Acta Orientalia, Havniae 1958, XXXII
s. 51-76.

THE ORIGIN OF THE TURKISH "RUNIC" ALPHABET

BY

Sir GERARD CLAUSON

London

1- The inscriptions in what is customarily, but of course incorrectly, known as the Turkish runic alphabet were decyphered in the last decade of the 19th century. Since then the origin of this alphabet has been discussed more than once, but no completely satisfactory explanation has yet been put forward. In the present paper I propose to approach the problem from a rather different angle and offer what will, I hope, prove to be a logical and plausible explanation.

2 Writing is one of the most useful achievements of civilization, and all civilized peoples can write their own languages. Systems of writing were not invented by, or on behalf of, whole peoples as such; they were invented by, or on the orders of, rulers or priests who required such a system for their own purposes.

3 The earliest systems of writing were invented independently in Asia, and more specifically Mesopotamia and China, in Egypt and in North/Central America.

4 Once these systems had been invented other peoples who wished to write their languages did not have to invent their own system starting from scratch, all they had to do was to take the system of one of their more advanced neighbours and adapt it to their own requirements.

5 There is some evidence, and even if there were no evidence it would still be probable, that writing was originally invented in order that permanent records might be kept of such things as the moveable or immoveable property of rulers or temples, the labour force in their service and the like. Once it was invented it soon

* 𐰴𐰍𐰣 harfleriyle yazılı kelimeyi Clauson Türük şeklinde transkripsiyonlamıştır. Kelimenin genel Türk şeklinde gösterildiği unutulmamalıdır. (Çevirenin Not

proved useful also for recording such things as the great deeds of rulers during their life, or, after their death, on their tombstones, and the texts of scriptures, complicated liturgies and the like. Later it was found to be useful also as a means of communication, as well as record, since it enabled rulers to communicate with their representatives in distant provinces or foreign countries, and independent monarchs to communicate with one another. Later still it became useful for commercial purposes, to enable merchants to communicate, and conclude agreements, with one another.

6 Not all systems of writing have been invented by people for writing their own languages; for example almost all the modern African languages, except those of Ethiopia, are written in alphabets invented for them by missionaries, Christian or Moslem, who entered the country to convert its inhabitants to their faith.

7 This is of course a very summary and superficial account of the reasons for which languages have been reduced to writing and the techniques employed for this purpose, but it is an essential background for solving the problem which confronts us.

8 It is generally agrred that the runic alphabet was modelled on some other alphabet or alphabets, but before discussing on which it was modelled we must first try to discover why, when and by whom it was invented.

9 First why? The early Turks were not noticeably religious. Some of them were at various times converted to Christianity, Buddhism, Manichaeism or Islam, but they never had an indigenous priesthood of their own who would have required an alphabet. The alphabet cannot, therefore, have been invented for religious purposes.

10 Neither were the early Turks a nation of traders. There were no doubt traders in the dominions which they ruled, but these were not Turks. They were mostly Sogdians or Chinese who had their own systems of writing and would not have felt any need to write Turkish. The alphabet cannot therefore have been invented for commercial reasons.

11 We are therefore driven to the conclusion that it was invented on the orders of some Turkish ruler for governmental purposes, and probably more specifically for purposes of communication

rather than record. This takes us to the question when and on whose orders?

12 When the inscriptions in this alphabet were decyphered it was immediately noticed that the letters in the inscriptions discovered in Khakassia and Tuva (hereafter referred to as Kh. and Tuv.) were much more irregular and misshapen than those of the great monuments in Outer Mongolia, and it was concluded, without the matter being given the consideration which it deserved, that they must therefore be the older and so nearer the original alphabet. Dates as early as the 5th and 6th centuries were suggested, and these dates are still quoted as correct even by some respected modern authorities. But L. R. Kyzlasov in a paper called *Novaya Datirovka Pamyatnikov Yeniseskoy Pis'mennosti*, published in Sovetskaya Arkheologiya, 1960, part 3, has recently proved conclusively by archaeological methods that these Kh. and Tuv. inscriptions are not earlier but later, and in some cases much later, than the great monuments. And so the oldest specimen of the alphabet is that of the inscription of Toñukuk (hereafter cited as Toñ.) which is known from a combination of internal and external evidence to have been composed in the second decade of the 8th century. The monuments of Kül Tégin (K. T.) and Bilge: Xağan (B. X.) were erected a few years later in the early years of the fourth decade of that century. Thus the absolute *terminus ante quem* for the invention of the alphabet is the beginning of the 8th century, but it was certainly invented some time before that. For the *terminus post quem* we can safely take the middle of the 6th century, when the Türkü tribe, for whose language it was almost certainly invented, emerged from their remote fastnesses in the Altay mountains to found a great empire.

13 If we assume, as we safely can, that it was invented earlier rather than later in the period between these two dates, it may be useful to consider what options were open to the inventor when he was ordered to produce a Türkü alphabet. The Türkü were at that period in contact with more advanced peoples to the east, possibly to the south, and to the west.

14 Their closest contacts had always been, and probably still were, to the east with China, and it says much for the sturdy common-sense of the Türkü rulers that they rejected the option

of having a system of writing based on the complicated Chinese system.

To the south they were in contact from a fairly early date with Tibet; the King of Tibet sent a minister (*blon*) to represent him at the Türkü royal funeral described in *K. T.*, North side, line 12. But the Tibetan alphabet was not invented until the second quarter of the 7th century. The traditional account is that it was invented in A.D. 632, on the orders of a Tibetan king by a Tibetan scholar, Thon-mi-sam-bho-ta, who took as his model a contemporary Indian alphabet. In substance, this is probably true, but it may well have been actually a missionary alphabet, invented by one of the Buddhist missionaries from India who were beginning to be active in Tibet at this period, and not by a native Tibetan. In any event this option was not chosen, and this may be evidence that by that time the runic alphabet had already been invented.

