



The Golden Deer of Eurasia
Perspectives on the Steppe
Nomads of the Ancient World

The Metropolitan Museum of Art Symposia

The Metropolitan Museum of Art Symposia

The Golden Deer of Eurasia
Perspectives on the Steppe Nomads
of the Ancient World



The Metropolitan Museum of Art Symposia

The Golden Deer of Eurasia
Perspectives on the Steppe Nomads
of the Ancient World

Edited by
Joan Aruz,
Ann Farkas, and
Elisabetta Valtz Fino

THE METROPOLITAN MUSEUM OF ART, NEW YORK
YALE UNIVERSITY PRESS, NEW HAVEN AND LONDON

The exhibition *The Golden Deer of Eurasia: Scythian and Sarmatian Treasures from the Russian Steppes. The State Hermitage, Saint Petersburg, and the Archaeological Museum, Ufa* was held at The Metropolitan Museum of Art, New York, from October 12, 2000, to February 4, 2001.

The exhibition was organized by The Metropolitan Museum of Art, New York, the State Hermitage, Saint Petersburg, Russian Federation, and the Museum of Archaeology and Ethnography, Center for Ethnological Studies, Ufa Research Center of the Russian Academy of Sciences, Bashkortostan, Russian Federation.

An indemnity was granted by the Federal Council on the Arts and the Humanities.

The exhibition catalogue was made possible by the Doris Duke Fund for Publications.

The symposium "Nomads of the Eurasian Steppes" was held at The Metropolitan Museum of Art, New York, on October 12–13, 2000.

This publication is made possible by The Adelaide Milton de Groot Fund, in memory of the de Groot and Hawley families.

Published by The Metropolitan Museum of Art, New York
John P. O'Neill, Editor in Chief
Philomena Mariani, Editor
Douglas Malicki, Production Manager
Kathryn Ansite, Desktop Publishing Specialist

Design implemented by Trish Nitschke based on a format established by Tsang Seymour Design Inc.

Separations by Professional Graphics, Inc., Rockford, Illinois
Printed and bound by C. S. Graphics, Singapore

Cover: Golden deer from Filippovka, wood covered with gold foil, kurgan 1, 4th century B.C. After *The Golden Deer of Eurasia: Scythian and Sarmatian Treasures from the Russian Steppes. The State Hermitage, Saint Petersburg, and the Archaeological Museum, Ufa*, edited by Joan Aruz et al. (New York, 2000), pp. ii–iii
Frontispiece: Migration of Kazakhs, 1987 (photo: Thomas J. Barfield)

Copyright © 2006 by The Metropolitan Museum of Art, New York

All rights reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage or retrieval system, without permission in writing from the publishers.

Cataloging-in-Publication Data is available from the Library of Congress.

ISBN 978-1-58839-205-3 (The Metropolitan Museum of Art)

ISBN 978-0-300-08510-5 (Yale University Press)

Contents

Joan Aruz	
INTRODUCTION	vii

The Nomadic World

David W. Anthony	
1. <i>The Prehistory of Scythian Cavalry: The Evolution of Fighting on Horseback</i>	2
Thomas J. Barfield	
2. <i>Steppe Nomadic Culture and Political Organization</i>	12
Peter S. Wells	
3. <i>Mobility, Art, and Identity in Early Iron Age Europe and Asia</i>	18
Leonid T. Yablonsky	
4. <i>Scythians and Saka: Ethnic Terminology and Archaeological Reality</i>	24
Karen S. Rubinson	
5. <i>Helmets and Mirrors: Markers of Social Transformation</i>	32

Filippovka and the South Ural Steppes

Anatolii Kh. Pshenichniuk	
6. <i>Burial Ritual of the Filippovka Kurgan in the Ural Region</i>	40
Gernot Windfuhr	
7. <i>The Stags of Filippovka: Mithraic Coding on the Southern Ural Steppes</i>	46
Aleksei Bantikov	
8. <i>Restoration of the Objects from the Filippovka Kurgans</i>	82
Jeannine Davis-Kimball	
9. <i>Filippovka's "Poor Relatives": Ancient and Modern Eurasian Nomads</i>	92

Related Sites and Imagery: East

- Liudmila Koryakova
10. *On the Northern Periphery of the Nomadic World: Research in the Trans-Ural Region* 102
- Henri-Paul Francfort, Giancarlo Ligabue, and Zainullah Samashev
11. *The Gold of the Griffins: Recent Excavation of a Frozen Tomb in Kazakhstan* 114
- Konstantin V. Chugunov, Anatolii Nagler, and Hermann Parzinger
12. *Discovery of a Royal Burial of the Scythian Period in Tuva* 128
- Jianjun Mei
13. *The Material Culture of the Iron Age Peoples in Xinjiang, Northwest China* 132

Related Sites and History: West

- Askold Ivantchik
14. *Reconstructing Cimmerian and Early Scythian History: The Written Sources* 146
- Oscar White Muscarella
15. *Bronze Socketed Arrowheads and Ethnic Attribution* 154
- Andrei Alekseev
16. *Scythian Kings and "Royal Barrows" of the Fifth and Fourth Centuries B.C.: Modern Chronology and Interpretation* 160
- Renate Rolle
17. *Royal Tombs and Hill Fortresses: New Perspectives on Scythian Life* 168

Imagery and Interpretation

- Esther Jacobson
18. *The Filippovka Deer: Inquiry into Their North Asian Sources and Symbolic Significance* 182
- Elena Korolkova
19. *Camel Imagery in Animal Style Art* 196
- Ann Farkas
20. *Afterword* 208
- Bibliography* 217

The Golden Deer of Eurasia: Perspectives on the Steppe Nomads of the Ancient World

The special exhibition *The Golden Deer of Eurasia: Scythian and Sarmatian Treasures from the Russian Steppes* was held at the Metropolitan Museum in the fall and winter of 2000–2001. The rich finds discovered by Anatolii Pshenichniuk from kurgans near the village of Filippovka in the southern Ural steppes formed the central focus of the show. These extraordinary objects include twenty-six gold and silver deer as well as hundreds of golden mounts for wooden cups. Carefully restored and analyzed by a team of conservators led by Aleksei Bantikov, they have both added a new dimension and raised further questions regarding our understanding of the funerary beliefs and practices of the Eurasian nomads. In imagery and style, they also represent a new chapter in the art of the horse-riding nomads who traversed the corridor of open grasslands that extends from the Black Sea to China. Surrounding the “animal styles” of these steppe peoples are debates over the correlation between ethnic or cultural identity and forms of artistic expression. It was one objective of the exhibition to demonstrate the variations and to

identify possible sources of the florid style and distinctive patterning that is evident on the deer and cup plaques from Filippovka. The presence of precious vessels of Achaemenid Persian manufacture at Filippovka has also raised the issue of the relationship of nomadic and settled populations.

