

V. A. LIVSHITS

## THE KHWAREZMIAN CALENDAR AND THE ERAS OF ANCIENT CHORASMIA

### I

Till recent times Bīrūnī's «Chronology» was the only written source containing information on the history and religion of Chorasmia in the period preceding the Arab conquest. The discovery of new written monuments, also in such languages which had been known previously only by their names, has rendered it possible on several occasions to verify the authenticity of the informations given by Bīrūnī. Thus the discovery of Sogdian texts in East Turkestan, and then in the territory of Sogdiana itself, confirmed the accuracy of Bīrūnī's data on the Sogdian calendar — the names of the months, days and lunar stations. Recently W. B. Henning — on the basis of his study of the Khwarezmian texts written in the Arabic alphabet — showed that the denominations of the Khwarezmian holidays, as well as some astronomical names (like names of planets, stars, signs of the zodiac) given in the «Chronology» correspond as a rule with the data of the Khwarezmian texts.<sup>1</sup> It has also turned out that Bīrūnī was acquainted with the peculiarities of the Khwarezmian orthography and, in all probability, could write in Khwarezmian. The principal rules of Khwarezmian orthography, based on the Arabic (or more accurately Arabo-Persian) script, were formed obviously even in the 10th century, so that Bīrūnī in his works elaborating independently the principles of rendering of the terms of different languages (from Greek and Old Hebrew to Indian) by means of Arabic letters, could use for Khwarezmian the current ways of writings. As it has been shown by W. B. Henning, in Bīrūnī's «Chronology» the Khwarezmian language and orthography are in their basis identical with the Khwarezmian monuments of the period of the 12th to 14th centuries. The question, whether the ancient Khwarezmian script still survived at the end of the 10th and the beginning of the 11th centuries, is undecided. It has to be admitted that the passage quoted by Baihaqī from Bīrūnī's «History of Chorasmia» (the «History of Chorasmia» itself has not been preserved), does not contain any direct reference to the fact that in 1014, three years before the

<sup>1</sup> W. B. HENNING: *Mitteliranisch*, «Handbuch der Orientalistik» 1. Abt., IV. Bd.: *Iranistik*, 1. Abschn.: *Linguistik*. Leiden—Köln 1958. pp. 81—84, 114—115.

occupation of Chorasmia by Mahmud of Ghazni, in the chancelleries of the Khwarezmian Court the script of Aramaic origin was still in use. The report which is discussed in this passage, is addressed to the Khwarezmshah and compiled by Ya'qūb Jindi in Khwarezmian language, could be written in Arabic script.

The Khwarezmian texts of the 12th to 14th centuries do not give data which could be collated with the informations of Bīrūnī on the time reckonings and ruling dynasties of pre-Islamic Chorasmia. On the basis of these texts it is also impossible to verify the authenticity of most of the data on the Khwarezmian calendar, the denominations of months and days, lists of which are given in the «Chronology».

## II

At present we can judge about the pre-Islamic Khwarezmian script on the basis of four groups of monuments. These are the coin legends, inscriptions on silver vessels, documents from Toprak-kala and inscriptions on the ossuaries from the cemetery of Tok-kala. The largest quantity and greatest variety of coins were investigated by S. P. Tolstov who, on the basis of readings of coin legends, tried to reconstruct the ancient Khwarezmian alphabet.<sup>2</sup> Tolstov saw on the coins the title *MR' MLK'* and the name of the ruler;<sup>3</sup> in the reading of the royal names he endeavoured to rely upon the genealogical lists of the Khwarezmian kings, contained in Bīrūnī's «Chronology». These readings have not been revised up to the latest time. Some remarks were made only by the late Prof. W. B. Henning who proposed to read on the obverse *š'wšprn* instead of *š'wšpr* and *'rk'čw'r* (or *zk''čw'r*, the correct reading is obviously *zk'nčw'r*, cf. *'zk'jw'r* with Bīrūnī) instead of *'bdwlMLK'*, pointing out that the inscriptions on the obverse are written in Sogdian script.<sup>4</sup>

The inscriptions on a group of silver vessels, originating from the Kama region and published by Ya. I. Smirnov in his book entitled «Восточное серебро» were determined by Tolstov as Khwarezmian on the basis of their similarity with the legends of the coins. Later on publications of further vessels appeared with inscriptions in the same alphabet. It was established that some of the inscriptions contained dates, viz. year (in one case also month and day),<sup>5</sup> but none of the inscriptions belonging to this group could be read so far comple-

<sup>2</sup> S. P. TOLSTOV: ВДИ 1(2) (1938) 190—191; *idem* ВДИ 4(5) (1938) 120—145; *idem* Древний Хорезм. Moscow 1948. 187—192.

<sup>3</sup> S. P. TOLSTOV: ВДИ 4(5) (1938) p. 133 foll.

<sup>4</sup> R. N. FRYE—W. B. HENNING: Additional notes on the early coinage of Transoxiana, II — «The American Numismatic Society. Museum Notes», VII. p. 232; W. B. HENNING: *Mitteliranisch*. pp. 57—58.

