

---

RUSLAN MURADOV

## DEVELOPMENT OF ARCHAEOLOGY IN TURKMENISTAN IN THE POST-SOVIET PERIOD

**Abstract:** *The brief overview of the main aspects of archaeological research in Turkmenistan over 30 years (1991-2021) is dedicated to structural transformations in the organisation of historical research and contains general characteristics of field and expeditional activities in this country. The article summarises the preliminary results of excavations and the most important research issues related to these works. It shows the changing nature of archaeological data and the significance of these finds in a broader regional context.*

**Key words:** *Turkmenistan, Margiana, Nisa, archaeology, expeditions, UNESCO.*

**Citation:** *Muradov, R. G. (2023). Development of Archaeology in Turkmenistan in the Post-Soviet Period, Bulletin of the IICAS 36, 85-103.*

**Article link:** <https://doi.org/10.34920/2181-8592-36-008>

---

THE FORMATION and development of archaeological research in the Turkmen SSR took place in the second half of the 20th century and was mainly associated with the activities of two major Soviet expeditions: Khorezm Archaeological and Ethnographic Expedition (KhAEE) and Southern Turkmenistan Archaeological Complex Expedition (YuTAKE). Almost all the archaeologists who worked in this republic were somehow connected with them, were associates and students of their leaders – Michael Masson and Sergey Tolstov. Despite their independence from each other – the outstanding scholars researched different areas and did not cooperate in any way throughout their lives – today both of them can be placed side by side as the founders of Central Asian archaeology. The KhAEE and YuTAKE were interconnected through the Shaja Batyrov Institute of History under the Academy of Sciences of the Turkmen SSR, whose staff participated in both expeditions, and also worked on their own programmes, including jointly with colleagues from the Leningrad branch of the Institute of Archaeology under the Academy of Sciences of the USSR (LOIAN SSSR) and Moscow State University (MGU). Finally, many archaeologists who trained within the KhAEE and YuTAKE later became prominent figures in the Institute of Archaeology under Russian Academy of Sciences (IA RAN), Institute of the History of Material Culture under Russian Academy of Sciences (IIMK RAN), Institute of Oriental Studies under Russian Academy of Sciences (IV RAN), as well as various research organisations in Uzbekistan, Tajikistan and other Soviet republics.

In the 1980s, the activity of KhAEE and YuTAKE decreased markedly, and after the collapse of the Soviet Union it completely stopped.<sup>1</sup> But since the first years of Turkmenistan's independence, close cooperation between local archaeologists and colleagues from the UK, USA, Italy, France, Poland, and Russia began – but this time in a different format. Joint international expeditions were launched, which covered a number of archaeological sites in Southern Turkmenistan, that is, the traditional YuTAKE area. Moreover, their research focused on the elaboration of research concepts developed at the time under the guidance of M. Masson. Certainly, the use of computer technology, modern navigation and geophysical tools, as well as aerospace survey data, the involvement of specialists in palaeobotany, geology, hydrology and palaeozoology facilitated a more accurate and specific reconstruction of the ancient period of history. The main objects of study by the international expedition are Palaeolithic, Bronze, Early Iron and Parthian monuments. Their results have been published in a number of monographs and research articles in Russian, English, Italian, German, Polish and French.

The intensification of archaeological research in Turkmenistan and the consistent opening of the

---

<sup>1</sup> The last activity undertaken by the KhAEE in Turkmenistan was in 1991, when Bella Weinberg and Semen Kolyakov worked at the Kalalygyr 2 archaeological site, and Sergey Bolelov worked at the Nurum oasis. YuTAKE was formally preserved as part of the Batyrov Institute of History, and then as a department at the National Centre for Archaeological Research under the Academy of Sciences of Turkmenistan and was finally closed in 1997 together with the Academy of Sciences.

country to international cultural cooperation made a huge contribution to the sensational expansion of knowledge, primarily about the urban civilisation in the late 3rd and 2nd millennia BCE in the south of Central Asia. Thanks to old and new archaeological data, it is now possible to understand the cultural achievements of the ancient population of Southern Turkmenistan within the framework of socio-political and economic dynamics involving the entire region, from the Eastern Mediterranean to the Indus Valley and from the Karakum Desert to the Arabian Peninsula. In addition, it is possible to trace the extensive relationships of local Bronze Age cities with synchronous civilisations from Mesopotamia and Elam to Harappa, who participated in the international exchange in that period.

Thanks to foreign participation, the volume of field work on the territory of Turkmenistan in the post-Soviet period has generally increased, modern research methods have become more widely used, and the results of excavations have been promptly covered in regular special publications. The large volume of research publications already available on all these excavations would require a significant reference datasets. Therefore, we will limit ourselves to mentioning only the expeditions and organisations that conducted the excavations, the heads of archaeological research, as well as the main monographs and articles covering certain fundamental issues. More information about the course and results of excavations over 30 years (1991-2021) can be found in various publications. There were only three such magazines in Ashgabat during this period: the journal *Izvestiya Akademii nauk Turkmenistana* (News of the Academy of Sciences of Turkmenistan), which ceased to exist in 1999<sup>2</sup>, the quarterly magazine *Miras*, published since 2000 in Turkmen, English and Russian, as well as the collection *Art and Architecture of Turkmenistan* edited by M. A. Mamedov<sup>3</sup>. Articles have also been published in foreign periodicals – in Russia (*Rossiyskaya arkhologiiya*, *Arkheologicheskiye otkrytiya*, *Kratkiye soobshcheniya Instituta arkheologii RA*, “*Arkheologicheskiye vesti*, *Zapiski IIMK RAN*, *Vestnik drevney istorii*, *Kulturnyye tsennosti*) and in other countries (*Iran* [Journal of the British Institute of Persian Studies], *Parthica*, *Les Dossiers d'Archéologie*, *Silk Road Art and Archaeology*, *Ancient Civilisations from Scythia to Siberia*, *Bulletin of the Asia Institute [New Series]*, *Journal of Inner Asian Art and Archaeology*, *Archäologische Mitteilungen aus Iran und Turan*, *Archäologie*

*in Iran und Turan* and other). In addition, information about archaeological research in Turkmenistan has been published in a number of separate collections, as well as in the materials of many conferences.

### Reorganisation of archaeology

Immediately after the split of the USSR, the young Turkmen state embarked on an active integration into the world community. In particular, after signing the UNESCO Convention in London on 17 August 1993, Turkmenistan became a member of this organisation. The UNESCO Convention on the Protection of the World Cultural and Natural Heritage was signed and ratified by Turkmenistan on September 30, 1994. As a result of successful cooperation of Turkmen specialists with international experts in 1999, the World Heritage List for the first time included an object located on the territory of Turkmenistan. This is a complex of Ancient Merv archaeological sites, including individual monuments near its historical centre. In 2005, the Kunya-Urgench ensemble of medieval buildings was included in this list, in 2007 – the Parthian fortresses of Nisa, and in 2023 – seven objects as part of the international group nomination *Zaravshan-Karakum corridor of the Silk Road*.

In 1994, following a decree by the Head of State, the National Directorate for the Protection, Study and Restoration of Historical and Cultural Monuments (NDPSR) was established, which, as a specially authorised state body for the protection of monuments, in addition to strictly protective functions, is responsible for conducting and coordinating research, conservation and restoration activities at archaeological sites and individual historical structures. During the years of operation of this institution in the system of the Ministry of Culture of Turkmenistan, it had to directly engage in academic developments in the field of restoration and conservation of archaeological excavations, manufacture of restoration materials using ancient technologies and standards, solving urban planning aspects in historical zones of urbanising cities and regional centres. When developing design documentation for restoration, of course, it was also necessary to conduct archaeological surveys, and, if needed, to conduct stationary archaeological excavations. To coordinate the work of expeditions (both foreign and local), a special Academic Council for Archaeological Research has been established under the Ministry of Culture of Turkmenistan, which is also responsible for reviewing academic reports of expeditions and issuing excavation license.

The last 30 years have been marked by structural transformations in the organisation of historical studies in Turkmenistan. Following the decree of the President of the country dated December 15, 1997, the ac-

<sup>2</sup> The contents of all issues for 1995-1999 were published in the International annual *Cultural Values* 2004-2006 (Ed. by Ruslan Muradov. St.Petersburg: St.Petersburg State University, Faculty of Philology, 2008. P. 249-250).

<sup>3</sup> From 2012 to 2019, five issues were published.

ademic Batyrov Institute of History was renamed the Institute of History under the Cabinet of Ministers of Turkmenistan. On April 3, 2001, the Head of State Saparmurat Niyazov supported the initiative of Vadim Masson and signed a decree on the establishment of the State Institute of Cultural Heritage of the Peoples of Turkmenistan, Central Asia and the East under the President of Turkmenistan. Its objectives also included conducting research in the field of archaeology. In 2004, this institute was renamed the Miras National Cultural Heritage Centre, and on June 12, 2009, it was closed along with the Institute of History under the Cabinet of Ministers. Their successors were, respectively, the newly established Institute of Archaeology and Ethnography under the Academy of Sciences of Turkmenistan and the Institute of History under the Academy of Sciences of Turkmenistan. Ten years later, following the decree of the President of Turkmenistan dated January 29, 2019, both institutes were merged into one, called the Institute of History and Archaeology under the National Academy of Sciences. However, international archaeological expeditions (with three exceptions) have been operating<sup>4</sup> all these years on the basis of bilateral agreements on joint activities only with NDPSR. It was they who gave the most impressive results during the long-term stationary excavations at such sites as Ilgynly-depe, Gonur-depe, Ulug-depe, Old Nisa, as well as the sites of Merv, Sarakh oasis and Dehistan.