Ann Farkas, in her introductory essay to the *Golden Deer* exhibition catalogue, asked, “Who were the nomads interred . . . at Filippovka? What were their relations with the Scythians to the west and with the various nomadic tribes to the east . . . ? What political, economic, and cultural ties enabled these nomadic herders to command people, some from distant lands, to participate in the funeral rites of their leader? What was the nature of the burial ritual, which required . . . the great wooden figures of supernatural deer . . . ?” Such questions highlight the difficulties underlying our attempts to identify individual steppe groups and build a comprehensive picture of their contacts with other Eurasian nomads as well as settled societies. On the occasion of the *Golden Deer* exhibition, a number of scholars gathered at a symposium held at the Metropolitan Museum on October 12–13, 2000, followed in the next few months by a series of invited lectures. The speakers offered different regional perspectives covering the broad expanse of the steppe corridor. They presented exciting discoveries from recent archaeological excavations not only at Filippovka but also at Pokrovka in the Urals, Bel’sk in the Pontic steppes, Berel in the Altai region of Kazakhstan, Arzhan near Tuva in southern Siberia, and Xinjiang in western China. Interpretations of a vast array of extraordinary objects relied on a number of methodologies, including the technical analysis of the materials and means of manufacture; art historical studies of stylistic and iconographic features; archaeoastronomy,

numerology, and cosmology for determining the underlying structure of burial ritual and the significance of funerary equipment; textual studies of references to specific Eurasian nomadic tribes in Greek and Persian sources; physical anthropology as a scientific method applied to the problem of differentiating ethnic groups; and the ethnography of modern nomadic tribes. Such work has added significantly to our view of the steppe world, with its spectacular tombs containing extraordinary works of art in distinctive “animal styles” and imported prestige items—created for the adornment of the dead or utilized for the enactment of funerary rituals.

FUNERARY RITUALS AND THEIR VISUAL EXPRESSIONS

Herodotus graphically described the interment of a Scythian king: the laying out of the embalmed corpse on a cloth within a pit, the erection of a wooden structure above him, the burial of gutted and stuffed horses and servants along with golden cups and other treasures, as well as the raising of a great mound of earth above the burial to form an impressive tomb—followed by ceremonies involving ritual cleansing, inhaling the smoke from hemp seeds, and further sacrifices. Confirmation of some of these practices comes not only from Filippovka but also from nearby Pokrovka, where Jeannine Davis-Kimball discovered hallucinogenic plant seeds and the remains of funerary feasts of the meat of twenty-two horses, whose heads were arranged along the edge of the kurgan. Liudmila Koryakova also reports the consumption of horse meat, as well as cattle and sheep. Perhaps the most spectacular evidence for horse sacrifice comes from the frozen tomb at Berel in Kazakhstan, where Henri-Paul Francfort and Zainullah Samashev uncovered sacrificed horses laid out with their bridles and trappings intact as a funerary cavalry to accompany the deceased. He also recovered evidence for

embalming procedures, which would have preserved the body for the type of display described by Herodotus.

According to Renate Rolle, the dedication toward serving the cult of the dead in the Scythian world is expressed not only by the human sacrifices witnessed within the chambers but also by the erection of huge nomadic burial mounds, suggesting that these “pyramids of the steppes,” built from the sod of special grazing lands, were funerary gifts to the deceased. She provides evidence that these “eternal pastures” were further embellished by the “death-riders” described by Herodotus—corpses of mounted men on bridled horses set up around the foot of the mound, their skeletal remains recovered at the site of Chertomlyk.

One of the most enduring images of nomadic burial practices, as related by Herodotus, is the procession toward the grave of the dead but still powerful king carried on a cart throughout his dominions. Farkas and Gernot Windfuhr point to similarities with earlier Anatolian funerary ceremonies, where an effigy of the Hittite king holding a bow and arrow was carried around on a cart to various locations before interment. The imagery of the deceased royal hunter, according to Windfuhr, may also be reflected in the bow-shaped layout of the Filippovka burials. Farkas and Windfuhr also refer to wooden birds that were carved on the thirteenth day of the Hittite rites. Like the wooden stags from Filippovka, they were overlaid with precious metal and used along with gold and silver cups that were later destroyed.

The golden cups that were placed in Scythian graves are only briefly mentioned by Herodotus, but the objects that embellished nomadic elite burials compete, in grandeur, with the monumental tombs themselves. Incorporating intricate imagery created in a variety of “animal styles,” they offer another window into the origins and associations of the rich finds from Filippovka.

GOLDEN DEER AND ANIMAL STYLES EAST AND WEST

The supernatural antlered deer brought to the funeral at Filippovka have stimulated much discussion regarding their artistic associations and their ritual significance. Tracing the ancestry of such creatures in the rock art of the Mongolian Altai, Esther Jacobson focuses attention on the mythic tradition of joining predator with prey and antler with trees and birds as a means of visualizing the intimate connection between death and life in early nomadic belief systems. She contrasts these creatures with images of True Deer in the Black Sea region. Rather, she emphasizes connections with the Altai region, in the syncretic deer-creatures of Pazyryk and with demonic deer depicted on the plaques in the Siberian collection of Peter the Great.

While the exact origins of the spectacular Peter the Great collection remain a mystery, Koryakova draws attention to the fact that gold and silver objects of comparable appearance were recovered from burials of the Sargat culture in an area of intensive grave robbery between the Ural Mountains and the Yenisei River. How and why these objects came to the northeastern fringes of the Eurasian world is a puzzle addressed by Farkas, who offers some of the possible explanations—traveling goldsmiths and traders, diplomatic exchange or overlordship, or perhaps the exchange of women.

Our knowledge of the animal styles deriving from Siberia has been greatly enriched by the discoveries by Konstantin Chugunov, Anatolii Nagler, and Hermann Parzinger in an undisturbed grave in the Arzhan 2 cemetery near Tuva. Within a wooden burial chamber were the remains of a male and a female dressed in garments decorated with thousands of gold feline-shaped appliqué. Deer, camels, boar, wolves, and snow leopards are elongated and contorted to create an overall surface pattern on the man's splendid torque. An exquisite depiction

of a deer with impressive antlers and its feet drawn together to form the head of a gold pin adorned the female's headdress. Of special interest is the depiction of horses (in folded postures), this most significant steppe animal—seminal to “predatory nomadic pastoralism,” as described by David Anthony—only rarely represented in the art of the Eurasian grasslands.

