

THE CONSONANTAL SYSTEM OF OLD CHINESE

PART II

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FINAL CONSONANTS

In Middle Chinese syllables could end in -ŋ, -k, -n, -t, -m, -p, or in a vowel (including -i and -u diphthongs). It has long been recognized on the basis of ancient poetic rhymes and phonetic series in the structure of the characters that some at least of the open syllables were originally closed by consonantal phonemes. There has been a difference of opinion however both about the extent to which this was true and about the nature of these lost consonants.

In *Grammata Serica* Karlgren restores voiced velar and dental stops, -g and -d (doubtfully also -b in a few cases) and also a second voiced dental consonant -r. He leaves open syllables in three rhyme groups: -â, -o, -u. Wang Li's (1957) more conservative reconstruction restores only -k, -t, -p (considered to have fallen leaving the falling tone after long head vowels) to account for the rhyming of words in the latter falling tone with words in stop consonants in the Odes. Tung T'ung-ho (1948), on the other hand, who restores the same consonantal finals as Karlgren (but distributes -r and -d somewhat differently), goes farther than Karlgren, in that he restores -g to the whole of Karlgren's -o and -u groups, leaving only one group of open syllables, those in -â. Finally, Simon (1938) and Lu Chih-wei (1947) restore a dental final to this group also. This solution, which leaves room for no open syllables at all in Old Chinese, is at the same time the most extreme and the most logical. If one is to use contact with *ju-shengs* or nasals in *hsieh-sheng* series and rhymes as evidence for lost finals, there is indeed no way, except by arbitrary decision, to stop short of reconstructing some sort of final consonant in all words that later ended in a vowel.

As Tung T'ung-ho has amply demonstrated, Karlgren's attempt to set up his open *-o* and *-u* groups involves splitting up two of the established *Shih-ching* rhyme categories and cannot be achieved without arbitrary and illogical expedients. In order to explain the fact that his *-o* group words regularly rhyme with words which he reconstructs as *-âg*, Karlgren supposes that already at the time of the Odes, in one dialect the latter had lost their final and become *-o*, etc., but that in another dialect, also represented in the Odes, they had retained their finals. When he finds words in *-âng, âk, -ung, -uk*, etc. in *hsieh-sheng* series with words which he reconstructs as open syllables he either ignores the fact or tries to explain it away by saying, for example, that a character has been "applied to another word of similar meaning". Such cases are however quite numerous. Thus:

者 M. *cja'* (K. **tjâ/tjâ*): 著 M. *tjo'*, *tjak*, *djak*, 曙 M. *djo*, *thjak*
 斯 M. *tjak* (Karlgren 1957, no. 45)

且 M. *tshja'*, etc. (K. **ts'jâ/ts'jâ*): 駟 M. *dzou'*, *tsaŋ'* (K. **dz'o*
 **tsâŋ*) (ibid. no. 46).

固 M. *kou'* (K. **ko*): 菴 M. *hak* (Karlgren 1957 does not admit the
 phonetic role, nos. 49, 1258a).

專 M. *phjou*: 博 M. *pak* (Karlgren 1957 places in separate series
 nos. 102, 771).

帑 M. *nou*, *thaŋ* < **nhaŋ* (only the former reading is given in
 Karlgren 1957, no. 947)

菁 M. *ku'* (K. **ku/kju*): 講 M. *kaŋ'* (treated as separate series
 1957, nos. 109, 1198).

禺 M. *ŋjou'*, 囑 *ŋjoŋ*, *ŋjou*, *ŋu'*, 頤 M. *ŋjoŋ* (Karlgren 1957,
 no. 124, ignores the anomaly).

數 M. *sjou'*, *saŋk* (the same character appears twice in Karlgren 1957
 under no. 123 婁 M. *lju* and, as if it were a separate character, as no. 1207)

Tung T'ung-ho 1948 restores *-g* throughout these two groups but still leaves group *-â* with open syllables (see also Simon 1938, pp. 276-8). He discounts the evidence of occasional rhyme and *hsieh-sheng* contacts with *-n*, regarding them as exceptions which need not receive special explanation. It is difficult to see, however, why open *-â* should have a special affinity for *-ân*, rather than *-âm*, *-âŋ*, *-âg*, etc. The evidence is of precisely the same kind as that used by Tung against Karlgren's *-o* and *-u* groups. Thus in *hsieh-sheng* series we find:

番 M. *phjan*, *pa* (播 M. *pa'* "winnow" is the same word as 簸 M. *pa'*
pa' with phonetic 皮 M. *bje'*)

難 M. *na*: 難 M. *nan*

个 M. *ka'*, *kan'*

果 M. *kwa'*: 裸 M. *kwan'*

搨 M. *tšjwe'*, *twa'*, *chjwen'*: 耑 M. *twan*

廩 M. *ta'*, *tan'*: 單 M. *tan*

Karlgren's reconstruction of *-âr* in such cases (but *-â* where there is no direct evidence of contact with *-n*) involves him in the same arbitrary splitting up of a rhyme category as his separation of *-o* and *-âg* or *-u* and *-ug*. In poetic rhymes we find contacts with *-n* in this group even in the Han period, e.g. in *Huai-nan-tzu* 和 M. *hwa* rhyming with 酸 M. *swan*, 讓 M. *ŋje'* rhyming with 觀 M. *kwan'* and 患 M. *hwan'*, in the *I-lin* 禍 M. *hwa'* rhyming with 全 M. *dziwen* and 泉 M. *dziwen*, 陂 M. *pie* rhyming with 連 M. *lien*, 池 M. *dje* rhyming with 患 M. *hwan'* (Lo and Chou 1958, pp. 252, 296). Lo Chen-yü and Chou Tsu-mo try to explain this as a dialectical phenomenon involving the nasalization of final *-n* after this vowel, but although this may seem phonetically plausible, it is equally plausible to explain both the *hsieh-sheng* contacts and the rhyme contacts by a dental final giving a possible rhyme with *-n*, which was later lost leaving an open vowel. Moreover there is good reason, from transcription usage, as we shall see, to suppose that such words still had a final consonant in Han times.

Wang Li expostulated even about Karlgren's system, "In no language in the world is there such a poverty of open syllables" (1957, p. 64). Apart from recognizing the loss of stop finals where later *ch'ü-sheng* (falling tone) words rhyme with stops, he tried to explain the *hsieh-sheng* evidence entirely on the basis of vowel congruence, i.e. by supposing that identity of head vowel was sufficient to account for the occasional use of the same phonetic in words with and without a final consonant. This involved him in a number of arbitrary assumptions: that *-a* and *-e* went only with *-ak*, *-aŋ* and *-ek*, *-eŋ* respectively, not with *-at*, *-an*, *-ap*, *-am* or *-et*, *-en*, *-ep*, *-em*; that *-ai*, *-ei*, on the other hand went only with *-at*, *-an* and *-et*, *-en* respectively; that vowel *a* occurred before *-k*, *-ŋ* but not before *-t*, *-n*, *-p*, *-m*, *-u* and that conversely *a* never occurred before *-k*, *-ŋ* —and so on. Moreover in order to account for the diverse developments from the various classes he was forced to set up a system of diphthongs, triphthongs and tetrathongs, with long and short semi-vowels and head vowels, which is much more difficult to accept as phonetically plausible than a system with no open syllables.

There is indeed good comparative evidence for a language, not geographically very far removed from Chinese, which appears to have had no open syllables, namely Old Mon. H. Shorto (1956, pp. 349-50) alludes to the "primary phonological system of Old Mon which requires a final consonant", in connection with the tendency to add an unetymological final *-h* to foreign loanwords ending in a vowel. In a note which he has kindly supplied me he adds, "OM (early XII century) uses an Indian alphabet with three short vowels, *a*, *i*, *u*, and five long, *ā*, *e*, *ī*, *o*, *ū*. Graphemic final short vowel is phonologically *[aʔ]* etc., which is confirmed by numerous variant spellings of the type *pa=paʔ*, *pi=piʔ*, as well as by

historical evidence. (Possible exceptions are the proclitic particles /kə/, /na/ /tə/.) Graphemic final long vowel=phonological final vowel occurs only in loanwords (including two putative ones of which the source is unknown) and the two sentence final particles: 'ā exclamatory, tā, etc., interrogative. The initial consonant of tā is variable and is a repetition of the preceding final consonant, e.g. *cmāt tā*. Final ā, ī, ū arise in Middle Mon (late fifteenth century) through the loss of final r, l, and by a continuance of this process. Modern spoken Mon has acquired a full set of final vowels, although in the written language final e and o still serve to mark loanwords."

It is relevant to note that Old Chinese had no syllables with vocalic opening, the laryngals, ʔ, h, ħ, being, as we have seen, integrated into the consonantal system. This also appears to have been true of Classical Tibetan—assuming ʔ to represent a voiced laryngal like Chinese ħ. By analogy with this initial system we may suppose that syllables without any other consonantal final had to be closed by a laryngal, as in Old Mon. This is relevant to the problem of the origin of the tones. Evidence is given below in support of Haudricourt's hypothesis that the Chinese tonal system developed in historic times through the loss of certain final consonants. If this is accepted it means that in earlier times Chinese lacked tones as a distinctive phonological feature of the syllable, and would have constituted an exception to the observation of Hockett (1955, p. 61) that as far as he was aware there was no case of a system with syllable juncture which did not have tones of one kind or another. By "systems with syllable juncture" he meant languages like Burmese, Tai, Vietnamese and Chinese dialects like Cantonese, in which there was no contrast between medial coda-onset sequences and interludes, or roughly speaking what one means by "monosyllabic languages". The point seems to be that in such languages the tone being a feature of the syllable as a whole, serves to define the boundaries of the syllable and mark it off from its neighbours. In the absence of tones we may suppose that the initial and final laryngals served the same function.

The analogy with the initial system provides a clue, in my view, to the nature of the lost final in the level tone associated with velar finals. If instead of Karlgren's voiced velar stop -g we restore a voiced laryngal *ħ in the level tone in rhyme classes where later open syllables show contacts with velars, we have a situation quite parallel to the initial system, where laryngals and velars show frequent *hsieh-sheng* contacts.

The best opinion about the value of the Tibetan letter ʔ in initial position (at least when it is not a prefix) seems now to be that it was a voiced laryngal [ħ] such as is found in the Wu dialects of Chinese and as we have reconstructed in the initial system of Old and Middle Chinese (cf. Miller 1955, quoting Dragunov, 1939). This letter also occurs finally and, although in standard written Tibetan it can be looked upon as merely a spelling device, this is not so in T'ang dynasty manuscripts. We find such

spellings as *paħ*, *phaħ* for standard Tibetan *pha* "father" and it also occurs before -s in *bahs*=standard Tibetan *bas* "enough". (See Thomas, 1955.) Sedlaček 1959 treats it as a consonantal "inferior pharyngal" final with regard to the development of tones.

If we reconstruct *ħ, rather than a velar stop -g (or even, as Simon, a velar fricative -ɣ), we have a good explanation for the fact that in the Han period it is words in this category which are most used for foreign open syllables. It is striking that in pre-Buddhist Han dynasty transcriptions words of the *Ch'ieh-yün* -a class are extremely uncommon. This is in marked contrast to the later situation in which such syllables as 阿 M. -a, 羅 M. la, 摩 M. ma, 陀 M. da are the most common characters in transcriptions, occurring literally hundreds of times. Their later frequency is easily understood. Open syllables were adaptable to a much wider variety of situations than closed ones and a-like vowels are common in most languages. The reason these syllables are rarely found in earlier transcriptions must be that they still had a final dental consonant. In Han dynasty transcriptions we find instead syllables in M. -ou, -jo (and -jou after labials and Old Chinese labiovelars and labiolaryngals), in the level tone, occurring with a correspondingly high frequency with the value of foreign a-vowels. Apart from examples where the foreign equivalent can be identified, such as 烏遲散 M. 'ou-dji -san'=Alexandria (*Wei-lüeh*, see Hirth 1885), 于闐 M. ħjou-den < *ħwāh-den=Hvatāna, Khotan (see p. 91 above), 都密 M. tou-mjit=Tarmita (see p. 124 above), 都賴 M. tou-lai=Talas (see below), syllables such as 烏 M. 'ou, 於 M. 'jo < *āh, 都 M. tou, 奴 M. nou, 盧 M. lou, 無 M. mjou < *māh occur with a frequency comparable to syllables in M. -a in later times in words which cannot yet be traced back to foreign originals.

In the light of this we can see that Fou-r'u 浮屠 M. bju-dou < *būh-dah, the early transcription of Buddha which appears in the *Hou Han shu* and *Wei-lüeh* (Chavannes 1905), conforms to the normal Han dynasty pattern assuming an original in -da like Sanskrit Buddha or Gandhāri *budha* (Brough 1962) and does not need to be referred to a Pali form *Buddho* as Chi Hsien-lin (1948) supposed. (On the alternative spelling with 𠂔 as the second character, which was introduced at a later time to avoid the inauspicious meaning "butcher", of the original second character see Pelliot 1906, p. 373, n. 2.)

When we come to transcriptions in actual Buddhist texts, syllables in Middle Chinese a (or in certain cases ja, a, ja) predominate for Indian ā from the beginning, and also in many cases for short a, though here ə and jə are common especially in the early period. This clearly illustrates the untenability of the thesis advanced by Zürcher (1959, pp. 39-40) that the early Buddhist translators at Lo-yang took over the system of transcribing foreign words that had been devised in official circles. Traces of the older

system do appear, but mainly in works emanating from the state of Wu (A.D. 222-80) with its capital at Nanking. Thus in an anonymous *Samyuktāgama* translation (T.101(1)) attributed to the state of Wu we find the name 蒲盧 M. *bou-lou* < **bah-lah* where Guṇabhadra's version (T.90 (98), fifth century) has 婆羅 M. *ba-la*, evidently rendering an original Bāla. The same M. *lou*=*la* occurs in 寶頭盧 M. *pyin-du-lou*=Pindola in T.129, a short *sūtra* translated by the Indian Lü-yen in the same state of Wu. One might have tried to explain this as an inflected form in *-lo* but inflected forms rarely if ever appear in transcriptions and the explanation suggested here seems preferable.

We also sometimes find this feature in geographical texts about South-east Asia emanating from Wu. For example, 姑奴 M. *kou-nou* < **kahnah*, mentioned in the *Nan Chou I-wu chih* (T'ai-p'ing yü-lan 790.8a) as lying 8000 *li* [west] of Ko-ying (in southern Sumatra) must be the same as the 加那調 M. *ka-na-deu*=**Kanadvīpa* of the *Wu shih wai-kuo chuan* (T'ai-p'ing yü-lan 771.5b). The former work was written by Wan Chen, a native of Wu, but although the latter work also came from Wu, its author K'ang T'ai was a Sogdian who evidently used Northern Chinese as the basis of his transcriptions. (See Pelliot 1925, pp. 251-52.) In the same way the translations of the *Chih Ch'ien* done at Nanking show the type of transcriptions typical of contemporary and somewhat earlier works emanating from the north without the archaic southern features we have referred to. This is not surprising since *Chih Ch'ien* was the grandson of an immigrant from the Yüeh-chih (Kushan) realm who had settled in Lo-yang in the period 168-88 A.D. *Chih Ch'ien* himself studied at Lo-yang under a pupil of a pupil of Lokakṣema and only went south later (Zürcher 1959, p. 48).

Even in the middle of the fifth century in the Liu Sung dynasty, centred on the same region, we find a lingering trace of the use of Old Chinese **-ah* for foreign *a*. In *Sung shu* 97.1654.2 an embassy from the country 婆皇 M. *ba-hwan* is recorded under the year 449. The *T'ai-p'ing yü-lan* 787.7b, quoting the Diaries of Activity and Repose of the Yüan-chia period of Sung (Sung *Yüan-chia ch'i-chü-chu*), records an embassy in the same year from the country of 蒲黃 M. *bou-hwan*, which clearly must be the same place. One must suppose that the court diary used a more archaic type of transcription, while some other source, used by the *Sung-shu*, used one that was more up to date. (Cf. 多郎婆黃 M. *ta-lan-ba-hwan*=*Talang Bawang* (?) in southern Sumatra, mentioned in a text which appears to refer to the seventh century (T'ang *hui-yao* 100, p. 1791, also *T'ai-p'ing huan-yü-chi* 177; Pelliot 1904, p. 324 ff).

If we postulate a laryngeal closure instead of Karlgren's *-g*, we can account both for the use of such syllables to represent foreign open syllables (there being no true open syllables available) and for the occasional rhyming

contacts with velars which occur still in the Han period, e.g.: 奴 M. *nou* rhyming with 漠 M. *mak*; 徒 M. *thou* < **thah* rhyming with 貌 M. *mauk* < **mlauk*, 速 M. *suk* < **sok*, 木 M. *muk* < **mok* (Lo and Chou 1958, pp. 150, 227). A similar rhyming contact between **-h* and M. *-k* after the vowel **ə* < **i* is found in 絲 M. *sje* < **səh* rhyming with 得 M. *tək* (ibid., p. 272). Examples of **-h* (=K. **-g* in level tone) representing foreign open syllables in other vowels than *-a* are also common. Many illustrations may be found quoted above.

The lost dental final in level tone words

We have given grounds for thinking that there was a dental final throughout the *Shih-ching* rhyme class in which Karlgren sometimes reconstructs open *-ā* (or *-a*, *-ja*, *-ia*, etc.) and sometimes *-ār* (or *-jār*). One might simply extend Karlgren's *-r* to the whole class. Against this is the fact that we have not reconstructed *-r* as an initial phoneme and, while there is no a priori necessity for all final phonemes to be found initially as well, the principle of economy is in favour of it. Moreover it may be objected against Karlgren's theory that if an *-r* had existed, it would be hard to understand the fact that Chinese *-n* is regularly used for foreign *-r* in the Han period. Lu Chih-wei proposed a weak implosive *-d* (in contrast to a strong explosive *-d*, where Karlgren had *-d*). It seems extremely unlikely that there should have been explosive and implosive final stops as contrastive phonemes. It seems quite likely that final stops in Chinese were always implosive, as they are in modern dialects which preserve them and as they appear to be also in Tibetan.

Having reconstructed **ḍ* as an initial phoneme, I prefer to follow Simon's hypothesis and reconstruct it finally also, I shall reconstruct it not only after *-ā*, but also after *-ě* and *-ǎ* < *-i* (including *-wě* < **-ü*). (Karlgren recognizes only an *-r* class, but it is generally agreed by Chinese scholars that classes corresponding to **-en* and **-ən* among later open syllables must be recognized. The **-əḍ* group also includes certain words which Karlgren reconstructed as *-jār*, *-jwār*.) On analogy with initial **ḍ* we should expect to find final **-ḍ* corresponding to Tibeto-Burman *-l*. One may note such cases as Tib. *k'al* "burden" (cf. *sgal* "load", *hgel-ba*, perf. *bkal*, fut. *dgal* "to load"); 荷 M. *ha*' < **gaḍ*; Tib. *hjol-ba* "hang down": 垂 M. *jiwe* < **dōḍ* "hang down" (cf. also the active verb with infix *-l* 種 M. *qiwe* < **dlōḍ* "press down, crush"); Tib. *brgyal* "sink, down, faint", 疲 M. *biwe* < **blōḍ* "fatigue, weariness", Lepcha *pyal*: 罷 M. *bje* < **blēḍ* "worn out, exhausted" (**bl* in this word is proved by the alternative reading M. *bae*' < **blēḍ* "stop"—other cognates are no doubt 敗 M. *bai*' < **blats* "be ruined, defeated", M. *pai*' < **plats* "to defeat", 弊 M. *bjei*' < **blāts* (or **blēāts*) "worn out"). Benedict 1948 compares Tibeto-Burman **m-syil* ~ **g-syil* "wash" (Tib. *bsil-ba*, etc.) with 洒, 洗

M. *sei'*, *sen'*. Note also Tib. *bsnyul-ba* "to wash" which supports the indications from the *hsieh-sheng* that the Chinese initial was originally **snh-* (see p. 132).

The loss of Chinese final *-*δ* was going on through the Han period and can be seen from the development of the poetic rhymes. It appears to have gone first after long *ā*, for we find such rhymes as 知 M. *tiē* < **tiēh* already in later Chou texts such as Lao-tzu, the *Ch'ang-tzu*, Han Fei-tzu and the *Lü-shih ch'un-ch'iu* (Lo and Chou 1958, p. 25; Karlgren 1932). It is noteworthy that the word M. *liē* is particularly common in this sort of rhyming and it seems probable that the initial stage in the process was dissimilation between initial *l* and final *-*δ*. Examples without liquids in the initial are also found however, like 爲 M. *hiwē* rhyming with 兒 M. *nije* < **ŋēh* and 知 M. *tiē*, etc., in *Lao-tzu*.

