



HAL
open science

Current researches on Eneolithic period in Central Asia, from a Neolithic perspective

Frédérique Brunet

► **To cite this version:**

Frédérique Brunet. Current researches on Eneolithic period in Central Asia, from a Neolithic perspective. International scientific conference "Cultures of the Asian part of Eurasia in antiquity and the Middle Ages", Samarkand State University, May 2021, Samarkand, Uzbekistan. pp.49-60. hal-03475917

HAL Id: hal-03475917

<https://hal.science/hal-03475917v1>

Submitted on 3 Jan 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Copyright

Культуры Азиатской части Евразии в древности и средневековье



**MINISTRY OF HIGHER AND SECONDARY SPECIALIZED
EDUCATION OF THE REPUBLIC OF UZBEKISTAN**

SAMARKAND STATE UNIVERSITY

**CULTURES OF THE ASIAN PART OF EURASIA
IN ANCIENT AND MIDDLE AGES**

*Materials of the International scientific conference,
dedicated to the 80th birthday and
50th anniversary of scientific and pedagogical activity
prof. Nona Armaisovna Avanesova*

Samarkand 2021

**МИНИСТЕРСТВО ВЫСШЕГО И СРЕДНЕГО СПЕЦИАЛЬНОГО
ОБРАЗОВАНИЯ РЕСПУБЛИКИ УЗБЕКИСТАН
САМАРКАНДСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ**

**КУЛЬТУРЫ АЗИАТСКОЙ ЧАСТИ ЕВРАЗИИ
В ДРЕВНОСТИ И СРЕДНЕВЕКОВЬЕ»**

*Материалы Международной научной конференции,
посвященной 80-летию со дня рождения и
50-летию научно-педагогической деятельности
проф. Ноны Армаисовны Аванесовой*

Самарканд 2021

Сборник статей подготовлен на основе докладов Международной научной конференции «Культуры Азиатской части Евразии в древности и средневековье», посвященной 80-летию со дня рождения и 50-летию научно-педагогической деятельности проф. Ноны Армаисовны Аванесовой, прошедшей 28-29 мая 2021 года в Самаркандском государственном университете (Самарканд, Узбекистан). В конференции приняли участие и представили доклады специалисты из крупнейших научных центров Франции, Германии, Великобритании, Турции, Украины, Российской Федерации, Казахстана, Кыргызстана, Таджикистана и Узбекистана. В настоящем издании публикуются материалы, отражающие проблемы археологии Узбекистана и сопредельных территорий (вопросы культурогенеза, новые открытия и достижения). Большое внимание уделено дискуссионным вопросам духовной культуры и искусства Центральной Азии. Обсуждается взаимодействие культур степной Евразии с древними цивилизациями Центральной Азии. Рассмотрены актуальные вопросы сохранения историко-культурного наследия и проблемы музеефикации памятников.

The collection of articles was prepared on the basis of the reports of the International scientific conference "Cultures of the Asian part of Eurasia in antiquity and the Middle Ages", dedicated to the 80th anniversary of the birth and 50th anniversary of the scientific and pedagogical activity of prof. Nona Armaisovna Avanesova, held on May 28-29, 2021 at the Samarkand State University (Samarkand, Uzbekistan). The conference was attended by specialists from the largest scientific centers in France, Germany, Great Britain, Turkey, Ukraine, Russian Federation, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. This edition publishes materials reflecting the problems of archeology of Uzbekistan and adjacent territories (issues of cultural genesis, new discoveries and achievements). Much attention is paid to the debatable issues of the spiritual culture and art of Central Asia. The interaction of the cultures of steppe Eurasia with the ancient civilizations of Central Asia is discussed. Topical issues of preservation of historical and cultural heritage and problems of museumification of monuments are considered.

ISBN 978-9943-6430-4-8

© Коллектив авторов
© Самаркандский государственный университет

Archaeology in Termez, and the former field museum of Dzharkutan in Sherabad. I also deeply thank the directors of the archaeological expedition MAFOUZ-Protohistoire at Dzharkutan, Julio Bendezu-Sarmiento and Samariddin Mustafakulov, and the directors of the archaeological excavations at Molali, Nikolaus Boroffka and Leonid Sverchkov for their permission and support in the study of Bronze Age ceramics. My warm thanks are also directed to Verónica Martínez Ferreras for the implementation of the analytical studies, and to Lynne Rouse for her assistance. Lastly, I would like to express all my affection and sincere gratitude to Nona Armaisovna Avanesova for her continued help and the very good cooperation that we have built up over the years.