One characteristic of the many animals depicted in the distinctive animal styles that developed across the steppe corridor is their transformation into creatures combining elements of predator and prey. Future studies of the manner in which these syncretic beasts were created and the specific animals selected may enhance our understanding of regional preferences and their associated symbolic significance. At Filippovka, the Bactrian camel, as noted by Elena Korolkova, was portrayed with certain features of predatory animals—like the golden deer with their wolflike snouts. Represented in great variety, the camel may look quite fierce, with large bared teeth and a beak-shaped snout derived from the bird of prey. She comments that invading Sarmatian tribes were the first to introduce camel motifs into the art of the steppes west of the Volga River, far beyond their natural habitat.

ART, HISTORY, AND ETHNIC IDENTITY

Although we lack major settlements and the only written records are those of outsiders, our picture of horse-riding nomadic societies, who created a vast complex of interactions throughout Eurasia and the Mediterranean as a result of their highly mobile lifestyle, has been enhanced by the work of scholars such as David Anthony, Thomas Barfield, and Peter Wells. Actual Scythian settlements have also been uncovered. Rolle believes that massive hill fortresses such as Bel'sk were craft and trading centers and residences, ruled over by a nomadic upper class.

The identification of the people buried in the Filippovka kurgans as Sarmatians has been generally accepted. Davis-Kimball calls the neighboring Pokrovka people “middle-class” Sarmatians, part of a great nomadic Sarmatian tribe that came to the southern Urals each summer to pasture herds of animals and to bury their dead. However, the use of ethnic terminology to describe specific cultural and artistic traits has aroused a great deal of discussion. Farkas speaks about the claim by Herodotus that the Sauromatians, the nomads dwelling to the east of the Scythians in his time, originated from a mass alliance of Scythian youths with Anatolian Amazons who had found their way to the Pontic steppes. Farkas explores their possible relationship to the later Sarmatians, who are thought to have moved westward from the eastern steppes but appear to display some Anatolian features in their art and ritual—pointing possibly to a relationship between the Iranian-speaking steppe peoples and the west before the time of the Filippovka kurgans. The interpretation of the rituals at Filippovka as Zoroastrian in origin—particularly the drinking of a sacred hallucinogenic beverage and, as noted by Windfuhr, even the placement of objects in the tombs—has reinforced a cultural (and possibly ethnic) affiliation with peoples from Iran.

Leonid Yablonsky uses physical anthropological and archaeological data to differentiate populations often referred to generally as “Scytho-Siberian” but distinguished in ancient sources. He suggests that the peoples buried in the cemeteries of the Oxus River delta territory may be identified with the Massagetae, who killed the founder of the Persian empire, Cyrus the Great. Herodotus describes the unique customs of this “great and warlike nation, dwelling eastward, toward the rising of the sun, beyond the river Araxes”—distinguishing them from both the Scythians of the western steppes and the Saka of the eastern steppes.

Askold Ivantchik also invokes the ancient sources—both Greek and Persian, as well as the Scytho-Sarmatian heritage as preserved by their Ossetian descendants—in

an attempt to reconstruct the history of Cimmerian and Scythian societies. One possible indication of Cimmerian or Scythian warfare in the Near East, and specifically at Urartu—the socketed arrow—is, however, dismissed by Oscar White Muscarella as a marker of any specific nomadic group. Scythian dynastic history as recorded by Herodotus and later Greek authors is compared by Andrei Alekseev with the archaeological evidence of the Pontic steppes to connect Scythian kings and “royal” barrows of the fifth to fourth century B.C. and arrive at a genealogy of ruling families.

The contrast between Scythian and later Sarmatian societies localized in the western Pontic steppe and those of the eastern nomads is explored by Barfield. These tribes are known only from the Chinese records, which referred to them generically as the Hu. Barfield focuses on the Xiongnu, who, unlike their western cousins, formed a powerful empire along China’s frontier and remained a constant military threat to their sedentary neighbors during the Han dynasty. The earlier history of the westernmost provincial region of China, Xinjiang, has been reconstructed by Jianjun Mei from remarkable archaeological discoveries over the last twenty years. He observes that during the Iron Age, finds of high-status gold and silver objects signal a significant cultural change in the region, demonstrating an active interaction with steppe neighbors to the west.

Chinese archaeology has also shed light on questions posed by Karen Rubinson regarding the origins of some highly effective military practices on the western steppes and the social systems associated with elite equipment of foreign derivation. Focusing on cast bronze helmets and mirrors with a central loop handle, she traces their origins in different parts of eastern Asia, and their distribution and significance as high-status objects in the west.

THE ROLE OF WOMEN

Herodotus recounts the origins of the Sauromatians, whose women took the field

in war and hunted on horseback like their female ancestors, the Amazons. Tales of warrior princesses have excited both popular and scholarly imagination, and have been verified to some extent in the archaeological record. Rolle stresses the high status of women and their role as warriors, evidenced by female graves containing both offensive and defensive armor. She identifies six “amazons” from her excavations at the necropolis of Chertomlyk, one wounded by an arrow. While such findings demonstrate that artifacts such as armor and weapons—as well as jewelry and cosmetic devices—may not always be reliable gender markers, they may suggest interpretations regarding the place of women in ancient nomadic society. Davis-Kimball notes that women’s tombs frequently held imported objects of more varied types, and in greater quantity, than did men’s burials. She also associates certain artifacts, such as mirrors and mortars for grinding pigments, with priestesses. Francfort and Samashev’s work has revealed an interesting double burial of a man and an older “dowager,” unrelated to one another and interred several years apart. It has led them to question the assumption that females buried with men were sacrificed immediately after their husband’s death.

Many other subjects are illuminated by the contributors to this volume, who have presented us not only with new data from archaeological excavations extending from the Caucasus to China but also with new avenues of interpretation. Their research has provided a context that enriches our understanding of the spectacular golden deer of Eurasia.