<sup>5</sup> V. A. LIVSHITS—V. G. LUKONIN: ВДИ 3 (1964) 160. An examination of the inscription on the first Bartym cup, published by O. N. BADER and A. P. SMIRNOV («Серебро закамское» первых веков нашей эры. Бартымское местонахождение. Moscow 1954.) and kept in the State Historical Museum in Moscow, showed that part of the date is obliterated, viz.: *BŠNT III III [ ] III* (the chipping of about 2 cm. cannot be seen on the drawing in the edition). The most likely restorations are as follows: *III III [IC] III* or *III III [ICX] III*.

tely. It can be noted that in some of the inscriptions, besides the ideograms *BŠNT* 'year' (in the closing part of the inscription, before the indication of the weight), *MN* 'from', 'L' 'to' or 'in',<sup>6</sup> *ZWZN*' (variants *ZWZN*, *ZZN*' 'weight drachma', the same words repeat themselves, viz. *ʷβntn* (or *ʷpntn*) denomination of the vessel; the article *y*', following after *ʷpntn*, but hardly introducing the next word-group;<sup>7</sup> the enclitic pronoun *hy*;<sup>8</sup> *zrnykr* 'jeweller'(?); *wrxwnt*, *wrzykr*, hardly appearing to be proper names.<sup>9</sup>

As a result of the work of the Khwarezmian Archeologo-ethnographic Expedition and excavations carried on by the members of the Karakalpak section of the Academy of Sciences of the Uzbek SSR, up to now many monuments have been discovered which make it possible for us to determine the phases of development of the Khwarezmian script, to correct the readings of the coin legends and to turn again to the data given in the «Chronology» of Birūnī regarding the history of pre-Islamic Chorasmia.

Judging on the basis of the character of writing, the oldest specimen of the Aramaic script discovered in the territory of Chorasmia is the short inscription consisting of only one word which contains 5 characters, carved on a clay vessel.<sup>10</sup> This inscription was found in 1951 in the gorodishche Koy-Krylgan-kala. S. P. Tolstov, collating this inscription with the Parthian documents from Nisa, dates it to a period before the 1st century B. C. The script is quite near to the early Parthian script (Nisa, Awroman), so that the paleographic data permit the dating of it to the 2nd or 1st centuries B. C. The reading of the inscription *ʷsbrk*, the proper name of the owner of the vessel, recommended earlier, can hardly be correct.<sup>11</sup> The 1st character is *h* or *s* (it can hardly be *m*) the 3rd can be read as *r*, the 4th as *n* or *w*, so that the whole inscription reads *sprnk* or *hprnk* (instead of *\*hwprnk*?). Interesting is the form of *p* which differs from the shape of this character used in the later Khwarezmian script.<sup>12</sup> Very archaic are also the characters on the fragment of an inscription carved on a clay flask discovered in Koy-Krylgan-kala.<sup>13</sup> The characters *t* and *'* in this inscription (*tyry*' . . . *m*.) also show a similarity to the Parthian script. The

<sup>6</sup> The correspondence 'L = Khwarezmian *fi* has been established by HENNING for the inscriptions on the ossuaries from Tok-kala, cf. W. B. HENNING: The Choresmian Documents. AM NS 11 (1955) 174, n. 30.

<sup>7</sup> Cf. the remarks made by HENNING on the constructions *ZNH tprnkuk*, *tprnkuk ZNH*, *tprnkuk y'* in the inscriptions of Tok-kala (The Choresmian documents. p. 173, n. 28).

<sup>8</sup> Cf. the form of *h* in the documents on wood from Toprak-kala.

<sup>9</sup> Barym inscriptions 1 and 2, inscription 43 of the «Восточное серебро».

<sup>10</sup> S. P. ТОЛСТОВ: Работы Хорезмской археолого-этнографической экспедиции АН СССР в 1949—1953 гг., «Труды Хорезмской экспедиции», vol. II. Moscow 1953. pp. 176, 179, fig. 75, 1.

<sup>11</sup> See S. P. ТОЛСТОВ: По древним дельтам Окса и Яксарта. Moscow 1962. 130 (the inscription is dated here to the 3rd or 2nd centuries B. C.).

<sup>12</sup> On the form of *p* in the coin legends, documents from Toprak-kala and the inscriptions of Tok-kala see HENNING: The Choresmian documents pp. 174—176. I could recognize this sign only after I have read the calendar denominations *y'p'xwm* and *mrsr(°)nt(°)* on the ossuaries of Tok-kala.

<sup>13</sup> Труды Хорезмской экспедиции, Vol. II, p. 179, fig. 75, 2.

inscription on a fragment of a clay vessel from Koy-Krylgan-kala, found in 1957, also belongs to the same group.<sup>14</sup> Here we can read the beginning of a noun *mtr(n)*[, or *mtr(y)*[, the shape of the *t* being similar to Parthian.<sup>15</sup>

The assumption on the close affinity of the early Khwarezmian script with the alphabet of Arsacid Parthia<sup>15a</sup> becomes very likely, if we investigate the inscriptions on ceramics written in ink. The excavations in Koy-Krylgan-kala revealed several fragments of this group and one whole inscription which reads as follows: *βnt'xk*, obviously a proper name.<sup>16</sup> The shape of the *t* and *x* is exactly the same as in the documents from Nisa, and the forms of the other characters are also very similar to the Parthian alphabet, with the exception of the *alef* resembling to the Sogdian *alef* of the «Ancient Letters». A notable phenomenon is also the appearance of ' in the middle of the word, which is very rare in Parthian, but has analogy in the Sogdian script. In the later Khwarezmian script the forms of ', *x* and *t* changed considerably and the tendency to indicate the vowels in medial position further developed.