### Turkmen-Russian expeditions

The most impressive, of course, are the regular excavations of the Bronze Age monument Gonur-depe in the ancient delta of the Murghab River, which have been carried out since 1974 by the Margiana Archaeological Expedition (MAE). Until 1986, it was one of the expeditions of the Institute of Archeology of the Soviet Academy of Sciences, and then functioned under the patronage of the Ministry of Culture of Turkmenistan. Since 2001, the MAE has been a joint project by NDPSR and the Miklukho-Maklay Institute of Ethnology and Anthropology under the Russian Academy of Sciences (IEA RAN). The founder and the first leader of this expedition was D.Sc. Viktor Ivanovich Sarianidi (1929-2013). After his death, the expedition has been headed by D.Sc. Nadezhda Anatolyevna Dubova, (b. 1949). The MAE has collected and systematised a huge amount of factual material

on the ancient sedentary culture in the 3rd-2nd millennia BCE, which revealed complete identity with the culture of ancient Bactria, previously discovered by Soviet archaeologists in northern Afghanistan. All this allowed Sarianidi to substantiate the existence of the Bactria-Margiana archaeological culture (BMAC), which in the Western tradition began to be called the Oxus Civilisation (*Sarianidi* 1990; 2002b, 2005, 2008b; *Lyonnet, Dubova* 2021; *Hiebert* 1994).

In the first decades, the MAE identified more than 300 Bronze and Early Iron Age sites in the ancient delta of the Murghab River, objects from the 2nd millennium BCE were excavated – Togolok 1, Togolok 21, the more ordinary Takhirbai III, the largest site of this oasis Northern Gonur and the nearby Southern Gonur (the so-called temenos) (*Hiebert* 1994). MAE's special focus was on the so-called palace complex (Northern Gonur) (*Sarianidi* 2002a). In parallel, research was conducted on the necropolis, which began in 1991 in collaboration with the Ligabue Research Centre from Venice (*Rossi-Osmida* 2002; *Sarianidi* 2007). The first excavations of the Great Necropolis of Gonur were carried out by Sandro Salvatori (1948-2020), who studied and published the burials found there. He wrote a whole series of publications dedicated to the main issues of the BMAC (*Salvatori* 1995; 1998; 2000; 2002; 2010). Later, archaeologist Berdy Nefesovich Udeumuradov (b. 1958) joined these works, who was then replaced by Ejegul Ataevna Muradova (b. 1951) – both from NDPSR. Archaeologist Terkesh Khojaniyazov (b. 1938) from TSU, anthropologist Orazgeldy Babakov (1935-2021) from the Shaja Batyrov Institute of History and others also worked fruitfully for the expeditions. The large number of fine art objects made of gold, silver, bronze, ceramic and carved bone and stone items radically changed the academic understanding of BMAC. The excavations at Gonur-depe also added monuments to the list of monumental architectural objects of Margiana dated to the Bronze Age, confirming the validity of earlier assumptions about the existence of an original Bactria-Margiana architectural tradition in the 2nd millennium BCE (*Mamedov* 2003).

Since 2003, the main focus was not so much on excavations, but rather on the preservation of what was found, that is, the conservation and restoration of the walls of structures. Most of the participants of the Margiana expedition, partially financed by the international programme US Ambassadors Fund for the Preservation of Cultural Heritage, were appointed to the conservation of the walls of the ceremonial rooms of the palace, the complex of funeral rituals, fortress walls, the “royal sanctuary” outside the palace. Comprehensive research at Gonur-depe, including annual field reports and analytical articles on BMAC issues in the broadest context, are published in the Pro-

<sup>4</sup> This refers to the agreements of the Turkmen State University (TSU) with the IA RAN, the Institute of Archaeology under the University of Warsaw and the Excavation Centre of the University of Turin, which were in force in 1990-1993. From the Turkmen side, they were supervised by Professor Annageldy Gubaev of the Historical Faculty of TSU.





**Fig. 1. Gonur-depe. Conservation of the ruins of the palace and temple complex (photograph by Sul-eyman Charyev, 2019)**

ceedings of the Margiana Archaeological Expedition, published in Moscow under the editorship of Nadezhda Dubova<sup>5</sup> (Dubova 2022). Everything that is now known about the BMAC allows us to distinguish three stages in this urban civilisation in southern Central: 1) the phase of integration and expansion (Middle Bronze Age); 2) the phase of political disintegration (Late Bronze Age); 3) the phase of urban planning and demographic collapse (final Bronze Age). Such a division could properly place this area in the cultural and political history of the wider Middle East (Sarianidi 2008a; Francfort, Tremblay 2010; Salvatori 2016).

Archaeologists from the IIMK RAN continued their research on the Bronze Age site of Altyn-depe, which was conducted for many years under the general guidance of Vadim Masson, who made a huge contribution to the development of archaeological studies in Turkmenistan. The last excavations at Altyn, which aimed to continue stratigraphic research, were led by Lyubov Borisovna Kircho (b. 1951) (Masson, Kircho 1999; Masson, Berezkin 2005; Kircho 2011). Another team from the same institute, led by Natalia Fedorovna Solovyova (b. 1956), continues excavations at the nearby Ilgynly-depe monument. The research of this settlement, which functioned continuously from the late 5th to the late 4th millennia BCE,

lifted the veil over one of the earliest cultic complexes of the Chalcolithic period, in which traces of the interior decoration of rooms with polychrome wall paintings was remaining. A significant part of the site consisted of dwellings, each of which included a home sanctuary. Unique wall paintings and sculptures, clay and charred wooden benches, painted floors, altars, stone statues, as well as items intentionally left on the floors before the destruction of the buildings were found in them. The last group included copper tools and adornments, terracotta, stone figurines, ceramics, stone and bone tools. The abundance and quality of the works of art, architectural details and other objects of a non-utilitarian nature found on Ilgynly-depe, reflecting the ideological ideas of the inhabitants of the village, puts this settlement on a par with the world-famous Neolithic monuments in Anatolia (Solovyova 2005; 2008; 2011; Solovyova, Blokhin 2022).

In 1999, an Italian team (IsIAO-MAE) led by Sandro Salvatore worked together with Russian colleagues at Altyn-depe and Ilgynly depe (Salvatori, Vidale, Guida, Masioli 2009; Kircho, Salvatori, Vidale 2009).

In 1980-2002, the Central Asian Expedition of the Institute of Archaeology of the USSR Academy of Sciences (RAS) worked on the territory of Turkmenistan. The expedition was organised by a prominent specialist in ancient archaeology, corresponding member of the Russian Academy of Sciences,

<sup>5</sup> From 2004 to 2021, 8 volumes were published.





Fig. 2. Yylgynly-depe. Excavation 2006 Author's archive

Gennady Andreevich Koshelenko (1935-2015). In cooperation with the Department of Archaeology of TSU, this expedition conducted excavations in Old Nisa (the only stratigraphic probe trench was made there), on the neighboring Parthian monument Mansur-depe, as well as in the Merv oasis - on the sites of Chilburj, Erk-kala and a number of others. However, the main object of research for many years for Koshelenko became the site of Göbekly-depe, the study of which allowed for the first time to specify all the main elements of the plan of the fortress from the Parthian period (Koshelenko 2007). The excavations resulted in the discovery of a number of sites in southern Turkmenistan, varying in character and dated to the Parthian and Sassanian eras. Thus, it was established that Mansur-depe was the estate of a Parthian aristocrat, which even included a small temple of fire (Koshelenko, Gaibov 2011), and Göbekly-depe was a state fortress on the border with the desert, as well as other facts. During the excavations, a lot of material was also obtained (ceramics, coins, terracotta statuettes, ostracons). But the most interesting are the clay

bullae discovered in the excavated bypass corridors and rooms at Göbekly-depe. The bullae are imprints of the seals of officials (magistrates) who “approved” the shipment of various goods and cargoes, both to the garrison of the fortress and outside the Merv oasis as trade items. Their number is amazing – at least 3,000 fragmented and whole examples. Based on the results of the analysis of these bullae, a whole series of articles was published (Gaibov 2007). Vasif Abidovich Gaibov (b. 1953) (Institute of Archaeology of the Russian Academy of Sciences), Annageldy Gubaev, Akmurad Babaev (both TSU) and others also took part in the expedition.

After G. A. Koshelenko retired from active field work, the expedition he created continued to function in the form of two autonomous teams: the Parthian, led by Viktor Nikolaevich Pilipko (b. 1941) – excavations were carried out mainly on the sites of Old and New Nisa, as well as on other monuments in the foothills of Kopetdag in Turkmenistan), and the Bactrian, which was headed by Nigora Dvurechenskaya (excavations at Kampyr-tepa and a number



**Fig. 3. Old Nisa. Tower-like structure. South portico. Reconstruction by Victor Pilipko, computer graphic by Anton Nikitenko**

of other monuments in the Surkhandarya region of Uzbekistan). Archaeological work on one of the key sites of the Parthian era – the ancient settlement of Old Nisa, which was carried out by Pilipko since 1979, was interrupted after the split of the USSR, but resumed under his leadership in 2001 and continued with relative regularity for 18 years. These works were carried out by IA RAN, and then by IEA RAN in cooperation with NDPSR. The Nisa team changed its name many times and was funded from various sources. Since 2005, it was the Nisa team of the Central Asian Expedition of the IA RAN. From 2010 to 2019, The Nisa team formed part of the Margiana archaeological expedition. During this period, Pilipko was excavating a tower-like structure, during which answers were found to many questions concerning the planning and structure of this, apparently, at one time the tallest building of the Old Nisa – Its swollen ruins still dominate the surrounding landscape. The excavations revealed the columned front portico of the main facade and the small portico on the back of the temple, which, in all probability, was also decorated with columns topped with Corinthian capitals. Numerous fragments of ornamental and descriptive wall paintings were found, which became the first examples of this type of art in Parthia. In parallel, since 2009, Pilipko began stratigraphic studies of the New Nisa, focusing his main efforts on the excavation of the northeastern section of the settlement. He pub-

lished his preliminary conclusions about the purpose of the Parthian sites of Nisa in several important books and articles in recent years (Pilipko 2001; 2015; 2018).