ACKNOWLEDGMENTS

We would like to thank Philippe de Montebello, Director, for his recognition that these studies were fundamental to the understanding of the golden deer of Eurasia and deserved a formal publication. With the help of Doralynn Pines, Associate Director for Administration, we were able to realize our long-term goal of having these proceedings become part of the series of Metropolitan Museum symposia, conforming to the high standards set by John P. O’Neill, Editor in Chief and General Manager of Publications. His strong commitment to this project is deeply appreciated. In the Editorial Department we are also especially grateful for the constant support of Gwen Roginsky, Associate General Manager of Publications, and for the superb editorial work by Jane Bobko during the crucial last phases of the publication. Her familiarity with the subject, after having edited the *Golden Deer of Eurasia* exhibition catalogue, has proved invaluable. Peter Antony, Chief Production Manager, and Douglas Malicki, Production Manager, attended to many complex issues related to images and layout. In the Department of Ancient Near Eastern Art we would like to thank many members of the staff who have been involved in this project since 2001, in particular, Jean Evans, Paul Collins, Cynthia Wilder, and Alexandra Porter, who coordinated this project over a long period of time. Kim Benzel, Sarah Graff, and Monica Velez also provided vital assistance with proofreading and other tasks. Elena Izbitser, Library Associate, Thomas J. Watson Library, gave generously of her time in order to ensure that the Russian transliterations and translations were accurate.

The publication was realized with a generous grant from The Adelaide Milton de Groot Fund, in memory of the de Groot and Hawley families.

Joan Aruz
Ann Farkas
Elisabetta Valtz Fino

The Metropolitan Museum of Art Symposia

The Golden Deer of Eurasia
Perspectives on the Steppe Nomads
of the Ancient World

I. The Prehistory of Scythian Cavalry: The Evolution of Fighting on Horseback

Mounted steppe nomadism, the way of life practiced by the Scythians, seems to have appeared in history only after about 900 B.C. This estimate is based on fourteen radiocarbon dates that average about 810 B.C., from the roof beams of the earliest steppe tombs built in Scythian form, with typical Scythian weapons and horse trappings in them, at Arzhan in the Tuva region of the Altai Mountains.¹ However, these very early radiocarbon dates are disputed because they are contradicted by the most likely placement of a “floating” set of tree-ring dates from the same wooden beams roofing the same Arzhan tombs, which suggests a date closer to 630–620 B.C.² If we discard most of the Arzhan radiocarbon dates, then the earliest date for the appearance of mounted steppe nomads—Cimmerians, not Scythians—falls forward to about 722–715 B.C., when Assyrian spies reported that the Urartian kingdom (in present-day Armenia, eastern Turkey, and western Iran) was under attack by mounted Cimmerian nomads from the north.

The earliest documentary reference to Scythians is in Assyrian inscriptions that refer to nomadic raiders called *Ashguzai* or *Ishkuzai*, a Semitic rendering of *Skythoi*, dated 676–652 B.C. In China, an isolated entry in the *Zuo zhuan* (The Zuo Commentary),

dated 664 B.C., refers to mounted barbarians who made war on the northern kingdoms, although constant, regular references to mounted warfare in Chinese sources began only after 400 B.C.³ By 700–650 B.C., however, elaborate Scythian tombs had begun to appear in the European steppes north of the northern Caucasus Mountains. Most authorities accept that mounted steppe nomadism had begun in the European steppes by 750–700 B.C. at the latest because of these tombs and the Assyrian accounts of Cimmerian raiders.

As a way of life, mounted steppe nomadism depended on horseback riding. The beginning of effective horseback riding on the steppes is therefore often placed after 1000 B.C. But, in fact, riding began much earlier than this. What happened around 1000–900 B.C. was the evolution of cavalry—organized bodies of riders who attacked and retreated on signals from a central commander. This military innovation set the stage for the rapid evolution of a new form of mounted steppe nomadism. But it was not the first time that steppe societies adopted a mobile pastoral economy—this happened as early as 3300 B.C., with the appearance of the Early Bronze Age Yamnaya (or Pit Grave) horizon. And it was probably not the first time that horses were ridden in military contexts. Scythian and Cimmerian cavalry was the culmination of millennia of horseback riding in the steppes.

Horseback riding radically changed the basic ecology of the steppes for the humans who lived there. A man on foot, with a good dog, can control about 200 sheep on the open steppe of Mongolia. A man on horseback can control about 500;⁴ but then he would need pastures twice as large, and he would need to keep those 500 sheep constantly moving and well guarded, also made easier by riding. He would need to secure a larger winter refuge for his herd in a place where there was cover

from the snow and ice of the northern Eurasian winter—ideally, in the forests and marshlands of a lowland river valley or on the wooded shores of a large lake. Winter refuges were the key to the herd’s survival, but they were often in places that were not ideal for summer grazing, which made cyclical nomadism necessary. To move a family and its possessions with the herd, transport was required.

In the days when the only form of transport was the human back, pastoral economies remained small scale, and pastoral societies were materially poor, by necessity. This pedestrian phase of cattle and sheep herding is generally thought to have lasted from about 5000 B.C. to perhaps 3500–3000 B.C. in the steppes west of the Ural Mountains. Wagons were buried in kurgan graves in the European steppes beginning about 3000 B.C. Wagons gave steppe herders the gift of bulk transport. Even a small wagon with solid wooden wheels, pulled slowly by oxen, could carry enough tents, water, and food to let a herder live with his herds out in the steppe, far away from the few big river valleys, for months at a time. This made much bigger summer pastures available, which increased the potential size of a single family’s herd. When people with domesticated cattle and sheep began to use ox-wagons and to ride horses—possibly as early as 3500–3000 B.C. in the European steppes—the combination of bulk and rapid transport revolutionized the potential economic returns of large-scale herding.

It is therefore important to know when riding began just for its economic-ecological implications. In addition, of course, well-organized troops of cavalry eventually transformed warfare in the great Eurasian grasslands. Nomadic pastoralism provided a profitable and predictable way to make a living within the steppes, and cavalry provided a tool that could extract loot from neighbors outside the steppes in enormous amounts—enough to fund vast intertribal alliances for the first time in Eurasian history. Many specialists believe, with good reason, that the predatory form of steppe nomadic pastoralism typified by the

Royal Scythians was dependent on loot or tribute from agricultural civilizations, without which nomadic tribes could not cement the vast intertribal alliances that made them truly dangerous.⁵ The wealth of the agricultural kingdoms to the south became vulnerable to steppe pastoralists, and nomad alliances therefore became possible only after the development of cavalry.

Several critical elements in this standard account need to be disconnected and reexamined separately. The beginning of horseback riding was not coeval with the widespread use of cavalry in warfare. Even in the Near East, horseback riding was familiar before 2000 B.C., long before cavalry began to be regularly used in warfare. On the steppes, several lines of evidence suggest that riding began at least as early as 4000–3500 B.C., and perhaps earlier. And cavalry was not necessarily the first tool that steppe pastoralists used to extract wealth from agricultural kingdoms. Chariot-driving steppe chieftains interacted intensively with Bronze Age civilizations in Bactria and Iran long before the development of cavalry—but because their deeds were not recorded by Greek or Persian historians, the details remain unclear.