As can be judged from the inscriptions on pottery the creation of the Khwarezmian script on the basis of the Aramaic alphabet took place obviously in the same period as the appearance of the Parthian script, viz. in the 2nd century B. C., and perhaps it was strongly influenced by the royal chancelleries of Arsacid Parthia. The early Khwarezmian inscription on pottery can be regarded as Parthian, only the provenience and certain, very insignificant peculiarities in the shape of some letters induce us to regard them as Khwarezmian. The influence of the Parthian script appeared not only in the forms of the letters, but also in the selection of Aramaic signs at the creation of the Khwarezmian script. Just like in Parthian, *shin* stands for *š* and *č* (Khwarezmian *š*, *č*, *c*), while in Middle Persian and Sogdian *č* is rendered by means of *tsade*. The Khwarezmian scribes, however, showed great independence in the selection of Aramaic forms for ideograms. On the basis of the calendar terms it was shown that the system of ideograms in the Khwarezmian script differed not only from Sogdian and Persian, but also from Parthian.<sup>17</sup> The analysis of the Toprak-kala documents leads to a similar conclusion.

These documents, discovered in 1947–50 during the excavation of the royal palace, are for the time being almost unpublished. It is difficult to ascertain the exact number of the discovered texts, since the overwhelming majority of the documents have been preserved only in impressions on clay – fragments

<sup>14</sup> The photograph of the inscription published in *Материалы Хорезмской экспедиции*, вып. 4. Moscow 1960. p. 11, fig. 6.

<sup>15</sup> On another fragment from Koy-Krylgan-kala see *По древним дельтам . . .*, p. 130 (two signs scratched in before the burning of the vessel have been preserved, viz. LX[ ]). The inscription discovered on the same monument, scratched in the revers of a terracotta (female figurine) has not been published: *nryk ZK* [.

<sup>15a</sup> Cf. R. N. FRYE: *The American Numismatic Society. Museum Notes IV* (1950), p. 110.

<sup>16</sup> *По древним дельтам . . .*, pp. 130, 131, fig. 69b.

<sup>17</sup> S. P. Толстов—V. A. LIVSHITS: *Советская этнография* 2 (1964) 57.

containing from one or two signs up to a few lines, generally without beginning or end. The fragments of leather have not been preserved much better either. The largest of them contain 4 to 8 lines (on one, containing 20 lines, only the middle part of each line has been preserved), while on the small ones single words or a few characters can be discerned.

The documents were discovered in four premises of the palace of Toprak-kala, however, not in the original layer: they were removed from the second floor where, according to the supposition of S. P. Tolstov, the archive of the palace was situated.<sup>18</sup> The documents written on leather were kept in scrolls, apparently on special plugs and were fastened with seals.<sup>19</sup> After the catastrophe, which led to the removal of the archive, clay penetrated into the scrolls, so that the clods of clay with the impressions of signs represent part of the long texts. There are groups of such fragments which are written with the same hand. At the restoration of the fragments B. I. Vainberg discovered several clay «scrolls» containing two and even three layers of impressions of texts. It is doubtless, however, that it is a very difficult task to put together the coherent texts of the Toprak-kala documents from fragments of leather and clods of clay and in the majority of cases it has not been completed. I had an opportunity to convince myself about this in December of 1964, already after the completion of the main work connected with the conservation of the archive, when S. P. Tolstov made me acquainted with the originals of the documents kept in Moscow, in the Institute of Ethnography.

As regards their contents, the documents on leather from Toprak-kala were ascertained already soon after their discovery to be inventories or registers.<sup>20</sup> This is indicated first of all by the presence of numeral signs and ideograms for the prepositions *MN* and 'L, as well as for the word 'year' *BŠNT*, read by Tolstov. In a few cases we can recognize also other words, mainly ideograms confirming this assumption. In the present paper I have no opportunity to publish photographs of the unissued documents so that only a few examples can be given here: *KL* 'altogether' (in the concluding part of the documents or «paragraphs»); *SMYD* 'flour', occurring also in the abbreviated form *S* (also in the documents from Nisa); *HMR* or *H* 'wine' (cf. in Nisa);<sup>21</sup>  $\gamma$  abbreviation of *γryw* meaning a measure of capacity; *KRMYN*

<sup>18</sup> Труды Хорезмской экспедиции. Vol. I. 43; Vol. II. 207.

<sup>19</sup> See Труды Хорезмской экспедиции. Vol. I, p. 43, fig. 31. (a clay seal without inscription).

<sup>20</sup> S. P. Tolstov: Известия АН СССР, серия истории и философии 3 (1949) 281; Труды Хорезмской экспедиции. Vol. I, pp. 42—44; СЭ 4 (1957) pp. 32—33; Труды Хорезмской экспедиции, Vol. II, pp. 210—211; По древним дельтам . . . , pp. 220—221 (photographs of documents on leather Nos. 4 and 5, attempts of reading and characteristic of the contents).

<sup>21</sup> I have never seen *sn* 'wine' in these documents, cf. S. P. Tolstov: По древним дельтам . . . , p. 221. In document No. 5 (denoted as No. 10 in Tolstov's publications), instead of *TN* or *SN* it must be read *HK*, the abbreviation *H* for *HMR*, and *K*, the abbreviated denomination of a measure of capacity, also found in Nisa.

'vineyards'; *BHLM' ZK* 'in this bundle' or 'in this treasure-house';<sup>22</sup> *LHY'* 'god(s)' (it is possible that we are dealing here with temple entries), less likely 'lord'. There are very few verbal forms in the fragments preserved (for example *mršxth*, obviously form of imperfect with prefix *m-*, the terminal *-h* is enclitic?). The names of persons and names of settlements in the documents on leather and clay «scrolls» can only be etymologized, as a rule, with great difficulty. I found very few theophoric names (for example *Mtrβyrt*).