### **Turkmen-British expeditions**

*Perestroika* in the USSR opened up opportunities for British archaeologists to participate in research on the territory of Turkmenistan. In 1987, Vadim Mas-son invited Professor Peter John Ako and Professor Timothy Champion, who made introductory trips to a number of ancient sites in southern Turkmenistan to select an object of Soviet-British cooperation in the field of archaeology. They were particularly interested in Jeitun, where Kakamurad Kurbansakhatov had begun a new cycle of excavations. Appreciating the importance of this site, the British expressed their willingness to participate in this work in order to study stratigraphy and make an in-depth analysis of the environment.

The 1989-92 Jeitun Archaeological and Environmental Project became the first experience of international cooperation in this field in the modern history of Turkmenistan. On the Soviet side, the overall management of the project was carried out by Vadim Mas-son, the excavations were led by D.Sc. Yuri Evgenievich Berezkin (b. 1946) from the LOIA AN SSSR / IIMK RAS. They featured specialists from this institute, in-



cluding archaeologists Dr. Valerii Nikonorov, Nikolai Savvonidi, Dr. Natalya Solovyova, palaeozoologist Dr. Alexey Kasparov, traceologists D.Sc. Galina Korobkova, Tamara Sharovskaya, Ogul'sona Lollekova. The group of British archaeologists was headed by Professor David Russell Harris (1930-2013). It included Gordon Hillman, Dr. Susan Limbry from the University of Birmingham and Dr. Michael Charles from the University of Sheffield, as well as Dr. Chris Gosden from La Trobe University, Australia and others.

Four field seasons of intensive work on the monument and beyond by the extended team confirmed Masson's previous interpretation of Jeitun as the earliest known agricultural settlement in Central Asia, with a material culture generally reminiscent of early agricultural settlements in Southwest Asia, but at the same time demonstrating many local distinctive cultural features. Perhaps the most important conclusion that can be drawn from the results of this project is that data on agriculture at this site are obtained from several independent sources: plant remains, animal remains, tool wear analysis, soil micromorphology and studies of local climatic, geomorphological and hydrological conditions. The bodies of evidence obtained from these separate data sources complements each other and mutually support the interpretation of Jeitun as a very early Neolithic agricultural settlement, whose inhabitants grew crops, raised sheep and goats and hunted wild animals, maintaining a relatively complex sedentary life in this marginal environment between the foothills and the desert. (Harris 1993, 2010).

The following consortium, formed by University College London, the British Museum, the Institute of History of the Academy of Sciences of Turkmenistan and the IIMK RAN for the purpose of archaeological research in Merv, operated from 1992 to 2000 under the title of *International Merv Project* (IMP) and was headed by Professor Georgina Herrmann (b. 1937). She played a key role in the successful submission of an application for inclusion of Merv in the UNESCO World Heritage List in Central Asia, which was approved in 1999. The co-director of the project on the Turkmen side was Kakamurad Kurbandurdyevich Kurbansakhatov (b. 1952). St. John Simpson (b. 1962) of the British Museum, Vladimir Alekseevich Zavyalov (1946-2020) of the IIMK, Sergey Dmitrievich Loginov (1951-2003) of the Institute of History under the Academy of Sciences of Turkmenistan and many others took an active part in the IMP. Reports on each of the nine IMP field seasons were regularly published in the journal of the British Institute of Persian Studies *Iran* (issues XXXI-XXXIX). In addition, a collective monograph edited by J. Herrmann and dedicated to the mud buildings of medieval Merv was published (Herrmann 1999). Within the frame-

work of this project, in addition to studying the mud structures, the fortification of the main Merv sites was thoroughly studied, old excavations at Erk-Kala and Giaur-kala were cleaned up and new archaeological excavations of the Giaur-Kala fortress wall were carried out, revealing a number of new data on the fortification of ancient Margiana (Zavyalov 1999). A probe trench was also made in the Sultan-Kala wall, and the late Merv fortifications – Abdullakhan-kala and Bayramalikhan-kala – were studied (Brun, Annaev 2002; Brun 2004). Archaeological clearance of structures on the territory of Shakhriyar-ark in Sultan-Kala was also carried out. Work was carried out on the systematisation of stamped ceramics from Merv dated to the 11th-12th centuries, which was discovered during the work of YuTAKE and stored in museums of Turkmenistan, an assessment of its potential for the presentation and development of reference collections was made (Puschnigg 2006). In addition, a large number of photographs with images of architectural monuments of Merv and their details, taken from the end of the 19th century and throughout the 20th century, were systematised. This work, published as a catalogue with an attached CD, became the first experience of digitalisation of the database on the architectural heritage of Turkmenistan (Herrmann et al. 2002).

This was followed by the *Ancient Merv Project* (AMP) consortium, launched under a contract between the Institute of Archaeology of University College London and NDPSR, which was headed by Prof. Tim Williams (b. 1958). He is known for his pioneering use of modern documentation and research methods, his influence on archaeology as a discipline in the Central Asian region, and his contribution to broader research on the so-called Silk Road. AMP began as a result of a five-year (2001-2005) cooperation between the UCL Institute of Archaeology and the Archaeological Park *Ancient Merv*, which is part of the NDPSR system. In 2002, it was expanded through five-year cooperation (2002-2006) with the State Institute for the History of the Cultural Heritage of the Peoples of Turkmenistan, Central Asia and the East, which was represented by Kakamurad Kurbansakhatov during this period. Pierre Brun, David Gilbert, Gabriele Pushnigg, Louise Cook, Sjord van der Linde, Nikki Harris, Guy Joraev, Paul Wordsworth (all UCL) actively participated in the project, and from the Turkmen side architects Muhametdurdy Mamedov, Igor Zubanov, Rejepmurad Jepbarov and others.

AMP pursued a number of comprehensive goals: improving the understanding of the survival conditions and potential of archaeological resources; developing holistic site management (conservation, research, education and interpretation); interrelated aspects of a mature approach to archaeological re-



**Fig. 4. Ancient Merv. Prof. Tim Williams conducts an educational and practical seminar near Lessre Kyz-Kala, 2007. Author's archive**

sources – terrestrial and underground); active research of ancient archaeological sites; development of an information base on the basis of which decisions are made about the management and research potential of ancient sites; development of a local skill base in the field of archaeology, management and conservation; accessibility of research results to the widest possible academic and local audience and increasing the effectiveness of the use of this site and archaeological resources for educational purposes. As a result of the project, the international team had a real sense of common goals and a common vision. Knowledge sharing, including the development of common terminology, significantly improved the exchange of information and ideas. In 2005, a major training course was held with the support of the World Monuments Fund, which was attended by employees of State archaeological parks from all over Turkmenistan. Later, such seminars in Merv contributed to the development of local staff's skills in planning, organising management and conservation of monuments, working with the latest equipment for mapping, three-dimensional capturing of objects and other technical means that help us effectively solve the tasks we face.

For 12 years AMP has brought tangible results in research and conservation work on the Merv sites. Under the constant supervision of Tim Williams, individual Seljuk era structures on the territory of Erk-kala, Giaur-kala, Shakhriyar-ark and Sultan-kala, as well as Abdullakhan-kala, included in the system of both multi-temporal and synchronous settlements, were archaeologically cleaned. A review of previous years' research on the territory of the park was carried out, but documentation about the monuments and their exact location was not always available. This information created an important basis for further research. In particular, such important sites as the Akcha-kala caravanserai, lost in the sands of the Karakum desert, and some other architectural and archaeological sites, whose exact coordinates had never been recorded before, were rediscovered. A series of satellite images was collected, as well as aerial photography of the historical landscape and individual archaeological and architectural sites was carried out for the first time. A series of topographic works was carried out, including the verification of satellite images on the ground, which made it possible to improve the topographic base for the development of cartographic work in the future.



This work provided the first accurate baseline map for the development of GIS.

The strategy of the British mission in Merv was determined by the range of interventions already done. Small-scale and targeted excavations were undertaken (for example, the so-called Grand Bazaar in the centre of Sultan Kala) to date various elements of the urban layout and to study important changes in the life of the huge medieval city. This strategy took into account the threats hanging over the sites, such as the expansion of modern cemeteries within the suburbs of Sultan Kala and the erosion of mud structures. The AMP examined a significant number of architectural monuments in the park, assessed their condition, which was required to develop a programme of urgent conservation measures. The AMP specialists took the trouble to make an overview of the canals and drainage systems inside the park and in the surrounding area. This made it possible to assess the degree of drainage's impact on the preservation of the historical landscape.

### Turkmen-Italian expeditions

The beginning of Italian studies in Turkmenistan is associated with the activity of Gennady Koshelenko. In 1988, due to the atmosphere of *perestroika*, which in the Soviet Union favoured new opportunities for international cooperation, including in the field of archaeology, he invited the director of the Turin Centre for Archaeological Research and Excavations, Prof. Antonio Invernizzi (1941-2021) to take part in the field research that was conducted on Nisa. The first Italian seasons took place in 1990-1993 and were dedicated to the clearing of the *Building with the Round Hall* (BRH) with the remains of a monumental clay sculpture, as well as the topographic survey of the Old Nisa using modern high-precision technology. Since 1993, The Turin Centre no longer worked as part of the Koshelenko expedition, but rather as an independent mission established on the basis of a cooperation agreement with TSU. For eight years, A. Invernizzi and his team conducted research on the BRH: clearing floors, excavating the western and northern sectors of the bypass corridor. During these works, a previously unknown building was discovered adjacent to the BRH on the northern side. It became the main object of study in subsequent years, when the Turin Centre ceased cooperation with TSU and continued its activities in Turkmenistan, concluding a cooperation agreement with NDPSR – since 2001 to the present (Invernizzi, Lippolis 2008).