The organized use of cavalry in battle certainly began or greatly expanded after about 900 B.C. It is possible that mounted warfare became an effective instrument of aggression against “civilized” kingdoms principally because of social and ideological changes that accompanied the opening of the Iron Age in the steppes—a shift in the definition of the ideal warrior, from the single chariot-driving hero of the Bronze Age to the mounted general of the Iron Age. Cavalry became powerful when large anonymous troops of riders began to operate in unison on the command of a general, to attack and then withdraw together, at speed, while releasing a cloud of arrows at a slower enemy. This was essentially an urban style and ideology of warfare, grafted onto a tribal steppe social structure. Steppe tribes probably began to fight this way on horseback after about 900–800 B.C., and, however it began, the tactic and the group ideology

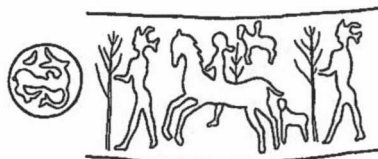


Figure 1a. Akkadian seal impression, Kish, 2350–2200 B.C. After Buchanan 1966

Figure 1b. Seal of Abbakalla, Ur III, 2050–2040 B.C. After Owen 1991

Figure 1c. Bactria-Margiana Archaeological Complex (BMAC) seal impression, 2100–1700 B.C. After Sarianidi 1986b

Figure 1d. Bactrian bronze figure, 3rd–2nd millennium B.C. (?). Private collection. Photo: Sheldan Collins, 1990

connected with it spread quickly. But before 900 B.C., there was a long period of horseback riding in the steppes that has remained largely unexamined.

HORSEBACK RIDING IN THE NEAR EAST

Horses are not native to the Near East, but nevertheless our interpretation of ancient horse transport is based largely on Near Eastern archaeological evidence. This body of ancient horse-related materials—texts, bits, figurines, seal images, plaques, and actual horse bones—is of course important for many reasons, but cannot represent the beginnings of horse transport. Horse driving and riding probably appeared first among the people who first kept domesticated horses, in the Eurasian steppes.

In the Zagros Mountains and the Fertile Crescent, horse bones and written references to horses began to appear with some regularity only after about 2000 B.C., although horses were imported as novelty animals from the north at least 300 years before that, in the Akkadian period (ca. 2350–2150 B.C.). Horses are first clearly portrayed in figurines dated to the Akkadian period at Tell es-Sweyhat in northern Syria and Titris Höyük in southern Turkey; the Tell es-Sweyhat figurine is pierced through the mouth for the attachment of reins. A horse pictured in a shell inlay at Susa might also be this old or even older, but its precise provenance is unclear. The earliest pictorial scenes of riding are also dated to the Akkadian period (fig. 1a), including a seal impression that seems to show a man astride a standing horse⁶ and another that shows a rider in a mountainous hunting scene.⁷ Scenes of riding begin to be more frequent on plaques and seals dated to the subsequent Third Dynasty of Ur (Ur III) and Isin-Larsa periods (2100–1600 B.C.). The majority seem to show men riding onagers or asses, although a seal impression published by David Owen dated to about 2050 B.C. (Ur III) clearly shows a man astride a galloping horse (fig. 1b).⁸ The skeleton of a man with unusual muscular attachments on his femurs, from a grave at Kish, was identified as a probable

rider by Theya Molleson.⁹ This grave might date as early as Early Dynastic II, but the identification of riding-related musculature is disputed. It was during the Third Dynasty of Ur that horses first began to appear frequently in texts and in archaeological sites in Mesopotamia—before that time they seem to have been a novelty. The bones of horses were absent from earlier occupations at Malyan in Iran and at Godin in the southern Zagros, but appeared at both sites in deposits dated about 2100–1900 B.C.

The oldest Mesopotamian domesticated equids were onagers (*Equus hemionus*) and asses (*Equus asinus*). Onagers, asses, or onager-ass hybrids were harnessed to carts and wagons as early as the Early Dynastic II to Early Dynastic III transition (2700–2500 B.C.); actual cart burials with the bones of small equids are known from Early Dynastic I–II levels at Kish. Battle-wagons with four solid wooden wheels were used in warfare at least as early as 2500 B.C., as shown on the Standard of Ur, which portrayed battle-wagons pulled by equids (asses?) moving over fallen enemy soldiers. (Wagons have four wheels, carts have two, and chariots have two spoked wheels, so that the vehicles on the Ur Standard are wagons, not chariots, as they are often called.) When the supply of horses first became steady during the Third Dynasty of Ur, they replaced these smaller native equids.

The images of riding just cited show that horses were used as riding animals from the beginning. We are not sure in what capacities. They could have been ridden by messengers—but Ur III texts referring to messengers do not mention horses. They were seen on highways. The great Ur III king Šulgi boasted in one inscription, “A horse of the highway that swishes his tail am I.” Perhaps they were ridden by foreign merchants. Horses were fed to lions to entertain the royal household at Ur, and they probably were used to breed mules. The Ur III seal with a man astride a galloping horse published by Owen belonged to one Abbakalla, an animal disburser in the bureaucracy of the king Shu-Sin. Like the other Ur III kings, Shu-Sin actively campaigned on the

Iranian plateau; in one text, he claims that he defeated all of the kings from Anshan (Malyan, in Fars, southern Iran) to the Upper Sea—probably the Caspian Sea.¹⁰ Thus the increase in the number of horses in Mesopotamia around 2100–2000 B.C. coincided with an active period of Iranian–Mesopotamian interaction. Around 2000 B.C., the last of the Ur III kings, Ibbi-Sin, was defeated by an Elamite coalition and probably taken to Iran in chains. For 300 to 400 years afterward, the Old Elamite kings of Iran were active intruders in Mesopotamian politics and trade. It is probable that horses entered Mesopotamia in increasing numbers through these interactions with Iranian polities.