In Western Han such rhymings become more and more common and we also find occasional rhyming between M. *-a* < **aδ* and M. *-ei* < **eh* or M. *-ye* < **ēh*, showing that final *-*δ* was beginning to disappear here also. (The vowels must be supposed to have been quite close but not necessarily identical. The **-ah* and **-oh* groups also rhyme freely in most Han authors but they remain distinct in transcription usage and they only fell together in Middle Chinese to a very limited degree, so they must have remained phonemically distinct.) In Eastern Han rhymes Lo Ch'ang-p'ei and Chou Tsu-mo treat M. *-ie* < **-āδ* as part of the **eh* group. By this time too M. *-a*, *-ja* < **-lah*, **-ēh*, **-ēh*, etc., rhyme with M. *a* < **aδ* and M. *-a* < **laδ* (which still form a single rhyme group), especially in the level tone (Chou and Lo 1958, pp. 13, 23). On the one hand this indicates the splitting of the original **-āh* group by the rounding of the head vowel towards M. *-ou*, *jo* when not preceded by *-e-* or *-l-* but it must also imply the loss of final *-*δ* in the original **-āδ* group. The loss of **-h* is not so clearly implied since it would probably not have been an obstacle to rhyming with an open vowel. Indeed one might suspect, that if the system of final laryngals was still intact, the loss of any other final would automatically entail the substitution of a laryngeal closure.

The departing tone

To restore **-h* or *-*δ* according as velar or dental connections are revealed through rhymes and *hsieh-sheng* series provides an adequate explanation of most level tone words with open syllables in Middle Chinese. (The possibility of a weak labial final *-*v* in some cases will be touched on below.) It has long been noted however that the departing tone shows a quite distinct pattern. In the first place Old Chinese rhyming and *hsieh-sheng* contacts between Middle Chinese words with open syllables and words with final stops are far more common in the departing tone. This is most apparent in those Middle Chinese rhymes which exist only in the

departing tone—*ai'*, *ai'*, *iei'*/*yei'*, *jai'*—and which show abundant contacts with *-t*. Recognition of this phenomenon at one time led Karlgren to suppose that final stop consonants—*k*, *t*, *p*—had been lost under the influence of tone. He later abandoned this idea in favour of the reconstruction of voiced *-g*, *-d*, *-b*, but he left unexplained: (1) why vocalization of *-d* to *-i* should always result in the falling tone, while the parallel vocalization of *-r* to *-i* or *-o* could result in any tone, (2) why, although final *-g* gave all three tones, contacts with *-k* are much commoner in cases where it gave the falling tone.

Wang Li's reconstruction (1958, pp. 83-90) according to which *-k*, *-t*, *-p* were lost after originally long vowels, giving the falling tone, does take account of the special relationship of the falling tone to the final stops but is unsatisfactory in other respects. It is hard to reconcile with the theory which he develops later in the same work that the departing tone was a derivational device which could affect words in any tone (ibid, p. 253).

A different proposal has been made by Haudricourt (1954, see also 1961) on the analogy of Vietnamese. Vietnamese, like Tai and Miao-Yao, has a tonal system closely analogous to that of Chinese, with two registers corresponding to original voiced and unvoiced initials and three contours in each register, apart from words with final stops which form a separate category. According to Haudricourt it can be shown that the falling tone has developed from an earlier final *-h* representing an original *-s*. He suggests that the same thing may have happened in Chinese, that is, that there may have been a suffix **-s* which could be added to other words to form derivatives and which has left its mark in the falling tone. This would account for the numerous pairs like 好 M. *hau'* "good", *hau'* "love", 惡 M. *ak* "bad", *ou'* "hate". Since then Downer (1959) has assembled further evidence that words in "departing" tone are often to be regarded as derivatives of words in other tones and Forrest 1960 has shown that in Tibetan final *-s* plays the same kind of derivational role, e.g.: *hk'rud-pa* "wash", *k'rus* < **k'ruds* "washing"; cf. 畫 M. *hwaek* "to draw", *hwaek* "picture". The convergence of the widely separated comparisons with Vietnamese and Tibetan creates a strong presumption that Haudricourt's theory is correct. I am now able to bring supporting evidence from early transcriptions which show that a final sibilant from original **ts* was still pronounced in Chinese at least until the third century A.D.

In his article "Gandhāri" (1946) Bailey gave a number of examples in which Chinese diphthongs in *-i* appeared to represent a foreign sibilant or dental fricative: 波羅奈 M. *pa-la-nai* = **varanasi* for Skt. *Vārāṇasī*; 三昧 M. *sam-mai* = **samādi* for Skt. *samādhi*; 提謂 M. *dei-hiwei* = **t(r)iviz*, Skt. *Trapaṣa*, Khotanese *ttrāvāyasa*; 忉利 M. *tau-li* = **tāudiz*, Skt. *trāyastriṃśa*, Khot. *ttrāvāriśa*; 阿魏 M. *a-giwei*, 央匱 M. *i-ŋgiwei* = Khotanese *amguṣḍā*, Tokh. B. *ankwaś*, Uighur *'nk'puš* "asafoetida";

舍衛 M. *śja-hjwei* = Śrāvastī; 迦維羅衛 M. *kja-ywi-la-hjwei* = *Kavilavas, Skt. Kapilavastu. It will be noted that in all these words the syllable in question has the falling tone.

Many other examples can be added from early Buddhist transcription thus from T.224 translated by Lokakṣema: 阿會亘 *a-hwai-sjwen* Abhāsvara; 阿迦貳吒 M. *a-kja-nji-ta* = Akaniṣṭha; 首陀衛 *sjū-da-hjwei* = *suddhāvāsa*; 須彌 M. *sjou-dei/djei* = *sudrā*. Bailey supposed that the *-i* of the Chinese diphthong could represent a foreign sibilant in the same way that initial *y* (=K. *i*) represents Prakrit *z* (pp. 67-69 above). This leaves out of account however that it is only words in the falling tone that are involved. Clearly it is simpler and more satisfactory to suppose that the Chinese syllables had a sibilant final.

Examples of Chinese **-s* in transcriptions can be found in non-Buddhist sources as well. The earliest spelling of Tsushima (kana *tu-si-ma*) which occurs in the *Wei-lüeh* (third century A.D.), is 對馬 M. *tuai-ma*. Because of the difficulty of accounting for it as a phonetic transcription Hamada conjectured that the transcription was really based on a form *Toma(ri) and was transferred to a semantically related second name of the island (1952, p. 701; cf. Wenck II, 1954, p. 199). This unsupported hypothesis is unnecessary since M. *tuai* would imply a form **tuəs* at this period and could very well stand for *tus(i)*.

In transcriptions of the Han period we find further examples of the same kind.

貴霜 M. *kjwəi-sjan* = Kushan (either final *-i* or Karlgren's final *-d* would be inappropriate).

貳師 M. *nji-sji* = Nesef (see p. 120 above).

都賴 M. *tou-lai* = Talas, Tarāz. This appears in *Han-shu* as the name of the river in the northern territory of K'ang-chü where the dissident Hsiung-nu chieftain Chih-chih established himself around 42 B.C. DeGroot identified it with Talas and this must be correct (DeGroot 1921, p. 229; cf. Dubs 1957, p. 29, n. 20).

罽賓 M. *kjei-pyin* < **kā(t)s-pin* (< **-ēn*) = *Kaspir for Kashmir. The identification of this name, which first appears in *Han-shu* 96A, with Kashmir was made by S. Lévi and Chavannes 1895 (see also Chavannes 1905, p. 538). It has been fairly widely accepted, for instance by Pelliot 1934, but others have rejected it, notably in recent years Petech 1950, on alleged geographical and historical as well as linguistic grounds. It is clear that if, as now appears, we have to suppose a final sibilant for the first character in the Han period, the linguistic case is greatly strengthened. I believe that the geographical and historical objections are equally invalid but a detailed discussion must be postponed. It may be remarked however that the proposed identification of P'u-t'iao or P'u-ta with Puśkalāvati (see p. 101 above) greatly weakens the case for thinking that Chi-pin should

be in Gandhāra. (It should be noted that there is no basis for the idea that Chinese *-n* could represent foreign *r* only before another consonant and not finally.)

The character 罽 M. *kjei* also appears alone as the name of the westernmost of the five kingdoms mentioned in the *Han-shu* 96A as subject to K'ang-chü. Here it probably stands for Kāth, the ancient capital of Khwarezmia. Again the presentation of the geographical arguments will be deferred.

蒲類 M. *bou-liwi* < **bah-lwō(t)s*. This is the ancient name of Lake Barköl and also of a nomadic kingdom of the Han period (*Han-shu* 96A). Pelliot has quoted a T'ang dynasty source giving the name of the lake in the form 婆悉厥 M. *ba-sjit-kjwat* (*Yüan-ho chün-hsien chih* 40.10a, Pelliot 1929, p. 251). This must stand for something like **ba(r)s-köl* showing the sibilant which has now been lost but missing out the *-r*. The Han dynasty form would imply something like **barus*. If the name is really related to Turkish *bars* "tiger" as has been supposed, it would prove the presence of Turkish speaking peoples in that region in the first century B.C. but it may only be a popular etymology of a proper name in another language.

In all the examples so far discussed the transcription value to be presumed has been a pure sibilant [s] (or perhaps in some of the later Buddhist ones a somewhat palatalized and voiced [š] or [ž]) and there is no trace of the supposed stop consonant in **-ts*. Two examples from the earliest period remain to be discussed which might imply [ts] rather than [s]. Unfortunately they are both rather problematical.

蘇雍 M. *sou-həoi* < **sah-gləts*. This occurs first in *Shih-chi* 123.0268.2 as the name of a country which sent an embassy to China along with An-hsi (Parthia) in ca. 110 B.C. The name recurs in *Han-shu* 96A. 0607.3 as one of the five petty kingdoms subject to K'ang-chü and, still later, *Chin-shu* 97.1337.2 calls it the capital of K'ang-chü. In *Hsin T'ang-shu* 221B. it is identified with Kesh. Such identifications are very unreliable in general but there are rather good grounds for accepting it as correct in this case. Marquart, who discussed it (1898, p. 57; 1901, p. 302 ff.) pointed out that according to certain traditions Kesh had once been known as Soyd or as the capital of Soyd. He left open the question whether there could be a phonetic connection between our M. *sou-həoi* and Soyd. There seems to be a good chance that there is. It is true that Chinese *l* usually represents foreign *r* at this period but it seems likely that clusters of the type **gδ*, **kδ* had already been simplified so that **gl* would have been left to do duty for both *gl* and *gr*, and even possibly for *gδ* or *γδ*. The vowel **a* of the first syllable may have already shown a certain degree of rounding and so not have been inappropriate to represent the foreign *o*. The final *(t)s remains to be accounted for. Most of the Chinese

transcription of this name are based on adjectival forms in *-k* (see pp. 116, 124-5 above).

To account for a suffix which could yield Chinese **-s* or **-ts* is not easy. Professor Sir Harold Bailey suggests two possibilities: (1) an assibilated form of the Iranian collective plural suffix *-tai* found in Samartae and surviving in Ossetic *-tā* (see Bailey 1945), (2) supposing that the name had been reported through a Tocharian-speaking intermediary which would be quite possible at the period in question an oblique plural in *-s* as found in Tocharian A. In the absence of attested forms giving support these must remain conjectures.

In any case the same suffix is probably to be recognized in 奄蔡 M. **jem'-tshai* < **ām-tshats* which has long been supposed to be a transcription of the name found in Greek **Αορσοι* (Hirth 1885, p. 139, n. 1, see p. 99 above). The alternative transcription 閩蘇 M. *hap-sou* < **hap-sah* no doubt stands for a form without the plural suffix. The Chinese forms show no *-r-* but could be reconciled with the Classical forms if we postulated an original something like **ārsa-*; the Chinese could hardly have represented such a cluster as *-vrs-*. The labial found in the Chinese seems to be implied in the *-o-* of the Greek as well as being explicit in Abzoae, a form found in Pliny VI, 38 which is not necessarily to be emended to Arzoae.

This people later changed their name to A-lan (Chavannes 1905, p. 558, n. 5) and should therefore be the ancestors of the later Ās, the modern Ossetes. It may even be possible to derive the name Ās from **ārsa-*, as found in Chinese Yen-ts'ai, Greek **Αορσοι*. Ās is now usually derived from **ārya* or **arsya-* (Bailey 1945, p. 3) but this might be consistent with an earlier form containing a labial. Dr. I. Gershevitch points out to me that their near neighbours, the Sarmatae, were earlier called Sauromatae, suggesting a similar loss of a labial element before a preconsonantal *-r-*. Possible surviving traces of a labial in some later forms of the name of the Ossetes may also be found, as in Georgian Ovs, and in the spellings Affs, Afs, found in some manuscripts of the mediaeval German traveller, Johannes Schiltberger; but they involve complicated difficulties and it seems best to defer further discussion.

More investigation will be needed before a precise date can be given for the loss of final **(t)s* (no doubt it persisted longer in some parts of the country than in others). Buddhist and other transcriptions give abundant evidence for it in the third century and into the fourth, assuming that Fa-hsien's spellings are valid for his own time and not already traditional. Occasional poetic rhymes between M. *-t* and M. *-i* are found even in the Northern and Southern Dynasties (Wang Li 1957 (1936), p. 53). The Tai

forms in *-t* for 未 M. *mjwəi*, the eighth earthly branch, also give evidence of its fairly late survival but do not yield a precise date (see Egerod 1957, Haudricourt 1954).

The Middle Chinese rhymes which are to be referred to Old Chinese **-ts* closely parallel the rhymes in *-t*, thus:

at : ai\	wat : wai\
iat : jai\	iwat : iwai\
at : ai\	wat : wai\
et : ei\	wet : wei\
iet/yet : jei\ / yei\	iwet/ywet : iwei\ / ywei\
ət : əi\	uət : uəi\
jət : jəi\	juət : jwəi\
aət : aəi\	waət : waəi\
jit/yit : ji\ / yi\	iwit/ywit : iwi\ / ywi\

There is no separate rhyme in *-i* corresponding to rhyme *it*, which is however probably not phonemically distinct from *jit* (see p. 80 above). There a few other small points of difference between the *-t* rhymes and the *-i* rhymes, for example, although we find M. *kjat* < **kāt*, like M. *kjan* < **kān*, the expected **M. kjai* does not occur and is replaced by M. *kjei* (see above); but by the time of Hui-lin the rhymes *-jan*, *iat*, *jai* had all fallen together with *jen*, *jet*, *jei* and, if the distribution in the *Ch'ieh-yün* is a true picture, we may suppose that the umlaut took effect earlier in rhyme **jai* than elsewhere. Further discussion of such points of detail may be left aside here.

The falling tone from **x* < **ks*

Though final **-s*, postulated as the source of the falling tone, survived in this way after original **-t* until a late date, it seems to have already been lost in other contexts before the Han period.

The most probable value for original **-ks* in the Han period seems to be a velar fricative **-x*. One may compare this with Balti which has *-x* for Classical Tibetan *-gs* (Forrest 1960, p. 237). The following examples may be cited:

謝 M. *zja* < **sδjax* (< **sδāks*, cf. 射 M. *zja*, *zjek*, *yek*). This is given as the "name" of the general of the Yüeh-chih who was sent against Pan Ch'ao in A.D. 90. S. Lévi (1913, p. 330) proposed to identify it with Persian *šāhi* "king". This seems very plausible. We know that the Kushan rulers used the Iranian title *šaonano šao* "king of kings" and the title 副王 *fu-wang* "deputy king" is mentioned by the Chinese both in connection with the Yüeh-chih and with the neighbouring K'ang-chü. (The exact phonetic value of **sδj* > M. *zj* at this period is obscure but one may compare M. *sj* < **sθj* for Iranian *š* in 安息 M. *an-sjək* = Aršak (cf. p. 77 above). Note also the first syllable of 屠頭邪 M. *set-du-ya* <

**sʰeāt-doh-(ŋ)δeāh* = Śuddhodana in the account of Buddhism in the *Wei-lüeh* (Chavannes 1905, Pelliot 1933, p. 93).

護于 M. *hou~hjou* < **hwax-hwāh* = Hsiung-nu **γ^way^wā(?)*, whence Turkish *qayan* etc. (see p. 91 above and Appendix).

護深 M. *hou~tsau* < **hwax-tsau* (cf. 獲 M. *hwak*). This is the place where the third of the five *yabgu* of the Yüeh-chih was located according to *Han-shu* 96A and *Hou Han-shu* 118. The five *yabgu* seem to have formed an arc along the north side of Tokharestan from the valley of Wakhan in the east to Tou-mi = Tarmita, Termes (see p. 124 above) and Balkh in the west. **hwax-tsau* probably stands for Waxšab, that is the River Waxš, a tributary of the Oxus entering it from the north somewhat east of Termes. The group *-xš-* would be represented by Chinese *-x ts-*, there being no true palatals at this period in Chinese (see pp. 108-09 above). In view of the other evidence it is unlikely that the first syllable itself still ended in **-ks*.

Another example is the much discussed 徑路 M. *keŋ-lou* < **keŋ-hlax* (< *-ks*, phonetic 各 M. *kak*; the first character may have once had a cluster initial **kδ* (see p. 119) but this had probably simplified already by Han times). This was the name of the Hsiung-nu sword, which was worshipped in much the same way that, as Herodotus tells us, the Scythians sacrificed to a sword as their god of war. Egami (1948, pp. 133 ff) is no doubt right in identifying it with the short, double-bladed *akinakes* of the Persians and Scythians, examples of which have been found all over the steppe. Hirth (1900, p. 223) compared the name with Teleut. Turkish *qiyraq* "double-bladed knife" and the semantic and phonetic correspondence is indeed striking. The matter is complicated however by the probable connection of the Turkish word with Iranian forms like Wakhan *xingār* "sword", Yidga *xugor*, Sogdian *xnyr*, Ar. Pers. *xanjar*, whence also English hanger (despite the doubts of the OED). (Egami wishes also to make a comparison with the Old Persian name of the sword as found in Greek ἀκινάκης but despite the semantic equivalence the phonetic resemblance is very vague. For the Sogdian form of this word see Bailey 1955, p. 69.) The relation between the Turkish and the Iranian forms remains to be elucidated. Still less do we know the form in the Hsiung-nu language. In the circumstances it is impossible to say exactly what sort of final the presumed **-x* of the Chinese was representing, though it seems likely to have been closer to the Turkish than to the Iranian forms. What may be another transcription of the same word has been quoted from the *I-Chou shu* (Hirth 1923, pp. 65 ff.). It occurs in a passage referring to the time of Wu Wang, the founder of the Chou dynasty (traditionally ca. 1100 B.C.). This is clearly anachronistic but, as Egami says, the passage may well come ultimately from the Warring States period when nomadic things were becoming known. The form in the *I Chou shu* is 輕呂 M.

khyeŋ-ljo < **kh(δ)ēŋ-(h)lā*. For our present purpose the important thing to note is the final glottal stop, giving the later rising tone. We may perhaps compare the variation between glottal stop and *h* initially in **wāh-ne(δ)*, the capital of Shan-shan (p. 89 above). It was there suggested that these might be alternative ways of representing a foreign uvular *q-*. It is possible that we have the same thing here finally, implying something like the Turkish-*q*.

The falling tone from **h* < **h̄s*

Besides **-ks* we must postulate **-h̄s* (cf. *-hs* in Tibetan, p. 213 above). This is shown by such pairs as: 思 M. *sja* "think", *sja* "brood"; 譽 M. *yo* < **δāh* "to praise", *yo* < **δāhs* "praise, renown". In general **-h̄s* had the same reflexes as **-ks*, thus: *sja* < **sāhs*, like 異 M. *yə* < **δāks* (cf. 翼 M. *yək*); 蹈 M. *dau* < *δuhs* (cf. 滔 M. *thau* < **θuḥ*), like 告 M. *kau* < **kuks*, besides *kok* < **kuk*. It must be noted however that although M. *-ou* may come either from **-ks* or **-h̄s* (also **-s*, see below), and M. *ja* can also come from either **-h̄s* or **-ks* (the latter being more common), M. *-jo* seems to come almost exclusively from **-h̄s*. Exceptions are:

著 M. *tjak* "to place", *tjo* "place, order" (but *-ja* does not occur at all after retroflex stops).

燕 M. *sjə*, *cjə*, cf. 摧 M. *cjek* (phonetic is 石 M. *jiək*). One must, however, also note the *hsieh-sheng* derivative in level tone 遮 M. *cja* which makes it possible that we have a case of **-h̄* and **-k* in the same series. The same may be true of 蒙 M. *gio*, *gjo*, 臙 M. *giak*, 籛 M. *gio*, *kjo*, etc.