Dr. Frédérique Brunet

(Nanterre, France)

**Current researches on Eneolithic period in Central Asia,
from a Neolithic perspective**

Abstract. The Eneolithic period corresponds to the end of the neolithisation process in Central Asia, assuming different situations according to the regions. In Uzbekistan, it presents a significant transformation of human societies leading to the emergence of Bronze Age cultures, such as the Oxus civilization and the Andronovo steppe complex. In the Zeravshan Valley and in the Kyzyl-Kum desert regions, this period is characterised by multiculturalism and intensive interactions between steppes and oases societies. It is thus interesting to examine this period from a Neolithic point of view, *i.e.* the Kel'teminar culture in Uzbekistan, considering that the last stage of this culture is fully representative of this period. These regions appear indeed as key areas to highlight the long-term genesis and evolution of significant agricultural or pastoral societies, as well as the way in which they interact.

Keywords: Uzbekistan, Zeravshan Valley, Kyzyl-Kum, Eneolithic, Tajikistan, Kel'teminar, Neolithic, stone industry, Bronze Age

The remarkable work of Professor Nona A. Avanesova has opened up original avenues of research for a better understanding of the Chalcolithic/Eneolithic (or “palaeometal”) period in Central Asia and I propose to use here the more appropriate term of “Eneolithic” rather than “Chalcolithic”. Her discovery – among

others – of the Zhukov site in the Middle Zeravshan Valley in Uzbekistan⁸ [Avanesova, Dzhurakulova, 2008; Avanesova, 2012; Avanesova, 2013] provides further evidence of the existence of a unique cultural “melting pot”, a cross-cultural interaction between steppes and oasis regions in this valley. Sarazm, a few kilometres further in Tajikistan, exemplifies this situation attesting to very long-distance relations from Siberia through Central Asia to Mesopotamia and the Indo-Iranian borderlands. Indeed, the phenomenon of cultural diversity or “multiculturalism” particular in the Zeravshan Valley characterises this period. This period, usually dated to the 4th-3rd millennium BCE in this region, appears indeed as a key-transitional phase announcing the rise of major Bronze Age civilizations (*e.g.* Oxus Civilization/BMAC), but it is still very partially understood. I would like therefore to suggest here a change of perspective, reversing perceptions of this Eneolithic period, which will be discussed from a “Neolithic” perspective.

Evidences of an unique “material culture mix” in the Zeravshan Valley

The archaeological discoveries dated to 4th-3rd mill. BCE in the Zeravshan Valley bring to light a remarkable phenomenon: the existence of sites, including settlements, whose material culture and architecture (if any) reveals a complex combination of distinct cultural traditions.

In the middle course of the Zeravshan River, the Zhukov site dated to 4th-3rd mill. BCE and considered by N. A. Avanesova as a ritual place, probably a sanctuary, displays the interpenetration of two main cultural complexes from the Steppes region, thus implying their contemporaneity: Afanas’evo known in Siberia (Yenisei region), with extensions in Altaï and Tuva, and Yamnaya (Pit-Grave) in Trans-Uralian and Pre-Aral regions [Avanesova, Dzhurakulova, 2008; Avanesova, 2012; Avanesova, 2013]. The material culture shows, moreover, significant analogies with Ljavljakan sites in the Kyzyl-Kum desert, Uzbekistan, related to the local Kel’teminar culture, as well as with the nearby site of Sarazm (4th-3rd mill. BCE), discovered in 1976 by A. I. Isakov in Tajikistan and still studied in the framework of a long-standing French-Tajik cooperation [Isakov, 1991; Besenval, 1987; Besenval, Isakov, 1989; Lyonnet, 1996, and more recently: Razzokov, 2008; Mutin, Razzokov, 2014; Brunet, 2017]⁹. The large proto-urban settlement of

⁸ *Some other sites unpublished yet were discovered also by N. A. Avanesova in this middle part of the Zeravshan Valley (personal communication), but none of them presents such striking evidence of “multiculturalism”.*

⁹ *I refer also the reader to issues XVII (1977) and following of the journal of the Institute of Archaeology of the Academy of Sciences of Tajikistan: Arkheologicheskie raboty v Tadzshikistane (articles by A. I.*