On some fragments dates of an unknown era have been preserved. S. P. Tolstov mentioned the following dates: the 207th, 222nd and 231st years. The reading of the second of these causes some doubt: on the fragment (object 12, No. 4<sub>1</sub>) we can clearly see *BŠNT IIC IIII*. On another fragment (object 18, No. 4<sub>1</sub>) one can read: *BŠNT I C XX [XX] XX XX III III II*. Thus, the years 188, 204, 207 and 231 of an unknown era are attested. Tolstov sees in the dates of the documents from Toprak-kala the Indian «Śaka Era», the beginning of which is accepted to be the year 78 A. D., to be identified with the era of Kanīška.<sup>23</sup> On the basis of this dating the archive of Toprak-kala should be placed in the period between the years 265 (the 188th ear, the earliest date preserved in the documents) and 308 (the 231st year of the document) A. D. We shall return to this calculation again later, in connection with the dates of the inscriptions on the ossuaries of Tok-kala.

The Khwarezmian inscriptions on silver vessels show the existence of two types of dates, of which the full dating — year, month and day — is given only on one cup, while in the other cases only the year appears. In the Toprak-kala documents the names of months and days undoubtedly appeared, since in some of them daily or monthly returns were frequently recorded. However, only one dating formula of this type has been preserved (object 16, No. 3<sub>7</sub> + 3<sub>6</sub>-impression on clay), containing the ideogram *BYWM* (Khwarezmian *mēθ* 'day' and the name of the 3rd day *'rtwh(š)t*, known in the later form *'rtwyš* in the inscriptions of Tok-kala, cf. *'rdwšt* in Birūni's «Chronology», Avestan *ašahe vahīštahe*.<sup>24</sup>

Quite a special part of the Toprak-kala archive is represented by the documents on wood, 18 in number, out of which 6 have been preserved well.

<sup>22</sup> Object 2, No. 15 (impression of a document, 11 × 10 cm., containing the remnants of 11 lines): <sub>1</sub>*BŠNT* (I)IC III III I [*YRH'* ... *BYWM* ... (?)] <sub>2</sub>*BHLM' ZK* ('t(. . . .)] <sub>3</sub>*p/βrm/xrt'* (z)r(n) . . . . . For *HLM'* cf. Aramaic *hlm'* 'to unite, to join', *hlm'* 'linke', Aram. = Talmudic *lm'* 'stack, sheaf'; Pahlavi *ML'* in form \**HLM'*, \*[*H*]*ML'* the ideogram for *šāhikān* 'king's treasury'.

<sup>23</sup> S. P. Tolstov: Проблемы востоковедения 1 (1961) pp. 54–71; По древним дельтам . . . , p. 222, as well as in earlier works.

<sup>24</sup> An entirely fantastic reading of the Toprak-kala document on leather No. 4 was recommended recently by FR. ALTHEIM (FR. ALTHEIM—R. STIEHL: Die Araber in der Alten Welt. Vol. I. Berlin 1964. 658–659), who finds in this document an Aramaic text, the Khwarezmian name of month *'rdwy[št]* and the names of days *rsn* (?) and *ddw*. On the fragment (photograph published by S. P. Tolstov) we can read: <sub>1</sub>*BŠNT* II C XX X I [<sub>2</sub>*δrwk' βrydt tyw*] [<sub>3</sub>*MN* (.γ.) *'rtwy*] [<sub>4</sub>*Š X γ(XX) XX XX X*] (I). ALTHEIM: <sub>1</sub>*bšnt* II C XXXI . . . . <sub>2</sub>*rsny brzdt ytn* . . . . <sub>3</sub>*mn* (d)*dw zy* *'rdwy[št]* . . . <sub>4</sub>*XX X lšny' X* . . .

These are sticks and small wooden plates; whittled at the edges (two with handles, of the type of the latest Central Asian *taxtača*). Among the documents on wood 14 are lists (of which 5 are fully preserved) of large families. These lists are similar as regards their formulary. The all have as title the ideogram *BYT* 'house'<sup>25</sup> and the name of the head of the house (repeated in the first line of the list), then in columns are listed a series of names, the relatives as well as servants or slaves, marked with '*BDn*' ('*BD* is an ideogram and *-n*' is the Khwarezmian ending of the plural). In the lists we also find ideograms for the terms of relationship. Some of them have been recently recognized by Henning<sup>26</sup> and can serve as an excellent example for the distortion of the Aramaic forms in Middle Iranian heterography. In the lists a few «open» (non-ideogrammatic) writings of common names have been discovered. Most frequently occurs 'γt (former reading 'zt) obviously 'grown up, full aged';<sup>27</sup> cf. also *z'mk* 'son-in-law'.

The script of the Toprak-kala documents represents the initial phase of development of the Khwarezmian cursive. Its further evolution can be followed on two small fragments of texts (on wood and on leather) discovered in the course of the excavation of the castle of Yakke-Parsan<sup>28</sup> and on the basis of many inscriptions on ossuaries from Tok-kala.