It seems unlikely that rarity of M. *-jo* < **-ks* is merely a matter of chance. The final velar fricative in **-āx* < **-āks* may have persisted long enough to prevent the rounding of the vowel (having therefore the same effect as the final stop in M. *jak* or *jek* < **āk*) so that it ultimately fell together with *ja* < **eāhs* rather than *jo* < **āhs*.

This would imply that there was a significant difference in the transitional reflexes of **-h̄s* and **-ks* before they disappeared. I therefore write **-h* for the former and **-x* for the latter.

Examples of **-h* < **-h̄s* in Han transcriptions are rare but one may note the case of 高附 M. *kau-bjou* < **kauḥ-bōh* = Kabul, Κάβουρα (Hanshu 96A.0607.2, *Hou Hanshu* 118.0905.1). One must also compare with this M. *khju-dzju~kja* = Kujula kadphises (see p. 123 above). Here M. *dzju* would appear to come from **dzūks* (cf. 隸 M. *tsjuk*), implying **-x* rather than **-h* in Han. In both cases however the foreign sound represented appears to have been some kind of *-l* or *-r*. This is puzzling. If the *-l* in question was of a dark, velar kind, or if one had an uvular trill, one could suppose that a voiced velar fricative *-ɣ* might have seemed a possible substitute, but the theory of the development of the falling tone from a final aspiration, replacing a sibilant, seems to require an

unvoiced sound (see Haudricourt 1954 (2)). The question must be left in suspense until some more conclusive means appears to solve it. (N.B. M. *kjap* goes back to **klāp*, the medial -l- in this syllable would have served to represent foreign *l* (see p. 123). The explanation of **x* in the transcription may therefore have nothing to do with the representation of foreign *l* or *r*.)

The Han and Middle Chinese reflexes of **-s*

After vowels other than **ā* there is no difference, apart from the tone, between reflexes of **-s* and **-ts*, thus: 微 M. *mjəi* < **-s*, 未 M. *mjəi* < **-ts*. We also find words in the falling tone having connections with **-ts* rather than **-t*, e.g. 衣 M. *ʔəi* "clothes", M. *ʔəi* "to wear". In such cases one must reconstruct **-s*s, supposing it to have fallen together with **-ts* at some stage. After vowel **ā* however the case was different. The normal reflexes of **ās* were M. *a* < **as*, M. *a* < **las*, M. *ie* < **ās*. These rhymes were found in all three tones and the typical derivational function of the falling tone is shown in pairs like 騎 M. *gie* "to ride", M. *gie* "rider", 過 M. *kwa* "pass by", M. *kwa* "transgression"; 磨 M. *ma* "rub, grind", 塵 M. *ma* "dust"; 被 M. *pie* "cover oneself with", M. *pie* "cloak". We must here postulate a distinct development of **ās* different from that of **ats*.

If we assumed the same tendency for **-s* to be replaced by aspiration as in the case of the back finals, we might get **śs* > **śh* = **θ*. This in turn if it were phonemically identifiable with initial **θ*, might be expected to have become a simple aspiration in the predominant dialect of the Han period (see p. 117 above). It might be objected that in this case **āh* < **ās* < **ās* ought to have fallen together with **āh* < **ās* but the rounding of *ā* before the laryngeal finals may have already begun before the change **θ* > **h* took place. In any case it is clear that the dialect in which this change took place, although important in Han, was not in the main line of development of the *Ch'ieh-yün* language and left few traces in it.

This is all theoretical. Concrete evidence to substantiate it is difficult to find as cases of presumed reflexes of **ās* are very rare in Han transcriptions. A possible example is the use of the character 大 in a number of transcriptions. The normal readings of this character are M. *dai* < **das* and M. *thai* < **thats*, the latter often written 太 or 泰, and the **ts* final is confirmed by poetic rhymes both in the *Shih-ching* and in Han poetry, but the *Kuang-yün* also gives a reading M. *da*, implying **das*. **das* or **thats* ought to have still had the final sibilant in the Han period but this would, on the face of it, seem to agree poorly with the presumed originals in 大益 M. *da(i)*-*yek* = **Dahik*, Dihistan (see p. 90) and 大宛 M. *da(i)*-*ʔwan* = Taxwār (p. 90), while an aspirate of some kind would fit.

大 also occurs for the syllable *dha* in the *arapacana* alphabet as

transcribed by Mokṣala (T.221, A.D. 291). Since the next syllable is *śa*, it might be argued that a final **-s* (possibly somewhat palatalized to **-ś*, since it eventually yields -i) would represent an assimilation of the end of this syllable to the beginning of the syllable following. But Kumārajīva, a little over a hundred years later, used 駄 M. *da* in the corresponding place (T.223, A.D. 403-4 and T.1509, A.D. 402-5) and it is natural to suppose that Mokṣala intended the homophonous reading of 大. Dharmarakṣa at about the same time as Mokṣala used 陀呵 M. *da-ha*, in the level tone. (For a comparative table of transcriptions of the *arapacana* alphabet see Li Jung 1952.)

N.B. Certain modern dialectal readings of 大 go back to M. *da* (Karlgren 1924, p. 740). It is possible that Pekingese *ta*⁴ (contrast 太 *t'ai*⁴) also goes back to M. *da* rather than M. *dai*. By strict sound laws M. *da* ought to give *to*⁴ but this may be a case of irregular development in a very common word, tending to preserve a closer resemblance to the earlier shape of the word, as in the case of colloquial 他 *t'a*, read *t'o*¹ in the Classical meaning of "other" (cf. Demiéville 1950). Karlgren attributes Peking *ta*⁴ to the loss of the final element of the "long diphthong" -*ai*; but as we have seen above (p. 79) the difference between M. *ai* and *əi* (Karlgren's *ai* and *əi*) is qualitative rather than quantitative. The parallels which he cites are not valid since they consist of cases where M. *ae* has merged with M. *a* rather than with M. *ai* and *aəi* (see pp. 83-4 above).

The Rising Tone

According to Haudricourt's theory of the development of the tones in Vietnamese, the rising tone is the reflex of an earlier final glottal stop. Since there is such a high degree of parallelism between the Vietnamese and Chinese tonal systems, and since the hypothesis of final **-s* as the source of the falling tone has proved so successful, it is natural to consider the possibility that a final glottal stop may have been the source of the rising tone in Chinese also. The fact that the rising tone occurs in words with nasal finals is no obstacle since glottalized nasals or other liquids are quite possible and are indeed rather widely found in South-east Asian languages. Though in the early period the rising tone is not at all common in transcriptions, there are a few cases which can be cited which lend much plausibility to the theory.

Where the rising tone corresponds to a level tone in **-h* we shall not of course suppose that there was a complex laryngeal **-h̄* but simply assume that the final glottal stop could alternate in *hsieh-sheng* series with **-h* and conditioned the same development of the preceding vowel. On the other hand the fact that we get pairs like 好 M. *hau* "good", *hau* "love"; 古 M. *kou* "old", 故 M. *kou* "former, original, etc.", seems to indicate that we must reconstruct **-s* as well as **-hs* and **-ks*.

Just as we sometimes appear to have an initial glottal stop representing a foreign back velar or uvular stop, rather than simply a vocalic opening as is normal, so final glottal stop sometimes seems to be used to represent such a consonant. The probability that M. *šji-tsjə* 'lion' is based on Tokharian A. *šecake*, B. *šisäk* has been mentioned above. The final glottal stop will here correspond to the Tokharian *k*. There is no reason to regard 子 here as the noun forming suffix of Modern Mandarin. In the earliest passages it is always treated as an inseparable part of the word and it is only much later that *shih* alone comes to be used for "lion".

The same character is found in 昆子 M. *kuən-tsjə* mentioned in the *Wei-lüeh* as the name of a fur-bearing animal in the territory of the Ting-ling (Chavannes 1905, p. 559, Hirth 1901, p. 82). In spite of Sinor's objections (1948, p. 9) this must surely be for **qirsaq*, i.e. Turkish *qarsaq* "arctic fox". Hirth, who could find nothing to stand for the final *-q* of Turkish, related it to Mongol and Tungusic forms but this is unnecessary, since the Chinese word had a final glottal stop which could stand for *-q*. Sinor's argument that Chinese *-n* in **kuən* could not represent *-r* because the same character is used elsewhere with a value *kun* is of course of no weight (see p. 228 below).

In the place name 子合 M. *tsjə-həp* < **tsə-gəp* = the later 朱駒波 M. *ciou-kjou-pə* (see p. 109) the presumed glottal stop cannot be given a separate transcription value of its own but it may be compared to the cases where a stop final (*-k*, *-t* or *-p*) in transcription is simply an assimilation to the initial of the following syllable.

The possibility that 史 M. *šjə* < **slə*, the Chinese surname given to natives of Kesh = Soghd, may be based on a phonetic similarity to Sulik "Sogdian" has been mentioned above (p. 124). The final glottal stop would again represent a foreign stop consonant.

The founder of the Hsiung-nu empire, Mao-tun, is said to have conquered five peoples to the north including the Ko-kun (Kirghiz, see p. 123) and Ting-ling (the later T'ieh-lo, from whom the Uighurs emerged). The first name in the list is 渾庚 (or 猓 M. *huən-you* < **gun-šə*, Haloun is no doubt right in regarding them as the same as the 灌猓 M. *kwan-you* < **kwanh-šə* mentioned along with the Yüeh-chih in a memorial by Chia I of around 172-69 B.C. (Haloun 1937, p. 248). This name very much resembles that of the 葷粥 M. *hijwən-yuk* < **hün-šük* (also 薰育, 獯鬻 etc.) whose incursions into the Wei valley are associated with early traditions of the Chou state in the latter half of the second millennium (*Shih-chi* 4, see Chavannes 1895-1905, I pp. 30, 214; *Meng-tzu* IB.3.1, etc.). An identification over such a long space of time is of course very hazardous but if it could be established we should have a case of a glottal stop in one form corresponding to a velar stop in the other.

There is in any case no reason to follow the Chinese historians in

regarding the **hün-šük* as ancestors of the Hsiung-nu (*Shih-chi* 110.) just because they were an earlier people who caused trouble from the north—it is very doubtful whether Ssu-ma Ch'ien thought the names were the same. Nor can we follow a recent scholar who has thought that the ethnic name Hun was to be found in **hün-šük*, **guən-šə*, **kwanh-šə* rather than in Hsiung-nu (Pritsak 1959).

Final **-š*

The fact that the rising tone occurs in Middle Chinese rhymes which in the level tone come from **-š* requires us to reconstruct a corresponding glottalized **-ṣ̌*. A possible example in Han dynasty transcription is the element 靡 M. *mje* < **māš* found regularly as the final character in the designations of Wu-sun rulers. There is good reason to think that the Wu-sun spoke a Tocharian type of language. This makes it possible that we have here a word related to Tocharian A. *wäl*, B. *walo* "king". It would of course be best for this comparison if we could reconstruct **v-* rather than **m-* in this word but this is doubtful because the word is in meaning a negative particle and is therefore likely to be related to the other negative particles in **m-*, where the original nasal is guaranteed by Tibetan *ma* and many other cognate forms. On the other hand if Chinese **m-* and **v-* were tending to fall together, **m-* might have been used instead of **v-* when no suitable syllable in **v-* was available. If 滿屈 M. *man-khijwət*, the name of the king of Parthia who sent an embassy to China in A.D. 101 (*Hou Han-shu* 118.0904.4), is really for Bakur = Pacorus, which seems very probable on historical grounds in spite of the phonetic difficulties (final **-t* for foreign *-r* is rare at this period and the final *-n* of the first syllable is unexplained), it may be a case of Chinese **m-* for a foreign bilabial fricative [β] which could be adduced in support of the equation of **māš* with the Tocharian words for "king". (Cf. Chavannes 1907, p. 178, Pelliot 1914, p. 406.) The T'ang dynasty use of M. *m-* = [ṃ] for foreign *b-* is of course irrelevant to this discussion. So also probably is the occasional appearance of Chinese **m-* for Indian *v* as in 捷陀波勿 M. *giən-da-pə-mijwət* = Gandharvavati (T.224, p. 470C), which is probably to be explained in terms of the production of a nasalized labial fricative *-v̄-* in the underlying Prakrit. (Brough 1962, p. 88, regards this as confined to contexts in which there is a nasal consonant in an adjoining syllable but this does not seem to be strictly true, see p. 232 regarding **ciṭvara* for *civara*.)

It appears from the study of Han rhymes by Lo Ch'ang-p'ei and Chou Tsu-mo that the rhyming of M. *-a*, *-ja* from original dental and laryngeal rhyme groups in Later Han was mostly in level tone words and that words in M. *-a'*, *-ja'* < **-la'*, **-ɣa'*, **-ɣā'* still did not rhyme freely with the corresponding words in Old Chinese **-š*. This would seem to indicate that the glottalized **-ṣ̌* lasted longer than **-š* when not so

protected and might be the reason for using a word in the rising tone when it was desired to use Chinese * δ to represent foreign l . (Cf. Lo and 1958, p. 23; Malmqvist 1961, p. 200, n.2).

The Nasal Finals

Apart from the question of the oblique tones, the most important problem concerning the nasal finals has to do with the value of final $-n$. In the early period it is used not only for n but for foreign $-r$, both medial and finally. Many examples have been cited above. It is worth drawing attention to the fact that this is also a feature of the early Japanese phonetic use of Chinese characters. Thus we find 雲 M. $hju\text{an}$ used for uru , as well as for u -, una , une , uno , 訓 M. $hju\text{an}$ used for $kuru$, as well as for ku -, 讚 M. $tsan$ used for $sara$, as well as for $sanu$, $sana$, 駿 M. $tsjwin$ used for $suru$, 篇 M. $phyen$ used for $heri$, 萬 M. $mjwan$ used for $mara$ as well as for ma -, $mani$ (see Wenck 1954, II pp. 21, 73, 111, 141, 257, 271).

It is doubtful whether one can account for this phenomenon simply by the absence of any exact equivalent for foreign r , especially when $-t$ existed as well. A further possible equivalent was $-n$. This was the normal equivalent of foreign $-r$ in the T'ang period when it seems to have weakened to a fricative in North China, but Chinese $-t$ for $-r$ occurs sporadically as early as the early period. To explain the marked preference for $-n$ in this role in the early period it seems likely that we must assume some peculiarity of pronunciation of final $-n$ in the variety of Chinese which predominated in the Han period and the immediately following centuries which made $-n$ more like an $-r$ than a simple dental nasal would have been. We may think of the situation in some modern dialects, especially of the Yangtze region where initial l and n are confounded in a single phoneme. The actual pronunciation is described as a sort of nasalized lateral which is liable to be interpreted as l or n by people from other regions.

Tibetan, it will be remembered, has five dental finals, $-d$, $-n$, $-l$, $-r$, $-s$. Of these $-d$ clearly corresponds to Chinese $-t$, $-s$ to $*-s$, the source of the falling tone, and $-l$, probably, to $*-l$. This leaves only $-n$ in Chinese to correspond to both Tibetan $-n$ and $-r$. We may suppose that the Sino-Tibetan phoneme $-r$, corresponding phonemically, like Sino-Tibetan initial r - to Chinese l , fell together with Sino-Tibetan $-n$; but that at least in some dialects this was not at first simply a change of $-r$ (= $-l$) to $-n$, but a merging of the two phonemes into a single one with some of the characteristics of both.

It does not seem possible, either in *hsieh-sheng* series or poetic rhyme or transcriptions, to distinguish separately $*-l$ (= Sino-Tibetan $-r$) and $*-n$ words. In transcriptions we find the same characters used for both, thus 安敦 M. $\text{an-tu\text{an}}$ = Anton(inus), but 安息 M. $\text{an-sj\text{ak}}$ = Arsak and 敦煌 M. $\text{tu\text{an}-hw\text{an}}$ = Sogdian $\text{drw}'n$, Greek $\Theta\rho\acute{\alpha}\nu\alpha$. This means that the two phonemes must have coalesced at an early period.

If Chinese $-n$ in the Han period partook of the characteristics of an r or l , we might expect to find this reflected not only in Chinese transcriptions of foreign words but also in foreign renderings of Chinese. Identifiable early foreign loans from Chinese or transcriptions of Chinese names are far fewer than the other way around. There are however a few cases in which foreign representations of Chinese $-n$ by $-r$ may be suspected. In most of the Japanese place names where Chinese $-n$ has the value $-r$ - we have probably to do with *ongana*, the phonetic use of Chinese characters to represent Japanese words; but 群馬 (M. $giu\text{an}-ma$), anciently read Kuruma, could easily be interpreted as Chinese and is indeed modernly read as a Sino-Japanese compound Gumma. Korean *kol*, or *kouil*, earlier *kovil*, which is used to translate various Chinese terms for units of local administration—*chün*, *hsien*, *fu*, *chou*—might be an early borrowing for one of the first of these, *chün* 郡 M. $giu\text{an}$. As Dr. W. E. Skillend, who has kindly sent me a note about this word, suggests, the medial $-v$ in the older Korean spelling might arise from an effort to represent the labial element in the Chinese original. The normal Japanese *kun* reading for 郡, *kōri*, spelt *kohori*, is usually derived from this Korean word and hence would also be ultimately from M. $giu\text{an}$.

The possibility that Chinese $-n$ might be represented by a foreign $-r$ suggests a new interpretation of the earliest name by which the Chinese were known in the west, Greek $\Sigma\eta\rho\epsilon\varsigma$, Latin *Seres*. The most widely accepted view is that started by Klaproth (1826, p. 58), that this word is derived from Chinese 絲 M. $sj\text{ə}$ "silk thread", which obtains some plausibility from the fact that silk was known in Greek as $\sigma\eta\rho\iota\kappa\acute{o}\nu$, whence Latin *serica*, French *serge*, etc. Phonetically the equation is unsatisfactory however since M. $sj\text{ə}$ goes back to $*s\acute{e}h$ (< $*s\acute{i}h$) with no trace of a dental final. The vowel also does not give a good correspondence since $*\acute{e}$ in the Han period usually corresponds to a foreign a . Moreover $\sigma\eta\rho\iota\kappa\acute{o}\nu$ "silk" ought to be an adjectival formation from $\Sigma\eta\rho\epsilon\varsigma$ rather than the other way round. It would seem more natural for the name of the fabric to be derived from that of the country rather than the other way round, though of course a back formation is possible.

It has been well demonstrated that the other classical name for China, $\Theta\acute{i}\nu\alpha$, *Sinae*, etc., also Sanskrit *Cīna* and our *China*, must come from the name of the Ch'in dynasty 秦 M. $dzjin$ < $*dz\acute{e}n$. It seems to me highly likely that the earlier $\Sigma\eta\rho\epsilon\varsigma$ is likewise derived from the same name, based on a pronunciation of the final $-n$ which was heard as $-r$ by the foreign interpreter. The fact that we have a voiceless initial where Chinese has voiced dz is as much a problem for $\Theta\acute{i}\nu\alpha$, *Sinae*, as for $\Sigma\eta\rho\epsilon\varsigma$. It may point to transmission through a Tocharian language.

As for $\sigma\eta\rho\iota\kappa\acute{o}\nu$ "silk", it was probably not a derivative in the Greek language of $\Sigma\eta\rho\epsilon\varsigma$ but was taken over directly from a word meaning "silk"

(based of course on the same word for China) in a Central Asian language possibly again Tokharian. (For the possibility of a suffix *-ik* in Tocharian see Sieg and Siegling 1931, p. 13.) It has long been noted that Mongolian *širkäg*, Manchu *širge* "raw silk", "silk thread", and Korean *sil* appear to be related to *σῆρικός*, etc., but can hardly be derived from it. Also to be connected with the same word are Persian *sārāh* "breadth of white silk" whence Arabic *saraq* "silk", "white silk", and also Syriac *šerāyā* "silk" (See most recently Pelliot 1959, pp. 265-66.) What does not seem to have been noticed before is that the same word appears in Chinese transcripts in the Han period. In the *Shuo-wen* we find the term *hsien-chih* 鮮兒 "silk" and again "white *hsien-chih*" as a definition of 縞 "white silk", "undyed silk" and the *Shuo-wen* has 鮮色 in both cases but Yen Shih-ku's commentary *Han-shu* confirms Tuan Yü-ts'ai's emendation (*Shuo-wen chieh tzu chu* pp. 21, 22). The same word occurs in *Kuang-ya* (*shu-cheng*, 7B, p. 855) with the homophonous 支 as the second character, as a synonym of *ch'üan* "silk stuff". The bisyllabic form of the word and the variation in spelling clearly stamp it as a borrowing in Chinese. But why should the Chinese borrow a word for "silk"? It must surely be because it was the word for "silk" among the foreign traders who came to China. To them it was the "stuff of Ch'in" but the Chinese, not recognizing its origin, took it as a foreign word.