Sarazm exemplifies this “cultural mixing”, providing outstanding evidences of a wide network of interactions with other Central Asia regions (*e.g.* the Geoksjur/Namazga III culture in Southern Turkmenistan, the Kel’teminar culture in Uzbekistan), including the Steppes (*e.g.* the Afanas’evo culture), but also with Proto-Elamite Iran, Mesopotamia, the Indus and Baluchistan. In addition to the funerary complex (Trench IV, Period I) that N.A. Avanesova linked to the Siberian culture of Afanas’evo [Avanesova, 2012], some elements from stone industry point to strong analogies with Eneolithic sites in Southern and North-Western Kazakhstan [Brunet, Razzokov, 2016]. Similarly, the pottery found in the Trench II at Sarazm, linked to the Kel’teminar culture (Chorasmian variant) by A. Isakov and B. Lyonnet [Isakov, Lyonnet 1989], does not clearly show such cultural affiliation according to A. V. Vinogradov, but rather tends to be closer to the Afanas’evo culture [Avanesova 2013]. Nevertheless, the Kel’teminar culture is definitely present at Sarazm, as well as earlier traditions (dating back to the Mesolithic period), as emphasized by the lithic industry [Brunet, Razzokov, 2016]. This “material culture mix” in the Middle Zeravshan Valley may result from exchanges, circulation of items, or the borrowing/reinterpretation of styles, but also from the coming of people from various cultural backgrounds - craftsmen perhaps - attracted by the rich variety of mineral resources of the valley [Besenval, 1987; Besenval, Isakov, 1989], and particularly by gold. The presence in Sarazm of several manufactured gold objects shows the strong interest in this precious metal from the Eneolithic period onwards [Francfort, 2005a; Francfort, Tremblay 2010; Francfort, in press].

Interestingly, this “material culture mix” is perceptible, at a lesser extent, in the Lower Zeravshan Valley, in Uzbekistan, especially in the Makhandaria region including open-air settlements and the graveyard of Zamanbaba which is dated to the first half of the 2nd millennium BCE by A. Askarov [Guljamov, *et al.*, 1966], but would rather be dated to the Middle Bronze Age (3rd millennium BCE) on the basis of the material culture and architecture analogies. However, questions remain regarding the cultural attribution of this Zamanbaba complex, its origin and dating. The predominance of the Yamnaya (Pit-Grave) tradition leads N. A. Avanesova to link genetically this graveyard to the Volga-Ural region [Avanesova, 2013]. Pottery, stone beads and clay figurines suggest the existence of relationships with Southern Turkmenistan Bronze Age cultures (*i.e.* Namazga V-VI). An Eneolithic phase seems also to be represented in the Zamanbaba settlement, with in particular stone tools and some sherds that are highly similar to the local Kel’teminar culture.

It should be mentioned that the presence of both steppic and oasis cultures from Southern Asia has been well identified in the Middle Zeravshan Valley, both in Uzbekistan and Tajikistan. Thus, tombs and isolated findings, as well as several sites, including a metallurgical settlement and tin mines, were related to the Bronze Age, *i.e.* the second half of the 3rd- first half of the 2nd millennium BCE (Tugai, Sazagan, Karnab, Mushiston, Dashti-Kozy, Muminabad, Chorbog, Dashti Khamirtepa, Dashti Urdakon, Tepai-Kamar...); most of them would reveal the presence of groups belonging to the Andronovo and Tazabagjab cultures, others (*e.g.*, the tomb of Zardcha-Khalifa) should be linked to the tradition of the Oxus/Bactria-Margiana cultures, with different variants (Mollali, Sapalli and Vakhsh) [*cf.* Isakov, 1991; Saidmurod, 1997; Eshonkulov, 2007; Parzinger, Boroffka, 2003; Avanesova, 2012]. Intriguingly, this cultural mixing through material culture and architecture is still observed in some Bronze Age sites, with a clear identification of steppe and oasis cultures. This interaction becomes particularly puzzling during the Bronze Age in the southern regions of Uzbekistan and Tajikistan, where cultural boundaries are becoming quite permeable between Andronovo, Oxus, Vakhsh... cultures/civilizations. I will not enter into this discussion here as it is not the focus point of this paper, but I would like to point out that this last type of interaction appears to me to be different from the one identified for the Eneolithic, both in its mechanisms and in its causes.

The new survey program in the Middle Zeravshan Valley (since 2017) by the archaeological mission “MAFAC” (formerly “MAFANAC”)¹⁰ aims to reconstruct the ancient settlement of this region, and to better understand the evolution of palaeoenvironmental conditions since the Final Pleistocene, by exploring both the left and right banks of the Zeravshan River, the latter having been very little explored in this perspective. Our first results have confirmed the occupation of the region by Bronze Age steppe groups, with the discovery of several rich rock art complexes (Figure 1) on the north bank of the river, near the foothills

¹⁰ *The French Archaeological Mission Ajakagytna on Neolithization in Central Asia ("MAFANAC") was created in 2005 with the support of the Commission consultative des recherches archéologiques à l'étranger (Advisory commission on archaeological research abroad) of the French Ministry of Europe and Foreign Affairs; its work, directed by F. Brunet (CNRS-UMR 7041) with M. Khudzhanazarov (Institute of Archaeology Ja. Guljamov of the Academy of Sciences of the Republic of Uzbekistan), focused on Uzbekistan. In 2015, this mission integrates Tajikistan and becomes the French Archaeological Mission in Central Asia ("MAFAC") by merging with the previous eponymous mission directed by H.-P. Francfort (CNRS-UMR 7041) since 1989 with, then, A. Razzokov (Institute of History, Archaeology and Ethnography A. Donish of the Academy of Sciences of the Republic of Tajikistan). The new "MAFAC" (dir. F. Brunet) has perpetuated the collaboration with the Uzbek co-directors, Muhiddin Khudzhanazarov and Tajik, Abdurauf Razzokov. We would like to express our sincere gratitude to all our partners for their continuous support since 2005, as well as to the French Académie des Inscriptions et Belles-Lettres for awarding its "Archaeology Label" to the mission in 2016-2017 and 2018-2019.*

[Khudzhanazarov, *et al.* 2020]. Some of these depictions could even be related to the Kel'teminar culture, according to M. Khudzhanazarov¹¹. The preservation of this historical heritage must be addressed urgently because of the human activity there (exploitation of rock-art sites as stone quarries). The occupation of the entire valley by the Neolithic groups of the Ke'lteminar culture was also confirmed, but above all the chronology of this settlement from the earliest Neolithic to the Eneolithic. Several OSL dates are expected to support the attribution of the archaeological sites discovered as well as the ancient age of the three generations of Zeravshan terraces that we have identified during these surveys (from Upper Pleistocene to Middle Holocene). This better understanding of the palaeohydrology of the valley also sheds light on the differential erosive processes between the eastern and western parts of the valley and, consequently, on the suitable areas for the discovery of pre- and protohistoric sites.

A change in perspective, reversing the perceptions. The place of the Kel'teminar culture

The phenomenon of cultural mixing, which characterises Eneolithic sites in the Zeravshan Valley, is still insufficiently understood and widely debated for many years now. Most scholars have examined these sites from a Bronze Age perspective. I propose to reverse the perspective and to shed a new light on the

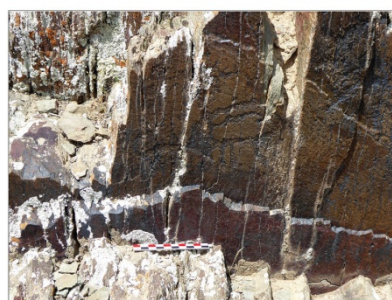


Figure 1. Uzbekistan, Middle Zeravshan Valley, details of petroglyphs discovered by the MAFAC expedition in 2018-2019. Photos by F. Brunet and G. Davtian, courtesy M. Khudzhanazarov © MAFAC.

¹¹ *Personnal communication.*

Eneolithic phase by considering the sites attributed to this period from a Neolithic perspective. In this respect, one point seems crucial: the presence in these sites, and beyond in Early Bronze Age sites, of ancient – Neolithic – traditions, including those from the Kel'teminar culture which have been present locally since at least the end of the 7th millennium BCE (*e.g.* Ajakagtyma in the Lower Zeravshan, Kyzyl-Kum desert) [Brunet, *et al.*, 2012]. It is not a matter of a few imported pieces (such as bifacial points) that are found in these sites, but of a real local stone industry which show the high-level mastery of the Neolithic technical traditions' knappers, as well as their specific but nonetheless usual tools on the appropriate raw materials¹². Even in the proto-urban site of Sarazm, the identification of a true microblade industry obtained by pressure knapping technique (a technical tradition that goes back to the Mesolithic period), along with a well-represented bladelet and blade productions which demonstrate a high level of technical skills, is striking [Brunet, Razzokov, 2016; Brunet, 2017]. Further fieldwork at this latter site might clarify the dating of the first occupations of the site.

Eneolithic sites in Zeravshan Valley, and more broadly in Uzbekistan, are therefore much more deeply rooted in local – Neolithic – traditions than was previously supposed. That coincides with an evolution of these ancient traditions, and specifically the local Kel'teminar culture. This evolution, which can now be clearly identified throughout the Neolithisation processes, is particularly obvious in the Kel'teminar sites in the Central and South-Western Kyzyl-Kum Desert, reconsidering evidences from previous research [Islamov, 1963; Vinogradov, Mamedov, 1975; Vinogradov, 1981; Guljamov, *et al.*, 1966], and as it is confirmed by the MAFAC recent discoveries in the Lower Zeravshan and Central Kyzyl-Kum [Brunet, 2011; Brunet, 2018].

Actually, this transitional period, namely the Eneolithic, represented a key-phase on the threshold of major Bronze Age civilizations development characterized by: firstly, the end of the Neolithisation process that began in Central Asia with the Mesolithic period (Early Holocene), and even the Final Pleistocene if we take into account the remarkable shift in technical traditions linked, in particular, with the appearance, then the predominant use of the pressure knapping technique for producing stone blanks and tools; secondly, the significant development of cultural interactions which intensified with the Neolithisation processes in Central Asia, and particularly from the 5th millennium BCE. The Neolithisation processes in Central Asia goes far beyond an economic development (the transition from a hunter-gathering way of life to a productive

¹² I would like to express my warmest thanks to Prof. Nona A. Avanesova for inviting me to examine the lithic material from several Eneolithic sites including Zhukov. This preliminary examination allowed me to affirm the presence of many Kel'teminar features in this lithic industry.

economy based on farming and cattle-breeding), it is a real cultural reconfiguration, the composite sites featuring a great demonstration of this expansion of relationship, which will be followed by the settling of Bronze Age civilisations.

Thus, in the Zeravshan Valley and the Kyzyl-Kum region, two phenomena define the Eneolithic period: the evolution of some material aspects of the Neolithic Kel'teminar culture until the Middle/Late Bronze Age, and the appearance of culturally composite sites, the second phenomenon being partly connected with the first one.

The Kel'teminar culture core area is recorded throughout the Kyzyl-Kum Desert in Uzbekistan, including the Zeravshan Valley and Chorasmia, as well as in Kazakhstan (Southern Syr-Daria regions), thanks to the remarkable work of numerous researches since 1939 [cf. Tolstov, 1958; Tolstov, 1960; Tolstov, 1963; Vinogradov, 1968; Vinogradov, Mamedov, 1975; Vinogradov, 1981; Islamov, 1963; Dzhurakulov, Kholmatov, 1991; Szymczak, *et al.*, 2006; Brunet, 2006; Brunet, *et al.*, 2012]; the sites found the Uzboj Valley (Northern Turkmenistan) and in the Pre-Aral regions (Kazakhstan) could be some extensions of this area. A long-term evolution of the settlement of this vast territory has been indeed demonstrated [Brunet, 2018]. Three successive stages of this culture have been proposed by A. V. Vinogradov [Vinogradov, Mamedov, 1975; Vinogradov, 1981]: an early ("Darjasaj") phase defined from Uchashchi 131, an advanced ("Dzhanbas") phase from the Tolstov site, and a "recent" phase from mostly Chorasmia and Ljavljakan regions. Our research corroborates this interpretation in three phases, while proposing slightly different chronological limits and a redefined characterization of these phases [Brunet, 2006; Brunet, *et al.*, 2012].

As a matter of fact, recent researches in the Lower Zeravshan, at the site of Ajakagytna, demonstrated the great antiquity of the Kel'teminar culture, *i.e.* at the end of the 7th millennium BCE (between 7375 ± 40 BP, and 7170 ± 50 BP) [Brunet, *et al.*, 2012; Brunet, *et al.*, in press], thus almost 700 years earlier than the occupation identified at the nearby site of Uchashchi 131 (6630 ± 100 BP and 6590 ± 130 BP) [Vinogradov, *et al.*, 1977]. Interestingly, the Kel'teminar sites attest to the same cultural tradition over several millennia, yet they are also places of technical innovation (e.g. original stone tools, specific use of the pressure knapping technique, hand-made pottery, stone and shell pendants, rock-art...) (Figure 2).

The discovery of a hundreds of Kel'teminar new sites in the Kyzyl-Kum confirms the continuity of the settlement and suggests original mobility strategies, as well as a flexible way of life given the fragile and therefore changing environment since the Early Holocene [Brunet, 2017; Brunet, 2018]. Indeed, during the Middle Neolithic phase of this culture, *i.e.* from the end of the 6th

millennium onwards, an extension of the settlement is observed to the entire Kyzyl-Kum Desert (*e.g.* Akchdaria delta and Ljavljakan regions), following the remarkably extensive hydrographic network at that time. Some areas have been inhabited for a long time: these are lake areas (Lower Zeravshan, Central Kyzyl-Kum) or deltas (*e.g.* Akchadaria), the other sites, still very numerous, are scattered along the paleo-channels or rivers. The mapping of these occupations also gives an insight into the hydrographic history of this region by reconstructing and dating the palaeobanks and palaeochannels, hardly detectable nowadays [Brunet, 2018]. Thus, a real network of oases was established on this ancient hydrographic system, and then was used to expand relationships with other communities. The sites locations seem to outline a map of circulation paths, in the way later oases on the “Silk Roads”. During the 5th millennium BCE, a major extension of relationships can be observed between Kel'teminar society and several Neolithic and Chalcolithic groups, both to the South and North, from the Urals (may be also Crimea) to the Altai, and as far as Southern Turkmenistan, and even Baluchistan [Brunet, 2006]. At this time, the Kel'teminar culture could even be considered as the nodal centre of a vast network, managing a key-position between northern steppes and southern agropastoral oases, that has been emphasized by several researchers, such as S.P. Tolstov, A.A. Formozov, A.V. Vinogradov and M.A. Itina.



Figure 2. Uzbekistan, selection of artefacts from the Kel'teminar culture, including the Neolithic site of Ajakagyta: (a) pendants and shark teeth; (b) "horned" trapezes and arrowheads; (c) core, blades and triangles (Ph. F. Brunet, E. Lesvignes, J.-D. Vigne, courtesy M. Khudzhanazarov) © CNRS, MAFANAC/MAFAC, AI ASRUz.

This second phase, dated to the 5th-4th millennia, is also marked by the appearance of regional particularities (*e.g.* the retouch of the symmetrical and “horned” trapezes), as well as by that of the “Kel'teminar arrowheads”, which are very numerous in the sites of Akchadaria and Ljavljakan regions. An affinity between these two regions can also be observed in the adornment and in the pottery (morphology, decoration and temper). It seems that this arrowhead type has been disseminated to sites in other regions, but also to culturally different sites; in the latter case, their presence in very small numbers and in an imported or imitated form suggests a more than just functional value for this item. In the Akchadaria sites (Dzhanbas-Kala 4, Tolstov, Dzhingel'dy 11 and Kavat 7), the pottery presents new features concerning the shape and decoration (motifs, techniques, use of ochre) [Itina, 1959; Vinogradov, 1968]; some of these elements indicate a reinterpretation of the ceramic tradition of Southern agropastoral societies (from Anau to Namazga III). Our findings in the Akchadaria region show the large scale of this phenomenon, leading to “culturally mixed” sites [Brunet, *et al.*, 2012].

The last chronological phase of Kel'teminar culture (Chorasmia, Zeravshan Valley including the Makhandaria region, Central Kyzyl-Kum) described as Final Neolithic by A. V. Vinogradov, could already be considered as an Eneolithic phase, given the composite character of these sites, with the appearance of Bronze Age features within the Kel'teminar assemblages. We could be dated it to the 4th-3rd millennium BCE, on the basis of archaeological assemblages (accurate dating is currently lacking). The specific material culture of Kel'teminar is changing, while the foundations of the technical tradition remains. Thus, bifacial pieces, often of small size, become increasingly numerous, the geometrics is limited to trapezes, and the “Kel'teminar arrowheads” become rare, but the specific bladelet and blade *debitages* are still clearly present. The ceramic assemblage also shows some changes (new tempers and morphologies, pots with covering decoration). It is precisely these elements, still associated with a minor part of those from the Middle Neolithic phase, that are found in the “composite” sites of the Zeravshan Valley. This process – integration of Bronze Age features (and particularly from the steppe area) – in the Kyzyl-Kum Kel'teminar sites echoes at a lesser extent the Eneolithic phenomenon of multiculturalism. Our research since 2005 in the Kyzyl-Kum, in the framework of MAFAC expedition, confirms this tendency and suggests a much greater extent of this phenomenon than previously estimated; new dating is in progress. One main question needs to be clarified: the mechanisms of the interaction between Kel'teminar and the steppic Bronze Age (acculturation, circulation of goods or people, exchanges...), as well as the causes of it (cultural, economic, demographic...). The progressive integration of Kel'teminar groups into Bronze Age steppe communities is one of the interesting hypotheses to be

investigated [Brunet, 2011]. The connection between Kel'teminar and the Bronze Age Tazabag'jab culture in Chorasmia [Itina, 1977] is also an issue that needs further investigation.

The development of relationships between Kel'teminar groups and Eneolithic/Bronze Age societies on the periphery of their territory fits well into this widespread process of major interactions between communities from the 4th millennium onwards. The Eneolithic period in the Zeravshan Valley and Kyzyl-Kum Desert would then be characterised by a still substantial – local – Neolithic tradition associated with a significant contribution of “external” cultural traditions, more or less well integrated, *i.e.* reflecting a stronger (genetic) or weaker (exchange) cultural link. Rather than a combination of various traditions in the same place, I would favour the hypothesis of a cultural syncretism in the case of certain sites, contributing to the emergence of new civilisations. The Zhukov site (*ca.* 3500-3000 BCE) would suggest the existence of an historical phase at the end of the Neolithisation process, when different populations interacted or even coexisted together in a same place, before the great network of interregional interactions between *ca.* 3000 and 2500/2200 BCE [P'jankova, 1994; Francfort, 2005a] which will contribute to the development of the Oxus Civilization (called also the Bactria-Margiana Archaeological Complex, “BMAC”), during its mature phase dating to *ca.* 2300-1700 BCE [Mutin, Francfort, 2019].

At Sarazm, rather than a massive arrival of populations coming from Southern Asia, there would be a local development of an original urbanization maintaining relationship with the southern agropastoral oases. In addition to the links with the Afanas'ev culture (*e.g.* the tomb of the “princess”; *cf. supra*), the material culture reveals a vast network of exchanges with specific cultural choices related to raw materials as much as objects and techniques [Francfort, Tremblay, 2010; Brunet, 2017]: lapis-lazuli from Badakhshan, on the “road” towards Iran and Mesopotamia [Casanova, 2013]; turquoise from Kyzyl-Kum, whose mines were exploited by Kel'teminar groups [Vinogradov, Lopatin, Mamedov, 1965; Vinogradov, 1972; Razzokov, 2008; Brunet, 2017]; shells from the Indian Ocean via Iranian or Pakistani Baluchistan; cylinder-seal comparable to those of Proto-Elamite Iran [Francfort, 2003; Francfort, 2005b]; the gold items whose style evokes the Royal tombs of Ur; clay figurines in line with Namazga III-IV cultural tradition in Margiana; painted pottery inspired from several cultural areas (Margiana, Southeastern Iran) [Isakov, 1991; Besenval, 1987; Isakov, Besenval, 1989; Lyonnet, 1996; Mutin, Razzokov, 2014]; grey pottery similar to those in Northeastern Iran; alabaster or aragonite ware comparable to those in Southeastern Iran; bifacial pieces analogous to those in Uzbekistan (Kel'teminar culture), as well as in Kazakhstan and Siberia (Afanas'ev culture) [Brunet, Razzokov,

2016]... Sarazm is also a place of innovation, such as copper metallurgy, which is emblematic of steppe cultures, but demonstrating here the same technical skills as those of Mesopotamia, the Iranian plateau and the Indus Valley. Similarly, the style of the locally made gold objects evokes the ancient Orient and in particular the royal tombs of Ur. It is important to note that many of these objects were made on site. Thus, beyond a basic circulation of objects, the coexistence of various populations and a phenomena of cultural hybridization can be envisaged. It could be the result of a cultural reconfiguration due to the formidable expansion of relationships since the end of the 5th millennium, but also the arrival of people attracted by the rich mineral resources of the Upper Zeravshan Valley [Besenval, 1987; Razzokov, 2008], and specifically the gold [Isakov, 1991; Francfort, Tremblay, 2010; Francfort, in press].

Therefore, Sarazm appears to be one of the rare key-site in Central Asia as a precursor of the urban Oxus civilization [Francfort, 2005a; Francfort, 2009]. It confirms that the Urukian and proto-Elamite expansion played a role alongside the Indus-Baluchistan cultures in the formation of the Oxus civilization (before *ca.* 2500), not forgetting the important and continuous relationship with the steppe world [*cf.* Amiet 1986; Francfort 2009; Hiebert 1994; Lamberg-Karlovsky 1996; Lyonnet, 2005; Anthony 2007; Kuz'mina 2007; Kohl 2007; Francfort et Tremblay 2010]. Several large enigmatic stone objects, perhaps symbolic, in Sarazm confirm this "filiation" in the Zeravshan Valley [Francfort, Tremblay, 2010]. The recent discovery in Tajikistan of the Farkhor necropolis [Bobomulloev, 2017; Bobomulloev, Vinogradova 2020] located in front of Shortughai, is also a remarkable evidence of the Early Bronze Age phase (*ca.* 2400-2200 BCE), specifically the Oxus civilization [Francfort, in press].

To conclude, it can be observed that the "cultural mixing" displays several dimensions, with a wider geographical and chronological extent than initially estimated. It remains to clarify the mechanisms at the origin of this phenomenon and the cultural interactions, as well as their causes. Meanwhile, the local Neolithic culture of Kel'teminar sees a transformation of some features of its material culture during this Eneolithic phase, while developing a network of extensive relations with both steppe and oasis societies. Found in all the Eneolithic sites of the region, it constitutes the local cultural substrate. Moreover, it was perhaps even at the origin of certain exchange networks, *e.g.* for the supply of turquoise from the Kyzyl-Kum. Thus, the question of the "integration" or "assimilation" of this Neolithic within the Bronze Age communities needs to be better understood. If the richness of the Zeravshan Valley in mineral resources, which were highly valued at that time, has been suggested as an explanation for the outstanding "material culture mix" at the proto-urban site of Sarazm, what about the other sites in the

valley? In this perspective, two aspects - not addressed here for lack of space - seem to be important to consider: copper and/or bronze metallurgy (access to resources, functional or symbolic needs, technological mastery, technical innovations...), as well as the economy, particularly of subsistence. In the latter case, it must be kept in mind that the Eneolithic represents the end of the long-term Neolithization process that has seen, since the Mesolithic, a deep transformation of societies on several aspects, including that of the way of life (with particularly the development of agricultural and/or cattle-breeding practices). The question of man's relationship to his environment (from taming to domestication of resources, strategies implemented in response to micro- or macro-regional environmental changes, the symbolic relationship between wild life and domestic life...), as well as that of the mobility of groups and cultural territories, particularly in the context of interactions between sedentary agropastoral populations and mobile, rather pastoral, populations, are some important avenues for further study.

Henri-Paul Francfort

(Paris, France)

In Zeravshan and Oxus valleys: when civilizations met in Protohistory

Abstract. I would like to draw attention upon the pioneering and scientifically strong works of Prof. Nona Avanessova, my respected colleague, by tackling the question of the possible coexistence in the same place, at the same time, in Eneolithic and in the Bronze Age, of different archaeological cultures, of different human groups, coming from different regions, and from very distant areas. In the following pages, two examples deal with Central Asia, one with the Zeravshan valley (Sarazm and Zhukov) and the other with the Oxus valley (Shortughai and Farkhor), and another example is given in Northern Baluchistan (Nausharo and Sibri).

Keywords: gold sources, lapis lazuly, migrations, trade routes

The Zeravshan valley is rich in desirable minerals, semiprecious stones and metals, including copper, tin and gold [Besenval, 1988; Parzinger, 2003; Avanesova, 2012a; Garner, 2013]. It attracted the attention of ancient societies since the Eneolithic. Sarazm (Tajikistan), located near the place where the river flows out of the mountains, has revealed long distance relations in the late 4th – to