### III

In 1962 and 1964 at the excavation of the Tok-kala cemetery (14 km. to the north of Nukus) A. V. Gudkova discovered about one hundred ossuary inscriptions, including over 20 fully preserved specimens.<sup>29</sup> In them appear dates from the year 658 to the year 738 of an unknown era.<sup>30</sup> S. P. Tolstov sees also here the «Šaka Era», according to which the inscriptions should be dated to the period between the years 737 and 817 A. D. The time of destruction of the so-called early Kerder settlement of Tok-kala, with which the cemetery is connected, can be established on the basis of coins from the hoards, first of all of the Sogdian coins of Urk Wartramuk ('*wrk wrtrmwk*', end of the 7th century) and Tarkhun (not later than the year 710). No Arab or other coins which could have been ranged with the period after the 8th century were found either in the settlement or in the cemetery. The Khwarezmian copper coins are represented here mainly by the coinage of Azkatsvar I (*wzk'nšw'r*, cf. *zk'ncw'r* in the Sog-

<sup>25</sup> The reading of this word was communicated to S. P. Tolstov and was reflected in his last publication of two documents on wood. See По древним дельтам . . . , p. 217.

<sup>26</sup> W. B. HENNING: The Choresmian documents. p. 173. n. 27.

<sup>27</sup> The reading and explanation of HENNING: *op. cit.* p. 171.

<sup>28</sup> По древним дельтам. . . , p. 257, fig. 165.

<sup>29</sup> The publication of 9 inscriptions and fragments see Acta Ant. Hung. 12 (1964) pp. 231–251. The photographs of almost all the inscriptions discovered in 1962 are published in the book of A. V. ГУДКОВА: Tok-kala. Tashkent 1964. Unfortunately at the preparation of the photographs for publication many signs disappeared.

<sup>30</sup> In the first publication the date of inscription No. 38 was read incorrectly. The correct reading is the year 673.

dian inscription on the obverse of the silver coins of this ruler), of Savashfan (*sy'wršprn*, cf. *š'wšprn* in the Sogdian inscriptions on silver coins) and by the coins of Khusrav (*xwsrw*),<sup>31</sup> re-minted from the coins of Azkatsvar I.<sup>32</sup> We can presume that the coming to power of Khusrav was connected with the events of the years 711–712.<sup>33</sup> At any rate the dates of the ossuary inscriptions recommended by S. P. Tolstov seem to be too late, in fact the cemetery of Tokkala cannot be dated to the end of the 8th century or the beginning of the 9th century. If we start out from the year 738 of the unknown era (the latest date of the inscriptions on ossuaries)<sup>34</sup> and connect the abandoning of the cemetery with the second invasion of Qutaiba in the year 712, then the beginning of this era must be dated to the years 30–20 B. C. (738–711 = 27 B. C.).<sup>35</sup> It can be presumed that the burials in the cemetery continued in the course of a few decades after the punitive expedition of the Arabs. This is shown by the finds of coins of Savashfan mentioned in the Chinese sources about the year 751. It is, however, clear that the year 738 of the inscription cannot be placed in the 9th century A. D. and that the beginning of the Khwarezmian Era must be looked for between the years 10 and 20 A. D. The dated documents of Toprak-kala should be correlated with the period between the 40th and 50th years of the 3rd century A. D. at the latest, and the inscriptions on the silver cups, dated to the years 570, 700, 703 (?) and 714 of the Khwarezmian Era, with the 6th to 8th centuries A. D.

Thus on all dated Khwarezmian monuments there appears one and the same era, which existed at least for 738 years. In all probability we can regard exactly this era as the official, state era of Chorasmia. Its introduction was obviously connected with the coming to power of a new dynasty and the consolidation of the political independence of the country, earlier belonging to the Parthian empire (the coins of the Khwarezmian kings show definite relationship with the coins of the Arsacids).<sup>36</sup>

Birūnī, speaking about pre-Islamic Chorasmia, mentions three systems of time reckoning, of which the first two clearly seem to be legendary, *viz.*: from the beginning of the population of Chorasmia, which took place 980 years «before Alexander» (that is 1292 B. C.); from the arrival in Chorasmia of Siyavush, son of Kai Kaus and the accession to the throne of Kai-Khusrav and his descendents, this happened 92 years after the beginning of the population of Chorasmia, that is about 1200 B. C. Further, after a long period, in the

<sup>31</sup> HENNING's reading. I tried to read this as *xwprn*, TOLSTOV saw here the king *xnyry* or *xnkry*, mentioned by Birūnī in the form of *x'mkry* (var. *x'nkry*).

<sup>32</sup> A. V. GUDKOVA: Tok-kala. p. 114.

<sup>33</sup> Cf. Tok-kala. pp. 119–120; HENNING: *op. cit.* p. 168, 175, n. 32.

<sup>34</sup> Among the inscriptions discovered in 1964 there are also none to be dated later than the year 738.

<sup>35</sup> Cf. HENNING: *op. cit.* p. 168.

<sup>36</sup> See HENNING: *op. cit.* p. 169, n. 13; V. M. MASSON: Хорезм и Кушаны, Эпиграфика Востока, 17 (1966) pp. 81, 83.



course of which the reckoning of time was made according to the reign of the single kings, the Khwarezmians started to reckon the time from the reign of king Afriy and his successors. According to Birūnī, Afriy built a palace above al-Fir in the year 616 of the era of Alexander which corresponds to 304 A. D. About this time was established the «era of Afriy» used till the time of the invasion of Qutaiba (in 712), when the «power [in this country] slipped out of the hands of the successors of Khosroes, but the royal dignity remained with them, because it belonged to them by heritage».<sup>37</sup> It is noteworthy that Birūnī does not directly call this time reckoning «the era of Afriy», he only points out that «they started to count the years from his [reign] and from [the reign of] his children».<sup>38</sup>

The dated Khwarezmian monuments show that the time reckoning, about which Birūnī writes, did not exist in Chorasmia, or at least it was not an official era. The attempts to date the monuments on the basis of the reign of Afriy contradict to the data of all sources. The archive of Toprak-kala cannot be dated to the 5th and 6th centuries A. D., and the ossuaries of Tok-kala can even less be dated to the end of the 10th century and the beginning of the 11th century (the life time of Birūnī), as F. Altheim and R. Stiehl endeavour to do this.<sup>39</sup> Since the Moslem burials covering the ossuaries of Tok-kala belong to the 10th and 11th centuries,<sup>40</sup> the assumption of the two scholars cannot be accepted.