Horseback riding was known in Bronze Age Iran. A group of seals found in an unknown location in northern Afghanistan, but said to be from a cemetery, includes a seal that shows a rider on a galloping horse (fig. 1c).¹¹ The seals in this group are assigned on solid stylistic grounds to the Bactria–Margiana Archaeological Complex (BMAC), also called the Oxus civilization, dated to the period 2100–1700 B.C. Interestingly, the BMAC seal image is similar in many ways to that of Abbakalla and could be of the same date: both scenes show a galloping rider with a knot on the back of his head, preceded by a man walking. Another object of unknown provenance, a mounted cast bronze figure, is also thought to have come from a BMAC-related site in Afghanistan (fig. 1d); it portrays a rider with an erect phallus astride a standing horse. In addition, the site of Pirak in Baluchistan has yielded a group of ceramic figures of riders on horseback, excavated from contexts firmly dated to 1700 B.C.¹² These objects demonstrate that horseback riding was familiar to seal makers and craftspeople in Bactria–Margiana and Baluchistan as well as Mesopotamia during the period 2100–1700 B.C.

Images of horseback riding are older than the earliest images of horses pulling chariots in the Near East. The earliest pictorial evidence for Near Eastern chariots appears in seal impressions deposited in Level II of the Assyrian merchant colony outside Kanesh in Anatolia,

dated about 1920–1850 B.C.,¹³ 100 to 200 years later than the seal of Abbakalla. The animals pulling these chariots are shown very schematically, so cannot be called horses. The earliest clear images of horses pulling chariots occur in scenes carved on cylinder seals in the Old Syrian style, 1820–1650 B.C., well after the images of the Ur III period.

For many years it has been accepted that horses were used first to pull chariots and only later as mounts. But the pictorial evidence now favors the chronological priority of horseback riding even in the Near East and Iran, not to mention the steppes. This makes sense: any society capable of training horses to run in harness teams, where the inside horse must slow down and the outside horse must accelerate simultaneously just to perform a maneuver as simple as a turn, was also capable of training horses for riding—a much simpler, easier, and less expensive feat. Perhaps it was the simplicity of horseback riding, its association with common herding tasks, its completely secular role (in contrast to the ritual salience of wheeled vehicles), and even its dirtiness (requiring direct contact between the rider and a sweaty, strong-smelling animal) that kept riding from favor among the Bronze Age elites in the Near East and China. A chariot was expensive and complicated and required years of training to operate in battle, according to later Chinese prescriptions for the training of young nobles. Chariot driving was more in keeping with the heroic ideology of Bronze Age warriors and Near Eastern kings. Riding was known, but was associated with foreigners and barbarians. In a well-known text of about 1750 B.C., the king Zimri-Lim of Mari was advised: “May my lord honor his kingship. You may be king of the Haneans but you are also king of the Akkadians. May my lord not ride horses; instead let him ride either a chariot or *kudanu*—mules so that he would honor his kingship.”¹⁴

Although it remains true that horses were first widely used in Near Eastern warfare as draft animals attached to chariots, and cavalry was not used in Near Eastern warfare until after 1000–900 B.C., horseback riding was

known and practiced throughout the era of chariot warfare. Images of riders on horseback actually predate images of horse-drawn chariots in the Near East. What, then, were these riders doing? Where had riding started, and why did horses begin to appear more frequently in the Near East after about 2000 B.C.?

THE REVOLUTION OF 2000 B.C.

A fundamental change occurred in the relationship between the cultures of the steppes and those of the southern agricultural civilizations at about 2000 B.C. or perhaps a little earlier. Before that time, the northern Eurasian steppes had been occupied by a wide variety of different cultures, some living by herding cattle and sheep (west of the Ural Mountains), but many others (in southern Kazakhstan and the Aral Sea region) still living by hunting, gathering, and fishing in the river-valley forests and lakeside marshes that dotted the grasslands. Then, between about 1900 and 1800 B.C., the earliest part of the Late Bronze Age in the steppes, the Srubnaia (or Timber Grave) culture and its eastern cousin, the Andronovo culture, spread rapidly from an area of origin near the southern Urals eastward to the borders of China and westward to the fringes of agricultural Europe (fig. 2).

Srubnaia (the western variant) and Andronovo (the eastern) shared a broadly similar way of life, based on cattle and sheep herding, perhaps farming, and metalworking for weapons, ornaments, and external trade. They shared a common origin in the Sintashta-Arkaim culture of the southern Ural steppes, dated about 2200–1800 B.C. The tribal elite drove chariots; occasionally chariots were buried in the graves of chiefs with the remains of the sacrificed horses. The remains of chariots have been found on the floors of eighteen graves at eight cemeteries of the Sintashta-Arkaim and Petrovka cultures in the Tobol River steppes and eastward into northern Kazakhstan. The earliest dated chariot burials, at Sintashta and Krivoie Ozero,¹⁵ are dated by six radiocarbon assays to about 2200–1800 B.C. In Table 1, three

dates have 68 percent probability ranges that fall entirely before 2000 B.C. and a fourth has a range entirely before 1875 B.C. All three graves contained the imprints of two spoked wheels and the bones of horses, accompanying a human driver. These graves began to appear in the steppes probably before 2000 B.C., perhaps about 2200–2100 B.C. This chronological evidence suggests that chariots might have been invented in the steppes.

Andronovo societies introduced cattle and sheep herding to many places, including the northern Eurasian forest zone east of the Urals, southern Kazakhstan, and the Central Asian desert-steppes. For the first time, a single relatively homogeneous chain of interacting societies, undoubtedly multiethnic but sharing a broadly similar material culture and set of mortuary rituals, occupied the entire Eurasian steppe corridor from the Tian Shan to the Carpathians. They began to mine copper from many large and small deposits across the steppe;¹⁶ tin was mined by Andronovo people at Mushiston and Karnab in the Zeravshan valley.¹⁷ Bronze weapon types (socketed axes, knives) spread from the steppes into China, Iran, and southeastern Europe, along with chariot technology, chariot gear such as the internally spiked cheek-piece, and perhaps new languages.¹⁸ Andronovo people appeared at the edge of the Iranian plateau, where pottery of the Federovo type (a variant of Andronovo) has been found inside fortified BMAC towns.¹⁹ After about 1700–1600 B.C., all of the walled BMAC centers and many related urban sites in Iran (including Malyan) were abandoned. The influence of the Old Elamite kings contracted sharply, and pastoral tribes, probably speaking Indo-Iranian languages, spread over the Iranian plateau. Their descendants might well have continued into eastern Iran and India about 1650–1500 B.C., where the Rig Veda and the Avesta were compiled in the following centuries.