A. Invernizzi focused on the study and interpretation of works of artistic culture discovered during the excavations of Nisa since the YuTAKE period. He published two monographs on the analysis of ex-

amples of toreutics and Hellenistic marble sculpture from Old Nisa (Invernizzi 1999; 2009). Under his scientific leadership, a major monograph by Dr. Eleonora Pappalardo, dedicated to a detailed analysis and interpretation of the Parthian rhytons of Nisa, was also published (Pappalardo 2010). A. Invernizzi's successor at the head of the Italian-Turkmen expedition since 2000 is Dr. Carlo Lippolis (b. 1970), who first excavated the above-mentioned structure, conventionally called the *Red Building* (Lippolis 2011), and then began to study the complex of utility buildings he discovered in the southwestern sector of Old Nisa (Lippolis 2013; 2019; Lippolis, Manassero 2015).

Since September 1991, on the basis of an agreement between the Ministry of Culture of Turkmenistan and the Ligabue Research Centre (Venice), research began in the ancient Murgab Delta, on Gonur-depe – first as part of the Margiana expedition led by Victor Sarianidi, and since 1992, an independent mission that focused on the excavation of a vast necropolis of the Bronze Age. Ten years later, the Ligabue Centre expedition led by Gabriele Rossi-Osmida (1943-2020) began systematic excavations in the Aji-Kui oasis 15 km west of Gonur-depe with the participation of archaeologist Berdy Udeumurov and architect Annamurad Orazov. Two objects, Aji-Kui 1 and 9, located 800 m from each other, were subjected to a detailed study (Salvatori 2002). The first is the largest monument with an area of up to 5 hectares. Its excavations were carried out in the first three field seasons of 2001-2002, and the results of these works are published in a special report of the expedition (Rossi-Osmida, Udeumurov 2003). Most of the discovered archaeological materials found on the Aji-Kui sites are analogous to many BMAC monuments, therefore, AK1 and AK9 are dated to the late 3rd – first third of the 2nd millennium BCE, which is supported by radiocarbon analyses (Rossi-Osmida 2007; 2011a).

In parallel with the work in the Aji-Kui oasis in 2009-2011, Rossi-Osmida with the participation of Annamurad Orazov carried out new research and conservation work on the ruins of the early medieval Christian basilica of Kharaba-köshk, 15 km north of the modern city of Bayramali on the territory of the Sassanian settlement of Duechakyn (Rossi-Osmida 2011).

In 1995-2004, a project was carried out by the Italian Institute of the Near and Far East (I.S.M.E.O.) and the Italian Ministry of Foreign Affairs (project Director Sandro Salvatori) together with IA RAN (co-director Gennadii Koshelenko) and TSU (co-director Annageldy Gubaev) to survey settlements in the ancient Murghab delta and create an archaeological map of this vast territory (more than 20,000 square kilometres). Together with Italian researchers Maurizio Tozi, Bruno Marcolongo, Barbara Cerazetti, Maurizio Cat-



Fig. 5. Aji-Kui 9. Excavation 2006. Author's archive

tani, Russian archaeologists Dr. Vasif Gaibov, Alexander Bader, as well as their Turkmen colleagues Dr. Akmurad Babayev, Dr. Iminjan Masimov, Dr. Berdy Udeumuradov and others participated in this project at different times. The archaeological map published by IsIAO covers the system of location of archaeological sites from the Late Bronze Age to the Sassanian period in and around the Murghab delta. The reconstruction of the historical geomorphology of arid and semi-arid lands, causing changes in the flows and riverbeds, is the basis of efforts to discover ancient monuments and understand not only settlement patterns, but also social and political transformations. In this perspective, the Murghab delta, due to the unusually good preservation of archaeological sites, turned out to be a privileged laboratory for historical research. The results of the project “Archaeological map of the Murghab delta” and repeated analysis of previously obtained data made it possible to build a new model of the settlement of the delta. It differs significantly from the models proposed earlier by other scholars and is incompatible with the most popular migration

hypotheses (*Gubaev, Koshelenko, Tosi 1998; Salvatori, Tosi 2008; Salvatori 2011*).

Another joint Turkmen-Italian expedition, established under an agreement between the Ministry of Culture of Turkmenistan and the University of Bologna, was headed by Dr. Barbara Cerazetti (b. 1969). For a number of years, she studied the geomorphology of the ancient Murghab River delta. The research was carried out in the area of the previously identified monuments of Auchin and Gyzylgaty. Archaeological and topographical work was carried out there on the settlements of the Andronovo culture. The remains of dwellings, pottery and a set of ceramic dishes from the Late Bronze Age were found. This made it possible to start compiling a table of the typology of Andronovo ceramics, the main part of which was stucco tableware decorated with cut-in geometric ornaments, different from those typical of Andronovo. There was also wheel-thrown ceramics dated to the Namazga VI period discovered. In addition, adjustments were made to the archaeological map of the Ancient Murghab oasis. The field work added more



data to the database on the ancient sedentary settlements of Margiana in the Bronze and Early Iron Ages, which will allow a more reasoned presentation of the history of the material culture in Turkmenistan in the corresponding periods. Barbara Cerasetti also started stationary excavations of the ancient Margiana settlement Togolok 1, which provide data on the interpenetration of sedentary and nomadic cultures, as well as on the origin and evolution of cities during the Late Iron Age (Cerasetti 2019; 2022).

### Turkmen-American cooperation

The United States returned to the archaeology of Turkmenistan 85 years after the Pampelli expedition. The US team was represented by Fredrik T. Hiebert (b. 1960), at that time an employee of the Peabody Museum at the University of Pennsylvania. In the spring of 1989, he and Catherine Moore joined the Margiana expedition of V. I. Sarianidi. Hiebert carried out the series of his work during two field seasons at Gonur-depe and Yaz-depe. The Director of the Harvard Archaeological Project on Central Asia, Prof. Carl Lamberg-Karlovsky, organised financial and logistical support for their work and in 1990 visited Gonur-depe himself. Soon Hiebert defended his thesis, which attempted to combine many disparate archaeological traditions – Soviet, American and Western European – in the study of a region that remained terra incognita for a significant part of the archaeological community (Hiebert 1994).

In 1993, Lamberg-Karlovsky and Hiebert initiated a programme to re-explore the Chalcolithic hills of Anau. The first excavation season took place in 1997 on the Northern Hill with the participation of Kurbanakhatov. These works made it possible to make observations about the processes of the formation of sites and to describe the context of the deposition of artefacts. Samples were collected for analysis, directly related to the works of Pampelli and the excavations of the Soviet period. The results of the research of the Northern Hill in 1997 are reflected in the monograph by Hiebert and Kurbanakhatov, which also contains materials from their colleagues on small finds, burials, palaeobotanical remains, soil analysis, traditions of cattle breeding, hunting, animal domestication and so on (Hiebert, Kurbanakhatov 2003). In 2000-2005, Hiebert conducted excavations on the Southern Hill, but in a different organisational format – on the basis of a contract between the National Geographic Society of the USA and the State Institute of Cultural Heritage of the Peoples of Turkmenistan, Central Asia and the East under the President of Turkmenistan. In addition to American specialists, Vladimir Zavyalov (IIMK RAN) took part in these seasons, and from the Turkmen side – Ovez Gundogdiyev, Terkesh Kho-

janiyazov, Aydogdy Kurbanov and other. The results of these studies remain unpublished.

After a ten-year break, two new Turkmen-American expeditions appeared. One, according to the signed Agreement between the Ministry of Culture of Turkmenistan and Washington University in St. Louis, has studied Ojakli, an ancient Margiana monument from the Bronze Age (director Linnie M. Rose) since 2017 (Rouse 2022). Another expedition, under an agreement concluded between the Ministry of Culture of Turkmenistan and the Metropolitan Museum of Art, has been participating in archaeological excavations on the medieval site of Dandanakan (Dashrabad) in the Mary Velayat (Province) since 2019. The co-directors of this project, called ToKa (Town of Karakum project), are Dr. Martina Rujadi (Metmuseum) and Dr. Paul Wordsworth (University of Oxford, UK). From the Turkmen side, both projects are supervised by D.Sc. Muhametdurdy Mamedov (NDPSR) and Rejepmurad Jepbarov (Ancient Merv Archaeological Park) (Wordsworth et al 2022; Ting, Rujadi, Wordsworth 2023).

A separate area of Turkmen-American cooperation was formed by projects funded under the programme of the US Department of State “Ambassadors Fund for Cultural Preservation” (AFCP). From 2001 to 2022, 14 such projects were carried out in Turkmenistan, in most cases related to architectural archaeology (Mamedov 2011; 2022). The most significant was the project for the study and conservation of the Greater Kyz-Kala in Merv, where the lower tier of the structure was completely excavated, its layout was specified, and the dates of functioning were clarified (Mamedov, Jepbarov 2020).

### French-Turkmen Archaeological Mission

The first French Archaeological Mission in Turkmenistan (MAFTUR) was founded in 1994 under an agreement between CNRS and the Academy of Sciences of Turkmenistan. The initiator and the first head of this project was Prof. Olivier Lecomte (1949-2019), who led the expedition until 2013. On the Turkmen side, Yegen Atagarryev (1934-2009) was the co-director until 1997. The goal of the project was to study the Misrian plain (the so-called Archaic Dehistan) in south-western Turkmenistan, where a significant number of settlements from the Iron Age to the Islamic period are concentrated. It was planned to create an archaeological map by systematic surveys using aerial and satellite coverage of the region. In addition, the results obtained during the Soviet period by expeditions led by palaeogeographer Gorislava Nikolaevna Lisitsyna (1929-1983) and Egen Atagarryev in the late 1960s were used, when they conducted an inventory and mapping of the most important

monuments of the Misrian plateau. The creation of the archaeological map required the establishment of an accurate cultural sequence through excavations in order to confirm the chronological context of the various sites surveyed.

