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Physical Anthropological Field Report and Comparative Research Results on the Kazaks and Kirghiz from the Peoples Republic of China

by

Gyula Henkey (Kecskemet, Hungary)

Izabella Horvath (Beijing, China)

Introduction

For both Hungarian researchers and the minority peoples living in northern and western China today, it has become necessary to gain a clearer picture of their overall ethno-anthropology. This knowledge is important so as to further clarify the possible relationships between the peoples of Central Asia and north China and the Hungarians of the Carpathian Basin.

The Turkic speaking populations of Asia are of specific interest to Hungarian scholars, since there is ample evidence that the early history of the Hungarians (1-9th centuries) is closely connected to the Turks and Turko-Mongol cultural sphere of Central Asia. Ethnographic (Dioszegi 1959, Horvath 1992, 1993, Erdy 1987), historical (Kepes Kronika 1978), as well as anthropological (Bartucz 1938; Liptak 1958; Horvath 1995; Henkey 1998) research points toward the east as the direction to follow for further data regarding the early history and ancestry of the Hungarians.

The research of Hungarian anthropologists (Bartucz, Liptak, et al) pointed out that the skeletal remains of the 9th century Hungarian populations settling into the Carpathian Basin possessed-- in predominant numbers-- physical characteristics that are closely related to Central Asian populations. These are the Turanid, Pamirian, Armenid, and Dinarian. The predominance of these forms in Hungary has lasted until today (Henkey 1998).

The anthropology of Central Asia in ancient times was worked out mainly by Ginsburg (1966). Ismagul (1970 1982) has collected and analyzed extensive data on the Kazah populations of today's Kazakhstan. Abdulshelishvili (1968) worked on the populations of the Caucasus, and Miklasevskaja (1968) did extensive study on the skeletal remains in the Siberian and Central Asian areas from the first half of the first millenium A.D. The work of these scholars has aided the Hungarian researchers in their comparative anthropological work, since the peoples of both the Carpathian Basin and populations of Central Asia proved to bear a close physical resemblance to each other

and can be traced back to other related forms indigenous to Central Asia as far back as 500 B.C. (Ginsburg 1966).

However, the work is by no means done. Hungarian scholars are eager to make use of more and more recent data farther east of Central Asia, to push back the horizons of knowledge regarding early Hungarian population movements. While there tends to be but meager Chinese archeological material available to Hungarian scholars, they have even less access to physical anthropological and antropometric results and analyses done by Chinese scholars.¹⁾

This is then the background which prompted the authors of this article to plan to conduct extensive antropometry in 1996, in Xinjiang Autonomous Region in the Peoples Republic of China. There is a concentration of Turkic speakers in that province, and it is an area that borders on several Central Asian countries. Today there are over 5,900,000 Uygurs, more than 907,000 Kazahs, and over 114,000 Kirghiz living in Xinjiang (Ma 1989).

However, in 1996, circumstances in the area were unfavorable for extensive anthropological measurements, and because the authors did not want to postpone the work, it was decided that one of the authors, Izabella Horvath, doing research work in Beijing at that time, was to begin a pilot study by making photographs and collecting other relevant anthropological data of those Uygurs, Yugurs, Kazahs and Kirghiz who were working in Beijing, and travelled back to their homes in Xinjiang on a regular basis.

In this first phase, data was collected from volunteers who were informed of the research and its purposes by word of mouth, and who passed on the information to their friends, relatives, and acquaintences. The author also did not pick and choose among the volunteers of Turkic descent. Everyone who volunteered was included (between the ages of 24-60), and none was turned down. There was no error regarding ethnicity, since those Turkic speakers who live in Beijing know who belong and who do not to their ethnic group. This information is very reliable, since Kazahs clearly know and reckon their descent on the basis of tribal affiliation even to this day. The Kazahs in this study belong to the Wak, Kerai, Hidzai, Neiman [within Neiman the Muren, Karakereg, Kazakhbay subtribes], Arben, and Matai tribes).

During this time (summer of 1996) I. Horvath succeeded in collecting anthropological data on 51 adults: 27 Uygur, 22 Kazah, 1 Kirghiz, and 1 Yugur (Table 4). In this report we will discuss the data of the 22 Kazaks and 1 Kirghiz. This grouping was decided upon since in the scientific literature the Kirghiz are often referred to as "Kara-Kirghiz" or "Kazah-Kirghiz", which suggests that we are dealing with two related

ethnic groups. Although the numbers are relatively small in proportion to the population of Kazahs in Xinjiang, this initial study does offer significant data which supports the research results of the scholars cited above.