N.B. The expression 鮮支 occurs in a *fu* of Ssu-ma Hsiang-ju, where Yen Shih-ku took it to mean the 支子 or 梔子 tree, i.e. the "gardenia", a tree giving a yellow dye. This leaves out of account however the first character and Shen Ch'in-han wanted to interpret it rather as 蓼支 "safflower". This is not very satisfactory but the context seems to imply some kind of dye-stuff or cosmetic and "raw silk" would certainly not fit. The text may be corrupt. Otherwise we may possibly have the adjective "Chinese" applied to a different product. (*Han-shu* 57.)

The peculiarity of Chinese *-n* may help to explain why foreign words are sometimes rendered by *-ŋ*, as in M. *kiwəi*-*šjaŋ* = Kushan (p. 128), M. *tuən-hwan*, corresponding to Sogdian *δrw*'n, Greek *Θροαα*.

A more unusual use of *-ŋ* appears in the name Ting-ling 丁零 M. *ten-leŋ* < **ten-leŋ*. In spite of Sinor's objections (1946-47) this is certainly an earlier transcription of the name 狄歷 M. *dek-lek*, 勃勒 M. *thjak-lək*, 特勒 M. *dək-lək*, 鐵勒 M. *thet-lək*. The earlier form with *-k* is even used in South China in the fifth century A.D. contemporaneous with forms in *-k* in the north. (See Maenchen-Helfen 1939.) Since this is the group from which the Uigurs emerged, it is highly likely that they spoke Turkish. The underlying native form of the name was probably something like **Türriy* (see Clauson 1960, p. 113, based on remarks of mine). Chinese *-ŋ* and *-k* would then be alternative renderings of foreign *-y*. The adoption of the later transcriptions was no doubt encouraged by

the fact that final *-k* was tending in north China to weaken to a fricative *[-ɣ]*. This is reflected in the T'ang period by the use of Chinese *-k* to represent Sanskrit *visarga* (Maspero 1920, pp. 41-44). The latest form M. *thet-lək* may indicate a loss of *-y* before *-r* in the foreign word or it could possibly even be based on a reading of the Chinese syllable as *M. *thek* instead of M. *thet* (see Pulleyblank 1960, p. 64, and p. 116 above).

Nasal finals in oblique tones

The existence of the rising and falling tones in words with nasal finals requires us to reconstruct **-ŋ**, **-n**, **-m**, and **-ŋs**, **-ns**, **-ms*.

As far as the falling tone is concerned, there is no trace of a surviving sibilant in the earliest transcriptions and we may therefore assume that this had been lost already by the Han period. On theoretical grounds one would like to postulate aspirated forms, **-ŋh**, **-nh**, **-mh*. One transcription which appears to give striking support for this is 梵 M. *bjam* < **blāmh* = *brahma*-. Against this is the fact that *brahma* appears to have lost its aspiration, giving *bramma* or *brama*, in the Gāndhāri Prakrit which is the basis for very many of the early transcriptions (Bailey 1946, Brough 1962, p. 99). In other cases the falling tone on a nasal final seems to be used where the foreign original had a nasal plus stop (like the rising tone, see below), e.g. 阿羅漢 M. **a-la-han* = *arhant* (the Gāndhāri Dharmapada has *arahada* for *arhantam*, etc., Brough interprets this *-d* as [ɱd-], see *op. cit.* p. 98); 信他 M. *šjin* - *tha* = *Sindhu*, in the *Milindapañha* (Pelliot 1914, p. 409). In Kharoṣṭhi we find the special graph *ñ* corresponding to Sanskrit *-ndh-* which Brough interprets as [-*nnh*-]. This does not prepare us for the voiceless aspirate *th* in the Chinese transcription, or indeed for a stop at all, but there are other cases where Indian voiced aspirates are represented by a combination of Chinese voiced consonant + voiceless aspiration, e.g. 陀呵 M. *da-ha* = *dha* (in the *arapacana* alphabet as transcribed by Dharmarakṣa in T.222; for the alternative in the same alphabet of using Chinese unvoiced stop + voiced aspirate see p. 87 above).

烏暫婆利 M. *ou-dzam* - *ba-lji* = *Udumbarikā* (T. 1 (8), I, 47a). The tendency for medial *-d-* to become a fricative *-ḍ-* is referred to by Brough 1962, p. 86. Here we might have an intermediate affricate stage, *-dḍ-*. I am unable at present to quote parallels. According to Brough (p. 99) *-mb-* should give Gāndhāri [-*mm-*].

薩提 M. *tshan* (or *tshan'*) - *dei* = *ksānti*, G. Dharmapada *ksadi*, cf. *arhant* above.

We have the same ambiguity as between falling and rising tone in 烏遲散 M. *ou-dji-san* (or *-san'*), M. *ḍak-san* (or *san'*) = *Alexandria* (see Hirth 1885, p. 182). Here again the use of a word with oblique tone would seem to be connected with the presence of nasal + voiced stop.

In 震越 M. *čjin* - *h'wat* = *civara* the medial group **nh-hw-* in

Chinese probably stands for a nasalized $-v̄$ in the Prakrit. See Burrow 1936 p. 427, 1937§50. Brough's rejection (1962, p. 88) of Burrow's identification of Kharoṣṭhī *cimara* with Sanskrit *civara* seems not to be justified. Though *civara* originally meant "rags", it later became used for monk's robes even of a sumptuous kind. See Przymuski 1918-20. (I am indebted to Professor Sir Harold Bailey for this information.) This suggests that $*-nh$ was sometimes used to express a foreign nasalization, as opposed to a full nasal occlusion.

The rising tone occurs in a few cases where it appears to stand for a foreign voiced stop (or fricative?) without a preceding nasal. Thus:

波利產 M. *pə-lii-ṣaən* = [Brahma-] *pāriṣadya*.

奄蔡 M. *ʔiem-tshai* < $*-z̄m-tshats$, with the alternative transcription M. *həp-sou* < $*həp-sah$ = Aorsoi, Abzoae, etc. (see above).

On the other hand it is difficult to give any special value to the presumed glottalized nasal in 呵靈 M. *hə-tʃin* (or *-dzjin*) = *hastin*.

Scanty and uncertain as the evidence is about the transcription meaning of final $-m$ and $-n$ in the oblique tones in the early period, it does seem sufficient to indicate that there was something distinctive about the pronunciation of the nasal closure and it does not seem to be inconsistent with the reconstruction demanded on theoretical grounds.

Examples of $-ŋ$ in oblique tones are difficult to find in transcriptions but the reconstruction of $*-ŋ$ and $*-ŋh$ < $*-ŋs$ can be confidently adopted by analogy.

It should be noted that there is a restriction on the distribution of $-ŋ$ in the rising tone. In the *Kuang-yün* there are no words in *juŋ* or *oŋ*. In terms of Old Chinese this means that the combination of final $ŋ$ + glottal stop did not occur after the close back vowel $ü$. In addition, there are very few words in rhymes *əŋ* and *iəŋ* < $*iŋ$. The only fairly common one in *-iəŋ* is 拯 M. *ciəŋ*. In *-əŋ* there was 等 M. *təŋ*, which was also read *təi*, and 肯 M. *khəŋ* which gives forms in several modern dialects which imply $*M. khən$, e.g. Peking *k'en*³. This seems to suggest that glottalization was harder to maintain after the velar nasal when preceded by a close vowel than it was otherwise. Whatever the phonetic explanation, the pattern is consistent and confirms that the vowels M. *ə/iə* < $*i$ and *o/iu* < $*ü$ had a common feature, postulated as closeness.

Alternation between $*-ŋ$ and $*-h$ or $*-$

Alternate readings for the same word like 等 M. *təŋ*, *təi*, referred to above are not isolated. We similarly find 能 M. *nəŋ* also with a reading M. *nəi* and rhyming in $*-ih$ in the *Shih-ching*; compare the word 能 M. *thəi* < $*nhis$.

Doublets in $*-ŋ$ and in $*-h$ or $*-$ are especially common with the vowel $*ä$. Thus:

亡 M. *mjaŋ* < $*māŋ$ "lose, not have": 無 M. *mjou* < $*māh$ "not have".

娘 M. *njaŋ* "young woman" (post Classical): 女 M. *njo* < $*nlā$ "woman".

相 M. *sjaŋ* "mutually", *sjaŋ* "scrutinize", "assist": 胥 M. *sjo*, all these meanings.

方 M. *pjaŋ* "just now": 甫 M. *pjou* "for the first time".

初創 M. *tshjaŋ* "to start, create": 初 M. *tshjo* "begin".

將 M. *tsjaŋ* "about to": 且 M. *tsjo*, *tshja* "about to".

往 M. *hjaŋ* "to go to": 于 M. *hjo* < $*hwāh$ "to go to", "to".

汪 M. *wəŋ* "pool": 汗灣 M. *ou* < $*wāh$ "pool".

叩 M. *ŋəŋ* "I": 吾 M. *ŋou* "I".

揚 M. *yaŋ* "lift" "praise": 昇 M. *yo* "lift", 與 M. *yo* "give", 譽 M. *yo* "praise".

庠 M. *zjaŋ* "school": 序 M. *zjo* "school".

迎 M. *njaŋ* "to meet", *njaŋ* "go to meet, receive": 迓 M. *ŋə* "go to meet".

Cf. also: 象 M. *zjaŋ* "elephant": 豫 M. *yo* "elephant".

The most probable explanation for this phenomenon seems to be in terms of dialect mixture but it will require more investigation before such an hypothesis can be substantiated.

Labial finals

Nothing has been said so far about the alternations in *hsieh-sheng* series between labial finals and vocalic finals. In a great many of the most obvious cases we find *ch'ü-sheng* (departing tone) words in rhymes with $-i$ diphthongs alternating with $-p$ rather than $-t$. In such cases one can suppose that an original $*-ps$ has first become $*-ts$ by assimilation and has then followed the normal development of the latter. Thus:

位 M. *hjiwi* < $*hwilits$ < $*hwilōps$ "place", "rank": 立 M. *lijip* < $*hlōp$ < $*hwilōp$ "to stand". This is a regular case of a noun derived from a verb by the suffix $*-s$. In the case of the verb, the w in the initial was lost by dissimulation from the labial final and the cluster *hl* regularly simplified to *l*. In the case of the noun dissimulation did not take place, because the final labial was lost. See pp. 122-3 above. Cf. also: 涖 M. *lij* < $*lōps$ (or $*vlōps$ (?)).

計 M. *kei* < $*kets$ < $*keps$: 十 M. *jjiip* < $*gēp$ (see p. 100 above).

內 M. *nwəi* < $*nuts$ < $*nups$ "inside": 內納 M. *nəp* < $*nup$ "bring in", cf. 入 M. *əjip* < $*nōp$ < $*nūp$ "enter" (compare Tibetan *nub-pa* "enter").

荔 M. *lei* < $*hleps$: 荔 M. *həp*.

蓋 M. *kai* < $*kaps$ "cover", also M. *həp* < $*gəp$ "to cover".

瘞 M. *jei* < $*lēps$, 瘞 M. *ei* < $*eps$: 夾 M. *kaəp* < $*klep$.

對 M. twəi\ < *tuts < *tups "in response", "suitable": 答
təp < *tup "to reply".

世 M. šjei\ < *θāps (-ǰāps?) "generation" "from generation
generation": 葉 M. yep < *dāp (-ǰāp?) "leaf", "generation".

自 M. dzji\ < *sbđits < *sbđāps: 習 M. zjiip < *sđāp; cf. 泊
gji\ < *glāps "together with", "and": 及 M. giip < *glāp "reach to
"and". Another related word is 暨 M. kji\ "and". This is however
read M. kjit < *klit as a proper name and it is possible that it was only
applied to the word "and" when it had already become *klits. Also possible
related is the next group, with *gđ instead of *gl.

求 M. dəi\ (also dei\ < *dāps < *gđāps (?), yi\ < *dāps (< *gđāp
"reach", "reaching to", "until": 累 M. dəp < *dāp < *gđāp (?) "come
to" "together with" "and". Contact with velars is shown in the initials of
the derivatives 脛 M. kwaən, 夏 M. hwaəi, though the restoration of the
vowel and the finals in these words is obscure (see below). According to our
theory *gđ should have simplified to đ before a back vowel and we may
suppose the same to have occurred before the central vowel ə (see p. 11
above). A connection of the words meaning "and" with 合 həp < *gđ
"join" seems also possible.

執 M. cji\ < *tāts < *tāps "hold" "present": 執 M. cjiip < *tāts
"seize", "hold". Tung T'ung-ho 1948 rejects Karlgren's connection of
these two words on the grounds that in the ancient form of the graph the
phonetic is 執 M. gyei\, šjei\ but this is contrary both to the standard
form of the graph and to current editions of the *Shuo-wen*. Some editions
do not state that *tāp is phonetic in *tāps and Tuan Yü-ts'ai regarded the
character as a *hui-i* compound, but the *Shuo-wen chieh-tzu hsi-ch'uan* of
Hsü K'ai states that *tāp is phonetic. Moreover the words are clearly
etymologically related.

The assimilation *-ps > *-ts must have occurred quite early, at least
in certain major dialects, for there is no trace of *-ps as such in the *Shih-ching*
rhymes. Where we find words in -t in the same series it may therefore
be that a word in *-ts has been used as phonetic -t, e.g. 訥 M. nuət
besides the words M. nəp in the same series.

The cases where we can postulate *-ps > *-ts do not by means exhaust
the *hsieh-sheng* contacts between open finals and labials. Among the
examples that can be found are the following:

那 M. nə: 冉 M. njiem.

襄 M. hwaəi (level tone): 累 M. dəp (see above).

爾 M. nje': 審 M. nep, njeip. (The alternative form 尔 may have
M. njiip as phonetic.)

去 M. khjo', khjo': 盍 M. həp.

緜 M. dzəi, səəm: 變 M. dzaəm.

丸 M. kju', 丸 M. nju' < *ŋeū: 染 M. njiem'.

慘 M. tshau\ (= 槽), tshəm', 慘 M. sju, səm: 參 M. tshem, etc.
尤 M. yu, yim.

焦 M. tsjieu (= 焦): 焦 M. dzəp, 集 M. dzjiip.

叢 M. ŋəi, ŋjim: 采 ŋjim (cf. 崗 M. tshjuk < *-p (?), p. 129
above).

古 M. kou', which according to the *Shuo-wen* is phonetic in 敢 M.
kam'.

于 M. hjou < *hwāh: 庚 M. dam < *dam < *vdam (?), 𠄎
< *slām < *vlām (?), 頽 M. ljem < *hlām < *hwlām (?). The *Shuo-wen*
in current editions has 干 M. kan as phonetic but see 236 below.

A solution along the lines of the reconstruction of *-δ and *-h would
be to reconstruct a weak labial final *-v. There is no support for this from
rhymes and we should have to suppose that *-v had already been lost
(going over partly to *-δ and partly to *-h) before the time of the establish-
ment of the *Shih-ching* text. On the other hand many, though not all, of
the cases noted above might be solved by supposing that *-ū-, either alone
or in *-āu, *-ǰū, *-ǰāu, could sometimes alternate with -m or -p. Apart
from this, there is plenty of evidence that labials, both initial and final,
were extensively affected by dissimilation (and also assimilation). When the
theory of this is worked out, it may show that there is no need to postulate
an additional phoneme.

Loss of labials through dissimilation

Long ago Karlgren made the suggestion that final -m had sometimes
become -ŋ as a result of dissimilation from a preceding labial element in
the syllable. The clearest example of this is the word 風 M. pjuŋ "wind"
which not only has 凡 M. bjam as phonetic but which rhymes in -m in the
Shih-ching and is no doubt related to the Tai word lom "wind". Even in the
Han period it sometimes rhymes in -m in poetry, showing that though in
some dialects it had gone over to -ŋ, in others it had not yet done so. The
Shih-ming gives two glosses, one in -m and one in -ŋ, associating the two
pronunciations with different regions (Bodman 1954, p. 119, Lo and Chou
1958, p. 112). In *Grammata Serica* Karlgren extends this principle of
reconstruction to 窠, read both M. pjem\ and pəŋ\, and 熊 M. hjuŋ
"bear" (evidently on the grounds that the *Shuo-wen* regards 炎 M. hjem
as phonetic, though this is not stated) but otherwise makes little use of it.
Tung T'ung-ho is even more conservative, rejecting Karlgren's recon-
struction of M. hjuŋ. On the other hand Lu Chih-wei, noting that in parts
of the *Shih-ching* rhyming of words in -m and -ŋ in certain rhyme groups
is rather common, made very extensive reconstructions of -m in later -ŋ
words, regarding it however as a dialect feature.

Though rhyme evidence alone may be ambiguous, it is clear that the
loss of labial elements through dissimilation and assimilation was much

more extensive than has been supposed hitherto. Forrest (1961) recently argued along these lines but the inadequacies of the reconstruction of Chinese available to him render many of his proposals very doubtful. Since the intolerance for discrete labial elements in the same syllable has affected now the initial, now the final, and since the vowel system has also been affected in various ways, it is indeed extremely difficult to reach precise and confident conclusions as to the earlier stages. In what follows I shall merely point out a few of the *hsieh-sheng* relationships which seem to indicate loss of labials without attempting to give a fully worked out system.

The following examples show mainly variation between labial and dental or velar finals:

𧇗 M. *hauŋ* < **gluŋ* < **glum* (?) : 𧇗 M. *kəm*ʹ, *kəm* \ < **kum*ʹ < **kums* (?)

彤 M. *yuŋ* < **δūŋ* < **δūm* (?), 彤 M. *doŋ* < **δuŋ* < **δum* (?)

三 M. *ʃam* < **shom* (**shum*?), 尋 M. *ziim* < **sδəm* < **sδūm* (?)

昱 M. *yuk* < **δūk* < **hwδəp* (?), 翊 M. *yək* < **δik* < **vδəp* (?)

立 M. *liip* < **hwłəp* (see p. 233 above).

興 M. *hjaŋ*, the archaic graph suggests that the phonetic is 凡 M. *biam* < **blām* < **blōm* (?) (see Karlgren 1957, no. 889) and there are frequent rhyme contacts with *-m* in the Chou and Han periods. This suggests a reconstruction **fām*, from an earlier **fūm* (?)

凭 M. *bjəŋ* < **bām* (?) : 任 M. *niim* < **nām*. The latter word may go back to an original **mām*, with dissimilation of the initial rather than the final. It is used in the transcription 任那 M. *niim-na* for the name of the South Korean state known to the Japanese as Mimana.

息 M. *sjək* < **sθik* (on the possibility of a labial element in the initial, **sfδ* (?), (or *fδ* > *sθ*?), see p. 135 above): 習 M. *ziip* < **sδəp*.

齋 M. *sjək* : 齋 M. *ʃiip*, *sjək*.

从 M. *dzjoŋ*, < **dzōŋ* appears to be phonetic in 𧇗 M. *tsjem* < **tsōm* (?), 𧇗 M. *sjem*; possibly also in 坐 M. *dzwa*ʹ, *dzwa* \ < **dzoδ*ʹ, **dzoδs*.

兕 M. *hjoŋ*; 𧇗 M. *tsuŋ* : 𧇗 M. *mjam* (see p. 138 above).

舌 M. *zjet* < **δət* < **vδəp* (or **vδəp*) (?) "tongue": 恬 M. *dem* < **(v)δəam*. According to the *Shuo-wen* 干 M. *kan* is phonetic. This is difficult to understand unless we read instead 于 M. *hjou* < **hwāh*, which may also be the true phonetic in 𧇗 M. *dam* < **vδam* (?). For the initial cluster we may compare 夸 M. *khwa* < **khwlah*, etc. Tibetan *la* or *ljags* do not show any labial initially or finally and Benedict (1948) proposes a Tibeto-Burman **s-lay* "tongue"; but it should be noted that there are forms like Angami *melú*, Empeo *balé*, Nēwāri *mē*, Khambu *lem*.

彬 M. *piin* < **plin*: 林 M. *liim*.

In the last case we may have a sporadic case of assimilation of **-m* to *-n* after a front vowel, rather than simply dissimilation. In the following

cases there is no obvious cause for dissimilation and an assimilation of the same kind seems the best hypothesis.

顯 M. *hen*ʹ : 暎 M. *ŋəp*, 𧇗 M. *ŋəm*, 濕 M. *ʃiip*, etc.

天 M. *then* : 忝 M. *them*ʹ. It may be possible to reconstruct this series with initial **nh-*, in which case **nhem* "heaven" can be compared with Tibetan *ŋnam* "heaven", "sky" and other Tibeto-Burman cognates.

矜 M. *giin*, *kjəŋ* (rhyming in *-m*) : 今 M. *kijim*.