There remained the option to the west which was certainly the one that was taken. In A.D. 540 the eastern part of the steppes from the Chinese frontier in the east to Turfan in Chinese Turkestan and a line running roughly north from that point to the western tip of Lake Baikal in the west was ruled by a people known to the Chinese as Juan-juan (Jou-jan etc.). The country to the west of their dominions as far as the Aral Sea and including parts of Afghanistan and north-eastern Iran, as well as most of Russian Turkestan, was ruled by the Hephthalites; beyond them to the south-west was the Sassanian Empire. At this time the Türkü were still a small tribe who had emigrated from western China a century before and taken refuge in the Altay mountains, where they were subjects of the Juan-juan, who were then being torn by civil war. In A.D. 552 the Türkü, at the head of a confederation of other Turkish-speaking tribes and in alliance with the Western Wei dynasty in north-western China, who were themselves of Turkish origin, revolted against the Juan-juan, destroyed their government and took over their dominions. The Türkü leader, whom the Chinese called T'u-mên, assumed the title of *xağan*, but died in the same year. He was succeeded as *xağan* by his son, whom the Chinese called Mu-han; but this *xağan* assumed personal control only of the eastern part of his father's dominions. Control of the western part was assumed by

of having a system of writing based on the complicated Chinese system.

To the south they were in contact from a fairly early date with Tibet; the King of Tibet sent a minister (*blon*) to represent him at the Türkü royal funeral described in *K. T.*, North side, line 12. But the Tibetan alphabet was not invented until the second quarter of the 7th century. The traditional account is that it was invented in A.D. 632, on the orders of a Tibetan king by a Tibetan scholar, Thon-mi-sam-bho-ta, who took as his model a contemporary Indian alphabet. In substance, this is probably true, but it may well have been actually a missionary alphabet, invented by one of the Buddhist missionaries from India who were beginning to be active in Tibet at this period, and not by a native Tibetan. In any event this option was not chosen, and this may be evidence that by that time the runic alphabet had already been invented.

There remained the option to the west which was certainly the one that was taken. In A.D. 540 the eastern part of the steppes from the Chinese frontier in the east to Turfan in Chinese Turkestan and a line running roughly north from that point to the western tip of Lake Baikal in the west was ruled by a people known to the Chinese as Juan-juan (Jou-jan etc.). The country to the west of their dominions as far as the Aral Sea and including parts of Afghanistan and north-eastern Iran, as well as most of Russian Turkestan, was ruled by the Hephthalites; beyond them to the south-west was the Sassanian Empire. At this time the Türkü were still a small tribe who had emigrated from western China a century before and taken refuge in the Altay mountains, where they were subjects of the Juan-juan, who were then being torn by civil war. In A.D. 552 the Türkü, at the head of a confederation of other Turkish-speaking tribes and in alliance with the Western Wei dynasty in north-western China, who were themselves of Turkish origin, revolted against the Juan-juan, destroyed their government and took over their dominions. The Türkü leader, whom the Chinese called T'u-mên, assumed the title of *xağan*, but died in the same year. He was succeeded as *xağan* by his son, whom the Chinese called Mu-han; but this *xağan* assumed personal control only of the eastern part of his father's dominions. Control of the western part was assumed by

his uncle, his father's younger brother, Éştemi:,[1] with the title of *yabğu:*, but this subordination can never have been more than nominal. The Byzantine historian Theophylactes Simocatta calls him *Stembikhagan*, which shows that he must soon himself have assumed the title and position of an independent *xağan*. He very soon became a ruler of international importance, and opened diplomatic relations with the Sassanian Emperor Khusraw Anushirwān, to whom he gave one of his daughters in marriage. The two rulers then, by agreement, made a converging attack on the Hephthalites, destroyed their government and divided their dominions in about A.D. 565.

17 Éştemi: now began to look further afield and sent an envoy called "Maniakh the Sogdian" to ask for transit rights through the Sassanian teritories so that he could export silk to Byzantium. These rights were refused, and he then sent Maniakh in A.D. 567 round the Caspian, across the Volga and through the Caucasus to Byzantium to establish direct diplomatic relations with the Emperor, Justin II. On his return journey in the following year Maniakh was accompanied by the Byzantine envoy Zemarchos, who visited Éştemi: in his summer residence in the valley of the River Yulduz, north of Karashahr.

18 It is surely incredible that Éştemi: should have conducted these complicated diplomatic negotiations without having some means of communicating with his envoy in writing, and it does not seem too bold to suggest that the runic alphabet was invented by his command for this purpose in the third quarter of the 6th century.

19 There is nothing really surprising about the fact that this alphabet should quickly have spread all over the Turkish-speaking world of that period. Once such an alphabet was available any Turkish speaker who wished to write would have used it. Indeed it is the alphabet used not only in the monuments of the rulers of the second Türkü Empire and their high officers but also in the early monuments of the first Uyğur Empire which followed it. The name of Éştemi: was still remembered in the

[1] A comparison of the Türkü spellings and the Chinese and Byzantine transcriptions of this name proves that it was Éştemi: and not, as it is usually spelt, Istemi:.

east 150 years later although those of his elder brother and his nephew had been so little remembered that they were apparently run together in a sort of portmanteau word. The main parts of the monument of K. T. and B. X. begin: — "When heaven had been created above and earth below, the children of men were created between them. Our ancestors Bum.n Xağan and Éṣtemi: Xağan ascended the throne (to rule) over them". The second vowel of the first name is not written, presumably because it was short, but it has been supplied as *ı*, on the assumption that this must represent the same name as T'u-mên (North Western Middle Chinese *t'ou-mən*) in the Chinese histories. This is surely phonetically impossible. There are similar objections to identifying it with Mu-han (North Western Middle Chinese *mbug-γân*), but it might represent a combination of Mu (*mbug*) and mên (*mən*). The substantial point is that the name Éṣtemi: was still remembered, even though his connexion with the alphabet had probably been forgotten.