The Methodology of Data Collection and Analysis

Besides photo records, body height, eye, and hair color were also recorded. For eye color analysis Martin's indicator, and for hair color the Fischer-Saller color table were used. No measurements are available for the head and face at this time. The typological analyses and determinations were worked out by Gyula Henkey.

The Analysis of the Major Anthropological Features

For three individuals from China, the average height for males is 174.00 cm, for females it is 167.00 cm. Both are markedly tall (tall stature for males begins at 170cm, for females at 159). It is instructive to note that according to Ismagul's (1982) measurements of 2,993 Kazah males the average height was 166.23 cm, and of the 951 females it was 153.57 cm. This significant difference may be explained partly by the fact that Ismagul's measurements were done 14 years earlier, and there seems to be a tendency for stature of populations to increase gradually with time. For example, among the south Slovakian Hungarians an average of 6 cm increase in height was noticeable in the past 50-55 years. On the other hand, because of the small number of subjects available for this pilot study, especially for Kazah females, the value should be considered mainly as general orientation.

Cephalic Index

We can at this point quote only the data collected by Ismagul. For males the cephalic index is 85.02, for females it is 85.47. For both sexes the index is short and is very close to the average value gained from the data of the 14,282 male Hungarians 85.22, and the average of the 14,601 Hungarian females 85.95 (both between the ages of 24-60). These measurements were done continuously by Henkey throughout the Carpathina Basin in the past 40 years (Henkey 1998).

Facial Index

As was prescribed by the academic practice of the former Soviet Union, Ismagul had to give facial index values on the basis of the morphological facial height of the Kazahs, measured from the tip of the eyebrows to the tip of the chin, and not according to the conventional methods of Martin, which prescribes that the measurements be taken from the root of the nose to the tip of the chin. If Martin's method had been used, the average value would have been 6.2 mm less for males and 6.9mm less and for females. (Among Kirghiz the difference is 4.5 mm.) However, Ismagul recorded values using both methods of measurements, and thus the probable difference could be calculated. This way, if we divide the adjusted value of the facial height with breadth of the zygoma, the facial index becomes 82.35 for males, and 82.14 for females, which is considered wide for males and medium-wide for females.

It is again of interest to note that the average facial index for Hungarian males is 82.93 and for females 80.01 (wide facial breadth begins under 84 for males and 81 for females).

The Shape of the Zygoma

The zygomatic arch of the Kazahs and Kirghiz who live in China shows forward projection in 100% frequency, similarly to those populations from Kazakhstan. Within this shape the medium frontal projection predominates (males 56.2%, females 57.1%) (Table 1). Compared to Hungarian males, this form predominates in 66.6% in males and 69.2% in females. Among indigenous Hungarian populations this value'e frequency tends to increase. For example, it can be detected 83.0 % among males and 86.2 % among females living in the Eastern Carpathian areas today.

Forehead Profile

Among the Kazahs living in China the vertical form of the forehead was noted exclusively (Table 1). The steep forehead among Hungarian males occurs in 88.0 %, and among females in 94.2 % frequency on an average. Among indigenous Hungarian populations from northern Hungary this forehead form is seen in 96.3 % among males and 99.2 % in females.

Nasal Profile

Among the Kazahs of both sexes examined in China, there is a predominance of straight nasal profile. For males the frequency is 68.7 % and for females it is 85.7 % (Table 1). The frequency of straight nasal shape among Hungarian males is 46.1% while in females it is 50.4 % . The predominance of the straight nasal form among Kazahs of China is probably related to the fact that among the Kazahs the Turanian physical type is characterized by a straight nasal profile, and so the convex nasal profile occurs with less frequency. In Kazakhstan the straight nasal profile occurs with 70.6 % frequency among males and 51.8 % among females.

Nasal height

Among the Kazahs measured in China, medium nasal height was predominant for both sexes (93.7 % for males, 85.7 % for females). This form is seen less frequently among Hungarian males (73.6%) but more frequent among Hungarian females (87.5%).

Nape Profile

Moderately convex nape profile dominates among the Kazahs of China. It's frequency was 93.7 % among males, while among females only this form was found exclusively (Table 2). In comparison, among Hungarian males this form occurs in 73.6% of males and in 87.5% of females.