朕 M. *ɕiim*ʹ "seam", as well as M. *ɕiim*ʹ "I". The phonetic is 莽 M. *yəŋ* \ and derivatives 騰 M. *yəŋ* \, 勝 M. *ʃjəŋ*, etc., again have *-ŋ*. In this case and the last there is no obvious reason for dissimilation of **-m* to *-ŋ* unless we suppose a rounded vowel at some stage or a labial element in the initial which has left no trace.

Apart from these cases affecting the finals, we have already noted certain cases which require us to suppose that *-w-* has been lost in the initial, or an initial labial fricative has become a dental under the influence of a labial final (see pp. 105, 140 above). If 任 *niim* is really from **mim* (see above) this is a case of the substitution of a dental (> palatal) nasal for a labial nasal in similar circumstances. I now suspect that such cases are much more numerous than I supposed when I stated above that the labial initials (apart from the fricatives) were generally retained unchanged to Middle Chinese. It seems likely that labials were sometimes replaced by dentals (or in some cases velars) not merely when there was a labial final, but even when they were in contact with a rounded vowel. In this case 丑 M. *ɕju*ʹ, reconstructed above as **nhiū*, because of the series 𧇗 M. *niju*ʹ, 紐 M. *nju*ʹ, etc., may actually come from **flū* ~ **phlū* as implied by the Tai forms (see p. 121). M. *nju*ʹ < **ɕnju*ʹ would then be from **smlū* and M. *niju*ʹ from **mū*.

This might also explain 柔 M. *nju* < **nūh* : 𧇗 M. *mju*; but M. *nju* "soft" seems clearly to be related to words like 𧇗 M. *niwen* "soft", 𧇗 M. *niyou* "weak, soft" which must have original **n-*.

Other cases which may imply a shift of labial initials to dentals are the following:

婦 M. *biu*ʹ "wife": 帚 *ciu*ʹ < **tū*/təū < **pū*/pəū (?) "broom." In the same series is 掃 M. *sau*ʹ, *sau* \ < **sf* (?) "sweep". Compare Tibetan *pʹyag-ma* "broom".

廟 M. *mjeu* \ < **mlāuhs* : 朝 M. *tjeu* < **tlāuh* < **pl* (?) "morning". Cf. the no doubt cognate 晝 M. *tju* \ "daytime" which appears to have 𧇗 M. *ywit* < **vδūt* (or **vūt*) as phonetic.

般 M. *pan* < **plan* < **plon*, M. *pan* < **pδon* (?): 𧇗 M. *jiou* < *dōh* < **bōh* (?). The same phonetic without the hand underneath appears in 𧇗 M. *biou*, 几 M. *jiou*.

表 M. *piju*ʹ < **plāu*ʹ : 𧇗 M. *dou*ʹ, *thou*ʹ < **δa*ʹ, **θa*ʹ, the anomalous reading M. *bya*ʹ is also given in the *Chi-yün*. The *Shuo-wen*

gives a different form of the character M. *pieu'* with 毛 M. *mau'* phonetic. On the other hand it regards 士 as phonetic in 牡 M. *mu'* "male". The *pl- cluster in the derivative here suggests that we should perhaps reconstruct **vdau'*, **fdau'* as the primitive readings of 士, rather than simply suppose dissimilation **v-*, **f-* in the presence of the -u diphthong. Verification must however depend on the discovery of cognate forms. A parallel for Old Chinese **-auh* > **-ah* is provided by 奴 M. *nou* < **nah* "child, dependant member of a family" which is phonetic in 嘍 M. *nau* < **nlauh* and is undoubtedly cognate to Tibetan *nu-ba* "younger brother", Lushei *nao*, Kachin *nau* "younger sibling" (see Shafer 1940, p. 331).

A number of further examples of the same kind could be added, some of them having extensive implications, but it seems unprofitable to pursue the matter until the sound changes involved have been further elucidated and more confirmation can be found from comparative evidence.

Additional Remarks on Part I

The full restoration of initial and final labials seems to me to be perhaps the biggest task remaining before a fully satisfactory system for Old Chinese can be presented. It is also possible that there may have been other types of cluster initials besides those which I have been able to establish. In particular it seems likely that there were glottalized nasal initials (cf. Forrest 1961, p. 120), thus:

匣 M. *yin* < **n-* (?): 西 M. *sei* < **snh-* (see p. 132).

憂 M. *ju*: 擾 M. *njeu'*.

It should be noted that in the second part of this article I have modified the spelling of -eu, -ēū, -eau, ēāu, -ea, -eā to -ēu, -ēū, -ēau, ēāu, -ēa, -ēā. I now think that they were not true diphthongs but that the element *ɕ* is cognate to Sino-Tibetan *y*. The best example which I can adduce at present is

八 M. *paet* < **pl̥æt* "8": Tibetan *brgyad* < **bryad*, cf. 罷 M. *bae* < **bl̥æð* "tired": Tib. *brgyal*, Lepcha *pyal* (see p. 215). For the intrusive -g- as a sandhi phenomenon in Tibetan see Li Fang-kuei 1959, p. 59. To go over to a spelling -y- for Chinese would risk confusion with *i/y* of Middle Chinese to which it is only partly and indirectly related. In the end it will probably be necessary to distinguish at least two major stages within what I have so far loosely called Old Chinese, (1) the Chinese of the Former Han period, (2) the earliest form of Chinese to which we can attain through analysis of the characters—perhaps referable to the end of the second millennium B.C. For the latter it will probably be best to replace *ɕ* by *y* (and also **l* by **r* and **ʂ* by **l*) in order to give a more convenient basis for Sino-Tibetan comparisons.

If Chinese *ɕ* was cognate to Tibeto-Burman *y* we should expect to find it before vowels other than **ū*, **ā*, **āu*. There seems in fact to be some evidence for it before **ō*, e.g.:

樞 M. *chjou* < **kh̥əōh* (?): 區 M. *u*, *khjou*, *khyiu*.

I cannot at present find evidence for its having occurred distinctively before the front vowels **i*, **ē*, where it may perhaps be regarded as having been neutralized.

We should also expect to find **ɕ-* = **y* before **ū* and **ō* with dental finals. This might provide a way of accounting for *hsieh-sheng* relationships like the following: 出 M. *chjwit*, *chjwi* < **kh̥ūt*, **kh̥ūts* (?): 屈 M. *khjwət*, *gjwət* < **khūt*, **gūt*. In this series we also find words like 咄 M. *tuət* with dental stop initials. They could be accounted for if we supposed that, instead of causing an umlaut of the vowel as in M. *keu* < **keuh*, M. *ken* < **kəan*, etc., in this case the short vowel **u* > *wə* was unaffected when the semivowel was lost but the initial **k* was fronted to *t*. Similarly 黠 M. *thjwit* would go back to **kh̥l̥ūt*, with **thi-* as an intermediate stage of the initial. We could similarly account for: 涪 M. *thuən* < **kh̥eun* (?): 君 M. *kjwən* < **kūn*; 旨 M. *twəi* < **keuð* (?): 歸 M. *kjwəi* < **kūð*; 羆 M. *thjou* < **kh̥l̥əōh* (see above for the series); 貪 M. *thəm* < **kh̥eum* (?): 今 M. *kjim* < **kōm*; 湛 M. *təm* < **keum* (?); 槁 M. *tjim* < **kleūm*, 堪 M. *khəm* < **khəm*, 斟 M. *cjim* < **kh̥eūm*; 答 M. *təp* < **keup*, : 合 M. *həp* < **gəp*; and perhaps others as well. But other solutions are possible.

APPENDIX

THE HSIUNG-NU LANGUAGE

An improved understanding of the phonology of Chinese in the Han period offers an opportunity to re-examine the question of the affinities of the Hsiung-nu, the most important neighbours and rivals of the Chinese at that period. There are many more Chinese transcriptions from Hsiung-nu than from any other foreign language before the coming of Buddhism. Most of the words are proper names or titles whose exact significance is unknown but there are also a number for which the meaning is indicated. There have naturally been attempts to identify these with known words in other languages but the degree of generally acknowledged success has been meagre.

The most prevalent view nowadays, at least in the west, is probably that the Hsiung-nu were ancestors of the Turks. Apart from the fact that the Chinese historians expressly say that they were, which unfortunately has little evidential value in itself since genuine Hsiung-nu known by that name had long since disappeared when the T'u-chüeh come on the scene in the middle of the sixth century A.D., the main support for this theory has

been the evident connection between the Hsiung-nu word *ch'eng-li* 淸里 "heaven" and Turkish *tängri*. Pelliot (1944) has however shown that the variation and instability of the word in Turkish where it yielded a pronominal form *türim*, and also in Mongol, make it quite likely that it was ultimately a loanword in those languages. The attempts to furnish Turkish or for that matter Mongol or Manchu, etymologies for other Hsiung-nu words have not been very satisfying.

Before discussing individual words it may be worthwhile to consider what can be discovered about Hsiung-nu phonology by examining the whole body of Hsiung-nu transcriptions. I have gathered some 190 probable Hsiung-nu words for the Former Han period from the *Shih-chi* and *Han-shu*, 57 more from the *Hou Han-shu* and 31 from the *Chin-shu*. Most of them are proper names or titles. A few are words for which a meaning is given and these have all been studied by previous investigators.

The first point that strikes one is the large number of words beginning with *l*. There are seventeen in the Former Han material, *i.e.* nearly nine per cent of the total (including some which are probably *hl or *vl). In the Later Han material there are three and in the Chin material two. We must note further that there are also words in Old Chinese *ʂ, which is likely to have been used for foreign *l* in the Former Han period. In all Altaic languages words with initial *r*- are totally absent and words with *l*- are rare, consisting mainly of onomatopes and obvious loanwords. This evidence does not of course absolutely prove that the Hsiung-nu language had words beginning with *l*- and *r*-, since the Chinese, in transcribing, might have left out an initial vowel sound. Occasional examples of this from later times could be found. But we have only to contrast the position with what we find in the transcriptions of the T'o-pa Wei period, from which initial *l*- is conspicuously absent (Bazin 1950), to see that the frequency of *l*- must raise serious doubts about the possibility of connecting Hsiung-nu with any Altaic language.

The second point that is equally opposed to the phonology of Altaic languages is the evidence for initial consonantal clusters. There are at least fourteen cases and perhaps more among the Former Han transcriptions in which the Chinese word used for the beginning of the transcription probably had an initial cluster at that period. Here again the evidence is not conclusive in individual cases, since an initial vowel might have been omitted, or Chinese *-l*- as the second element of a cluster might have represented foreign *-r*- or *-l*- at the end of the syllable by metathesis, as in *klek-kuən = *ken-kuən = *Qirqun or *Qirqur for the later Kirghiz (p. 123 above). There is at least one clear case however in which an initial cluster seems proved and that is in the name Hsiung-nu itself. It was shown in the first part of this article that Hsiung-nu < M. hjoŋ-nou probably went back to *hōŋ-nah and was equivalent to the Greek Φροῦνοι. It was also shown that the royal clan name of the Hsiung-nu Luan-ti 撚提 could be reconstructed

as *vlān-teh or *vlōn-teh, being no doubt connected with the name of the Hsiung-nu.

It may be further noted that according to the *Shih-chi* 110.0245.1, the Hsiung-nu ruler held court every year in the fifth month (*i.e.* at mid-summer) at Lung 龍 City, where he sacrificed to his ancestors, heaven and earth and the spirits (or the spirits of heaven and earth) (*Han-shu* 94A.0596.1 has 龍). The *Hou Han-shu* 119.0907.1 says, "It is the custom of the Hsiung-nu to have three *lung* sacrifices per year. On the day *wu* 戊 of the first, fifth and ninth months they always sacrifice to the god of heaven". The word *Lung* also occurs in the inscription composed by Pan Ku in honour of the general Tou Hsien, whom he praises for having "burned the *Lung* court of Lao-shang (the successor of Mao-tun)" 焚老上之龍庭 (*Hou Han-shu* 53.0746.1). Some of the Chinese commentators try to explain *Lung* as meaning "dragon", saying that the Hsiung-nu's chief god was a dragon. Takigawa was however no doubt right in concluding that *lung* was a foreign word of unknown meaning and had nothing to do with "dragon" (see *Shiki kaichū kōshō* 110, p. 23). For this reason it was sometimes written with the addition of the grass radical or the bamboo radical. Now we have independent reason for reconstructing an initial cluster in this Chinese word—M. ljoŋ < *vlōŋ (see p. 137 above). In the foreign original we once again probably have to do with a word related to the name Hsiung-nu.

We must therefore reckon at least with clusters of the type *fr*-, *vr*- (or perhaps bilabial *φr*-, *βr*-) in Hsiung-nu and it is furthermore likely that clusters also occurred where Chinese has *kl-, *gl-, *tl-, *dl-, possibly also where Chinese has *hl-.

This includes the word for "heaven". The correct reading of the first character 淸 is not quite certain. The only pronunciation indicated in the *Kuang-yün* is M. tʂaŋ but the gloss of Yen Shih-ku, the commentator of the *Han-shu* implies M. tʂaŋ. Furthermore the *Chi-yün* indicates an alternative tʂaŋ. (It may be noted that if the usual reading of the character in tʂ- is the correct one, this is a rare case of an aspirated surd stop in a Hsiung-nu transcription in the *Shih-chi* or *Han-shu*.) Whichever reading we adopt, we are left with a Middle Chinese supradental stop which implies a tʂl-, dl- or tl- cluster in the Han period. This in turn would probably point to *tr- or *dr- in Hsiung-nu. The fact that no *-r*- appears in the initial of Turkish *tängri*, etc., does not prove that it did not exist in the Hsiung-nu word, since such a cluster, being contrary to the phonology of those languages, would have had to be eliminated either by simplifying to a simple dental stop or introducing an extra syllabic vowel.

The other general features of Hsiung-nu phonology which can be deduced from the Chinese transcriptions do not give such definite evidence against Altaic connections but do not agree closely with either Turkish or Mongol.

A notable feature of the Hsiung-nu transcriptions is the absence of aspirated surds. We find voiced and unvoiced stops: *k, *g, *t, *d both initially and medially but very rarely *kh, *th. The only exceptions I have found in the Former Han transcriptions are in the doubtful case of the word for "heaven" and 穹廬 M. *khjuŋ-ljo* "yurt", for which variant spelling with M. *k-* or *g-* are also found. We also find the affricate *tsh. Here we probably have to reckon with the fact that the Chinese dental affricate may have been used for an unfamiliar palatal affricate. This feature of Hsiung-nu phonology would argue strongly against its having been a form of Mongolian, since the surds of Common Mongol are considered to have been strongly aspirated. This does not seem to have been true of Turkish however and, to this extent, Hsiung-nu phonology would be closer to Turkish than Mongol.

In transcriptions of the Later Han period we begin to find cases of *kh- and we find *th also in the transcriptions of the *Chin-shu*. These may perhaps reflect increasing penetration and admixture with the Eastern Hu that is the Hsien-pi and Wu-yüan 烏桓 (or 丸) M. *ou-hwan* < *ah-hwan = Avar, who probably spoke a Mongolian type of language. It was the Hsien-pi who became dominant on the steppe after the collapse of the Hsiung-nu empire in the second century A.D.

In the Hsiung-nu transcriptions it is noteworthy that we find only *b- initially, never *p-. Medially the situation is reversed, we find only *p- never *b-. This is like both Old Turkish and Mongolian, though initial *p- is supposed to have existed in the latter at an early stage (Poppe 1960).

The existence of initial *n-* in Hsiung-nu distinguishes it from Old Turkish (though not, perhaps, from pre-Turkish). Initial *n-* exists in Mongolian.

It seems clear from this investigation that Hsiung-nu was not closely like any form of Turkish or Mongol which we know of and is unlikely to have been Altaic at all. Of the other neighbouring language groups, we can quickly rule out Sino-Tibetan. Hsiung-nu was clearly a polysyllabic language and the presence of only two series of stops as compared to the three of Chinese and Tibetan would also distinguish it from any but a very evolved or aberrant form of Sino-Tibetan. No evidence of genetic connections has been shown with Indo-European, though there are quite likely to have been mutual borrowings between the Hsiung-nu and the neighbouring Tokharians and perhaps also with the Iranians farther west. (Cf. Maenchen-Helfen 1945 (2). The proposals made there cannot be regarded as certain however).

There is however one other little known, quite distinct language group that must be taken into account, namely the Yenissei family, of which the only surviving member is Kettish, otherwise known as Yenissei-Ostyak. This language was studied in the middle of the last century by the Finnish linguist Castrén, who also recorded and studied the related Kottish of

which he was able to find only five living speakers and which has since become extinct. By his time the Arins and Assans, of whose languages a few words had been recorded by eighteenth century travellers, had died out or been absorbed into the surrounding peoples. Since Castrén's day a little more material on Kettish has been published, notably that collected by Donner. Some progress has been made in the analysis of this meagre published material, especially by Lewy and Bouda who have analysed the complicated morphology of the verb in Kettish and Kottish. A phonological analysis of Kettish is still very much needed however. Still less has there been a systematic comparative study of Kettish and its extinct relatives. Though the material is scanty, it seems likely that some correspondances could be established which would enable us to reconstruct some features of earlier, common, stages of the language. (For general information and bibliography see Jakobson 1952 and 1957.)

Much of the attention that has been paid to these languages so far has been with a view to showing genetic relationships with other language groups. Some scholars have indeed persuaded themselves that the Yenissei languages are a northern branch of the Sino-Tibetan family. Both phonologically and morphologically the contrast between Kettish and Kottish on the one hand and Chinese or Tibetan on the other could scarcely be greater. This could of course be the result of divergent evolution if it could be shown that there was an underlying basic vocabulary in common but the efforts that have been made to show this have so far been unconvincing. There are a few striking word comparisons but these may well be explicable by early borrowings, especially if it should turn out that the Yenisseians and the Chinese were once contiguous.

As far as Hsiung-nu is concerned, the Yenissei languages must come into question since Ligeti 1950 showed that the Hu word for "boot" recorded in Chinese texts as 鞞 M. *sak-dak* < **sak-ṣak* closely resembled the Kettish *sāgdī* (Imbazz dialect), *sāgdī* (Bakhta dialect) "boot".

The Hsiung-nu word for "boot" may be ultimately Iranian in origin if the etymology suggested by Professor Sir Harold Bailey is correct. He has kindly supplied me with the following note.

"Iranian *sak-*, participle *saxta-*, and *sāk*, participle *sāxta-*. Avestan *saxta-* in *xvānīsaxta-* "finely equipped"; Sogd. Manichaean *psyt-*, participle *psytty* **patsaydai* (-ē) "prepared, adorned"; Sogdian in New Persian loanwords *āsaydah*, *pasaydah* "prepared"; Ossetic *sāxtāg* "a fastening"; Zoroastrian Pahlavi *saxtax* in the phrase *mōčak saxtak* "boot of prepared (leather)"; New Persian *saxtiyān* "leather tanned with sumac (morocco leather)". See W. B. Henning, *BSOAS* 13, p. 644. With *-ā-* occur Zoroastrian Pahlavi *sāxt* "prepare, equip", *sāxt* and *sāz* "equipment"; Pahlavi *asp zēn sāčēt* "he equips the horse with a saddle"; New Persian *asp-rā zēn sāxtan* "to harness a horse with a saddle"; Armenian loanword *an-saxt* "not equipped", *saxteal* "harnessed"; Ossetic *sādzun*, *sāyd*, *sāyt*, *sāxtā* "put in, put up, put on"; Sogd. Manich. *pts'k* **patsāk* "preparation".

"These Iranian words attest a base *sak-* and *sāk-* indicating "prepare" and in specialized senses "build, equip, harness, fasten" and in reference to *mōčak* "boot" a

specialized form of leather. A word *sāxtak*, or *sāyday* could have existed in the second century B.C. meaning "equipment", from which specialized meanings could have derived. The Hsiung-nu so-to from **sak-dak* "boot" might be this same Iranian word.

[Though the specialized meaning "boot" is not attested in Iranian, it might well have developed in some Scythian dialect and thence been borrowed into Hsiung-nu. The Hsiung-nu certainly had cultural features, such as the worship of the sword (see below) which were probably derived from the Scythians. Besides the words meaning "boot" in Hsiung-nu and Yenisseian, it is possible that we should see the same root in Mongol *saydaq* Turkish *sadaq* "bow case, quiver" (see Boodberg 1936, p. 174). E.G.P.]

It is difficult to compare the phonology of Hsiung-nu as revealed by Chinese transcriptions of the Han period with the imperfectly known Kettish and Kottish of two millennia later. At present Kettish admits of initial *r*- as little as Altaic. Initial clusters are also excluded. On the other hand initial *l*- occurs. (Kottish *d'*-, occurring initially, is in complementary distribution to *l*, occurring medially and finally.) These exclusions may however be the result of a long evolution in contact with Altaic neighbours. Roughly the same evolution has occurred in Chinese, perhaps from the same cause.