20 What Éṣtemi: required was of course much more than the simple invention of a method of writing Türkü; he required also a Chancery which would conduct his correspondence and, even more importantly, teach his officials to read and write. There is fortunately an exact analogy for this in the Mongolian Empire 650 years later. When Chinggis Khan discovered the value of writing as an aid to administration he ordered the captured Chancellor of the Naiman Khan whom he had just defeated, an Uyğur called T'a-t'a T'ung-a in the Chinese histories, to devise a method of writing Mongolian in the Uyğur script, and also to organize a Chancery in which the art of reading and writing could be taught to his officials at the same time that governmental correspondence was being handled. Indeed Chinggis regarded this as so important that he sent his own sons to school there.

21 Something similar must have occurred at the Türkü court. The question is who could have been entrusted with this important task. Whoever invented the runic alphabet must have been a highly educated man with a good grasp of phonetics and the art of representing sounds with letters. The possibility that he was a native Türkü can be ruled out. If there were any educated Türkü at this period, which is not at all likely, they would have

received a Chinese education, as Toñukuk did 100 years later. He might have been an official of a defeated enemy, presumably in this case the Hephthalites, as T'a-t'a T'ung-a was, or possibly a well-educated friendly native, probably a merchant, and perhaps even Maniakh the Sogdian who carried out the important missions already mentioned. In any event he must have been able to read and write more than one language, and what he had to do was in the first instance to produce, on the basis of this knowledge, a Türkü alphabet which would above all be easy to read and write.

22 None of the various alphabets which were in current use in Central Asia in the middle of the 6th century were really suitable for writing Türkü, and even if they had been they would have been open to the objection that if the Turks could read them, other people would have been able to do so also. Even in the 6th century prudent diplomats would have had to take account of the possibility that their messages might be read by people for whom they were not intended. It is not unreasonable to assume that when the inventor, whoever he was, was told to invent an alphabet, he was told to invent one which other people would not be able to read, that is to indulge in a little mild cryptography. I shall return later to points in which cryptography may be involved; for the time being I shall simply assume that he tried to build an alphabet using the materials which were at hand.

23 His first instinct would no doubt have been to write Türkü in the Iranian (originaly Aramaic) alphabet which had for centuries been used to write nearly all the Middle Iranian languages spoken in Central Asia, including probably his own native tongue. At first sight this might not have seemed to him to be too difficult; as Table I shows, the differences between the consonantal structure of Türkü and that of the contemporary Iranian dialects, Middle Persian, Sogdian and Khwarazmian, were very small.

24 The Iranian alphabet, although it was the traditional instrument for representing these sounds was a profoundly unsatisfactory one. The original Aramaic alphabet contained no more than 22 letters and of these several represented more than one sound and five represented sounds which did not exist in Iranian. One of the latter, *tsadde*, which represented an emphatic *s*, was used to

represent *č*, a sound which did not exist in Aramaic. The other four were never used to represent sounds, but retained a ghost-like existence owing to the peculiar Iranian habit of writing whole Aramaic words, the so-called ideograms or logograms, and reading them as if they were the equivalent Iranian words. We do the same thing, in one or two instances, in English; for example, we write e.g. the initials of the Latin phrase *exempli gratia*, and read it as "for example". The Türkü never did this, so all that the inventor could get from the Iranian alphabet was 18 letters of which seven represented more than one sound. It is the usual practice to represent these letters by the square Hebrew letters from which they were ultimately derived and to call them by the names of those letters. I have followed this practice in Table II which shows these letters and the sounds which they represented in the Middle Iranian languages. This is a general table; there are minor differences between the phonetic structure of the various languages and this has affected the use of some of the letters. For example, there is no *l* in Sogdian except in a few loan words, that sound having become a dental fricative *ḏ*, but *lamed* was, as a matter of convenience, used to represent this sound. In some languages too the pronunciation had changed, but the old spelling was still retained, thus an original voiced plosive *d* which had become *t* was still written with *daleth* (in Sogdian *lamed*).

25 There was another difficulty about using this Iranian alphabet. All letters in the course of time had altered their shapes a good deal, and as part of this process in some varieties *daleth* and *resh* had become indistinguishable; so had *vau*, *zain* and *nun*; and in Sogdian *gimel* and *cheth*, still distinguishable in the 4th century, had become indistinguishable not much later. Thus there were only between 14 and 16 separate letter shapes, unless diacritical marks were used to distinguish between the ambiguous letters.

26 So far as the consonantal sounds were concerned, there were no difficulties about using the Iranian alphabet to write Türkü except the purely graphical ones just referred to. Of the three sounds in Table I which were peculiar to Türkü the velar plosive *k* could have been represented by *cheth* which represented the

velar fricative *x* and the palatal and guttural nasals *ñ* and *ŋ* could have been written *ny* and *ng* as they were later in the Uyğur alphabet.

27 The vowels were, however, a different matter. There are profound differences between the vowel sounds of Türkü and the Iranian languages. Apart from the fact that there are fewer vowel sounds in Iranian, there are in Türkü two series of vowels, back and front; in any given word only vowels of one series or the other are used, and the character of the vowels in a word is semantically significant; for example *at* means "horse" and *et* "flesh". There are also a few pairs of words in which the difference in the length of the vowels is semantically significant, *at* means "horse" and *a:t* means "name". It is however fair to add that long vowels disappeared from most Turkish languages in the mediaeval period; in most of them *at* now means both "horse" and "name", and very few systems of writing Turkish distinguish between long and short vowels.

28 A comparison between the two vowel systems, set out in Table III, will demonstrate the dimensions of the problem. In the Aramaic, and in theory in the Iranian alphabet derived from it, only long vowels were written, the reader being left to supply the short vowels for himself. In practice, by the 6th century, in order to avoid ambiguity, some short vowels too were represented by vowel letters in Iranian texts. If the inventor had tried simply to write Türkü in the Iranian alphabet, even taking advantage of this concession, he would have defeated his own object of producing a clear and unambiguous system of writing, since a reader would have found it impossible in many cases to decide which vowels were represented by the only three vowel letters which were available, *aleph*, *vau* and *yod*, and which short vowels were to be supplied when they were not used.

29 I suggest that the inventor, when he found himself in this predicament, had the brilliant idea of supplementing the inadequate Iranian alphabet by adding to it a few additional letters taken from a Greek alphabet, in either its Hephthalite or its Byzantine form. Not only would this get him out of the difficulty just referred to but it would add an important cryptographic element to the alphabet.