Birūnī did not know about the real existence of the pre-Islamic era of Chorasmia, we can only thus explain the lack of its mentioning in the «Chronology». It is noteworthy that, speaking about the calendar reform carried out in Chorasmia in the year 959, under the reign of the latest Khwarezmshah Ahmad bn Muhammad, Birūnī gives the date according to the Seleucid Era («the era of Alexander»), stating that «had this act of the Khwarezmshah been declared to be the beginning of an era, we would have by all means joined it to the eras mentioned above»,<sup>41</sup> but even here he does not speak about the era that existed in Chorasmia still in the 8th century.

Birūnī had very few data on the history of his native country from the period before the Arab conquest. In the «Chronology» he twice mentions the destruction and annihilation made by Qutaiba in Chorasmia, the killing of persons, who knew the Khwarezmian script and historical tradition, which has caused that «it can no more be found out exactly what (had happened

<sup>37</sup> *Chronologie Orientalischer Völker von Albêrûnî*, edited by Dr. C. E. SACHAU. Leipzig 1878. pp. 35—36; Abureikhan Biruni: *Избранные произведения*, Vol. I, *Памятники минувших поколений*, translated by M. A. SALYE. Tashkent 1957. pp. 47—48.

<sup>38</sup> *Chronologie* . . . , p. 36.

<sup>39</sup> FR. ALTHEIM—R. STIEHL: *Chwārezmische Inschriften*. *Bibliotheca Orientalis* Jg. XII, 3/4, Mai—Juli 1965, pp. 140—144; cf. also *Die Araber in der Alten Welt*, Vol. I. Berlin 1965. pp. 657—661; Vol. V. Berlin 1967. pp. 14—21.

<sup>40</sup> A. V. GUDKOVA: *Tok-kala*. p. 143 foll.

<sup>41</sup> SACHAU: *Chronologie* . . . p. 241.

with the Khwarezmians already) after the rise of Islam». As far as it is known, in his later works Birūnī does not give any supplementary data on the eras and rulers of pre-Islamic Chorasmia. In Birūnī's work entitled «History of Chorasmia», which has not been preserved and fragments of which are re-told by Baihaqī, the author spoke obviously first of all about the time of the conquest of Chorasmia by Mahmud of Ghazni.

Let us turn now to the list of Khwarezmian kings, contained in the «Chronology». Birūnī gives three times the genealogical lists of the Khwarezmshahs, beginning with Afriy.<sup>42</sup> The summary of these lists is as follows: 'fryy — byr' — shhsk — 'skjmwk (I) — 'zk'jw'r (I) — shr (I) — š'wš — h'mkry (or h'nkry) — bwzk'r — 'rθmwḥ<sup>43</sup> — shr (II) — sbry — 'zk'jw'r (II) — 'skjmwk (II) — š'wšfrn<sup>44</sup> — trksb'θh — 'Abdallāh — Mansūr — 'Irāq — Muḥammad — Aḥmad — 'Abu 'Abdallāh Muḥammad (last representative of the dynasty of Afriy, killed in the year 995). There are 22 names for a period of 690 years, from 304 to 995, on an average nearly 31 years fall to one ruler, or the usual time of a generation. Certain discrepancies in this part of Birūnī's list, which can be dated to the 8th and 9th centuries, stated on the basis of other sources, have already been observed in literature (especially by V. V. Bartold). The time of the reign of Savashfan can be established more exactly by comparison with the Chinese sources, which mention the Khwarezmian ruler Shaoshifen (Šau-šič-p'juən) about the year 751.<sup>45</sup>

If we attempt to compare the list of Birūnī with the legends of the Khwarezmian coins,<sup>46</sup> then we have some unexpected results. It has been established that the type of coins of the Khwarezmian kings — the head of the king on the reverse and a horse man on the obverse, with a characteristic symbol (*tamgha*) — was firmly preserved in the course of nearly one millennium. About the 1st century A. D. on the reverse for the first time appear — together with the debased Greek inscription — Khwarezmian inscriptions containing the name of the king and the title *MLK'*. The readings of the inscriptions in the given phase of elaboration of the material are as follows: a) Khwarezmian legends side by side with debased Greek legends: *wrtmws*<sup>47</sup> *MLK'*; *wzm'r MLK'* (Tolstov reads the legend also like this); *βywrsr MLK'*; b) only Khwarezmian

<sup>42</sup> SACHAU: pp. *op. cit.* 35—36. The variant readings in the Istanbul manuscript of the «Chronology» are not very useful for the reconstruction of the forms of names.

<sup>43</sup> In the Istanbul manuscript 'rθmwḥ and rθmwḥ.

<sup>44</sup> In SACHAU *š'wšfrn*, in the Istanbul manuscript *š'wšfrn*. For *sbry* the Istanbul manuscript gives the variant *šyry* (or *šbry*?).

<sup>45</sup> Cf. R. N. FRYE: Notes on the early coinage of Transoxiana. The American Numismatic Society. Numismatic Notes and Monographs N 113, New York 1949. p. 20.