Phonology is not helpful therefore but in terms of vocabulary a number of further comparisons between Hsiung-nu and the Yenisseian languages can now be brought forward.

Ku-t'u 孤塗 "son"

The full title of the Hsiung-nu ruler is given in the *Shih-chi* and *Han-shu* as *Ch'eng-li ku-t'u shan-yü*. The first word, which is explained as meaning "heaven", has already been discussed. The last, which is the abbreviated title by which the Hsiung-nu rulers were normally referred to, will be discussed below. The middle word *ku-t'u* < M. *kou-dou* < **kwah-ṣah* is said to mean "son" and *Ch'eng-li ku-t'u* is said to mean "son of Heaven", like the Chinese T'ien-tzu. It would be very natural for the Hsiung-nu to have borrowed this Chinese title for their own supreme ruler, as did the Kushans later; but in what language can we find a word like this meaning "son"? Nothing at all similar can be found in Turkish or Mongol. Shiratori found the word *guto* "son" in Tungusic and this was the mainstay of his opinion that the Hsiung-nu belonged to that linguistic group; but the phonetic resemblance is at best vague even to the Modern Chinese form and it fades away when we reconstruct the probable Han dynasty value. Others have thought that the Chinese were wrong in what they said about the word's meaning and F. W. K. Müller suggested that *ku-t'u* might stand for Turkish *qut* "majesty", often found in titles. This too becomes less plausible in terms of the Han dynasty form. The Chinese certainly had the vowel *a* in both syllables and the initial *d*- of the second syllable is shown by its *hsieh-sheng* series to have come from **ṣ*-, which is likely to have been used for foreign *l* in Former Han times. The foreign original ought therefore to be something like **kwala*.

The ordinary word for "son" in Kettish is *fyp* (Sym dialect), *hyep* (Imbazk), *hyp* (Bakhta) and this word was also found in Kottish as *fup*. In the extinct Arin language however we find the word *bikjal* "son" (also *bikjalja* "daughter") where *bi* appears to be a prefix added to nouns of relationship: *bjapp* "father", Kottish *op*, Kettish *ob*, *op*; *bjamja* "mother", Kott. *ama*, Kett. *am*; *bamagal* "brother"; *bikhei* "lord", Kott. *hi*, Kett. *qyj* (Donner), etc. The word *-kjäl* is no doubt cognate to Kettish *qalek* "younger son, grandson" (Donner) and probably also to *falla* "son" in the extinct Pumpokolsk dialect. Here we have then a word for "son" which agrees very closely with the hypothetical Hsiung-nu form required by the Chinese. Being a word for a fundamental human relationship, it is unlikely to be a loanword in Yenisseian and unless it is an extraordinary coincidence it creates a presumption that the Hsiung-nu belonged to that language group. (For extinct Yenisseian languages, see Klapproth 1823.)

Chüeh-t'i 馱驃 "horse"

At the beginning of the chapter on the Hsiung-nu in the *Shih-chi* occurs the following passage, "The livestock which they keep in large numbers are horses, cattle and sheep. Their uncommon livestock are camels (橐駝), asses and mules, *chüeh-t'i*, *t'au-t'u* 駒駘 and *t'o-hsi* 驪驂." The last three words are clearly non-Chinese.

The *Shuo-wen* says (literally) that *chüeh-t'i* means the offspring of a stallion and a mule. This is of course an impossibility and the text should no doubt be emended to read "a mule which is the offspring of a stallion and a she-ass", that is a "hinny". This definition does not agree with the commentary of Hsü Kuang quoted in the *Shih-chi chi-chieh* who says that a *chüeh-t'i* is a superior type of horse of the northern barbarians. A hinny is, in fact, a weak, inferior type of mule. Egami Namio (1948, pp. 180 ff.) has gathered a number of other passages in which the word *chüeh-t'i* occurs and shows that they only make sense in terms of Hsü Kuang's definition. He thinks that the *chüeh-t'i* was in fact the larger western horse in contrast to the ordinary Mongolian type that was normal both in China and in Mongolia.

One passage which illustrates very well that the *chüeh-t'i* was a prized, superior sort of animal and incidentally shows that it was already known in China before the unification of China by Ch'in in 221 B.C. is found in a memorial of Li Ssu to the King of Ch'in contained in *Shih-chi* 87.0215.1. Li Ssu, who came from Ch'u, was defending himself against ministers of Ch'in who wished to expel all the foreign advisers (*k'o* 客 "guests") at the Ch'in court. By way of illustration he pointed to the many precious things which Ch'in obtained from beyond its borders. "If things must be produced in Ch'in before they are permitted", he said, "... the women of Cheng and Wei would not fill your inner palace and fine *chüeh-t'i* would not supply your stables without." Other passages in *Shih-tzu* (quoted in *T'ai-p'ing*

yü-lan 773.5b) and *Huai-nan-tzu* 11. refer to *chüeh-t'i* as the best kind of horses for drawing a carriage. In the biography of Tsou Yang in *Shih-chi* 83.0209.1, in another passage which seems to indicate the knowledge of this animal in late Chou times, it is said that the King of Yen served *chüeh-t'i* to Su Ch'in to eat, the implication being that it was a mark of special favour. The nomads of course commonly ate horseflesh and the larger *chüeh-t'i* was probably better eating than the wiry Mongolian pony. No doubt the comparative rarity of the animal would also lead to its being considered a delicacy.

Though Egami's opinion about what was meant by the *chüeh-t'i* seems very acceptable, his view, taken originally from Shiratori, that the word could be connected with the Mongol word *külüsün* "sweat" because the western horses were later known as "blood sweating" horses seems very far-fetched. But there does not seem to be any other suitable word in Turkish or Mongolian to compare with M. *kwet-dei* < **kwet-deh*. On the other hand we find in Yenisseyan that the ordinary word for horse is Ket. *kus*, Kot. *huś*, pl. *huśan*, Pumpokolsk *kut*, *kus*. There are other words in which a *-t* in Pumpokolsk corresponds to *-s* or *-ś* in other dialects, e.g.: "eye" Ket. *des*, Kot. *tis*, Pumpokolsk *dat*; "house" Ket. *k'uos*, *xus*, Kot. *huś*, Pumpokolsk *hukut*; "one" Ket. *husä*, *kuśam*, Kot. *hūca*, Pumpokolsk *chuta*; "stone" Arin. *khes*, Pumpokolsk *kit* (it seems that Kot. *śis*, Ket. *tyēs* probably comes from a different root, since Pumpokolsk had a second word *čys* "stone" evidently related to them). From this it would appear that we should be justified in supposing an earlier form in Yenisseyan something like **kuti*, the final *-i* having caused the palatalization of the preceding *t* in some dialects before disappearing. This gives a reasonably good equivalent for Chinese **kwet-deh*. To agree with the Chinese a form **kūti* would be better than **kuti*, cf. **koñ-kwet*=Mongol *kökül* (p. 259 below).

Chieh 羯 "stone"

With the Yenisseyan word *khes*, *kit* "stone" may be compared the name Chieh 羯 M. *kjat* < **kāt* applied to an important branch of the Hsiung-nu in North China in the fourth century. From this people, who constitute one of the so-called "five barbarians", i.e. the Hsiung-nu, the Chieh, the Hsien-pi, the Ch'iang and the Ti, who vied with one another in setting up short-lived dynasties at this period, came Shih Lo 石勒 the founder of Later Chao (reigned A.D. 319-34). His Chinese surname means "stone". There is good reason to think that the Chieh were not properly part of the Hsiung-nu but had more western, Indo-European affinities (T'ang 1955, p. 416). They had however entered China as part of the Southern Hsiung-nu, and were therefore sometimes referred to as Hsiung-nu. The *Chin-shu* 104.1354.4 says of Shih Lo, "He was a *Chieh* from Wu-hsiang district in Shang-tang country (in southern Shansi). His ancestors came from the

separate tribe of the Hsiung-nu, Ch'iang-ch'ü 羌渠 M. *khian-gjo*" (see T'ang 1955, pp. 414 ff.). Ch'iang-ch'ü is probably just another form of K'ang-chü 康居 M. *khay-kjo*. The K'ang-chü were of course an important people in Sogdiana in the Han period. They later gave their name to Samarkand but in the Former Han period were centred around Tashkend. The Ch'iang-ch'ü group in the Hsiung-nu were presumably a part of the K'ang-chü people who had at some time been captured and incorporated by the Hsiung-nu. Now it happens that Tashkend was later known in China as Shih Kuo "Stone Country" and people from there who came to China took the same surname Shih "Stone". Tashkend itself means "Stone City" in Turkish. This is usually regarded, following Marquart (1901, p. 155), as simply a Turkicization of the earlier Čäč, but this does not account for the Chinese name which is long before the region became Turkish.

The K'ang-chü people are usually thought of as Iranian but they had close links with Ta-yüan (= *Taxwār, Tochari) and the Yüeh-chih and they shared the title *hsi-hou*=yabgu with the latter and the Wu-sun. It is quite likely therefore that they too were Tocharian in origin and that they moved into Sogdiana as part of the same westward movement that brought the Yüeh-chih and then the Tochari spilling over the Pamirs. In this case we may look in Tocharian for an interpretation of their name. It happens that there is a word *kāñka-* in Tokharian A about which Sir Harold Bailey has kindly given me the following note.

kāñk-

Tocharian A dialect: *kāñk-* in the plural *kāñkañ*; *kāñkuk* in singular and instrumental singular *kāñkukyo*. The context of *kāñk-* in 264a2 is *kāñkan wasirššan*, that is "the *kāñk-* (1) consisting of vajra- stones, (2) made of vajra- stone, (3) identified with vajra- stones", with three possible translations, rendering a Sanskrit text which would have had either (a) gen. sing. *vajrasya*, or (b) a compound with *vajra-* as the first component, or (c) an adjectival derivative of *vajra-* (*vajramaya-*); *wasirššan* is a feminine plural adjective with suffix *-šši*.

The context preceding *kāñkañ* contains a list of weapons, including Bud. Sanskrit *cakra-* "discus", *tomara-* "lance", *śakti-* "spear", *triśūla-* "trident", *bhīṇḍipāla-* "missile". The *vajra-* in battle scenes in Bud. Sanskrit texts is a missile used, for example, by Yakṣa goblins. In the present context /// *sānāri* is a plural from /// *sānār-*. It may have lost an initial syllable. It could possibly have come from Bud. Sanskrit *asāni-* (Pali *asani*) "a missile", sometimes identified with *vajra-* but occurring also in the Sanskrit compound *vajrāsāni-*. This word came into Khotanese (older) *asuni-* and (later) *aśū'na* (*ś=ž*).

The word *kāñkuk* occurs twice, (1) 24b1 *vājār kāñkuk śrīvās parnont šotreyāntu* . . . , that is "the vajra *kāñkuk śrīvatsa-* sign, splendid (= auspicious) marks . . ." (the *vajra* and *śrīvatsa-* as auspicious signs are known), (2) 429b4 (fragmentary) /// *kāñkukyo cākra pāsā* /// —here one could propose to read *vājār kāñkukyo* "with the vajra *kāñkuk*", the supplement *vājār* being rendered probable by the correspondence with 264a1 where we again have Sanskrit *cakra-* "discus" in the context. The parallel between *vājār kāñkuk* in 24b1 and *kāñkan wasirššan* in 264a2 makes it almost certain that *kāñkuk* is *kāñk-* with a suffix *-uk*.

The above contexts seem to assure a Tocharian word *kāñk-* meaning "stone". A corresponding word in Tocharian B dialect has not yet been pointed out.

To support this interpretation of *kānk-* as "stone", note that Tibetan translates *vajra-* as *rdo-rje* (*dorje*), explained as *rdoyi rje* "prince of stones". The *dorje* in stylized thunderbolt shape has a place in Buddhist ritual. The Indian missile *vajra-* corresponds in the Avesta to *vazra-* which is an ordinary human weapon, identified in later texts as a club, the New Persian *gurz*. In later texts however *vajra-* is used for a hard stone and especially for the diamond. B. Laufer, *The Diamond*, discusses the history of the use of *vajra*. There are two Sanskrit compounds: *vajra-gulaka* "a kind of weapon" (*gulaka-* "ball"), and *vajra-kīla* (*kīla-* "wedge").

E. Sieg and after him W. Couvreur proposed hesitatingly to see in *kānkuk* an Indian plant name *kaṅguka-* "a kind of panic grass", but there is no justification for this view.

Although a connexion in other Indo-European languages can easily be proposed, an etymology is not useful in assigning a meaning to *kānk-*. But if *kānk-* does mean "stone", a connection would lie with Old Slavonic *kamy*, gen. sing. *kamene*, Russian *камень* "stone", from **kā-men-* as we have Greek "anvil", Lithuanian *akmuo*, *ašmuo* "stone". Old Ind. *aśman-*, Avestan *asman-*. That is, a base *ak-* : *k-* and, with enlargement -*ā*, also *k-ā*. The Sanskrit word *aśani-* "missile, thunderbolt" is derived from the same *ak-*, as also is Avestan *asan* "stone".

I have no other satisfactory example of the suffix -*uk* in an indigenous Tocharian dialect word. There is *śuk* "āyata-, extended", possibly from *aś-uk*. In *kñuk* "neck" it has been proposed to see the cognate of Middle High German *knock* "neck" but it might be rather *kā-uk*.

The probability that *kānk-* in Tocharian means "stone" and the indications from totally separate evidence that the name of the K'ang-chü people had something to do with "stone" makes it extremely likely that it is this Tocharian word which enters into their name. It further makes it probable that the alternative name *Chieh* < M. *kjat* is the Hsiung-nu word for "stone", related to the later Yenissei words quoted above.

Čäc, the old name of Tashkend, found for example in Chinese transcription as 柘支 M. *čja* \-*čje*, 柘折 M. *čja* \-*čjet*, 赫時 M. *čja* \-*čjē*, and in Manichaean Sogdian *č'č'ny* = **čäčänē* "a native of Čäc" (Henning 1940, p. 9), might also be connected with another word for "stone" in Yenisseian, namely Ket. *tyes*, Kot. *šis*, Pumpokolsk *čys*. This would presumably be a relic of the Hūna occupation of Sogdiana in the fifth and sixth centuries.

The name K'ang-chü is no doubt also connected with 曷羈 M. *kham* \-*kjat* (for **Kamkar*?), the name by which the capital of Shih (Tashkend) is mentioned in connection with the setting up of an administration in the region by the Chinese in A.D. 658 (see Chavannes 1903, p. 141), and to the name *Kankar* given to the lower *Yaxartes* in Ibn Chordādhbih (Marquart 1898, p. 5, n. 5, also 1914, p. 168). Marquart also suggested connections with the *Kāngārās* mentioned in the Orchon inscriptions and with *Κάγγαρ*, *Κάγκαρ*, said in Konstantinos Porphyrogenetos to be a name of honour given to the three leading tribes of the Pechnefs (Moravcsik 1958, II, p. 145); but these further questions cannot be pursued here.

Milk products

Animal milk and its products did not form part of the normal diet of the agricultural Chinese in ancient times and do not today; but they became

known when the Chinese came into contact with pastoral nomads of the steppe and they even enjoyed a certain vogue at some periods, especially from Han to T'ang. With the foreign products came foreign names and since the dominant steppe people at the time of their introduction were the Hsiung-nu the names were naturally also taken from the Hsiung-nu language. In some cases there is direct testimony to this. In others it can be inferred with a high degree of probability.

The milk culture of the steppe has been alluded to or described by many writers since Herodotus (Book IV. 2) mentioned the use of mare's milk among the Scythians. Zemarchus, the Byzantine envoy to the Turks at the end of the sixth century, referred to the sweet wine not made from grapes that he was offered at the court of the kaghan, which must have been *koumiss* (Chavannes 1903, p. 232). William of Rubruck, who visited the Mongol court in the twelfth century, gives a detailed account of *cosmos* (i.e. fermented mare's milk, *kumiss*) and its preparation, of the preparation of butter and the dried curd or *gruit* (= Turkish *qurut*) which they kept for winter provisions. He also refers to a drink called *aira* made of sour cow's milk (i.e. Turkish *airan* or Mongol *airay*).

What he has to say agrees substantially with what the eighteenth and nineteenth century travellers relate, the most notable difference being the absence of any clear reference to distillation of a strong spirit from *kumiss*, the Turkish *araki*, Mongol *araki*. The method of preparing the superior "black *cosmos*" served to the lords is not very clear. He says, "They churn then the milk until the thicker parts go straight to the bottom, like the dregs of wine, and the pure part remains on top, and it is like whey or white must. The dregs are very white, and they are given to the slaves and they provokes (*sic*) much sleep. This clear (liquor) the lords drink, and it is assuredly a most agreeable drink and most efficacious." The translator notes, "These dregs are called *bossa* by the Kalmucks—see Pallas, I, 511" (Rubruquis, p. 67). The *bossa* described by Pallas are the lees of distillation produced in making *araki*, but there is nothing in the process described by Rubruck to suggest distillation. It seems to be some other method of removing some of the milk solids from the fermented mare's milk.

It was in any case just about this time that the knowledge of the new invention of distillation was spreading eastwards as well as westwards from the Arab world. Li Shih-chen, the author of the great Ming pharmacopoeia, the *Pen-ts'ao kang-mu*, says of *hsiao-chiu* "brandy", "It is not an ancient method. The method was first started in the Yüan period." He also quotes the name *a-la-chi* 阿刺吉, i.e. *araki*, from the *Yin-shan cheng-yao*. The *Yin-shan cheng-yao* was produced by the Food and Drug Department at the Yüan court and was presented to the throne in 1331. It contains a recipe for *a-la-chi* wine which reads as follows, "Its taste is sweet and pungent. It is very hot and has much toxic property. It is good for reducing chill,

strengthening resistance (?) and expelling cold vapours. Take spoiled (*nu*?) wine and boil it. Collect the "dew" and it will make *a-la-chi*."

In view of the fact that distillation began in the Arab world it is easy to accept the etymology for *araki* that is usually proposed, namely that it is from Arabic *araq* which originally meant "juice" or "sap" (Yule 1903).

It is clear that the Chinese word *lao* 酪, which appears already in the second century B.C. to refer to the typical milk drink of the nomads can have nothing to do with *arrack*, *raki*, *araki*, etc., as Karlgren thought (1926, p. 138). *Lao* is always a milk product and may or may not be alcoholic. *Arrack*, etc., always means a distilled spirit and only becomes specially associated with *kumiss* among the nomads who naturally used *kumiss* as the main material from which to make it.

Excluding the as yet unknown *araki*, we find foreign names for the following typical nomad milk products in the Han period: (1) milk, (2) sour milk, (3) butter, (4) fermented mare's milk, (5) dried curd.

(1) "milk"

The Chinese had, of course, a word for "milk", namely 乳 *ju* < M. *n̄jou* < **n̄ō*. It means "nipple", like Tibetan *nu-ma*, hence "to suckle" and more generally "to care for the young", as well as "milk". The modern colloquial 奶 *nai* < M. *nai*, implying an earlier **nə*, is no doubt a variant form of the same word. Since the Chinese did not use animal milk however, it is not surprising to find that they sometimes used a foreign word for "milk" in this sense. The word 澆 *tung* occurs already in the *Mu T'ien-tzu chuan* in the phrase "milk of cows and mares" given as a present to King Mu by a barbarian tribe. Assuming this passage to be genuine, it must date from before 296 B.C., that is well before the Han period. The next occurrence is in the chapter on the Hsiung-nu in the *Shih-chi*. The Han envoy Chung-hsing Yüeh, who went over to the Hsiung-nu, is reported to have urged the Shan-yü, "When you get Chinese food, throw it all away to show that it is not as suitable and pleasant as *tung-lao* 澆酪." (The *Han-shu* reads *chung* 重.)

The word 澆 appears in the *Shuo-wen*, where it is defined as 乳汁 "milk fluid". In Chapter 6 of *Lieh-tzu* (ca. A.D. 300) we find the expression *tung* used of human milk. "At your birth there was too little vital fluid in your mother's womb and too much milk in your mother's breast." (Graham 1960, p. 128-29.) Such usage is rather rare but we do find *tung* as a textual variant of *ju* "milk" sometimes in early translations of Buddhist sutras (see T.5上 (I.1615), T.1670a and b).