O. Lecomte chose Geokchik-depe, the northernmost monument of the Archaic Dehistan culture, for this purpose. It was chosen because of its position, primarily for reasons related to chronological problems and cultural development, as well as because evidence of the main periods of the settlement of the Misrian Plain was found on its surface. In addition, Lisitsyna dug a probe trench in the 1960s, which provided some archaeological data. Excavations at Geokchik-depe continued until 1997 inclusive and were suspended due to structural changes in the organisation of research in Turkmenistan. But even what was excavated made it possible to draw some conclusions about the chronology and material culture of the Misrian plain. An analysis of C<sup>14</sup> confirmed the early dating of Geokchik depe to Archaic Dehistan, and a comparison with the much more densely populated Gorgan Valley in Iran indicates that Dehistan, or Northern Hyrkania, remote from trade and communication routes, could be too isolated, which could account for the apparent inertia of its material culture in the Iron Age (Lecomte 1999; 2007).

Since 2001, MAFTUR worked on Ulug-depe. Already in the early years, excavations yielded a wealth of archaeological material. The settlement occupies an area of 15 hectares and reaches a height of 30 m above the modern surface of the plain and probably once provided views of the surrounding area up to 30 kilometres in all directions. Its rich stratigraphy from the Neolithic to the Middle Iron Age makes this site the place in Central Asia with the longest chronocultural sequence. The discovery of a large number of clay furnaces in the residential area indicates intensive artisanal activity, and the discovery of exotic materials such as miniature turquoise beads and lapis lazuli reflects trade with very remote parts of the Central Asian region. In the most elevated part of Ulug-depe, the remains of the walls of the monumental citadel, the only Early Iron Age structure of this type in Central Asia, were uncovered (Boucharlat, Francfort, Lecomte 2005).

Thanks to the activities of O. Lecomte, conservation work was carried out at Ulug-depe in parallel with archaeological excavations aimed at preserving and museumifying the excavated sites. In addition, a special laboratory with modern equipment for the conservation and restoration of archaeological finds was created at the MAFTUR archaeological base in the village of Dushak at the expense of the Leon Levy Foundation (USA). It works to clean up, preserve and restore the artefacts identified by archaeologists

not only from Ulug-depe, but also those monuments where other archaeological expeditions work. Training seminars for Turkmen restorers are organised annually in this laboratory (Ottenwelter, Annanurov 2018).

Since 2014, MAFTUR is headed by Dr. Julio Bendezu-Sarmiento (b. 1972), who continues the excavations of Ulug-depe. The discovery of a platform with a very rich tomb in the northern section of the site showed the international importance of this place in prehistoric times. This and other important findings of recent years suggest the emergence of specialised industries there (ceramic production, metallurgy, stone processing) with long-range external contacts. Studies of Ulug-depe ceramics revealed important technological changes in the methods of its production. New research suggests that this site occupied a strategic position in the centre of the plain at the foot of Kopetdag during the last centuries of the first millennium BCE (Xin, Lecomte 2012; Lecomte 2013; Bendezu-Sarmiento, Lhuillier 2019; Lhuillier, Bendezu-Sarmiento 2022).

### Turkmen-Polish expedition

The cooperation of Polish archaeologists with Turkmen colleagues began in 1997 after the signing of an agreement between the Institute of Archaeology of the University of Warsaw and TSU. The archaeological sites of the Sarakhs oasis were chosen as the objects of joint research. The head of the expedition from the Polish side was Prof. Barbara Kaim (b. 1952). The co-director of the project was Dr. Gurtniyaz Khanmuradov (TSU). Dr. Terkesh Khojaniyazov (YuTAKE) took part in the excavations from the Turkmen side. First, the fortification of the medieval city wall of Old Sarakhs was studied, as well as archaeological material on the ancient and medieval material culture of this city was collected. But the most striking archaeological discovery of the expedition, of course, was the temple of fire from the Sassanian period at the site of Mele-Hairam. On this monument, in addition to the well-preserved interior walls of the temple, large fragments of panels made of carved stucco, as well as rare artistic items of carved bone, were revealed. All these artefacts, after appropriate preservation steps were taken, were forwarded to the Museum of Fine Arts of Turkmenistan. The results of the Polish excavations in the Sarakhs oasis are reflected in several publications by Kaim and her colleagues (Kaim 2002a; 2002b; 2004; 2008; 2010; 2012a; Kornacka 2007).

The next monuments of the Sarakhs oasis, where joint Turkmen-Polish archaeological research was launched, were the archaeological sites of Guyrukly-depe (Kaim 2012b) and Topaz-kala. The first field





**Fig. 6. Ulug-depe. Alabaster vessels from a burial of the Middle Bronze Age (2500-2000 BC)**  
Photo courtesy of MAFTUR, 2014

season at Guyrukly-depe took place in the fall of 2010 under the leadership of Barbara Kaim. On the Turkmen side, the work of the expedition was supervised, as well as on Mele-Hairam, by the director of the Archaeological park *Old Sarakhs* Annamurad Amanberdiyev. Guyrukly-depe was identified as a Parthian-Sassanian site during the archaeological exploration of the area carried out by a Polish group in the Serakh oasis in 2007-2008 (*Buławka* 2018; *Wagner* 2019). Subsequently, this was confirmed by pottery moulds found there, characteristic of the Parthian and Sassanian periods, a silver Sassanian coin and a gold Sassanian ring. Excavations on Topaz-depe under the leadership of Marcin Wagner were carried out since 2009 and culminated in the discovery of the remains of a temple of fire dated to the early 1st millennium BCE (*Wagner* 2018).

#### German studies in Turkmenistan

In the early 20th century, the German archaeologist Hubert Schmidt, who took part in the American expedition of Raphael Pumpelli, stood at the origins of archaeology in Turkmenistan. Later, in 1924, the German art historian Prof. Ernst Cohn-Wiener examined the medieval architectural monuments of Merv, which resulted in his article *The Ruins of the Seljuk City of Merv and the Mausoleum of Sultan Sanjar*. This work, together with the monograph *Turan. Islamic Construction Art in Central Asia*, has not lost its relevance to this day and remains in demand among art historians and architectural historians engaged in the study of the artistic culture of the

pre-Mongol period (*Cohn-Wiener* 1925; 1930). After that, the contacts of German researchers with Turkmenistan stopped for a very long time. It was only after the collapse of the USSR that academic ties were resumed.

In 2010-2015, an archaeological group from the Free University of Berlin, headed by Prof. Reinhard Bernbeck (b. 1958) and Prof. Susan Pollock (b. 1955), working as part of the Turkmen-Russian expedition led by Natalya Solovyova (IIMK RAN), spent several archaeological seasons studying the Monjukly-depe monument from the Late Neolithic and Chalcolithic on the territory of the Kaakhka district of the Akhal region. In addition to the excavations at the site itself, there were also subprojects aimed at exploring Monjukly-depe in its wider environment.

The study of this area, especially its hydrology, demonstrated the important role of alluvial and aeolian processes in the formation of the modern landscape, as well as in the concealment of ancient settlements. Similarly, a series of probes conducted on the edge of the Monjukly-depe mound confirmed that the settlement, both in the Neolithic and Chalcolithic, continued far beyond the currently visible contours of this place. Palaeozoological observations showed that the ancient population bred not only domestic sheep and goats, but also cattle, as well as wild animals with a high need for water, which indicates that there was more water at that time than today. Other materials extracted and used by the residents of Mongukly-depe indicate an emphasis on local resources, as evidenced by the study of stones from this place (*Pollock, Bernbeck* 2011; *Pollock, Bernbeck,*

Ögüt et al. 2013; Bernbeck, Pollock 2016; Berking, et al. 2017).

Archaeologist from the Eurasian Department of DAI Dr. Nikolaus Boroffka (b. 1957), as well as independent researcher Dr. Sylvia Winkelman (b. 1959) participated in the work of the Margiana expedition led by Victor Sarianidi on Gonur-depe. In 2010-2014, Boroffka took part in the study of this monument, in particular, at excavation 18, located east of the citadel on the inner side of the fortress wall. While exceptionally rich goods were found in the citadel and the “royal” burials, the archaeological material from excavation 18 is much more modest. In addition to the pottery typical of BMAC, a large number of partially or completely preserved amulet seals made of bronze or stone, several elegant female terracotta statuettes and figurines of various animals, as well as beads, needles and other objects were found. The archaeological material was analysed using natural science methods (Boroffka 2014).

Many unique finds from the settlements in the Murghab delta were presented at the exhibition *Margiana – the Kingdom of the Bronze Age in Turkmenistan*, which was successfully held in three German cities in 2018-2019. The exhibition had a great public response, and major museums in many countries of the world became interested in it<sup>6</sup>.

Another object on the territory of Turkmenistan, in the study of which Boroffka took part, is Dashly-depe, located within the village of Yzgant in the Akhal region. It is located in the floodplain north of Kopetdagh, about 35 km north-west of Ashgabat. In 2011-2013, excavations at Dashly-depe, carried out jointly with Dr. Aydogdy Kurbanov (Institute of Archaeology and Ethnography of the Academy of Sciences of Turkmenistan) confirmed that this place was probably much larger than it seems at first glance, and the last time it was inhabited in the Bronze Age, but these upper layers are mostly destroyed. It became obvious that Dashly-depe is an important monument, which apparently covers the Neolithic and Chalcolithic periods in the foothills of the Central Kopetdagh. Radiocarbon dating provides important new data and highlights the likelihood that this settlement, apparently, arose during the period of the Jeytun culture or even earlier (Kurbanov, Boroffka 2019; 2022).

### Turkmen-Spanish expedition

Cooperation between Turkmen and Spanish archaeologists began in 2009 thanks to an agreement

between the Ministry of Culture of Turkmenistan and the Autonomous University of Madrid (Universidad Autónoma de Madrid). The objects of research were two archaeological sites of Archaic Dehistan – Geokchik-depe and Izat-kuli. The project managers were Prof. Joaquín M<sup>a</sup> Córdoba and D.Sc. Ejegul Muradova. The expedition began its activity by continuing the archaeological research that MAFTUR had launched at Geokchik Depe back in the mid-1990s. Excavations at Izat-kuli, where Muradova worked earlier, revealed traces of the oldest religious complex in the territory of Dehistan. According to the project participants, the continuation of excavations at this site with an unusually compact layout, located at the highest point of the settlement, will allow a deeper understanding of religious beliefs and rituals in the Bronze and Early Iron Ages (Córdoba, Mamedov 2016; Córdoba 2022).