30 Very little experiment would have shown him that simply to add the Greek vowels would not solve the problem; there were not enough of them and they did not have the necessary phonetic values.

31 I suggest therefore as a further hypothesis that he had the even more brilliant idea of using the Iranian alphabet as the backbone of his new alphabet, and adding a few Greek letters, the specific function of which would be to indicate that the words in which they were used had front vowels.

32 There was one preliminary difficulty; the two alphabets looked very different, and in particular the Iranian alphabet was written from right to left and the Greek alphabet from left to right. He decided to follow the Iranian precedent and write from right to left, and apparently to turn round some Greek letters which, so to speak, faced in one direction.

33 It is also obvious that he wanted to produce as symmetrical an alphabet as possible, even if this meant modifying quite substantially the shapes of the letters which he was using as prototypes. Such changes, moreover, had some cryptographic effect.

34 Table IV shows some groups of letters which seem to be elaborations of a single basic idea. In the first row, for example, the first letter, a simple vertical line, seems to function as a base for the remainder; in the next four one shorter oblique line is attached to it at various points, in the next three two oblique lines, in the next four one bent line and in the next four two bent lines. In this Table, the purpose of which is merely to show the morphological resemblances between the letters concerned, only the letters and their numbers in Table V are shown. In the latter table the letters and the Iranian and Greek letters which seem to have served as prototypes for them are shown and careful study of the two will show how much more some prototypes have been altered than others in order to produce a symmetrical alphabet. One or two letters in Table IV have no discoverable prototype, and it is interesting to see how these too are cast in the same kind of mould.

35 Any detailed discussion of the shapes of individual letters must be based on a study of the photographs and copies of the actual inscriptions and documents. Apart from those contained in the

editions of single inscriptions like Prof. Aalto's edition of Toñ., Prof. Ramstedt's edition of two Uyğur inscriptions, Suci and Şine Usu and my own édition of the Ongin inscription, there are collections of reproductions in Radloff's *Atlas*, the two volumes published by the Société Finno-ougrienne, Malov's *Yeniseyskaya Pis'mennost' Tyurkov*, Moscow/Leningrad, 1952 (quoted as *Malov*), and H. N. Orkun's *Eski Türk Yazıtları*, 3 volumes and index, Istanbul, 1936 (quoted as *ETY*).

36 Let us see how my hypothesis fits the facts shown in these reproductions. First we must dispose of an initial difficulty, but not an insuperable one. What we are trying to compare is the letters of the original Türkü runic alphabet on one side and letters of the Iranian and Greek alphabets on the other, when what we have as our Türkü material is texts written at least a century and a half, and in some cases much longer, after the invention of the alphabet, in alphabets which, though basicly identical, do in fact differ from one another to a small, and in some cases not so small an, extent, and when we do not know precisely with which of the many varieties of the Iranian and Greek alphabets the inventor was familiar.

37 On the Türkü side our material is the alphabets of: —

(1) the monuments in Outer Mongolia;

(2) the paper documents;

(3) the inscriptions and graffiti from Khakassia, published in *Malov* Nos. 26 to 39 and 48.

(4) the inscriptions and graffiti from Tuva, that is the remaining texts in *Malov* (except No. 47, the Suci inscription).

38 We can disregard the remaining material, the Talas and Khoyto-tamir inscriptions and other scraps, since they do not add anything of value for our particular purpose.

39 All these alphabets have, from our point of view, shortcomings of their own. The monuments, or most of them, were carved by Chinese masons, who probably could not understand what they were carving but, no doubt as a matter of professional pride, wished to make them as neat and beautiful as possible. They were working from paper drafts prepared, *Toñ.* by Toñukuk

himself, *K. T.* and *B. X.* by Yollığ Tégin, a member of the royal family, the others by unknown persons. All these people had probably been taught to read and write in a government school, in which probably by that time an effort was being made to produce an alphabet more beautiful and suitable for royal inscriptions than the alphabet in every day use.

40 The paper documents are in several hands. Some, for example the Irk Bitig and the Manichaean texts (*ETY II* 175ff.), were obviously written by professional scribes who had been taught to write a calligraphic book-hand with a reed pen, which involved making the vertical lines very thick and the horizontal lines very thin. They had no doubt been taught to write professionally, perhaps in a Manichaean religious school. The Miran document (*ETY II* 98) was written by an official who had clearly been taught to write a similar book hand. Only the Tunhuang letter (*ETY II* 100) is written in what looks like the ordinary hand used in everyday correspondence, but even this looks more like an unskilled reproduction of a book hand than the script of which the book hand was a refined version.

41 While the monumental and documentary alphabets look like results of the extreme sophistication produced by several generations of professional instruction in reading and writing, the Kh. and Tuv. inscriptions are wholly unsophisticated and look like the products of people who had never been taught to write but had somehow picked it up by themselves; letters are sometimes written back to front; letters appropriate only for use in words with back vowels are sometimes used in words with front vowels and *vice versa*; words are omitted; sentences are left unfinished for lack of space; for example in one Kh. inscription, *Malov* No. 28, one sentence is written round the edge of a grave slab in one direction, and another, written from the same point in the other direction, comes to an abrupt end in the middle of a word when it meets the end of the first sentence.