<sup>46</sup> As a result of the work of the Khwarezmian expedition up to now over 1000 coins have been collected. The publication is being prepared by B. I. VAINBERG to whom I am much indebted for making me acquainted with the coins and for the information about the main series of coins, their chronological order and archeological dating.

<sup>47</sup> S. P. TOLSTOV saw here *wrtmα* (*wrθmα*), nearing it to 'rθmwḥ of Birūnī's list.

legends: 'rt'w (without a title); s'nβry *MLK'*; wyr (without title); twtyxs (?) *MLK'*;<sup>48</sup> r'st *MLK'*;<sup>49</sup> sy'wspwrš *MLK'*; c) this series differs from the previous one in the structure of the legend, viz. title *MR'Y MLK'* 'sovereign king' + name. The forms of the letters on the majority of issues is changed in comparison to the previous series (this is especially clearly seen on the representation of the title *MLK'*),<sup>50</sup> and several new ligatures appear. As it was pointed out to me by B. I. Vainberg, on the basis of the archaeological data this series is later than the previous one by at least one and a half centuries. It is possible that the interval between them is more significant. We do not know well the fate of Chorasmia in the period of the existence of the Sassanian empire. As it was correctly underlined by W. B. Hénning recently, the written sources can point to the occupation of Chorasmia at the time of Ardashir or Shapur I. Was not the break in the issue of Khwarezmian royal coins connected with these events and how long did it last? These questions should be replied first of all by the numismatists. The reading of the legends in this series is as follows: *MR'Y MLK' prvyk* (or *prywk*, *βrwyk*); *MR'Y MLK' šr'm*;<sup>51</sup> *MR'Y MLK' k'nyk*; *MR'Y MLK' wzk'nšw'r* (I; on the obverse of the silver coins the Sogdian inscription *zk'ncw'r*). *MR'Y MLK' xwsrw*; *MR'Y MLK' sy'wršprn* (on the obverse of the silver coins the Sogdian inscription *š'wšprn*);<sup>52</sup> *MR'Y MLK' wzk'nšw'r* (II).

Of course, this list does not give a full conception on the ruling dynasty of Chorasmia. But it is easy to observe that there is very little similarity with Bīrūnī's list — only Savashfan and Azkatsvar in the 8th century. The rest of the names do not practically coincide (we can make only hypotheses on the possible deformations of the names at the copying of the «Chronology»). For the period before the 8th century the only exceptions are 'rθmawh, cf. *wrtmws* on the early coins, and eventually *š'wš* (instead of \**s'wš*?), cf. *sy'wspwrš* of the coins, a name showing, just like *sy'wršprn*, the popularity of Siyavush in Chorasmia. On the coins there is no name which would show even a distant similarity with 'fryy of Bīrūnī (on the coins we find *βywrsr* and not 'pwrg or 'βwrg as was suggested previously), what casts doubt on the existence of the dynasty of Afriy.

In spite of the probability of the discovery of new series of coins (and, accordingly, of the appearance of new names of kings), and in spite of the possible improvement of the readings of some names on the coins, we can already

<sup>48</sup> See the drawing in the article by S. P. Tolstov: Проблемы востоковедения, 1 (1961) p. 63, Fig. 6,4.

<sup>49</sup> *Loc. cit.* Fig. 6, 15.

<sup>50</sup> S. P. Tolstov: ВДИ 4(5) 1938 p. 134.

<sup>51</sup> On a specimen of copper coins of this ruler on the obverse: *xwt'w*.

<sup>52</sup> Originally I read the name in the Khwarezmian inscription as *sy'wršprn*. The correct reading was recommended by HENNING (The Choresmian documents . . . p. 175). The Sogdian writing gives the translation of the name: Sogd. *šāw* 'black' for Khwarezm. *sāw* (*sy'wršprn*, historical writing for *Sāwāšfan*).

now make the conclusion that the data at the disposal of Birūnī regarding the dynasty of the Khwarezmshahs in the period before the 8th century A. D. were as unreliable as the data on the eras of ancient Chorasmia.

IV

The striking coincidence of the data on the Khwarezmian calendar presented in the «Chronology» with the data of the documents shows how exact was Birūnī, when he himself could verify the accuracy of the sources of information. If we exclude very few deformations caused by the copyists, then the names of the months and days given by Birūnī are in full agreement with the data of the inscriptions on the ossuaries of Tok-kala. In these inscriptions we can now read the names of all the 12 months and 18 days. Collating them with the list of Birūnī we must take into consideration the difference of the orthographical traditions. The Tok-kala inscriptions represent in the majority of the cases historical writing, which does not reflect the real pronunciation of the 8th century. The names of the Khwarezmian months are given in the «Chronology» in the basic list in two variants, one of which reflects the religious, «Late Avestan» calendar and the second, the civil calendar.<sup>53</sup> As a rule, the Tok-kala inscriptions render analogies for the first variant, the only exception being the 12th month.

*Months*

Birūnī	Tok-kala
1. <i>rwŕj'n</i> <sup>54</sup>	<i>βrwrtn, βrwrtyn</i>
2. <i>'rdwšt</i>	<i>'rtwysš</i>
3. <i>hrwd'd</i>	<i>hrwt</i> <sup>55</sup>
4. <i>ŕyry (= cyry)</i>	<i>tyry</i>
5. <i>hmd'd</i>	<i>hmrt</i> <sup>56</sup>
6. <i>'xšrywry</i>	<i>'xštry[wr]</i>
7. <i>'wmry (instead of *'mry)</i>	<i>mtr</i>
8. <i>y'n'xn (instead of *y'b'xn)</i> <sup>57</sup>	<i>y'p'xwn</i>
9. <i>'rw</i>	<i>'trw</i> <sup>58</sup>

<sup>53</sup> There is only one form for the 5th, 6th and 7th months in the manuscripts referred to by SACHAU (in the Istanbul manuscript there are two forms). Cf. the names of months in the Sogdian calendar.