### National expeditions

Modern archaeological research in Turkmenistan primarily aimed at the restoration of architectural monuments, with much less effort made at protection excavations, which is associated with construction activities. The current excavations can be divided into three areas: archaeology; restoration and conservation; protection and reconnaissance. All these works are sanctioned by the NDPSR and are under the control of this organisation, and are carried out either by employees of historical and cultural reserves (archaeological parks) or by the Institute of History and Archaeology under the Turkmen Academy of Sciences.

As shown above, the main interest of international expeditions was in monuments of the pre-Islamic era with an emphasis on stratigraphic research, as well as the creation of modern archaeological maps of individual areas using a geoinformation system. Medieval archaeology has not become the subject of special research by foreign missions and is rather of passing interest to them, since on long-functioning sites they have to remove the late upper layers in order to reach objects they need. But it is the monuments of the Middle Ages that have become the focus of attention for most of Turkmen archaeologists in the last decade. For a number of reasons, among which the main one is, perhaps, the lack of targeted funding and trained specialists in various fields, these works are unsystematic and casual, carried out mainly by AFCP grants or under a state programme, but without an appropriate budget. Such was, in particular, the programme “On conducting excavations in 2018-2021 at historical and cultural monuments located along the Great Silk Road, as well as study and promotion of cultural heritage” approved by the President of Turkmenistan. During this period, the staff of the Insti-

<sup>6</sup> Margiana. Ein Königreich der Bronzezeit in Turkmenistan. Berlin: Michael Imhof Verlag, 2018.



tute of History and Archaeology under the Turkmen Academy of Sciences conducted occasional excavations at the sites of Amul (*Byashimova, et al. 2022*), Iskender-kala (*Orazov, Bekjayeva 2021*), Geokdepe / Abkhaderan (*Berdiyev, Pirkuliyev 2022*), Paryz-depe, Shehrikhaybar and Shehrislam (*Berdyev, Yagshymuradov 2019; Berdiyev, Yagshimuradov 2019; Berdyev, Churtenova 2020*).

Since the first years of the 21st century, employees of NDPSR and subordinate reserves have carried out archaeological and conservation work on the ruins of the Anau mosque (*Muradov, Udeumuradov 2004*), in the mausoleum of Meana Baba (*Mamedov 2008*), in the Mashad-ata complex (*Muradov 2011; Abdulloev 2014*), in Big Kiz-Kala and on the site of Abdullakhan-kala in Merv. Excavations of the supposed mosque in the centre of the Dash-kala site in Kunya Urgench (*Mamedov, Muradova 2021*), in *shahristan* of Abiverd (*Babaev 2022; 2023*), at the walls of the Dayakhatyn caravanserai, at the Dandanakan site (*Wordsworth, et al. 2022*) are continuing. They are funded partly by foreign participants, partly by the reserves' administrations.

The current "State Programme for 2022-2028 for the careful treatment, preservation and study of objects of national historical and cultural heritage, as well as their inclusion in tourist routes" also provides for the continuation of work on the registration and certification of objects of national historical and cultural heritage, their inclusion in the State Register. In 2022, it had over 1,400 objects. Approximately 80% of them are archaeological sites, about 20% are architectural structures and individual historical monuments. NDPSR is preparing to publish a short guide to the State Register, which will reflect the full list of historical and cultural monuments located in all five regions of the country. The objects will be presented according to their administrative and territorial location in alphabetical order. This will be the first step towards the preparation of a multi-volume edition of the "List of Historical and Cultural Monuments in Turkmenistan", whose first volume is to be released in

2028. But already today a statistical digital database is being formed, which will make it possible to combine all the information accumulated over decades into a single reference and analytical system. It is necessary both for further monitoring of the condition of monuments and for their study (*Orazmuradova 2022*).

The state programme for creating a unified register of archaeological sites and historical buildings and structures using modern methods of geographical reference began to be implemented only in recent years and lags behind the pace of economic development of the lands, especially since it is useless without creating an effective local system of protection of already recorded monuments. Obviously, no economic circumstances should justify the destruction of a monument without studying it, and any actions related to land reclamation, constructing pipelines, transport networks, construction of enterprises or houses should be accompanied by archaeological supervision, and in case of discovery of archaeological materials – large-scale excavations.

At the same time, there is a catastrophic aging of archaeological specialists in Turkmenistan. Field surveys are conducted at best by 50-year-old specialists, and the average age of an active archaeologist is 60-70 years. This is due to the shortcomings of the higher education system, which has ceased to take into account the specifics of the training of archaeologists, in which field practice should account for 90%. The lack of opportunity to work on an expedition for at least 1.5–2 months a year does not allow one to acquire appropriate professional skills during training, which, along with economic difficulties, makes the profession of an archaeologist unattractive. The situation is even worse with the publication of the results of archaeological work by national expeditions. That is why it is important to record at least the preliminary results of these studies, especially since brief reports about them are scattered in low-circulation and hard-to-access publications, including only in the Turkmen language, which does not allow them to enter into full-fledged academic use.

## REFERENCES

- Abdulloev, D. (2014). Archaeological research of the Mashad-Ata Mosque in Turkmenistan, in: *Zapiski IIMK RAN*. № 10. St.Petersburg. P. 189-198 (in Russian).
- Babaýew, A. (2022). Orta asyr Abiwerdiň içki galasy, in: *Türkmenistanyň gadymyýeti*. Aşgabat: Türkmen döwlet neşirýat gullugy. P. 232-249 (in Turkmen).
- Babaev, A. (2023). To the question of the historical topography of the medieval city of Abiverd, in: Muradov, R., N. Dubova & A. Fribus (eds.). *From the Kopetdagh to the Oxus. Exploring Ancient Central Asia*. Studies in Honor of Victor N. Pilipko. Moscow. P. 58-67.
- Bendezu-Sarmiento, J. and J. Lhuillier (2019). Habitat and Occupancy during the Bronze Age in Central Asia: Recent work at the sites of Ulug-depe (Turkmenistan) and Dzharkutan (Uzbekistan), in: *Baumer Ch. and M. Novák (eds.) Urban Cultures of Central Asia from the Bronze Age to the Karakhanids. Learnings and conclusions from new archaeological investigations and discoveries*. Proceedings of the First International Congress on Central Asian Archaeology held at the University of Bern, 4–6 February 2016. Wiesbaden: Harrassowitz Verlag. P. 97-114.