What appears to be a variant of the same word appears in the expression *t'ung ma* 搯馬 which appears in *Han-shu* 19A.0353.2. In the

Table of Officials and Ministers it is recorded that in the first year of T'ai-ch'u (104 B.C.) of the Emperor Wu the title of the prefect (*ling*) of the Household Horses 家馬 was changed to T'ung-ma. The commentary of Yin Shao (2nd C. A.D.) says, "He has charge of the milk horses (乳馬). He takes their milk and prepares it by "shaking" (*t'ung*). It tastes sour but can be drunk." The commentary of Ju Chun (third century) says, "He is in charge of the milk horses. One makes a bag (夾兜 M. *kaap-tu*) of skin with a capacity of several *tou* and fills it with mare's milk (馬乳). One "shakes" it (*t'ung*) and takes the fat off the top and hence they are called *t'ung* horses." In translating *t'ung* as "shake" I follow the usual interpretation, which is necessary to make sense of Ju Chun's commentary; but it makes a curious epithet for horses. The commentators are evidently taking 搯 as equivalent to 動 "move". This interpretation of *t'ung* is made explicit in the commentary of Li Ch'i 李奇 to another reference to *t'ung-ma* which occurs in the Monograph on Ceremonial and Music—where it is stated that *t'ung-ma* wine (搯馬酒) shall be given to certain officials. Li Ch'i says, "They make wine of mare's milk. They beat and shake it (搯搯) and so it is made." Yen Shih-ku adds, "搯 has the sound of *tung* 動."

The expression *chia-tou* < M. *kaap-tu* is not found elsewhere and does not appear in any dictionary. It must be related to Mongol *xabtaya(n)* "bag, pouch, purse, pocket" and to Turkish *qap'tıryai* "ein grosser tiefer Sack". In Rubruquis we find *captargac* "square bag for putting unconsumed food" (p. 65). The Chinese word would imply **klep-toh* with an initial cluster but it is uncertain whether the initial cluster would have still survived for Ju Chun in the third century A.D.

Though the *Yü-p'ien* defines the character 搯 as meaning 動 *tung* "move", it does not appear to occur in this sense in any other context. The *Shuo-wen* defines it as meaning "to push and pull" (推引) and uses it, evidently in this sense, in the definition of the character 摧 "to repress". In *Huai-nan-tzu* occurs the phrase 挺搯, to which the commentator remarks, "*ting-tung* is like 'up and down' 上下. It means 'seeking what is convenient and profitable'". This is evidently an expressive binome, not to be analysed into separate components.

It seems evident that a much simpler explanation than that given by the commentators would be to take 搯 as simply another writing for 澆 "milk". It should be noted that there is also a word 醕, homophonous with 搯, defined in the *Kuang-yün* as 馬酪 *i.e.* *kumiss*.

Since 搯 has two readings M. *duŋ* and M. *duŋ'* and 澆 has several readings, M. *tuŋ*, *ɕioŋ* (*Kuang-yün*) (the latter quoted from the *Tsu-lin*), *toŋ*, *toŋ'* (added by the *Chi-yün*), we have a variety of possibilities for the hypothetical Han dynasty pronunciation that is implied. This is in itself evidence that the word was non-Chinese in origin. Apart from the variation between voiced and unvoiced initial, we have the form in M. *ɕ* which, in a native Chinese word ought to imply an earlier **ɕ*. It probably does not do so here however. In the *Shih-chi chi-chieh* we find a *fan-ch'ieh* spelling

implying M. $t\dot{\eta}oŋ'$, with a pure dental initial. This would be contrary to Middle Chinese phonology, which would only permit of $t\dot{\eta}$ or $c\dot{\eta}$ not $t\dot{\eta}$. The best explanation of the variant forms seems to be that a pronunciation something like $[toŋ]$ or $[t\dot{o}ŋ]$ or $[doŋ]$ was intended. Since it was a foreign word, a stable Chinese pronunciation was not established at the beginning and the Chinese pronunciation was probably corrected at later stages by renewed reference to the original. This would account for the new readings in Middle Chinese $-oŋ <$ earlier $*-uoŋ$ after Old Chinese $*-oŋ$ had become Middle Chinese $*-uoŋ$. After the yodization of long vowels it would appear that $-joŋ$ was a thought by some to be a better equivalent than either of the short vowel forms, hence the readings M. $t\dot{\eta}oŋ'$ or M. $t\dot{\eta}oŋ\backslash$.

Neither Turkish, nor Mongol, nor, as far as I can discover, Tungusic provides a possible original for this word. The existing Kettish word for "milk" is *mâmel* (= *mâm* "breast, nipple" + *ul* "water"). In the extinct dialects however we find Pumpokolsk *den*, Arin *teŋul*. Kottish used the Turkish word *süt* for "milk" but retained the word *ten* "nipple". It is evident that Arin *teŋul* is a compound formed in the same way as Kettish *mâmel* from $*ten$ + Arin *kul* "water" (see Bouda 1957). It is also clear that we have the same correlation between words meaning "milk" and "breast" that we find in Chinese.

Chinese $-ŋ$ could very well represent foreign $-n$, especially after a back vowel. (The fact that so many of the readings are in the oblique tone, implying $*-ŋh$ or $*ŋ$, may be connected with the fact that the foreign original had something different from Chinese $-ŋ$.) The only substantial discrepancy between the Chinese and the Yenisei forms is therefore in the vowel. As it happens there is a sixth extinct dialect, that of the Öedh or "Sable" Ostyaks, who were located in the early eighteenth century on the Elogui River, somewhat east of the Kotts. Only a handful of words are recorded. Among them however are a number in which δ corresponds to e in other dialects, e.g.: *öedh* "sable", Ket. *eäd'*, *eäti*, *eädi*; *ös* "god, heaven", Ket. *és*, *ec*, Arin *es*; *šös* "stream", Ket. *ses*, *šés*, Kot. *šet*; *šök* "thunderstorm", Ket. *šökŋ* "thunder"; *šluh* "river name" = *elogui*. The word for "milk" is not recorded but these correspondences would support a reconstruction of $*t\dot{o}m$. We have no direct evidence of course as to whether $*e$ or $*\delta$ was original but an unrounding and fronting of $*\delta$ to e would be a very common type of phonetic change. A hypothetical $*t\dot{o}m$ would provide as close a correspondence as possible to the Chinese forms. The variation between initial $*t$ and $*d$ is found again in *t'i-hu* discussed below. In the recorded Yenisei languages we find two dental stops, a weak (lenis)—Ket. *d*, Kot. *t*—and a strong (fortis)—Ket. *t*, Kot. *t'*. It would seem that the weak member of the pair, whatever its exact phonetic characteristics may have been in the Hsiung-nu language, sounded sometimes more like Chinese t and sometimes more like d .

2. "Sour milk, curds, kumiss"

While the word *tung* "milk" has not survived in current usage in Modern Chinese, the other word associated with it in Chung-hsing Yüeh's advice to the Shan-yü, *lao*, has done so. The dictionary definitions suggest a rather vague application to various milk products such as "cream", "cheese" "kumiss" and extended to milky substances such as 杏酪 "almond tea". Its proper meaning is however "soured or fermented milk", i.e. the curdled milk of cows or ewes or the fermented but curdless milk of mares, namely kumiss. (Dried curd is also called *kan-lao*, see below.)

Li Shih-chen in the *Pen-ts'ao kang-mu* says "*Lao* can be made from the milk of water buffaloes, *ch'in* cattle (i.e. ordinary domestic cattle), yaks, ewes, mares and camels. For use in medicine one considers cow's *lao* to be best. It is only because cow's milk is also most plentiful." He goes on to give a recipe for its preparation quoting from the *Yin-shan cheng-yao*. First the milk is boiled, then cooled and the cream skimmed off. After that a small quantity of old *lao* is added and the milk is sealed over with paper and allowed to ferment. This evidently refers to the making of yoghurt.

The ordinary word for a drink made from soured cow's milk in Turkish is *airan*, a word found in all dialects. In Mongol the word is *airay*. No doubt the two words are ultimately connected, in what way must be left to Altaists to decide. The Classical Mongol form of *airay* is *ayiray* from which we could reconstruct a proto-Mongol $*ayiray$. This is phonetically quite close to Chinese *lao* < M. *lak* < $*hlak$. It should be noted further that *airay* means not only soured, curdy, cow's milk but can also be used, like *lao*, for soured mare's milk or *kumiss*. (As far as one can judge from the dictionaries this is not true of Turkish *airan*.)

Since we have ruled out the possibility that Hsiung-nu was a form of Mongol, we must suppose that *airay* was borrowed from the same source as Chinese *lao* and was not itself the word on which the Chinese loan was based. For the hypothetical Hsiung-nu form we should prefer to reconstruct a monosyllable, something like $*y\dot{r}ak$ or $*Grak$. Mongol would have been unable to handle the initial cluster and would have had to change it into something like $*ayiray$. In looking for a modern form in Yenisei we have to reckon with the fact that initial $*r$ has disappeared and initial clusters have been simplified. It is possible therefore to compare with the supposed $*Grak$, $*y\dot{r}ak$ the Kottish *uk* "Milchsuppe", Kettish *uk*, *uok* (Imbazzk) "Suppe, flüssiger Brei". Donner defines this word as "Mehlsuppe" but the surviving Kets are a hunting and fishing people, not herdsmen, so that a word properly applicable to milk products would be likely to be transferred in meaning, if it survived, to some similar product used as a substitute (see also the next section on "butter"). Phonetically the equation must be considered possible. The rounding of the vowel from $*a$

to *uo* (for which Joki writes *o*) or *u* could be regarded as the effect of the lost voiced back velar or uvular which we have to suppose in the Hsiung-nu form.

(3) *su* 酥 "butter"

The word *su* is defined by Mathew's Chinese English Dictionary as "cheese, flaky, crisp, short". It is however clear that it originally and properly meant "butter". The nomadic method of preparing it from milk did not consist of churning cream separated from whole milk. Instead the whole milk was first soured and then shaken or beaten in a leather bag as described by Ju-chun (see above) and, in later times, by Rubruck and Pallas. In the *Pen-ts'ao kang-mu*, the sixteenth century pharmacopoeia, Li Shih-chien says, "Su is what forms floating on the surface of *lao*. Men today very often confuse it with white sheep fat but the two must be distinguished." Sometimes instead of *su* alone we find *su yu* "su oil". The butter lamps used in Buddhist temples are called *su teng*.

The character 酥 appears in the *Shuo-wen* where it is defined simply as *su lao* 酥酪. We occasionally find this, or *lao-su*, in texts as an equivalent for *lao* (or perhaps meaning the whole soured milk still containing the butter fat?).

Instead of the special character 酥 we quite often find the homophonous 蘇 in the same meaning (see for example variants in T. 5 上 (I. 161c)). The latter is a common character in transcriptions of the Han period, and there can be no doubt that we have to do with a loanword in Chinese. The Middle Chinese pronunciation was *sou* from an earlier **sah*. None of the words for "butter" in neighbouring languages bears a close resemblance to this. Mongol has *tosu(n)*, Turkish *yay*, Tibetan *mar*, Tocharian A. *şalyp*, B. *şalype*, *şalywe*. I do not find a word for "butter" recorded for Kettish. Kottish *kajax*, *kajag* was a loanword from Sogot or Yakut. There is however a Kettish word *so* (Donner 1955, p. 83) defined as "aus Fischdärmen gekochtes Fett". The same word occurs in the expression *ǝmbǝlǝŋǝs ǝǝ* (Donner's narrow transcription) "Multbeerenfett (Multbeeren mit Fischfett vermischt)". The modern Ketts are a hunting and fishing people, not herdsmen, and presumably make little use of dairy products but it would appear that *so* means a rendered, butter-like, fat (as opposed to *ky't* (Donner-Joki), *kyt*, *kyt*, *kyet* (Castrén) "fat" in general—Kottish also had a special word *t'empu* for "melted fat", as well as *kǝt* "fat"). It seems very likely that this Kettish word is the descendant of the word which in Hsiung-nu meant "butter" and was borrowed into Chinese. It is uncertain whether we should suppose that the Yenissei word was originally more like [sa], or whether the Chinese **sah* was already somewhat rounded towards M. *sou* when it was used for the Hsiung-nu word. Compare its use in **sah-gleats* (p. 220 above).

(4) *t'i-hu* "clear kumiss", "clarified butter"

We have noted that Mongol *airay* means both sour cow's milk and sour mare's milk or kumiss and that the same is true of Chinese *lao*. There is however a special word for kumiss in Mongol, *čige(n)*. With this I propose to compare Chinese 醍醐, 醍醐 M. *dei-hou* < **deh-gah*, or 醍醐 M. *tei-hou*.

The first form occurs in the *Shuo-wen* where it is defined as 酪之精者 "of *lao*, the pure or fine [kind]". The phonetic correspondence to the Mongol word is good. Proto-Mongol **ti* < **ti* or **tī* became *či* in Common Mongol (Poppe 1960), so we are justified in reconstructing a form **tigd(n)* or **tiga(n)* as the ancestor of *čige(n)*. On the other hand the Mongol **t-* would probably have been strongly aspirated, whereas the Chinese form shows no **th* but the same vacillation between **t* and **d* that we found in the word for "milk". The assumption of a common borrowing from Hsiung-nu seems to be the best way to account for this.

There is a further complication with regard to the meaning of the word in Chinese. By far the commonest use of the word *t'i-hu* is in Buddhist texts where it means clarified butter or an even more refined oil obtained from "butter". The semantic link seems to be in the idea of something that is clear. Mare's milk, which contains little butter fat, forms a clear liquid when it is fermented, unlike cow's or sheep's milk, which becomes curdy and thick. Boiled butter is clear as compared to fresh butter. In the *Pen-ts'ao kang-mu* a definition for *t'i-hu* is quoted from an earlier work, which is different from those found elsewhere. "*T'i-hu* is the liquid (漿 'broth') of *lao*", i.e. whey. This would be quite incompatible with the definition of *t'i-hu* as either kumiss or clarified butter except for the fact that it is again a translucent liquid which is referred to.

To complete the argument it would be desirable to find a Yenisseian cognate, preferably one having the idea of "clear" or "pure", but I am unable to quote one.

(5) *mi-lo* "dried curd"

The usual name in Chinese for the dried curd or hard cheese, that is, the *gruit* referred to by Rubruck which the Tartars put away for winter food or used as provisions on a journey, is *kan-lao* "dried *lao*". We find however another word which appears to mean the same thing in the *Ch'ang-yang fu* of the first century B.C. poet Yang Hsiung (*Han-shu*). Speaking of the victories of the Chinese over the Hsiung-nu under the Emperor Wu, he says, "We destroyed their wagons (轛輜 M. *bjwǝn-uǝn*) and ruined their *yurts* (穹廬 M. *khjuŋ-ljo*), drove away their camels and burned their 燔廬 M. *mek-lwa* (or *-lje*)." The word M. *mek-lwa* (or *-lje*), which is not found elsewhere, is explained by the commentator Chang Yen as meaning "dried *lao*". He adds, "They use it for the mother (=ferment)

of *lao*. By burning it one destroyed their means of livelihood." It was no doubt correct to say that the nomads used dried *lao* to start the fermentation but we may surmise that the threat to their livelihood was more direct. The stores of dried curd were the nomads' winter food supply and to destroy them was equivalent to burning the grain supplies of an agricultural people.

A different interpretation of the word is given by another commentator, Chang Chi, who says that it was the name of a mountain. Perhaps there was such a mountain but it is obviously nonsense to take the word in that sense here.

There is no word for curd or cheese in neighbouring languages which shows any resemblance to M. *mek-lwa* that I can discover. The word throughout Turkish dialects is *qurut* (whence Rubruck's *gruit*) and Mongol appears to use the same word *xorot*. I can find no word for "cheese" recorded for Yenisseian. Though the search for an etymology reaches a negative conclusion, it is interesting to find that the Hsiung-nu resembled the later nomads in their basic economy.

Some Hsiung-nu Titles—(1) *Shan-yü* 單于

It would not be surprising to find that the title of the supreme ruler of the Hsiung-nu reappeared in later nomad empires. Indeed it would be more surprising if it did not. Sir Gerard Clauson has recently suggested that it is to be recognized in *yabgu* which we find among the T'u-chüeh in the T'ang period. This is impossible to accept on several grounds. *Shan-yü* < M. *jjēn-hjōu* < **dān-hwāh* is phonetically quite unsatisfactory as an equivalent for *yabgu* even if we reconstruct as an early Turkish word with an initial *δ*. Chinese would have used *-m* or *-p* to represent the labial consonant, never *-n*. Moreover a good Han dynasty transcription of *yabgu* exists in *hsi-hou*, found among the Wu-sun, Yüeh-chih and K'ang-chü, but not the Hsiung-nu, and probably of Tocharian origin (see p. 95). Later the title occurs among the descendants of the Yüeh-chih in Bactria and it was probably borrowed by the Turks from there. A fuller discussion must be left for another occasion.

Nevertheless *shan-yü* did not vanish and we can, I think, see in it the ancestral form of another title that reappears among the Turks and Mongols and was also known farther west, namely *tarqan*, *tarxan*, etc. This is one of the titles which have "Mongol" plurals in *-t* (*tarqat*) and which, according to Pelliot (1915), must have been borrowed by the T'u-chüeh from their Juan-juan predecessors. He pointed out also that the spelling with *-x-* in Kashgari was a characteristic of words of foreign origin (1944, p. 176, n. 2). Whether or not Pelliot was right about the immediate source of the word in Turkish, the ultimate source was no doubt the Hsiung-nu. Phonetically the correspondence is good. The use of Chinese *-n* for foreign *-r* is regular in the Han period. The Chinese initial **d-* would not yet have been palatalized in the second century B.C. when the transcription first appears. The

use of Chinese *hw-* for a foreign back velar or uvular *γ* or *G* has been discussed above. The Hsiung-nu word lacks the final *-n* which we find in the Turkish but we shall find other examples of this in *qayan*, *qatm* and *tegin*.

Moreover we find the title *tarqan* without its final *-n* on the coins of the Hephthalite ruler of Afghanistan in the seventh century, Nēzak Tarxān. In Greek script we find either TAPKA or TAPAKA. It is generally supposed that Nēzak got his title from the Turks but it is quite probable that the title was already known among the Hūna in Afghanistan before the arrival of the Turks, just as the title *tegin* was known among the Hephthalites in Gandhara (see below). (For western references and bibliography see Moravcsik 1958, II, p. 299.)

In Chinese transcription in the T'ang period the Turkish title *tarqan* appears in a variety of forms: 達干 M. *dat-kan*, 達官 M. *dat-kwan*. The last of these means "advanced official" or "official with direct access" in Chinese and it has been suggested that this was the etymology of the Turkish word. Pelliot, while not rejecting the suggestion out of hand, remarked, "Toute la question est de savoir si nous avons affaire à une réelle identité étymologique ou à une transcription d'érudits basée sur une simple analogie phonétique et sémantique" (1944, p. 176, n. 2). The latter must certainly be correct. Ta-kuan is not such a common term in Chinese that one would expect it to be borrowed as a title by foreigners.

It is of course not at all surprising that what had been the supreme title under the Hsiung-nu should have declined in status and become merely a high-ranking officer among the Turks. Mongolian *daruyā* (a form which agrees even better with the Hsiung-nu original) than does the Turkish and may have been borrowed directly) has declined even further coming to mean no more than the holder of certain privileges. We may compare the fate of *khan* in the modern Middle East where it has become no more than "mister".

(2) *T'u-ch'i* 屠耆

The title given to the Crown Prince of the Hsiung-nu was Left T'u-ch'i Prince. Next below him came the Right T'u-ch'i Prince. According to *Han-shu* 94A, *t'u-ch'i* meant *hsien* "wise" or "worthy" and the titles are sometimes translated and written Left and Right Hsien Prince. The same word *t'u-ch'i* occurs as the appellation of a *shan-yü* and of a Hsiung-nu queen (*Han-shu* 94). In meaning it may be compared with Turkish *bilgä* "wise" which also appears in royal titles. The word itself on the other hand must be the ancestral form of Turkish *tegin*, *tigin* "prince", having been borrowed as a title without its original semantic content. The phonetic values of the characters are M. *dou-gji* < **dah-gē(δ)* (on the transcription value of the second character see p. 124 above). The addition of *-n* and the

plural in *-t* both speak in favour of a borrowing into Turkish through Mongolian type of language (Pelliot 1915).