<sup>54</sup> In the Istanbul manuscript رورجن, SACHAU – *rwēn'* (رورجن). The real pronunciation of this word in the 8th century was very likely *rawarcī(ā)*, cf. W. B. HENNING: *Mitteliranisch*, pp. 83–84. For *n'ws'rjy (= nāwsar')* in Birūnī's second series cf. the proper name *n'wsrdyk* «(born) in the 1st month» in the documents on wood from Toprak-kala.

<sup>55</sup> Contracted form as compared with *hrwd'd* (influence of the Persian form with Birūnī?).

<sup>56</sup> Cf. the preceding note.

<sup>57</sup> In the Istanbul manuscript *b'n'xn, p'n'xn*.

<sup>58</sup> Also in the inscription on a silver cup, SMIRNOV, No. 42.

- |   |                                  |
|---|----------------------------------|
| 10. <i>rymzd</i> <sup>59</sup>            | <i>'hwrym</i> <sup>60</sup>      |
| 11. <i>'šmn</i> (instead of <i>*hmn</i> ) | [ <i>whw</i> ]mn                 |
| 12. ( <i>'sbnđ'rmjy fw</i> ) <i>xšwm</i>  | <i>'xšwm</i> (or <i>'xšnm</i> ?) |

*Days*

Birūni	Tok-kala
1. <i>rymžd</i>	( <i>rymzd</i> ?)
2. <i>'zmyñ</i> (instead of <i>*'hmyñ</i> or <i>*'wmyñ</i> )	<i>whwmñ</i>
3. <i>'rdwšt</i>	[ <i>*'rtwyš</i> ], cf. <i>'rtwhšt</i> in the archive of Toprak-kala
4. <i>'xšrywry</i>	<i>'xštry</i> [ <i>wr</i> ], [ <i>x</i> ]štr[ <i>y</i> ]wr
5. <i>'sbnđ'rmjy</i>	—
6. <i>hrwd'đ</i>	<i>hrwt</i>
7. <i>hmd'đ</i>	<i>hmrt</i>
8. 15, 23 <i>đđw</i> <sup>61</sup>	<i>'hwrym</i> (or 1st day?)
9. <i>'rw</i>	<i>'trw</i>
10. <i>y'n'xn</i> (instead of <i>y'b'xn</i> )	<i>y'p'xwn</i>
11. <i>'xyr</i>	<i>'xyr</i> (!)
12. <i>m'h</i> (instead of <i>m'x</i> )	( <i>m'x</i> ?) <sup>62</sup>
13. <i>žyry</i>	<i>tyry</i>
14. <i>rwšt</i>	<i>rwšt</i>
15. = 8	
16. <i>fyγ</i>	<i>mtr</i> <sup>63</sup>
17. <i>'srwš</i> <sup>64</sup>	—
18. <i>ršñ</i>	—
19. <i>*rwrjñ</i> <sup>65</sup>	<i>βrwrtn, βwrwtyn</i>
20. <i>'rθγñ</i> <sup>66</sup>	—
21. <i>r'm</i>	<i>r'm</i>
22. <i>w'đ</i>	—
23. = 8, 15	

<sup>59</sup> In the edition of SACHAU in the basic list: *wšmr*, in the Istanbul manuscript: *وشرمد*, which is easily corrected to *ریمزد*. In the second case according to SACHAU *ریمزد*, in the Istanbul manuscript *ریمزد*.

<sup>60</sup> I am not fully convinced about the tracing back of this name to Avestan *Ahurahe mazdā*. In inscription No. 1 (cf. A. V. GUDKOVA: Tok-kala, Pl. XVII, 1a–1c) the name of the day can be read as (*rymzd*) or (*rwmd*), the preservation of the text is bad. Instead of *Rym'ztk* in the document from Toprak-kala *Rzm'γtk* should be read. See HENNING: The Choresmian documents . . . , pp. 170, 172.

<sup>61</sup> Thus three times in the Istanbul manuscript.

<sup>62</sup> Traces of letters.

<sup>63</sup> Cf. *βγγ* in the inscription on a silver cup, SMIRNOV, No. 42.

<sup>64</sup> See W. B. HENNING: *Mitteliranisch*, p. 115.

<sup>65</sup> SACHAU — *rwjñ*.

<sup>66</sup> Thus in the Istanbul manuscript.

24. <i>dyny</i> (instead of * <i>dyn</i> or * <i>dyy</i> )	—
25. <i>ʾrʿwxy</i>	—
26. <i>ʾštʾd</i> (instead of *ʾ <i>štʾd</i> )	<i>štʾt</i>
27. <i>ʾsmʾn</i>	—
28. * <i>zʾmt</i> ? <sup>67</sup>	—
29. <i>mrsbnd</i>	<i>mrspʾnt, mrsprtʾ</i>
30. <i>ʾwnry</i>	<i>wnry</i>

It is doubtless that the Khwarezmian documents and coins can tell us still much about the sources of information of Birūni, the greatest of the scholars of medieval East.

Leningrad.

<sup>67</sup> In the Istanbul manuscript رات, SACHAU — راث.