42 Most of these inscriptions are epitaphs of minor chiefs buried in remote corners of the Turkish-speaking world. They were probably erected by relatives of the deceased who regarded inscribed grave-stones as one of the attributes of a ruling house, but very likely could neither read nor write. We can only guess

who composed and carved these inscriptions; they may have been itinerant masons who made a living out of carving tombstones; they may have been semi-literate prisoners-of-war from more advanced parts of the country. Anyone who has had the duty of examining captured documents, as I had in the First Great War, knows how extremely ill-written, misspelt and often practically incomprehensible the writings of semi-literate soldiers can be. If we look at the Kh. and Tuv. inscriptions from this point of view, we need not be too disconcerted if we find inscriptions which make very little sense, or none at all, and letters in peculiar shapes unknown elsewhere; nor need we take them too seriously. The extreme case is *Malov* No. 41, by Tuvan standards a long inscription and an unusually clear one. Generations of scholars have tried to make some continuous sense out of it and establish the phonetic values of some of the odd letters which it contains; all have failed and, I suggest, for a very simple reason. It seems to have been composed and carved for an illiterate patron, who wanted a dignified memorial, by a person, perhaps a prisoner-of-war, who could barely write, but did have some vague idea of what an epitaph ought to contain. It has the conventional beginning of such epitaphs *er atım* "my adult name was" in the correct place, the middle line on the front of the stone, and scattered through the text are two or three words and phrases which are common in epitaphs, *er erdemi*: "manly virtues", with a misshapen *m*, three times; *ben* "I", three times; *sizime*: (I have been parted) "from you, my (dear) ones", four times, with *sizim*, an impossible form, another twice. The rest makes no sense at all.

These inscriptions suffer from two further disadvantages. They are so badly carved on such rough stones, that it is extremely difficult, except after prolonged scrutiny, with the light at different angles, to discover exactly what was carved on them, and the reproductions of them are therefore very indifferent. The "retouched" versions in Radloff's *Atlas der Alterthümer der Mongolei*, St. Petersburg, 1892ff., are often quite unreliable. For example the fifth word in line 1 (the bottom line) of *Malov* No. 15 is shown in the reproduction in plate 79 as *btg*, although all the editors of this inscription are agreed that it must have been *bi:r* (in the phrase *bi:r otuz* "twenty one"). Again the photographer who took

the published photographs of *Malov* Nos. 49 to 51 touched up what he regarded as the letters of the inscriptions with white chalk before he photographed them; his intentions were excellent, since without this touching up the letters would hardly have been visible on these photographs; but careful study shows that some of the chalk marks are in the wrong place, so that as a whole the reproductions are misleading, and all the more misleading for being apparently so clear. A. M. Shcherbak's revised editions of *Malov* Nos. 43 to 46 in his article *Pamyatniki Runicheskogo Pis'ma Yeniskeyskikh Tyurok* in Narody Azii i Afriki, 1966 part 4 show how faulty the first editions and translations were.

44 For our present purposes these faults are not vital, there is enough reliable material to show what letters the alphabets of these inscriptions contained, but no account should be taken of letters of dubious shapes, particularly when they are parts of words which do not seem to make sense, and it is sad that a good scholar like O. N. Tuna should have spent so much time trying to find phonetic values for letters which probably never existed.

45 To sum up, none of the alphabets which we have are likely to be identical with the original alphabet of the 6th century, but if we take them together they may give us a fairly clear idea of what it looked like.

46 The alphabets which we have fall into three main groups, distinguished by the way in which the close *é* and the sibilants are represented: —

(1) the Tuv. alphabet alone has retained a special letter, No. 2, for *é*; in the other inscriptions and documents this sound is represented by the same letter as *i* or not represented at all.

(2) the Kh. and Tuv. alphabets have retained two different letters, Nos. 27 and 28 for the palatal sibilants.

(3) the remaining alphabets have lost Nos. 2 and 28.

47 There are four minor varieties of the monumental alphabet: —

(a) in K. T. and B. X. and probably also the inscription of Küli Çor, the reproduction of which is very indifferent, *s* with back vowels is represented by Nos. 25, *ś* with back vowels by No. 27 and both sounds with front vowels by No. 26.

(b) in *Toñ.* apart from two doubtful occurrences of No. 27 in lines 4 and 5 both sounds with back vowels are represented by No. 25 and with front vowels by No. 26.

(c) in the Uyğur monuments, Suci, Şine-usu and III (*ETY II* 37 ff.) both sounds with back vowels are represented by No. 27 and with front vowels by No. 26.

(d) in the Ongin monument both sounds with all vowels are represented by No. 26.

48 There are three minor varieties of the documentary alphabet: —

(a) the alphabet of the Toyok document (*ETY II* 97) is the same as monumental (a) although the shapes of the letters are rather different; and *ş* with front vowels is differentiated from *s* by a superscribed dot.

(b) the alphabets of the Irk Bitig, the Tunhuang letter and probably the Miran document, of which the photograph is indistinct, are the same as monumental (b).

(c) the alphabet of the Manichaean texts retains only Nos. 25 and 26, and uses them for *s* in their simple form, and *ş* with a superscribed dot.

49 The Kh. and Tuv. inscriptions are so full of errors and irregularities that it is impossible to speak categorically, but the position appears to be that No. 25 is not used, No. 27 represents *s* and sometimes *ş* with back vowels, No. 26 always represents *s* with front vowels and No. 28 *ş* always with front vowels and usually with back vowels also.

50 So far as the Iranian alphabets are concerned we are not well provided with specimens of the alphabets used in the 6th century; in fact there are really only two to be taken into account. For Middle Persian there are the fragments of the Pehlevi psalter, discovered at Bulayiq in Chinese Turkestan, of which admirable facsimiles were published in F. C. Andreas and K. Barr, *Bruchstücke einer Pehlevi Übersetzung der Psalmen*, Sitzungsberichte der Preussischen Akademie der Wissenschaften, 1933. This is dated by Henning in his article *Mitteliranisch* in Handbuch der Orientalistik I, iv, 1 Linguistik; Leiden/Köln, 1958, p. 47 to the 7th or perhaps even 8th century, but contains some letters which retain

their 6th century forms. For Sogdian there are the "ancient Sogdian letters" discovered near Tunhuang and dated (see Henning, *op. cit.*, p. 55) to the beginning of the 4th century. These are three or four centuries older than the other surviving specimens of Sogdian, and their alphabet is markedly more archaic than that of the later documents, but may still have been the standard form in the 6th century. We are also wholly ignorant of the way in which reading and writing were taught during this period. We know that the Sassanian government maintained schools in which its prospective employees were given an elaborate education in reading and writing, including the use of ideograms, and it is possible, though perhaps not very likely, that they were also taught to read such things as coins and royal inscriptions of a much earlier date. It is doubtful whether there were any comparable institutions in Sogdiana or the Sogdian commercial communities further east. The young Sogdian was probably taught to read and write by his father or employer, and his education was, no doubt, strictly practical. The point is relevant, because, while the most plausible prototypes for the majority of the runic letters which seem to be derived from the Iranian alphabet are the corresponding old Sogdian letters, one or two of them look rather more like letters in the Pehlevi psalter or even earlier Sassanian monuments. This may, however, be deceptive; some letters which are least like the Sogdian prototypes are among those which appear from Table IV to have been deliberately cast in a symmetrical mould, and there is always the possibility that the inventor intended, and perhaps even had been ordered, to make his alphabet look different from Sogdian.