This Late Bronze Age Andronovo interaction sphere was connected not only to Iran, but also to China at its eastern end (or at least to Xinjiang and the Gansu border

Table 1.
Radiocarbon dates for chariot graves in the southern Ural steppes

Lab number	BP date	Site, kurgan, grave	68% confidence
AA-9875a	3700±60	Krivoe Ozero k9:gI	2142–2013 B.C.
AA-9875b	3525±50	" "	1890–1759 B.C.
AA-9874a	3580±50	" "	1977–1875 B.C.
AA-9874b	3740±50	" "	2198–2097 B.C.
Ki-862	3360±70	Sintashta SM g5	1688–1591 B.C.
Ki-657	3760±120	Sintashta SM g28	2334–2014 B.C.

region) and, through the Srubnaia culture, to southeastern Europe at its western edge—a pan-steppe phenomenon that anticipated the later emergence of the Scythian-Saka ecumene. Socketed ax forms were remarkably similar from Qijia graves in Gansu²⁰ across the steppes²¹ to Noua and Otomani graves in Romania.

Andronovo and Srubnaia burial rituals set a pattern that was followed in many details by later Scythian and Saka tribes. Economic interactions with agricultural civilizations, particularly in Bactria and Iran, might have stimulated Andronovo political development, as contact with the Greeks and Persians later stimulated the Scythian-Saka world—although there was no visible flow of loot from Bactria into the steppes during 2000–1800 B.C. Beliefs could have been affected, however: the Indo-Iranian word for the *soma* plant, *ancu*, was borrowed from a non-Indo-European substrate language along with many other words, including those for “brick,” “plowshare,” and “camel.”²² The language of the BMAC towns might well have been that substrate. Andronovo people lived on the outskirts of these towns, and Andronovo pots were placed in the temple rooms inside BMAC towns, where ephedra, probably *soma*, was found on the altar. It is possible that the ritual consumption of *soma* was borrowed by Indo-Iranians from the BMAC civilization.

Influences also flowed in the opposite direction. A high percentage (40–45 percent) of the metal artifacts from some of the BMAC towns of Bactria (Dzharkutan, Sapalli) are tin



Figure 2. Northern Eurasian steppes, ca. 1900–1800 B.C., showing east-west spread of the Srubnaia and Andronovo cultures

bronzes,²³ and it is likely that the tin came from the Andronovo workings in the Zeravshan valley just to the north. It is no coincidence that tin, horses, and chariots were acquired by Near Eastern and Iranian civilizations during just the period when the steppe world began to interact intensely with northern and eastern Iran, beginning about 2100–2000 B.C.

HORSEBACK RIDING AND NOMADISM ON THE STEPPES

When did the people of the Eurasian steppes begin to ride? The earliest convincing evidence for horseback riding has been found at settlements of the Botai-Tersek type in the Tobol-Ishim steppes of northern Kazakhstan, dated 3500–3000 B.C.²⁴ At Botai, horses accounted for 99.9 percent of the 300,000 identified animal bones. Horses regularly constituted more than 65 percent of the animal bones from Botai-Tersek sites. The bones are found inside large house pits, apparently used as garbage dumps after the houses were aban-

doned. Settlements contained dozens of house pits, with more than 150 at Botai. The Botai-Tersek people had no domesticated cattle or sheep and their settlements have yielded no evidence of wheeled transport, only indirect evidence of metal tools (some cut-marks on bone apparently were made with metal blades), and no evidence of agriculture. They were foragers who, about 3500 B.C., adopted an economy based on specialized horse hunting and aggregated into large, semipermanent settlements. This unusual adaptation existed only in the northern Kazakh steppes and only between 3500 and 3000 B.C.

Horses were butchered at Botai in the residential area of the settlement, not just once or twice, but as a regular practice extending over centuries. Most of the horses were wild, and entire herds were butchered, from stallions and old mares to gestating fetuses, with a 1:1 sex ratio. Whole carcasses were dragged into the settlement and discarded after only partial butchering. Yet the Botai-Tersek people had no domesticated cattle to do the pulling. A 1:1

sex ratio could be achieved only by sweeping up both stallion-with-harem bands and bachelor bands, and these two kinds of social groups normally live far apart in the wild. The only way to capture both bachelor bands and harem bands in herd drives is to actively search and sweep up all of the wild horses in a very large region. This would be impossible on foot. Analysis of the soils from one house pit at Botai (Sandra Olsen's excavation 32)²⁵ revealed a distinctive layer of horse-dung-filled soil in the fill inside the house pit that "must have been the result of redeposition of material from stabling layers," according to the soil scientists who examined it.²⁶ Brown and Anthony's study of thirty-three lower second premolars from Botai and Kozhai 1, a Tersek site the same age as Botai, found that six teeth from a minimum of four horses exhibited pathological wear facets that are common and expected in bitted horses, including horses bitted only with rope or leather bits, but are extremely rare (less than 1 in 100) or absent among wild horses, based on new studies of Pleistocene equid teeth from Florida. It is likely that some horses at Botai, probably less than 20 percent of the adults, were bitted. Most were wild, but some horses were used for riding and for pulling sledges loaded with dead horses from the kill site to the settlement. By 3500 B.C., people were riding horses in the Kazakh steppes.²⁷

During the same time interval when the specialized horse-hunting Botai economy appeared in the Kazakh steppes, the Yamnaya horizon appeared across the Pontic-Caspian steppes, from the mouth of the Danube to the Ural Mountains. The Yamnaya period, about 3300–2500 B.C., was characterized by a dramatic increase in settlement mobility, probably associated with the general adoption of the wagon as a moving home. Settlements disappeared archaeologically across most of the Pontic-Caspian steppes, although a few settlements and some evidence for agriculture (millet seed imprints in pottery) are known between the Dnepr and the Don in western Ukraine. The kurgan form of burial monument, an earthen mound raised over the single

grave of a prominent person, was widely adopted at the same time, with a broadly similar funeral rite and burial pose. Some kind of hierarchy was evidenced in these graves, since most people were not afforded a kurgan grave—we do not in fact know how most people were handled after death. Wagons and carts were buried in more than 100 kurgan graves of the Yamnaya period. The appearance of riding at Botai just when a more mobile form of herding economy appeared in the western steppes suggests that horse-riding Yamnaya herders made contact with pre-Botai foragers at the western edge of the Kazakh steppes about 3500–3300 B.C. and intentionally or accidentally taught them to ride.

Unfortunately the near-absence of Yamnaya settlements (quite unlike the Botai-Tersek settlement pattern) means that there are no large collections of horse bones to study from Yamnaya sites, but if the Botai people were riding, it is likely that the Yamnaya were too. They had inherited a long tradition of cattle and sheep herding in the steppes west of the Ural Mountains, unlike the Botai foragers. The combination of cattle and sheep herding, bulk wagon transport, and horseback riding made large-scale herding economies possible in the western steppes, and settlements disappeared—more than 2,000 years before the Scythians. Many of the elements often assumed to have been unique to the Scythian-Saka period existed much earlier, including a highly mobile form of horseback pastoralism. The Yamnaya horizon also interacted (perhaps even had predatory relations) with agricultural populations in the Danube valley.