Eye Color

Among the Kazah males of China, only dark eye color was noted while among females the dark eye color was seen in 85.7 % frequency; the green eye color occurred in 14.3%. The dark eye color's frequency in Kazakhstan was 67.8 % in males and 77.0% in females. Among Hungarians the average value decreased to 43.5 % in males and 49.8 % in females. However, among the Greater Kumanian Hungarians there is an increase to 51.7% among males and 56.6% among females, while among Hungarians of Pecheneg origin at Rabapatona 52.9% of males and 56.6% of females had dark eyes (Henkey 1996 a).

Hair color

The Kazahs of both Kazakhstan and China show a predominance of brown-black hair color. In this respect the Hungarians also show marked uniformity. Brown-black hair color was determined among 97.7% of Hungarian males and 96.9% of Hungarian females.

The Distribution of Physical Types

On the basis of the measurements done by the Kazah physical anthropologist, Ismagul(1982), the most common physical type of the Kazahs in Kazakhstan is the Turanid type with all its variants and admixtures (detailed description is given below). Similarly, among the Kazahs from China the Turanid type, its variants and its transitional forms predominate, in such a way that the transitional form of Tuarano-Pamirian was represented in significant numbers (Table 2).

Because among those Kazahs who were examined in Beijing, the Turanid type and all its characteristic transitional forms showed up in significant numbers, and because among the 9th century and present day Hungarians the Turanid forms also predominate, it is important to discuss the Turanid vaiants below.

Among those Kazahs measured in Beijing, 43.5% showed a strongly Andronovo form of the Turanid variant (Photo 3-5). This variant is characterized by the following: tall stature; proportionately large cranium; short cephalic index; very wide and moderately high face; very wide angle of the mandible; moderately frontally projecting zygoma; vertical or semi-vertical forehead profile; moderately developed, [in males well-developed], glabella (=the part of the forehead above the root of the nose) (Photo 5); moderately, or somewhat less moderately high, straight, or mildly convex nasal back; dark, or greenish eye color; brown-black hair color.

Compared to the Hungarian 0.5%, the strongly Mongoloid variant of the Turanid type (Photo 1) among the Kazahs and Kirghiz of China was noted in 26.1% frequency. For this variant among Hungarians the stature is moderately tall , and while the average dimensions of the head and the zygomatic arch hardly deviate from the average dimensions of the former type (Henkey 1996, b), the face is slightly higher, the angle of the mandible less wide, the zygoma is more often strongly forward projecting, the glabella is less developed and the nasal back is more frequently slightly less than moderately pronounced.

The Middle Turanid type (Photo 2) stands between the Turanid and the Mongoloid variant of the Turanid. Here the Europoid and Mongoloid features occur in 50-50% proportions. This form was found to occur in about 1% frequency among the Hungarians of today. Among the Kazahs who were examined in China--similar to the Hungarians--

the Turano-Pamirian transitional form (Photos 6-8) is very common. Here, compared to the Turanoid average, the face is slightly higher, the nasal back is somewhat longer and projecting forward a bit more frequently, and mostly slightly convex in shape. Among photos of the Kazahs of Kazakhstan (Ismagul 1982), there were also forms close to the "Alfoldi"²⁾ Turanid variant .

Ethnogenetic Connections and Considerations

The Turanid type developed in Central Asia between the 500 B.C. to 1000 A.D. According to Ginzburg (1966), it developed from the intermixture of the Europoid Andronovo type, which had been aboriginal to Central Asia since the Bronze age, and a Mongoloid type coming from the east, the Andronovo being the basic stratum and the Mongoloid the secondary one (Ismagul, 1970). In the second half of the 13th century, Mongol conquerors settled on the aboriginal population mainly along the Silk Road in northeast Kazakhstan, and Kirghizistan. Consequently in these areas a Turanid type with a stronger Mongoloid characteristic became predominant in the 13-16th centuries. In the meantime, the areas of north and south Kazakhstan and northern Uzbekistan, the Turanid form of strongly Europoid characteristics continued to predominate.

Because the ancestors of not only the Central Asian startum of the 9th century Hunarians, but also those of the Pechenegs, Yazig, Kumans, and Oguz (peoples also settling in Hungary from the 9-12th centuries) moved from Central Asia before the 13th century--that is before the onslaught of the Mongol invasion-- the overwhelming majority of the population of Hungary today exhibits the Europoid form of the Turanid physical type.

It is of utmost importance to realize that the anthropologists of the former Soviet Union chose to give the Turanid label only to those forms which had stronger Mongoloid characteristics, whereas on the basis of historical anthropological studies, it is clear that the form with strongly Andronovo characteristics is the most ancient form of the Turanid type (Ginzburg 1966; Ismagulov 1970). The research of Osanyin (1957-1959) emphasized the significant differences between the physical characteristics of the Kazahs and Kirghiz and those of the Uzbeks and Karakalpaks. Photos attached to the article illustrated this. However, the Kazahs and northern Uzbeks looked more similar to each other on the photographic record in Miklasevskaya's study(1968). Because of this discrepancy we must conclude that it is possible that Osanyin examined Kasah populations who had stronger Mongoloid characteristics, and for sake of contrast, those Uzbeks who were mixed with southern Tadjiks.

From the point of view of the ethnogenesis of the peoples of Central Asia, it is also important to know the development of the Pamirian type that seems to have taken place in the southeast region of Central Asia. According to Ginzburg (1966) this form developed from the intermixing of two other physical types: the Andronovo, which went through the process of gracilization (softening of features), and a Mediterranean variant that became brachicephalic (shortening of the cranium). That Pamirian variant that show up among the Hungarians was one which carried strong Andronovo characteristics in 2/3 of the subjects examined. The Eastern Mediterranean form with sharp features was less representative, but at the same time a mild Mongoloid admixture was noticeable. We called this form Pamiro-Turanian, which deviates but slightly from the Turano-Pamirian variant so common among Hungarians (Henkey) as well as the Kazahs of China.

It is significant to note the results of other examination of Central Asian populations . The following are the dominant physical types found in each ethnic group:

1. among the southern Tadjik: the sharp featured Pamirian
2. among the northern Tadjik : the Pamiro-Turanid
3. among the southern Uzbek: the Pamiro-Turanid and Turano-Pamirian
4. among the northern Uzbeks: the Turanoid and Turano-Pamirian
5. among the southern and northern Kazahs: the Turanid of strong Andronovo variant as well as the Turanoid. All these forms are also noticeable in lower frequencies among groups 1-4 above.

The Kazahs examined in China whose data are used in this pilot study seem to indicate the anthropological relationship between the Hungarian populations living in the Carpathian Basin, at the westernmost region of the great Eurasian grasslands and those peoples who are today the inheritors of the great steppes of Central Asia and northwest China. Actually, this study supports this relationship to a greater degree than was noticeable from the data of Ismagul from Kazakhstan and supported by photographic records. From among the peoples of Central Asian origin the anthropological picture of the Kazahs is the most homogenous: the Turanian with strong Andronovo characteristics being the predominant form among them.

Although the authors of this article examined only a relatively small number of Kazahs in China, and photographs were made of every volunteer adult indiscriminately, the data strongly suggests the need for further study of the Central Asian anthropological roots of the indigenous Hungarian populations who live in the small towns and villages today in the Carpathian Basin.

Among the indigenous Hungarian populations examined the following anthropological forms were found(Henkey 1998):

1. "Turkic" or Central Asian forms(Turanian, Pamirian, Armenid and Dinarian)= 52.2 %
2. Caucasian³⁾ forms= 9.3 %
3. Finno Ugric forms= 3.8 %
4. "Old Slavic" forms = 1.1 %

This pilot study clearly indicates the urgency of further study of the Altaic peoples living in China to shed more light on the anthropological affinity between the peoples of Central Asian origin who today live at great distances from each other.

Tables

| Characteristics | Forms | Males | | Females | |
|-----------------|-------------------------|-------|-------|---------|-------|
| | | no. | % | no. | % |
| Zygoma | rounded | - | 0.0 | - | 0.0 |
| | mildly protruding | 1 | 6.3 | - | 0.0 |
| | moderately protruding | 9 | 56.2 | 4 | 57.1 |
| | strongly protruding | 6 | 37.5 | 3 | 42.9 |
| | frontally narrowing | - | 0.0 | - | 0.0 |
| Forehead prof | convex | - | 0.0 | - | 0.0 |
| | vertical, semi-vertical | 16 | 100.0 | 17 | 100.0 |
| | backward slanting | - | 0.0 | - | 0.0 |
| Nasal profile | concave | 2 | 12.5 | - | 0.0 |
| | straight | 11 | 68.7 | 6 | 85.7 |
| | convex | 3 | 18.8 | 1 | 14.3 |
| Nasal bck rise | weak | 1 | 6.3 | 1 | 14.3 |
| | moderate | 15 | 93.7 | 6 | 85.7 |
| | strong | - | 0.0 | - | 0.0 |
| Nape profile | strongly convex | 1 | 6.3 | - | 0.0 |
| | moderately convex | 15 | 93.7 | 7 | 100.0 |
| | flat | - | 0.0 | - | 0.0 |
| Eye color | light(1a-4a) | - | 0.0 | - | 0.0 |
| | | - | 0.0 | 1 | 14.3 |
| | | 16 | 100.0 | 6 | 85.7 |
| Hair color | red(I-VI) | - | 0.0 | - | 0.0 |

| | | | | |
|-------------------|----|------|---|------|
| blond(A-1) | - | 0.0 | - | 0.0 |
| transitional(M-O) | - | 0.0 | - | 0.0 |
| brown(P-X) | 2 | 12.5 | 1 | 14.3 |
| black(Y) | 14 | 87.5 | 6 | 85.7 |

Table 1. Qualitative distribution of the Kazahs (22 persons), and Kirghiz (1 person) living in China

| Type, variant | males | | females | | total | |
|----------------------------|-------|------|---------|------|-------|------|
| | no. | % | no. | % | no. | % |
| Turanid/strongly Mongoloid | 5 | 31.2 | 1 | 14.3 | 6 | 26.1 |
| Turanid, Middle Type | 2 | 12.5 | 1 | 14.3 | 3 | 13.0 |
| Turanid/strongly Andronovo | 6 | 37.5 | 4 | 57.1 | 10 | 43.5 |
| Turano-Pamirian | 2 | 12.5 | 1 | 14.3 | 3 | 13.0 |
| Turanid+ undetermined type | 1 | 6.3 | - | 0.0 | 1 | 4.4 |

Table 2. The typological distribution of the 22 Kazahs and 1 Kirghiz living in China (Xinjiang) (1996).

| Pict. No. | zyg.prf. | forhd prf. | nasal prf. | nasal proj. |
|-----------|------------|-----------------|------------|-----------------------|
| | nape | eye col. | hair col. | Anthr. type |
| 1 | strg. fwd. | semi vrt. | straight | med.low |
| | mild cvx. | dark | black | Turanid/strg.Mong. |
| 2 | med.fwd. | vertical | straight | med.low |
| | med. cvx. | dark | black | Turanid/Andronov o |
| 3 | med. fwd. | demi. vrt/?/ | straight | medium |
| | med. cvx. | dark | brown | Turanid/Andronov o |
| 4 | med. fwd. | vertical | straight | med. low |
| | med. cvx. | dark | black | Turanid/Andronov o |
| 5 | strg. fwd. | semi vrt. | straight | med. |
| | mild cvx. | dark | black | Turanid/Andronov o |

| | | | | |
|---|-----------------|----------|--------|------------------|
| 6 | strg. fwd. | vertical | convex | med. high |
| | mild cvx. | dark | black | Turanid/Pamirian |
| 7 | strg. fwd. | vertical | convex | med. high |
| | mild cvx. | dark | black | Turano-Pamirian |
| 8 | mild fwd. | vertical | convex | med. high |
| | mild cvx./?/ | dark | black | Turano-Pamirian |

Table 3. Qualitative and typological determinations of the individuals on photographs 1-8. (1996)

KEY TO ABBREVIATIONS TO Table 3:

zyg. prf. = zygomatic profile

forhd. prf.= forehead profile

nasal prf.=nasal profile

eye col.=eye color

hair col.=hair color

Anthr. type=anthropological type determined on the basis of the character clusters charted.

strg.= strong

med.= medial, medium

fwd.-= forward projecting

vrt.= vertical

sem. vrt.= semi-vertical

cvx.= convex

Mong.= having Mongoloid physical characters

KEY TO THE ABBREVIATIONS for Table 4:

Zyg . proj.= zygomatic projection

forehead pr.= forehead profile

nasal prof= nasal profile

nasal proj. =nasal projection

eye c.-= eye color

hair col.=hair color

type= physical anthropological classification

mild fwd.= mildly forward projecting

med. fwd.= medially forward projecting

strng. fwd.= strongly forward projecting

strght.=straight

sem. vrt.=semi-vertical

cvx.=convex

med. cvx.=medium convex

strng. cvx.=strongly convex

ond.=ondulating line of nasal profile

drk.=dark

blck.= black

br.=brown

X= undetermined anthropologically (has no cluster of features dominating to place it clearly into a category)

Mong.=Mongoloid characteristics

Andro.=Andronovo characteristics

Photos



Photo 1.