51 There are of course many varieties of the Byzantine Greek alphabet, both uncial, that is written in capitals, and minuscule, that is written in small letters. We are very ill acquainted with the Hephthalite variety of that alphabet; it was uncial and derived from the alphabet taken to Central Asia by the successors of Alexander the Great, and lingered on in a state of progressive degeneration for about 1,000 years after his death. The scanty remains of it, mostly taken from coins are assembled in a table in R. Ghirshman's *Les Chionites-Hephtalites*, Cairo, 1958, p. 63. This table includes the (partial) alphabet of a paper document,

supposedly of the 4th century, discovered at Loulan in Chinese Turkestan (cited below as *Loulan*) which seems to provide some of the closest parallels for runic letters which are not of Iranian origin.

52 There are tables of the runic alphabet in O. Donner, *Sur l'origine de l'alphabet Turc*, Journal de la Société Finno-Ougrienne XIV, i, Helsingfors, 1896, and A. von Gabain, *Alttürkische Grammatik*, Leipzig, 1941, p. 12, but neither is wholly satisfactory; for example the forms of No. 2 (*é*) are included among those of No. 7 (b/v^2); Table V has been prepared directly from the reproductions in Radloff's *Atlas*, Malov *op. cit.* and other authorities and can be taken as reasonably accurate. I should not, however, claim that it is perfect.

53 Before discussing the actual shapes of the runic letters, it will be useful to point out some differences between the spelling technique of Türkü and that of the Iranian languages. In the Aramaic language any word which did not begin with an ordinary consonant or deep glottal stop (represented by *ain*, a sound foreign to Iranian) began, or was deemed to begin, with a gentle glottal stop, and this was represented by *aleph*. In Iranian, although even the latter sound probably did not exist and words not beginning with a consonant began with a smooth vocalic ingress, this initial *aleph* was preserved in spelling all words not beginning with a consonant. In the runic alphabet this convention was not observed, the letter equivalent to *aleph* was used only for long *a:/e:* and accordingly there was no means of writing an initial short *a/e*. As a consequence "horse", *at*, was written simply t^1 (No. 29) and "flesh", *et*, t^2 (No. 30); even "name", *a:t*, which should have been written Nos. 1,29 was sometimes represented by No. 29 only. Whether or not this was intended to make things difficult for people who were not Türkü, it has certainly made things difficult for modern scholars. However the same difficulty does not arise in the case of words beginning with other vowels or containing them in the first syllable, since No. 2, 3, 4 and 5, which in other positions represent only long vowels, are invariably used in the first syllables of such words, whether they begin with a vowel or consonant, and whether or not the vowels which they represent are short or long.

54 I will now proceed to discuss the individual letters in Table V and suggest the prototypes from which they were derived.

1. *a*:/*e*: See Table IV; very close to old Sogdian *aleph*. The queried form in 3(c) is very rare and probably a mason's or copyist's error.
2. *é*/*é*: Not Iranian; possibly Greek A (*alpha*) in Loulan but there are no very close analogies and it may simply have been invented.
3. *ι*/*ι*:/*i*/*i*: See Table IV; certainly *yod*, probably modified for symmetrical purposes; the Pehlevi psalter form, 4(b), is nearer than the Sogdian.
4. *o*/*o*:/*u*/*u*: See Table IV, certainly *vau*; the old Sogdian form and other Iranian forms which are not a simple vertical line normally form a smooth curve; the angle may have been introduced to differentiate it from No. 18.
5. *ö*/*ö*:/*ü*/*ü*: See Table IV; certainly Greek Y (*upsilon*) turned round; the form in 4(c) comes from Loulan.
6. b^1/v^1 See Table IV; certainly *beth*; the old Sogdian and Pehlevi psalter forms are very similar.
7. b^2/v^2 Certainly Greek B (*bëta*), 4(c) in Loulan.
8. *ç* See Table IV; this must be *tsadde* but is much more like Greek Λ (*lambda*), while No. 16(1^2) is more like *tsadde*. This may have been a piece of deliberate mystification by the inventor. Note that No. 37 (*ιç*/*iç*) is No. 16 with an added line, not No. 8.
9. $d^1/\underline{d}^1$ See Table IV; logically this should be *daleth*, a letter lacking in the old Sogdian alphabet. There are no double letters in any Iranian alphabet, but the letter in 4(b), that for *daleth* on some Sassanian coins, is not unlike one half of this letter.
10. $d^2/\underline{d}^2$ Greek Δ (*delta*) had become a small circle in Central Asia, and the inventor seems to have regarded it as unsuitable for his alphabet. The letter adopted instead is indistinguishable from 4(c), Greek K (*kappa*) in Loulan and on Hephthalite coins, which was not required to represent k^2, see No. 14.
11. *ğ* (velar) Logically this should be *gimel*, a letter which

appears in several forms in Iranian alphabets; even the old Sogdian form is not very close, and this may simply have been invented.