In the T'ang period the correct transcription of the Turkish title *tegīn* was 特勤 M. *dək-giən*, but through graphic corruption the second character normally appears in texts as 勒 M. *lək*. This same corruption appears in an earlier form of the title 敕勒 M. *djak-lək* (read *-giən*) which we find in the *Pei-shih* in a passage on Gandhara based on Sung Yün's account of his visit there early in the sixth century. In the *Lo-yang ch'ieh-lan chi* we find correctly 勒勤 M. *djak-giən* (some texts have instead 勒 over the heart radical but this must again be a case of graphic corruption—no such character is found in dictionaries, see *Lo-yang ch'ieh-lan chi chiao-chu*, p. 318). According to Sung Yün, the Hephthalites appointed a *Ch'ih-chin* to rule in Gandhara after they conquered it and as S. Lévi pointed out, the existence of the title *tegin* in Gandhara is confirmed by the *Rājataranginī*, which speaks of a ruler there called *thakkana* (Chavannes 1903, p. 225, n. 3; cf. also Marquart 1901, pp. 211-12). R. Ghirshman (1948, pp. 109 ff.), finding the appearance of a Turkish title among the (to him) Iranian Hephthalites embarrassing, was at pains to explain away Sung Yün's testimony. Reading *Ch'ih-le* instead of *Ch'ih-chin*, he proposed to see in it a transcription of *Tšavla*, *Zābul*. But M. *djak-lək* can hardly have anything to do with *Zābul* which we find in Chinese transcription as 漕 M. *dzau*. Ghirshman's idea was clearly influenced by the belief that *Ch'ih-le*, which, it is true, is one of the earlier spellings of *T'ieh-le* (see p. 230 above), could be a transcription of *Tölis*, *Tölis* being thought to have some resemblance (surely very remote!) to *Tšavla*; but *T'ieh-le* and its earlier forms have nothing to do with *Tölis*, though the view, consecrated by Chavannes, dies hard (see Pulleyblank 1956).

The only reasonable interpretation of Sung Yün's testimony, corroborated by the *Rājataranginī*, is that the title *tegin* was used by the Hephthalites long before the appearance of the Turks.

This is not the place for a full scale discussion of the affinities of the Hephthalites but a few remarks can be made. I am not at all convinced by the arguments which have been made in recent times to show that they were Iranian (Ghirshman, *op. cit.*; Enoki 1951, 1952 and 1959). That there should be Iranian elements in their empire is only to be expected since the subject population must have been predominantly Iranian. Much more significant are the evidences of Altaic connections in the ruling Hephthalites themselves. Besides the title *tegin*, one may point in the first place to their proper ethnic name, Hephthalite being a dynastic appellation. In the *Liang-shu* they are referred to as the country of 滑 M. *hwaət*. As has long been recognized, this name must be the same as the 活 M. *hwat* of Hsüan-tsang, which, as Yule and Marquart have shown, is to be identified with the city known to the Arabic geographers as War-wäliz, Wal-wäliz, Wäliz,

al-Wälizā, *i.e.* the later Kunduz. In the *Hsin T'ang-shu* this city is referred to as 阿緩 M. **a-hwan* City (the *Chiu T'ang-shu* has 遏換 M. **at-hwan*). These forms imply an ethnic War or Awar which can scarcely be separated from the Οὐαρ καὶ Χουουί of Theophylactus Simocatta, the Οὐαρ-χωμίρα of Menander Protector and the Avars of Europe. Still earlier the same name occurs as 烏丸 (桓) M. **ou-hwan* < **ah-hwan*, one of the two divisions of the Eastern Hu in the Han period (the other being the Hsien-pi). The phonetic identity is perfect and there are very good supporting arguments in favour of a connection between the peoples.

The second part of the name War-wäliz was supposed by Marquart to be composed by the reduplication of War with addition of the Iranian suffix *-iz*. I wish to suggest that it was rather the Altaic word for "city", Turkish *balıq*, Mongol *balgasun* < **bälaka-sun* (Poppe 1960, p. 122). The majority of the Arabic spellings quoted by Marquart have *-iz* which would be a normal Arabic way of writing a foreign *-g*. (The spelling in *-iz* is more difficult to explain in this way.) On this interpretation War-wäliz is "City of the Awar" like Chinese A-huan ch'eng. In some of the Arabic forms it would appear that the ethnic is omitted and we have simply Wäliz or al-Wälizā "the city". It is surely not a coincidence that the later Iranian name Kunduz means in fact "Citadel".

The word *balıq*, **bälaka-sun* is not specifically Turkish or Mongolian and the Arabic spellings are hardly sufficiently explicit to indicate definitely one or the other, but there are other reasons for favouring an identification of the Hephthalite-Awar as probably Mongolian rather than Turkish. The **ah-hwan* were a division of the Eastern Hu, closely akin to the Hsien-pi. According to the very detailed account of the two peoples in the *Wei-shu* (quoted in the commentary of the *San-kuo-chih wei-chih* 30.1003.4; it is also the basis for the account in *Hou Han-shu* 120) they spoke the same language. Now Pelliot has shown very convincingly that parts of the Hsien-pei spoke a Mongolian language and the Wu-huan—Avars should therefore have done so also.

Schlegel 1892 noted long ago that according to the Chinese accounts, the Hephthalite married women wore the characteristic conical headdress of the Mongols which was adopted as a lady's fashion both in mediaeval Europe, where it was known as the hennin, and in China, where it was known as the 姑姑 *ku-ku* (with other spellings), from Mongol *kökül*. Still earlier, what must be this same headdress is described in the account of the Wu-huan in the *Wei-shu*, where it is given this very name 句決 M. *ku-kwet* (the first character has a number of other readings: *ku*, *kjou*, *giou*; the Old Chinese vowel was **o/ö*). The identification of this word with *kökül* has already been proposed by Egami 1951. Earlier Shiratori discussed the description of the woman's headdress but did not recognize the Mongolian name.

We have in this evidence an important cultural and linguistic link between the Wu-huan of Manchuria and the Hephthalite-Awar of Afghanistan, and between both and the Mongols. Historically there is nothing in the least difficult about such an hypothesis. The westward movement of the Eastern Hu after the collapse of the Hsiung-nu empire in the middle of the second century A.D. is well attested, and various Hsien-pi groups appear in Kansu from the third century onward. One of these, the T'u-yü-hun, established a state in the Ch'ing-hai-Tsaidam region and extended its influence out into Sinkiang, where they were next-door neighbours of the Hephthalite empire. We are told in the *Liang-shu* that the people of Hua (*i.e.*, the Hephthalites) were illiterate and that their language could only be understood when interpreted by the men of Ho-nan (*i.e.* the T'u-yü-hun). This statement can be most easily understood if we suppose that the Hephthalites spoke a language which was the same as that of the T'u-yü-hun, or closely akin to it, therefore a Mongolian dialect (see Pelliot 1921). They no doubt represent a westward extension of the same great movement of the Eastern Hu which brought the T'u-yü-hun to Ch'ing-hai.

The Chionites, Χιονί, Hūna with whom the Hephthalite-Awar are closely associated in Afghanistan are, in my opinion, likely to have been of Hsiung-nu origin. They may either have come independently of the Hephthalite-Awar or in association with them. After the Hsien-pi overthrow of the Hsiung-nu empire we are told that many Hsiung-nu became incorporated into the Hsien-pi and there must have been a good deal of mixing up of Hsiung-nu and Eastern Hu peoples in the following centuries without an immediate complete loss of identity. Such questions as the immediate provenance of the European Huns and Avars, the relation between the "Pseudo-Avars" and the "True Avars", the connections with the Juan-juan, etc., must be left aside for the present.

The Hephthalite-Awar were not the only Altaic people to use the title *tegin* before the Turks. It was also known among the T'o-pa where we find the form 直勤 M. *ḍiək-giən* (*Sung shu* 95, *Nan Chi shu* 57). The T'o-pa are usually regarded, since the studies of Boodberg and Bazin, as Turkish but, while there were certainly Turkish elements among them—possibly mainly of Ting-ling origin—they were regarded as Hsien-pei by the Chinese and many of the general features of their language that have been noted could be as readily interpreted as Mongolian as proto-Turkish (Gabain 1950, 55 pp.). The identification of the leading group as Turkish leans, it seems to me, rather heavily on titles like *tegin* which are not really Turkish at all. The whole question needs re-examination.

(3) *Hu-yü*

The title *qayan*, *xayan* was transcribed in the T'ang period, when it was the supreme title of the Turks, as 可汗 M. *kha'-han*. Earlier it had

been used among the T'u-yü-hun and the Juan-juan. Its earliest occurrence is in the story of how the two brothers T'u-yü-hun and Jo-lo-hui agreed to separate. As the *Sung-shu* 96.1653.1 puts it, "Lou [the envoy of the younger brother to T'u-yü-hun] was glad. He bowed and said, 'Ch'u k'o-han 處可寒'. The barbarian words *ch'u k'o-han* mean in the language of Sung, 'Be it so, sire (爾官家)'. The word I have translated as "sire" is an expression used to refer to the Chinese emperor. It would appear however that among the Turks the title *qayan* was originally not confined to the supreme ruler but was used, rather like English "lord", as a general title of respect.

*The word *ch'u* < M. *chjo'* was first interpreted by Pelliot 1921, p. 329, as Mongol *xi* "thou", taking Chinese *erh* as the second person pronoun. This makes the sentence read somewhat awkwardly and, since *erh* can also be used as a synonym of *jan* 然 "so, like this", he later changed his opinion and interpreted it as Mongol *jōb* or *jā* (*T'oung pao* 29, 1932, p. 261). The same word occurs as the title of one of the rulers of Juan-juan, called Ch'u k'o-han and the Chinese historian explains *ch'u* as meaning 唯 "yes", strange as this may seem as a royal name.

In a passage which appears in the *T'ung-tien* and not elsewhere the social organization of the T'u-chüeh is described. The original date of composition is not known but one may surmise that it is comparatively early, perhaps from the sixth century when the Turks first became known to the Chinese. After listing various offices which existed among them, the text reads, (in Liu Mau-ts'ai's German translation) "Manchmal wurde der Posten Fu-lin (alttürkisch: böri(n)) Khagan 附鄰可汗 errichtet; Fu-lin bedeutet Wolf. Der Titel sollte auf die Mordsucht ausspielen. Es gab auch Khagane die im Range niedriger standen als der Ye-hu (Yabgu). Es kam auch vor, dass grosse zuhausbleibende, also nicht amtierende Familien sich gegenseitig I Khagan 遺可汗 nannten. Die T'u-küe sagten für den Raum (oder das Haus 屋) I [M. *ywi*] (alttürkisch- *äb~äv*). Der Titel bedeutete also Raum- (oder Haus-) Khagan." (Liu Mau-ts'ai, 1958, pp. 408-99.)

The Hsiung-nu word *Hu-yü* < M. *hou-hjou* < **hwax-hwāh* which I wish to see as the origin of *qayan* also seems to have had the same kind of meaning. This title occurs only in *Han-shu* 94B.0602.1. Because several Crown Princes had died during the time of Wu-chu-liu Shan yü (8 B.C.-A.D. 13) it was thought that the title Left Wise Prince was unlucky and the title *hu-yü* was given to a certain prince instead. The *Han-shu* says, "The dignity of *hu-yü* was the most honourable. He was to become *shan-yü* in succession." Thereafter we hear no more of this title.

I have given phonetic arguments above for the belief that *hu-yü*, representing a foreign original something like **γ^way^wā* or **GaGā*, could be the original behind Turkish *qayan/xayan* (which in the vacillation between *q* and *x*, it will be noted, shows the same evidence as *tarqan/tarxan* of being a loanword in Turkish). It is tempting to try to compare also Kett. *kj*, pl.

kyky "prince", Kott. *hiji*, *hije*, pl. *hijan*, *hiky* but in the absence of more knowledge of Yenisiseian phonology this could be no more than conjecture.

(4) *O-chih*, *qatun*

As stated above (p. 89) I propose to identify the title of the consort of the Hsiung-nu rulers, 關氏 M. *at-cje* < **at-tēh*, with the corresponding title among the Turks, *qatun/xatun*. There are a number of complications. In the first place there are uncertainties about both characters in this expression. The fact that the second character sometimes appears as 氏 M. *tei* < **teδ* is not particularly serious, since it would have little effect on the transcription value in the Former Han period. The variant readings of the first character are a more difficult problem. Besides the normal M. *at* in the sense of "to obstruct" (=遇) various special readings appear in dictionaries. The reading M. *jo* < **āh*, which occurs only in the reduplicative binome 關與 M. *jo-yo* can be ignored, as also can the reading M. *iat* < **āt*, found in the astrological expression 單關 M. *tan-iat*. Besides these we are also given M. *jen*, *en*, and according to the commentators Chang Shou-chih and Yin Shih and to the *Kuang-yün* these readings are proper to the Hsiung-title. On the other hand Ssu-ma Cheng in the *Shih-chi so-yin* says, "The old pronunciation was M. *hat-tei* 古音曷氏".

The readings given by the *Kuang-yün* seems to be based on a supposed connection between the Hsiung-nu title and the word 烟支, 燕支 M. *en-cje* "safflower". We find this stated in a letter by the historian Hsi Cho-ch'ih (4th C. A.D.). Writing about the safflower which, he says, is used by the northern barbarians as a cosmetic, he adds, "The Hsiung-nu word for 'wife' is O-chih. It means that they are lovely as *yen-chih* 'safflower'" (*T'ai-p'ing yü-lan* 719.3a). This is of course no more than a popular etymology. The word Yen-chih "safflower" is also the name of a mountain (written 焉支 M. **jen-cje* or 焉耆 M. *jen-gii*) near Shan-tan in Kansu from which safflower was obtained. (*Shih-chi* 110.0246.2, *Han-shu* 94A.9597.2). The *Hsi-ho chiu-shih* also cited in the *T'ai-p'ing yü-lan* 719.3a, quotes an old song purporting to express the lament of the Hsiung-nu at being driven out of Kansu. "If we lose our Ch'i-lien mountains, it will make our livestock not breed; if we lose our Yen-chih mountain, it will make our wives (*fu-nü*) lose their beauty." If this song was known to Hsi Cho-ch'ih it may have suggested to him the connection between the words O-chih and Yen-chih. In his day M. *at-cje* and M. *en-cje* or *jen-cje* would have sounded much alike, especially if final -t in North China had already begun to weaken to a spirant -δ. In the former Han period however they would have been quite different, not only in the first syllable but also in the second, since 支 goes back to **kēh* but 氏 goes back to **tēh*. It is to be suspected that the special readings of 關 in O-chih arose only out of the later pun and have no real authority behind them.

One of the spellings of the Yen-chih mountain is the same as for **Ārgi*, the old name of the Tocharian kingdom at Karashahr. In spite of the fact that the safflower is red, not white, and is used to produce a red dye, it seems to me likely that **ean-kēh* or **ān-kēh* "safflower" comes from a Yüeh-chih word related to Tocharian A. *ārki*, B. *ārkwī* "white". The Indo-European root primarily means "shining, bright", cf. Greek ἀργός "bright", ἀργυρός "silver".

A variant spelling for O-chih is found in the *Lun-heng*: 焉提 M. *jen-dei*. This is interesting in confirming the dental medial consonant. It would appear to support the readings in -n of the first syllable but the evidence is less strong than it appears since there is very frequent graphic confusion between 焉 and 烏 M. *ou* < **ah*. We find, for instance, the place name 烏氏, known in Later Han as 烏枝 (see p. 105 above) and also spelt 關氏, has a variant 焉氏 in the *Lü-shih ch'un-ch'iu* (see *Tz'u-t'ung* p. 0084; cf. Pelliot 1936, pp. 266 ff.).

Finally, there seems no reason to give Ssu-ma Cheng's testimony less weight than that of the other commentators. His reading M. *hat-tei* not only confirms the absence of an -n in the first syllable but also has initial **h* rather than the glottal stop, seeming to support the opinion that the foreign word had a consonantal opening and not merely a vowel.

Turning to *qatun/xatun*, which again seems from its form to be a loanword in Turkish, we find that it is commonly supposed to be a derivative of Sogdian *γwt'ynh* **xwatēn* "queen". The fact that in a Sogdian text we find *γwt'ynh* and *γ'ttwnh*=*xatun* together, the one referring to the queen, the other to the first ranking concubines (Benveniste 1940, 6 L165), does not in itself absolutely rule out this etymology, since the word might have been borrowed from Turkish into Sogdian without being recognized. Nevertheless it can at any rate be said not to support the Sogdian etymology. Moreover the phonetic correspondence is far from exact and the meaning is not quite the same either. Both the Turkish *qatun* and the Hsiung-nu *o-chih* would seem to have meant originally simply "wife" rather than "queen" whereas *γwt'ynh* can only mean "queen".

Still further doubt is thrown on the Sogdian connection by the fact that what must clearly be related forms of the same word are found already among the T'u-yü-hun and the T'o-pa. By the former the consort of the ruler was called 恪尊 M. *khak-tsuən* (*Chou-shu* 42,2340.3), by the latter 可孫 M. *kha'-suən* (*Nan Ch'i shu* 57,1755.4). Though Sogdians were present on the western borders of China at this period, it was as traders rather than in any military or political sense and it seems doubtful whether the nomadic rulers would have turned to them for titles.

Boodberg thought that M. *kha'-suən* represented an original like **qasun*. Bazin suggested instead an interdental fricative **qathun*. A more likely interpretation for both T'o-pa and T'u-yü-hun forms would be

**qačun*. We have noted the difficulty which the Chinese had in the Former Han period in representing foreign palatals. By the fourth and fifth centuries Chinese had of course palatal affricates but there were no syllables in *-uən* or *-iwən* with palatal initials and even much later we still find recourse to dental affricates in such Buddhist transcriptions as 馴那 *M. tsuən-na*=Cunda (T.363).

If we could suppose that **qačun* developed out of an earlier **qačī-* with the addition of a suffix, we could account for the medial *-č-* by the normal palatalization of **ti* in Mongolian. This would lead us back to an earlier **qati-* which is very close to the presumed Hsiung-nu original behind **at-tēh*. Mongolists must decide whether **qačun* < **qačī-* is possible. The same problem of the vowel in the second syllable is found in Turkish *qatun/xatun*, borrowed either independently from Hsiung-nu, or from a proto-Mongol form earlier than **qačun*, since it preserves *-t-*. Here it may be noted that an alternation between *i* and *u* is frequent in Old Turkish as for instance in *qatun/qatīn* "become hard" (von Gabain 1950, pp. 49, 327). Many of the later dialect forms of the word do in fact show *-in* rather than *-un* and there are also related forms without final *-n* like *qāt* "junges Weib, Frau" (Abakan dialect), *qaday* "Gattin, Weib, alte Frau" (Tuv. slov.), *gadi* "alte Frau, Omama", *gade* "Schwägerin, Schwester" (Anatolia, Söz Derl.) (Çagatay 1961, p. 17).

The "Hsiung-nu Couplet"

Some mention should be made of the famous couplet in the "Chieh" language found in *Chin-shu* 95.1331c (cf. Wright 1948, p. 344). If our theory about the Chieh is correct (p. 247), we should expect their language to be either the K'ang-chü variety of Tocharian or proper Hsiung-nu, since they might have lost their original tongue while living in the east. We should not expect any form of Turkish or Mongolian. On the other hand on the supposition that the Hsiung-nu spoke Turkish a number of attempts have been made to interpret the couplet in terms of Turkish (in recent times we may note the attempts of Ramstedt 1922, Bazin 1948, and Gabain 1949).

None of these interpretations can be considered very successful since all do more or less violence to the phonetic values of the Chinese characters and to the explanation given in the accompanying Chinese text. The couplet as explained in Chinese consists of four words: (1) 秀支 *M. sju-čje* < **sūx-kēh*=軍 "army", (2) 替戾岡 *M. thei-let/lei-kəŋ* < **θe(t)s-let/le(t)s-kəŋ*=出 "go out", (3) 僕谷 *M. bok-kuk/yok* < **buk-kok/(g)δōk*=劉曜胡位 "Liu Yao's barbarian rank", (4) 劬秃當 *M. giou-thuk-təŋ* < **gōh-thok/θok-təŋ*=捉 "capture". Beyond remarking that *-ŋ* is a common verbal ending in Yenisseian, especially Kottish, I shall not, at least for the present, attempt to add to the list of suggested reconstructions.

Conclusion

My study of some of the Hsiung-nu words appearing in Chinese transcription leads to the following conclusions: (1) the evidence for the existence of initial *r* and *l* and initial clusters in Hsiung-nu makes it most unlikely that it was an Altaic language; (2) a number of words for which the meaning is given or can be inferred correspond quite closely to words of the same or similar meaning in the Yenissei languages—among them the words for "son", "milk", "stone" may be especially noted as being unlikely to be loanwords in Yenisseian; (3) certain Hsiung-nu titles (and also the words for "heaven", "sour milk", and "kumiss") can be traced later in Mongolian or Turkish or both. The simplest hypothesis to explain these facts is that the Hsiung-nu spoke a language of the Yenissei family and that the Mongolians and Turks who followed them as masters of the eastern steppes inherited elements of culture and political organization, with the corresponding names.

This hypothesis, based on linguistic evidence, must be tested by reference to other types of evidence, particularly archaeological (cf. Jettmar 1952).