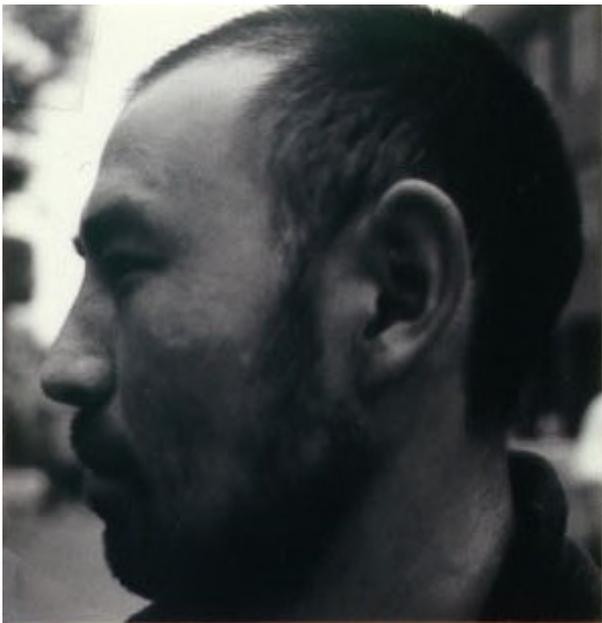




Photo 2.





Photo

3.

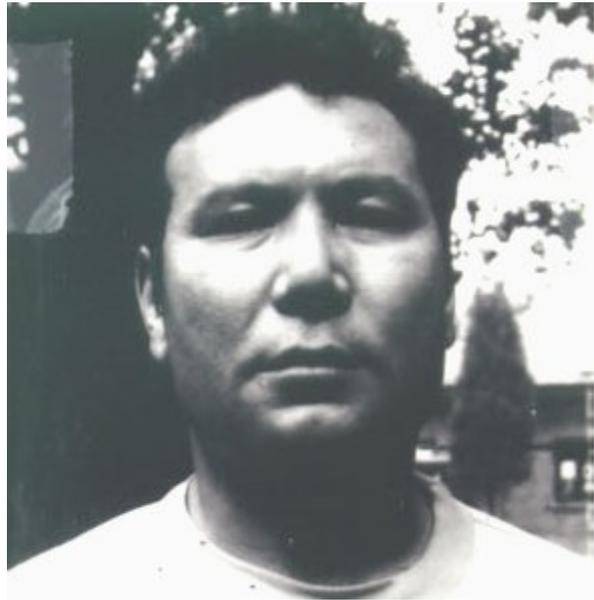




Photo

4.





Photo

5.



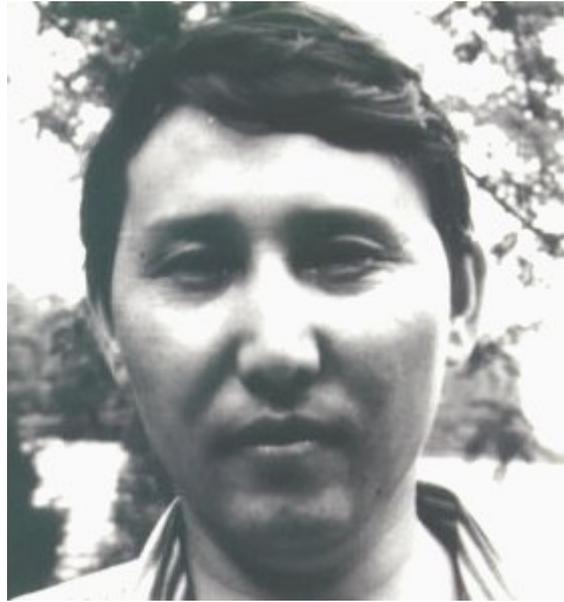


Photo 6.





Photo

7.





Photo

8.



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