12. *g* (post-palatal) The outline is not unlike that of 4(c), the Greek Γ (*gamma*) on some Hephthalite coins; this is rather like some forms of *lambda* and the extra line may have been added in some late Greek alphabet to differentiate it.
13. k^1 (velar)/*x* See Table IV; certainly *cheth*; the old Sogdian form is fairly close.
14. k^2 (post palatal) See Table IV; certainly *kaph*; the old Sogdian form is closer than that of the Pehlevi psalter. This is the only Iranian letter which was suitable only for use with front vowels.
15. l^1. See Table IV; certainly *lamed*; both the old Sogdian and Pehlevi psalter forms are close parallels.
16. l^2. See Table IV and the remarks on No. 8. This must be Greek Λ (*lambda*). Most Greek forms of *lambda* are more like No. 8, but the form in 4(c) from Hephthalite and other coins does show that in the late period *lambda* had become rather like this letter.
17. *m*. See Table IV; unquestionably *mim*; the old Sogdian form is closer than that in the Pehlevi psalter, but seems to have been modified in the interests of symmetry.
18. n^1. See Table IV; indistinguishable from the Old Sogdian form of *nun*.
19. n^2. See Table IV; probably Greek N (*nu*); not unlike the Loulan form, 4(c), with a vertical spine inserted for symmetry; compare No. 33.
20. *ñ*. See Table IV; obviously invented, perhaps a simplified combination of n^1y^1, Nos. 18,31 or two n^1's.
21. *ŋ*. See Table IV; probably invented as a variant of the other letter forms in the same sub-group.
22. *p*: See Table IV; logically this should be *pe*; it is in fact very like the Aramaic *pe* of the 5th–3rd centuries B.C., but this can hardly be more than a coincidence, since the old Sogdian form, 4(a) is much altered and other late Sassanian forms more altered still; perhaps simplified to avoid confusion with No. 32.

23. r^1. See Table IV; no doubt *resh*; the old Sogdian form is very like the runic letter, and the original Aramaic form; the Pehlevi psalter form is merely a vertical line.
24. r^2. See Table IV; probably Greek P (*rho*); one form, 4(c) from a Hephthalite coin is not unlike this letter, but it has been simplified in the interests of symmetry.
25. s^1. Probably *samech*; neither the old Sogdian nor the Pehlevi psalter forms are very close, but both consist of two curving lines combined.
26. s^2. See Table IV; probably Greek C (*sigma*) straightened to avoid confusion with No. 18 reversed, one form on Hephthalite coins, 4(c) is almost straight.
27. $ś^1$. See Table IV; undoubtedly *shin*; the old Sogdian form, is not very close, but the earlier Sassanian form, is very like one of the runic variants; the Pehlevi psalter form is identical with that of *samech*.
28. $ś^2$. See Table IV; probably invented.
29. t^1. The runic forms vary a good deal, but the original letter was probably an angle over a three-quarter circle with the opening at the bottom; this is not unlike the earlier Sassanian form, 4(b), of *tau*, the logical choice for this letter, but the old Sogdian form of *tau*, 4(a) is more like No. 30; possibly invented.
30. t^2. See Table IV; the resemblance to *tau*, see No. 29, may be deceptive; the Loulan form of Greek T (*tau*) is not unlike this letter.
31. y^1. *Yod* was not available as a prototype for this letter as it had already been used for No. 2; earlier scholars were no doubt right in seeing in this letter a pictograph of *ya*: "a bow".
32. y^2. See Table IV; probably Greek I (*iota*), which represented *y* before another vowel; the Loulan form, 4(c), reversed is a close parallel.
33. *z*. See Table IV; *zain*, which had become indistinguishable from *nun* in old Sogdian, was not suitable as a prototype; probably Greek Z (*zeta*); not unlike the Loulan form, and the forms on late Hephthalite coins, 4(c), with a vertical spine inserted for symmetry; compare No. 19.

The firm and tentative identifications suggested above are set out in Table VI. They seem to provide sufficient evidence for the hypothesis that the runic alphabet was devised by taking the Iranian alphabet as the backbone, supplementing it with a few letters from a Greek alphabet, the particular function of which was to indicate that the vowels associated with them were front vowels, and remodelling them all to produce a symmetrical alphabet not dangerously like the originals.

In addition to the simple letters enumerated above there are in the runic script several letters representing combined sounds. Three of them, No. 34 to 36 in Table V represent two consecutive consonants, *lt*[1], *nç* and *nt*, the remainder, Nos. 37 to 41 combinations of a vowel and a consonant, the same letter being used whether the vowel preceded or followed the consonant. It does not seem possible to guess why the inventor chose these particular combinations of sounds for this special treatment. None of these letters bears any relationship to the letters representing the sounds combined in them and they were all certainly invented. One of them, No. 39, is almost certainly a pictograph of *ok* "an arrow", forming a logical pair with No. 31 the pictograph of a bow, and it is possible that No. 38 is a pictograph of an arrowhead, but there is no word with this meaning which sounds anything like *ık* or *kı*. Nos. 40 and 41 are very much like one another, but are certainly different letters. No. 41 only occurs twice in the Irk Bitig and in the fragmentary table of runic letters with equivalents in Manichaean Syriac script (*ETU II* 24). We cannot of course be certain that all the combined letters have survived. No. 42 may be another. At first sight it looks like a variant of No. 29 (*l*[1]) but cannot be that letter since it occurs only twice in the Ongin inscription, lines 5 and 6 in combination with Nos. 12, which represents *g* with front vowels. This group is the name of a tribe associatiated with the Oğuz. No tribal name which would give a clue to its sound has yet been identified.

Finally I have included in Table V under Nos. 43 to 45 three letters which have been read in various places but never in fact existed. No. 43 has been read in *Toñ.* line 26 and *Malov* Nos. 2 and 49; in *Toñ.*, and probably also in the other inscriptions, it is merely a misreading of two consecutive letters Nos. 15 and 38,

and should be transcribed *ldk*. The other two letters have been chalked in in the photograph of *Malov* No. 49, which contains other dubious and spurious forms, and are no doubt misreadings of other letters.

In concluding this paper I should like to express my deep gratitude to Dr. A. D. H. Bivar of the School of Oriental and African Studies, London University, who has greatly helped me with his knowledge of the various alphabets used in Central Asia and with other valuable suggestions.

Table I.

Türkü and Iranian consonantal sounds.

Note. Sounds peculiar to Türkü are in CAPITALS, those peculiar to Iranian in *Italics*, the rest are common to both languages; v. is "voiced", u is "unvoiced"; it is not certain whether the voiced denti-palatal affricate existed in either language in the 6th century.