HORSEBACK RIDING AND WARFARE BEFORE THE SCYTHIANS

Maces with polished stone heads, clearly status weapons, proliferated in the steppes with the spread of cattle and ovicaprid stock breeding from the Dnepr to the Volga between 5000 and 4500 B.C., the Early Eneolithic. Mace-heads appeared in rich graves at Mariupol', Khvalynsk, Varfolomievka, and other sites. Parts of horses were buried with cattle and sheep in and above human graves at

Khvalynsk and Sy'ezzhe, carved bone horse images were worn, and horses frequently constituted more than 50 percent of the meat diet in settlements of this period. In the early part of the Late Eneolithic, about 4200–4000 B.C., polished stone maceheads carved in the shape of horse heads appeared in Suvorovo, Karanovo 6, and Tripolye B1 sites. The Suvorovo graves, in the steppes, also contained Bulgarian copper goods and many flint points from projectile weapons. With the beginning of the Early Bronze Age, about 3300 B.C., and the appearance of the Yamnaya horizon, new kinds of metal status weapons like tanged and riveted arsenical-bronze daggers appeared almost entirely in central graves under kurgans, the graves for which the kurgans were constructed, implying a glorification of warfare and the warrior.²⁸ Yamnaya was contemporary with Botai-Tersek, so during the Yamnaya period warfare was conducted by people who rode horses. The military and economic uses of riding could not have been cleanly separated. Horseback riders could move two to three times farther per day than people on foot. Pastures, enemies, allies, and fixed resources like mineral outcrops that had previously been beyond effective reach became obtainable. The potential size of tribal territories increased with riding, and this would lead to the renegotiation of tribal use-rights and frontiers—a series of boundary wars. Horses could be stolen easily, and they increased the efficiency of cattle-stealing, so riding would increase stock theft generally, thus raising social tensions.

We know nothing about how Eneolithic or Bronze Age tribal wars were organized. Raiding probably was an occasion for personal exploits, not for obedience to a central commander.²⁹ There might have been no such thing as organized attack formations—Bronze Age warfare seems to have been more about individual glory. Horses might have played very limited roles in actual fighting. But riding was an excellent way to retreat quickly, and the running retreat after a raid was often the most dangerous part of tribal raiding on foot. Riders might still have left their horses

under guard and attacked on foot, as many American Indians did in the early decades of horse warfare on the plains. But tribal raiding tactics would have been affected in ways that gave an advantage to those who had horses.

WHAT MADE THE SCYTHIANS NEW?

The Scythians have become harder to explain. What was it, really, that changed in the steppes between about 900 and 800 B.C. and set the stage for the rise of predatory nomadic pastoralism? Technology probably played a role. The invention of a semirigid saddle, the development of bronze molds that could produce socketed arrowheads by the dozens, and the improvement of the short recurved bow all probably contributed to the rise of cavalry by making mounted bowmen more effective. Ideological changes in the definition of the ideal warrior, the shift from the hero to the general, might have been even more important—although we have no idea how or why this happened. Even the description of the Scythians as pastoral nomads, the standard view derived from Greek writers, has begun to seem too simple. Many Iron Age steppe and steppe-edge communities relied on small-scale agriculture.³⁰ Recent archaeological research has documented the presence of wheat and even rice in an Iron Age settlement of Saka-related people north of the Tian Shan in Kazakhstan;³¹ and a skeletal analysis of a large Hun-Sarmatian cemetery near Tuva in the Altai Mountains has revealed extensive dental caries—a pathology thought to be connected with a high-carbohydrate, grain-rich diet.³² The Scythians might have been somewhat like the modern Masai, the famous East African cattle pastoralists: only the strongest and most feared Masai clans were powerful enough to control pastures large enough to support a subsistence economy based entirely on herding.³³ Less powerful clans practiced some agriculture or even hunted and fished for a living, but were still ethnically Masai and hoped to achieve a purely nomadic lifeway. The most powerful Masai clans were perhaps the equivalent of Herodotus' Royal Scythians, a group that set a standard unattainable for most

people, but nevertheless established the material underpinnings of a pastoral ideology. It was these people, rich in gold and weapons, who so fascinated the Greek and Persian historians. Behind them, away from the eyes of the ancient Greeks and beyond the attention of most modern museumgoers, lived a surprising variety of ordinary people doing a variety of different things. Their lives are really just beginning to be understood.

The research on which this article is based was made possible by grants from the Wenner-Gren Foundation, the National Geographic Society, the National Science Foundation, and the Trustees of Hartwick College; and by the advice and efforts of my collaborator Dorcas Brown. I owe insights to all of the people whose work I have cited here, but I feel particularly indebted to Mary Littauer, Elena Kuz'mina, Dmitrii Telegin, and Igor Vasil'ev and the generation that has followed him in Samara—Pavel Kuznetsov and Oleg Mochalov. All errors are my own.

1. All radiocarbon dates in this essay are calibrated to bring them into alignment with calendar or historical dates.
2. Mallory et al. 2002.
3. Sawyer 1993, p. 367.
4. Khazanov 1994, p. 32.
5. Barfield 1989; Khazanov 1994, pp. 94–95.
6. Littauer and Crouwel 1979, p. 35; Moorey 1970, p. 45.
7. Collon 1987, p. 155.
8. Owen 1991.
9. Molleson and Blondiaux 1994.
10. Potts 1999, p. 141.
11. Sarianidi 1986b.
12. Jarrige 1995, p. 27; Jarrige et al. 1979.
13. Moorey 1986; Manning et al. 2001, p. 2534.
14. Cited in Owen 1991, p. 267.

15. Anthony and Vinogradov 1995; Anthony 1995.
16. Chernykh 1992.
17. Boroffka et al. 2002.
18. Kuz'mina 1994.
19. Hiebert 1994, p. 69; Sarianidi 1995, pp. 299–301.
20. Linduff 1998.
21. Chernykh 1992.
22. Lubotsky 2001.
23. Chernykh 1992, p. 179.
24. Brown and Anthony 1998; Olsen 2003; Benecke and Driesch 2003.
25. Olsen 2003.
26. French and Kousoulakou 2003, p. 113.
27. Zaibert 1993; Levine and Kislenko 1997; Brown and Anthony 1998; