1.1-8, 1971.
- , (review of Menges 1968). In: *FUF* 39. 351-65, 1972.
- , On the alternation *l* ~ *s* in Turkic and Mongolian. *Sprache, Geschichte und Kultur der altaischen Völker*. Ed. G. Hazai. P. Zieme. Berlin. 1974, pp. 609-12.
- Tenišev, È. R., "Sistema soglasnyx v jazyke drevneujgurskix pamjatnikov ujugurskogo pis'ma Turfana i Gan'su". *Voprosy dialektologii tjurkskix jazykov* 3. 124-35. Baku, 1963.
- , "K ponjatiju "obščetjurkskoe sostožanie". *ST* 2:2. 13-6, 1971 (a)
- , "Pereboj *s*/*š* v tjurkskix runičeskix pamjatnikax". *Struktura i istorija tjurkskix jazykov* 289-95. Moskva, 1971 (b)
- , "K istorii tjurkskogo uslovnogo naklonennija". *Simpozium po sravnitel'no-istoričeskoj grammatike tjurkskix jazykov*. Moskva, 1967. Cf. the better accessible repetition in *Studia Turcica* 441-9, Budapest, 1971.

- Tezcan, Semih, "1283 numaralı Tibetçe Pelliot elyazmasında geçen Türkçe adlar üzerine". *I Türk Dili Bilimsel Kurultayına sunulan bildiriler 1972*, Ankara 1975, 299-307.
- Thomsen, K., "The closed "e" in Turkish". *AO* 22. 150-3. Havnlae, 1957.
- , "Bemerkungen über das türkische Vokalsystem der zweiten Silbe". *AOH* 16. 313-8, 1963
- TMEN = Doerfer, G., *Türkische und mongolische Elemente im Neupersischen*. Wiesbaden, 1963, 1965, 1967, 1975
- Tuna, Osman Nedim, "Köktürk yazılı belgelerinde ve uygurcada uzun vokaller". *TDAYB* 1960, 213-82
- , "On the aorist and the vowel gerund suffixes". *Inner Asia colloquium*, Session October 29, 1964. Seattle, Wash. (Also February 18, 1965)
- Verner, G. K., "Problema proisxoždenija faringalizacii v tuvinskom i tofalarskom jazykax". *ST* 3:5. 17-24, 1972
- Vietze, Hans-Peter, "Plural, Dual und Nominalklassen in altaischen Sprachen". *Wissenschaftliche Zeitschrift der Humboldt-Universität zu Berlin*, Gesellschafts- und sprachwissenschaftliche Reihe 18. 481-512, 1969
- Zejnalo, F. R., "Ob odnom "drevnem tjurkskom jazyke". *ST* 1972: 6, 74-9
- Zieme, Peter, *Untersuchungen zur Schrift und Sprache der manichäisch-türkischen Turfantexte*. (Dissertation, Berlin, not yet published)