- Berdyev, A., and G. Yagshumuradov (2019a). *Trans-Karakum routes of the Great Silk Road*. Ashgabat: Ylum Publ. C. 102-132 (in Russian).
- Berdyev, A., and G. Yagshumuradov (2019b). Metal products from Shekhrislam, in: *Miras*. № 1(73). P. 47-61.
- Berdyev, A., and G. Churtenova (2020). Pottery from Shekhrislam, in: *Miras*. № 2(78). P. 37-57.
- Berdyev, A., and D. Pirkuliev (2022). Geokdepe fortress in Baharden district, in: *Miras*, № 2(86). P. 42-52.
- Berking J., Beckers B., Reimann T., Pollock S. and R. Bernbeck (2017). Modern impacts on an ancient landscape, the piedmont plain in southwest Turkmenistan, in: *WIREs Water* 2017, e1202. doi: 10.1002/wat2.1202
- Bernbeck R. and S. Pollock (2016). Scalar differences: temporal rhythms and spatial patterns at Monjukli Depe, Southern Turkmenistan, in: *Antiquity*, 90. 2016. P. 64-80.
- Boroffka, N. (2014). Gonur-Depe. Eine bronzezeitliche Königsstadt in Mittelasien, in: *Mitteilungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte*. Bd. 35. Berlin. S. 15-24.
- Boucharlat R., Francfort H.-P. and O. Lecomte (2005). The Citadel of Ulug-Depe and the Iron Age Archaeological Sequence in Southern Central Asia, in: *Iranica Antiqua* 40. P. 479-514.
- Brun, P. (2004). Fortress walls of the later settlements of Merv, in: *Cultural Values 2002-2003*. St.Petersburg. P. 11-23 (in Russian).
- Brun, P. and A. Annaev (2001). The Medieval Fortification, in: *Iran XXXIX*. London. P. 25-34.
- Brun, P. and A. Annaev (2002). New research on the eastern wall of Sultan Kala, in: *Cultural Values 2000-2001*. St.Petersburg. P. 63-74 (in Russian).
- Buławka, N. (2018). Settlement patterns of the Yaz culture in the deltas of the Tedzhen River in Turkmenistan, in: *Lhuillier J. and N. Boroffka*, eds. *A Millennium of History. The Iron Age in southern Central Asia (2nd and 1st Millennia BC)*. Proceedings of the conference held in Berlin (June 23-25, 2014). Dedicated to the memory of Viktor Sarianidi. Berlin: Dietrich Reimer Verlag. P. 143-158;
- Byashimova N., Jumanazarov M. and N. Hoshvagtov (2022). Amul – an important point on the Great Silk Road, in: *Türkmenistanyň gadymyýeti*. Ashgabat: Türkmen döwlet neşirýat gullugy. P. 286-293 (in Turkmen).
- Cerasetti, B. at al. (2019). Bronze and Iron Age Urbanisation in Turkmenistan. Preliminary results from the excavation of Togolok 1 on the Murghab alluvial fan, in: Baumer, K. and M. Novák (eds.) *Urban Cultures of Central Asia from the Bronze Age to the Karakhanids. Learnings and conclusions from new archaeological investigations and discoveries*. Wiesbaden: Harrassowitz Verlag. P. 63-72.
- Cerasetti, B., at al. (2022). Thirty Years of Italian-Turkmen Projects in the Murghab region, in: *Antiquity of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 98-113.
- Cohn-Wiener, E. (1925). Die Ruinen der Seldschukenstadt von Merw und das Mausoleum Sultan Sandschars, in: *Jahrbuch der asiatischen Kunst*, II d. Leipzig. S. 114-122.
- Cohn-Wiener, E. (1930). *Turan: Islamische Baukunst in Mittelasien*. Berlin.
- Córdoba, J. M. (2022). Turkmen-Spanish Archaeological Excavation in the Dehistan Area; Archaeological Explorations at Geoktchik-depe and Izatkuli (with E. Muradova) // *Antiquity of Turkmenistan*. Ashgabat: Turkmen state publishing service. P. 181-197.
- Córdoba, J. M. and M. Mamedov (2016). L'âge du Fer à Dehistan. Nouvelles recherches archéologiques turkmènes et espagnols dans les sites de Geoktchik Depe et Izat Kuli (Province de Balkan, Turkménistan), in: Kaelin, O. and H.-P. Mathys (eds.). *Proceedings of the 9th International Congress on the Archaeology of the Ancient Near East*. Vol. 3. Wiesbaden: Harrassowitz Verlag. P. 601-614;
- Dubova, N. A. (2022). Gonur oasis: finds of recent decades, in: *Antiquity of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 136-155 (in Russian).
- Gaibov, V. (2007). The Bullae of Gobekly-depe, in: Cribb, J. and G.Herrmann (eds.). *After Alexander. Central Asia before Islam*. N.Y.: Oxford University Press. P. 285-294.
- Gubaev, A., Koshelenko, G. A. and M. Tosi, eds. (1998). *The Archaeological Map of the Murghab Delta*. Preliminary Reports 1990-95, Rome: IsIAO, 1998.
- Francfort, H.-P. and X. Tremblay (2010). Marhaši et la civilisation de l'Oxus, in: *Iranica Antiqua*. XLV. P. 51-224.
- Harris, D. R., et.al. (1993). Investigating early agriculture in Central Asia: new research at Jeitun, Turkmenistan, in: *Antiquity*. Vol. 67, No 255. P. 324-338.
- Harris, D. R. (2010). *Origins of agriculture in Western Central Asia. An environmental-archaeological study*. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology.
- Herrmann, G. (1999). *Monuments of Merv: traditional buildings of the Karakum*. London: Society of Antiquaries of London.
- Herrmann, G., Coffey H., Laidlaw, S. and K. Kurbanshatov (2002). *The Monuments of Merv*. A Scanned archive of photographs and plans. London: UCL and The British Institute of Persian Studies.
- Hiebert, F. T. (1994). *Origins of the Bronze Age Oasis Civilization in Central Asia*. Bulletin of the American School of Prehistoric Research 42. Cambridge MA: Harvard University, Peabody Museum of Archaeology and Ethnology.
- Hiebert, F. T., Kurbansakhatov K. (eds.) (2003). *A Central Asian village at the dawn of civilization, excavations at Anau, Turkmenistan*. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology.
- Invernizzi, A. (1999). *Sculture di metallo da Nisa*. Cultura greca e cultura iranica in Partia. Leiden: Brill (Acta Itanica XXXI).
- Invernizzi, A. (2009). *Nisa Partica. Le sculture ellenistiche*. Firenze: Le Lettere.
- Invernizzi, A. & C. Lippolis, eds. (2008). *Nisa Partica. Ricerche nel complesso monumentale arsacide 1990-2006*. Firenze, Le Lettere (Monografie di Mesopotamia IX).
- Kaim, B. (2002a). *Zaratushtrian Temple of Fire. Five years of excavation at Mele Hairam*. Warsaw.
- Kaim, B. (2002b). Un temple du feu Sassanide découvert



- à Mele Hairam, Turkmenistan Méridional, in: *Studia Iranica* 31. P. 215–230;
- Kaim, B. (2004). Ancient Fire Temples in the light of the discovery at Mele Hairam, in: *Iranica Antiqua*. Vol. XXXIX. P. 323-338.
- Kaim, B. (2008). The Parthian settlements in the Serakhs oasis, in: *Parthica*, 10. Pisa – Roma: Fabrizio Sera. P. 129-134.
- Kaim, B. (2010). Bone Reliefs from Fire Temple at Mele Hairam, in: *Iranica Antiqua*. Vol. XLV. P.321-335.
- Kaim, B. (2012a). Serakhs Oasis at the Crossroads of communication routes, in: *Parthica*, 14. Pisa – Roma: Fabrizio Sera. P. 149-159.
- Kaim, B. (2012b). The second season excavation at Gurukly Depe, in: *Świarowit*, IX:1. P. 233-237.
- Kircho, L. (2011). Some problems of the archeology of Southern Turkmenistan and the study of Altyn-Depe in 1991-2001, in: *Historical and Cultural Sites of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 80-99 (in Russian).
- Kirtcho, L., S. Salvatori & M. Vidale (2009). A Topographic and Stratigraphic Map of Altyn-depe: New Evidence on Craft Activities from Surface Analysis, in: Raven E. (Ed.). *South Asian Archaeology 1999*. Proceedings of the Fifteenth International Conference of the European Association of South Asian Archaeologists, held at the University Leiden, 5-9 July 1999, XV. Egbert Forsten: Groningen. P. 15-30.
- Kornacka, V. (2007). Ivory Plaque from Mele Hairam, Turkmenistan, in: *Ancient Civilizations from Skythia to Siberia*, 13. P. 163-191.
- Koshelenko, G. (2007). The Fortifications at Gobekly-depe, in: Cribb, J. & G. Herrmann (eds.). *After Alexander. Central Asia before Islam*. New York: Oxford University Press. P. 269-284.
- Koshelenko G. A. and Gaibov V. A. (2011). Mansur-depe in Parthiana: design features and purpose, in: *Historical and Cultural Sites of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 279-310 (in Russian).
- Kurbanov, A. & N. Boroffka (2019). Multi-layer prehistoric site in South Turkmenistan – Dashly depe // Antiquities of East Europe, South Asia and South Siberia in the context of connections and interactions within the Eurasian cultural space (new data and concepts). Proceedings of the International Conference. St.Petersburg. P. 26-28;
- Kurbanov, A. & N. Boroffka (2022). New Data on the Protohistoric Khorasan: The Dashly Depe Excavations (Turkmenistan), in: Labbaf-Khaninki, M. (ed.). *ĶORĀSĀN-NĀMAK* [Tehran University]. P. 21-34.
- Lecomte, O. (1999). Vehrkana and Dehistan: Late farming communities of South-West Turkmenistan from the Iron Age to the Islamic period, in: *Parthica* 1. Pisa – Roma. P. 135-170.
- Lecomte, O. (2007). Gorgan and Gehistan: The North-East Frontier of the Iranian Empire, in: Cribb, J. & G.Herrmann (eds.). *After Alexander. Central Asia before Islam*. New York: Oxford University Press. P. 295-312.
- Lecomte, O. (2013). Activités archéologiques françaises au Turkménistan, in: *Cahiers d'Asie centrale* 21/22. Paris – Bishkek – Kaboul: IFEAC / DAFA. P. 165-190.
- Lhuillier J. & J. Bendezu-Sarmiento (2022). Recent discoveries on the Hellenistic and Parthian occupation of Ulug-depe, in: *Antiquity of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 198-213.
- Lippolis, C. (2011). Old Nisa: The Turkmen-Italian Archaeological Project, in: *Historical and Cultural sites of Turkmenistan*. Ashgabat: Türkmen döwlet neşirýat gullugy. P. 286-301.
- Lippolis, C. (2013). Old Nisa, Excavations in the South-Western Area, in: *Parthica* 15. Pisa – Roma. P. 89-115.
- Lippolis, C. (2019). Le aque di Nisa-Mitridatocerta, in: *Parthica* 21. Pisa – Roma. P. 89-114.
- Lippolis, C. & N. Manassero (2015). Storehouses and Storage Practices in Old Nisa, in: *Electrum*, 22. P. 115-142.
- Lyonnet, B. & N. Dubova, eds. (2021). *The World of the Oxus Civilization*. London – New York: Routledge.
- Mamedov, M. (2003). *Ancient architecture of Bactria and Margiana*. Ashgabat (in Russian).
- Mamedov, M. A. (2008). *Architectural complex Meana Baba (Sufi mausoleum in Central Asia as an object of Art)*. St.Petersburg: Eurasia Publ. (in Russian).
- Mamedov, M. A. (2010). Brief overview of the latest archaeological research in Turkmenistan, in: *Arheologicheskie vesti* 16. St.Petersburg. P. 244-248 (in Russian).
- Mamedov, M. A. (2011). Study and preservation of historical and cultural monuments of Turkmenistan for 20 years (1991-2011), in: *Historical and Cultural Sites of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 58-65 (in Russian).
- Mamedov, M. A. (2022). Monuments of history and culture of Turkmenistan: identification, study, preservation (results for 30 years), in: *Antiquity of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 65-88 (in Russian).
- Mamedov, M. and R. Jepbarov (2020). *The Great Kyz-kala*. Ashgabat: Ylum Publ.
- Mamedov M. A., Muradova E. A. (2021). New data on the so-called “Caravanserai” of Kunya-Urgench, in: *Arheologicheskie vesti* 32. St.Petersburg. P. 356-366 (in Russian).
- Masson, V. M. and L. B. Kircho (1999). Study of the cultural transformation of early agricultural societies (based on materials from new excavations at Altyn-depe and Ilgynly-depe), in: *RA*, No 2. P. 61-76 (in Russian).
- Masson, V. M. and Yu. E. Berezkin (eds.) (2005). *Chronology of the Late Chalcolithic – Middle Bronze Age (burials of Altyn-Depe)*. Proceedings of IIMK RAN. Vol. XVI. St.Petersburg: Nestor-istoria Publ. (in Russian).
- Melikov, G. G. (2001). Raphael Pampelli’s expedition: little-known details, in: *Cultural values 1999*. St. Petersburg: European House. P. 137-145 (in Russian).
- Muradov, R. G. (2011). Mashad-ata mosque and khanaka in medieval Dehistan Historical and Cultural Sites of Turkmenistan. Ashgabat: Turkmen State Publishing Service. P. 315-338 (in Russian).
- Muradov, R. G. and B. N. Udeumuradov (2004). Anau Mosque: New Archaeological works and conservation of the remains of the tympanum with images of Dragons // *Near the Sources of Civilizations*. The Issue in Honor of the 75-Anniversary of Victor Sarianidi. Moscow. P. 450-457 (in Russian).

- Muradova, E. A., Cordoba, H. M. (2022). Archaeological research at the monuments of Geokchik-depe and Izat-kuli, in: *Antiquities of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 188-197 (in Russian).
- Orazmuradova, J. (2022). Open Doors // *Turkmenistan* (International journal). No. 3-4 (204-205). P. 86-99.
- Orazov, Bekdzhaeva 2021 – Orazov, O. and M. Bekdzhaeva (2021). New archaeological information about Iskendergala, in: *Miras*. No. 4(84). P. 38-45.
- Ottenwelter, E. and M. Annanurov (2018). *Conservation of archaeological ceramics*. Achgabat: DAFA (Recueils divers, archives et formations archéologiques 2).
- Rouse, L. M. (2022). Project for the Ancient Murghab (PAM), in: *Antiquity of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 114-127.
- Pappalardo, E. (2010). *Nisa Partica. I rhyta ellenistici*. Pref. di A.Invernizzi. Firenze: Le Lettere (Monografie di Mesopotamia XII).
- Pilipko, V. N. (2001). *Old Nisa. The main results of archaeological research in the Soviet period*. Moscow: Nauka Publ. (in Russian).
- Pilipko, V. N. (2015). *Formation and development of Parthian culture on the territory of Southern Turkmenistan*. St. Petersburg: AIK Publ. (in Russian).
- Pilipko, V. N. (2018). Nisa-Mithradatkirt: changing conceptions, in: *Parthica* 20. Pisa – Roma. P. 81-87.
- Pollock, Bernbeck 2011 – Pollock, S., Bernbeck, R. (2011). Excavations at Monjukli Depe, Meana-Čaača Region, Turkmenistan, 2010, in: *AMIT*, 43. P. 169-237.
- Pollock, S., Bernbeck, R., Ögüt, B. et al. (2013). The second season of excavations at Monjukli Depe, Turkmenistan, 2011, in: *AMIT*, 45. P. 51-98.
- Pollock, S., Bernbeck, R., et al. (2015). Archaeological work at Monjukli Depe: a regional perspective, in: *AMIT*, 47. P. 1-47.
- Puschnigg, G. (2006). *Ceramics of the Merv Oasis: Recycling the City*. London: Routledge.
- Rossi-Osmida, G. (ed.) (2002). *Margiana. Gonur-depe Necropolis*. 10 years of excavation by Ligabue Study and Research Centre. Padova: Il Punto Edizioni.
- Rossi-Osmida, G. (2007). *Adji Kui Oasis*. Vol. I. The Citadel of the Figures. Padova: Il Punto.
- Rossi-Osmida, G. (2011a). *Adji Kui Oasis*. Vol. II. The Citadel of the Figures. Padova: Il Punto.
- Rossi-Osmida, G. (2011b). Interventions of Recovery and Restoration conducted at the site of Haroba Kosht // *Parthica* 13. Pisa – Roma, 2011. P. 145-178.
- Rossi-Osmida, G. & B. N. Udeumuradov (2003). Preliminary report on results of study into the settlements and necropolis Adjikui 1 and 9, in: *Central Asia Cultural Values*. No 2. Padova: Il Punto Edizioni. P. 53-94.
- Salvatori, S. (1995). Gonur-Depe 1 (Margiana, Turkmenistan). The Middle Bronze Age Graveyard. Preliminary Report on the 1994 excavation Campaign, in: *Rivista di Archeologia*. T. XIX. P. 5-37.
- Salvatori, S. (1998). The Bronze Age in Margiana, in: Gubaev A., Koshekenko G., Tosi M. (eds.) *Archaeological Map of the Murghab Delta. Preliminary Reports 1990-1995*. Roma. P. 47-55.
- Salvatori, S. (2000). Bactria and Margiana seals: a typological survey and a new assessment of their chronological position, in: *East and West*. Vol. 50. P. 97-145.
- Salvatori, S. (2002). Project «Archaeological Map of the Murghab Delta» (Turkmenistan): Test trenches at the Bronze Age Sites of Adzhi Kui 1 and 9, in: *Ancient Civilizations from Scythia to Siberia*. 2002. N. 8 (1-2). P. 107-178.
- Salvatori, S. (2010). Thoughts on Grave 3245 in the «Royal Graveyard» of Gonur (Murghab delta, Turkmenistan) // *On the Track of Uncovering a Civilisation*. A volume in honor of the 80th-anniversary of Victor Sarianidi [Transactions of Margiana archaeological Expedition. Vol. 3]. St.Petersburg: Aletheia. P. 244-257.
- Salvatori, S. (2011). International relations of Turkmenistan bronze age civilization and a survey of the IsIAO archaeological activities in the Murghab Delta, in: *Historical and Cultural Sites of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 171-184.
- Salvatori, S. (2016). Bactria-Margiana Archaeological Complex: how terminology hides historical processes, in: *Transactions of Margiana Archaeological Expedition*. Vol. 6. Moscow. P. 449-460.
- Salvatori, S. & M. Tosi, eds. (2008). *The Archaeological Map of the Murghab Delta*. Vol. III. The Bronze Age and Early Iron Age in the Margiana Lowlands. Oxford: BAR International Series 1806.
- Salvatori, S., M. Vidale, G. Guida, E. Masioli (2009). Ilgynly-depe (Turkmenistan) and the 4<sup>th</sup> Millennium BC Metallurgy of Central Asia, in: *Paléorient* 35.1: 47-67.
- Sarianidi, V. I. (1990). *Antiquities of the Country of Margush*. Ashgabat: Ylym (in Russian).
- Sarianidi, V. (1998). *Margiana and Protozoroastrism*. Athens, Kapon editions, 1998.
- Sarianidi, V. (2002a). The Fortification and Palace of Northern Gonur, in: *Iran XL*. London. P. 75-87.
- Sarianidi, V. (2002b). *Margush. Ancient Eastern Kingdom in the Old delta of the Murgab river*. Ashgabat: Türkmenowlethabarlary.
- Sarianidi, V. (2005). *Gonur-depe. City of kings and gods*. Ashgabat: Türkmenowlethabarlary.
- Sarianidi, V. (2007). *Necropolis of Gonur*. Athens, Kapon editions.
- Sarianidi, V. (2008a). *Zoroastrianism: A New Motherland for an Old Religion*. Ed. by N. Dobova. Athens: Kyriakidis Brothers
- Sarianidi, V. (2008b). *Margush. The Secret and Truth of a Great Culture*. Ashgabat: Türkmenowlethabarlary.
- Solovyova, N. F. (2005). *Chalcolithic Anthropomorphic Figurines from Ilgynly-depe, Southern Turkmenistan. Classification, analysis and catalogue*. BAR International Series 1336. Oxford.
- Solovyova, N. F. (2008). *Anthropomorphic images of Turkmenistan during the Middle Eneolithic (based on materials from the Ilgynly-depe settlement)*. St. Petersburg (Proceedings of IIMK vol. XXIX) (in Russian).
- Solovyova, N. F. (2011). Research of the settlement of Ilgynly-depe, in: *Historical and Cultural Sites of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 100-117 (in Russian).
- Solovyova, N. F., Blokhin, E. K. (2022). Curbstones and stoves of Ylygyndy-depe, in: *Antiquities of Turkmeni-*



- stan. Ashgabat: Turkmen State Publishing Service. P. 88-97 (in Russian).
- Ting, C., Rugiadi, M. & P. Wordsworth (2023). Towards an Integrated Approach to Studying the Stratified Ceramics from Dandanakan / Daş Rabat, Turkmenistan (9th–12th centuries a.d.), in: *Journal of Field Archaeology*, 48:7, 502-517. DOI: 10.1080/00934690.2023.2258479
- Udeumuradov, B. (1993). *Altyn-depe and Margiana: Connections, Chronology, Origin*. Ashgabat: Ylym Publ. (in Russian).
- Wagner, M. (2018). The fire temple at Topaz Gala depe in Southern Turkmenistan, in: Lhuillier, J. and N. Boroffka, eds. *A Millennium of History. The Iron Age in southern Central Asia (2nd and 1st Millennia BC)*. Proceedings of the conference held in Berlin (June 23–25, 2014). Dedicated to the memory of Viktor Sarianidi. Berlin: Dietrich Reimer Verlag. P. 333-342.
- Wagner, M. (2019). Yaz culture in the Serakhs oasis in Turkmenistan, in: *Antiquities of East Europe, South Asia and South Siberia in the context of connections and interactions within the Eurasian cultural space (new data and concepts)*. Proceedings of the International Conference. St.Petersburg. P. 75-77.
- Wordsworth, P., M. Rugiadi, M. Mamedov, and R. A. Jeparov. (2022). Digging Deeper into the Urban History of Dandanakan – Daş Rabat, in: *Antiquity of Turkmenistan*. Ashgabat: Turkmen State Publishing Service. P. 258-267.
- Xin W. and O. Lecomte (2012). Clay Sealings from the Iron Age Citadel at Ulug dépe, *AMIT* 44. Berlin: Reimer verlag. P. 313-328.
- Zavyalov, V. (1999). Fortification of Erk-kala and Gyaur-kala, in: *Cultural Values 1997-1998*. St.Petersburg. P. 36-45 (in Russian).