	Plosives		Fricatives		Nasals	Affricates		Sibilants		Semi-vowels
	v.	u.	v.	u.		v.	u.	v.	u.	
Labial	b	p	v	f	m					*w*
Dental	d	t	đ	*ţ*	n			z	s	
Dentipalatal ...						(c)	ç			
Palatal					Ñ			*ź*	*ś*	*y*
Postpalatal	g	k			Ŋ					
Velar		*K*	ğ	x	Ŋ					

Table II.

The (Aramaic)/Iranian Alphabet.

aleph	א	(smooth vocalic ingress), *ā(a)*	*lamed*	ל	*l*, (*d*,*δ*)
beth	ב	*b*,*v*	*mim*	מ	*m*
gimel	ג	*g*,*γ*	*nun*	נ	*n*
daleth	ד	*d*,*δ*	*samekh*	ס	*s*
(*he*	ה	-)	(*ain*	ע	-)
vau	ו	*u*,*ō*,*ū*(*u*)	*pe*	פ	*p*,*f*
zain	ז	*z*,*ẓ*	*tzaddi*	צ	*ċ*,*j*
kheth	ח	*χ*	(*koph*	ק	-)
(*teth*	ט	-)	*resh*	ר	*r*
yod	י	*y*,*ĕ*,*ī*(*i*)	*shin*	ש	*š*
kaph	כ	*k*	*tau*	ת	*t*

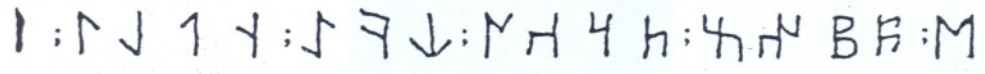
Table III.

Türkü and Iranian vowel sounds.

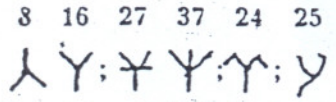
Türkü	*a*,*a*:	;	*e*,*e*:	;	*ė*,*é*:	;	*ı*,*ı*:	;	*i*,*i*:	;	*o*,*o*:	;	*u*,*u*:	;	*ŏ*,*ō*:	;	*ü*,*ü*:	.
Iranian	*a*,*ā*:	;	--	;	*-ĕ*:	;	--	;	*i*,*ī*	;	*-ō*	;	*u*,*ū*	;	--	;	--	.

Table IV.

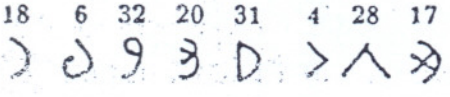
Nos. 26 3 15 22 21 1 14 39 5 13 23 30 33 19 40 41 34



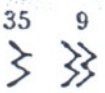
8 16 27 37 24 25



18 6 32 20 31 4 28 17



35 9



7 2



Table V.

Notes. Column 2. Letters used only with back vowels are marked[1], those used only with front vowels are marked[2]. If a letter can represent either a short or a long vowel only the short vowel is shown.

Column 3. The forms of the letters in the Outer Mongolian monuments are entered under (a), those from the documents under (b) and those from the Kh. and Tuvan inscriptions, excluding reversed forms, under (c).

In 3(a) forms in Toñ. are entered first, separated by a comma from those in K.T. and B.N. and a semi-colon from those in the Uygur monuments.

In 3(b) the order of forms is Toyok, semi-colon, Irk Bitig, comma, Tunhuang letter, semi-colon, Manichaean texts.

Column 4. Parallels from the Old Sogdian alphabet are entered under (a), those from the Pehlevi psalter and other sources mentioned in the text under (b), those from a Greek alphabet under (c) the specific sources being mentioned in the text.

1	2	3			4		
		(a)	(b)	(c)	(a)	(b)	(c)
1	a:/e:					-	-
2	é	-	-		-	-	 (?)
3	ı/i						-
4	o/u					-	-
5	ö/ü					-	
6	b/v¹						-
7	b/v²					-	
8	ç						-
9	d/d¹						-
10	d/d²					-	
11	ğ					-	-
12	g				-	-	
13	x/k¹					-	-
14	k²					-	-
15	l¹						-
16	l²					-	
17	m						-
18	n¹					-	-

1	2	3			4		
		(a)	(b)	(c)	(a)	b)	(c)
19	n^2				–	–	
20	ñ				–	–	–
21	ŋ				–	–	–
22	p					o	–
23	r^1					–	
24	r^2						
25	s^1			–	–		
26	s^2			–	–	–	
27	$ş^1$						
28	$ş^2$	–	–		–		
29	t^1						
30	t^2				–	–	
31	y^1						
32	y^2				–	–	
33	z				–	–	
34	lt^1			–			
35	nç						
36	nt						
37	ıç/iç			–			
38	ık/ik						
39	ok/uk						
	ko/ku			(?)			
40	ök/ük		–				
	kö/kü						
41	op/up	–		–			
42	?		–	–			
43			–				
44	–						
45	–						

Table VI.

The runic alphabet and the prototypes suggested.

Sounds	letters	associated vowels		
		back	front	all
a:/e:				aleph(א)
é/é:			alpha(A)(?)	
ı,i:/ı,i:				yod(י)
o,o:/u,u:		vau(ו)		
ö,ö:/ü,ü:			upsilon(Y)	
b,v		beth(ב)	beta(B)	
ç(/c)				tsadde(צ)?
d/d		daleth(ד)(?)	(kappa K)?	
f see p				
ğ		gimel(ג)(?)		
g			gamma(Γ)	
velar k/x		cheth(ח)		
post palatalk			kaph(כ)	
l		lamed(ל)	lamda(Λ)	
m				mim(מ)
n		nun(נ)	nu(N)	
ñ				(invented)
ŋ				(invented)
p,f				pe(פ)
r		resh(ר)	rho(P)	
s		samech(ס)	sigma(C)	
ş		shin(ש)	(invented)	
t		tau(ת)?	tau(T)	
v see b				
x see k				
y		(pictogram)	iota(I)	
z				zeta(Z)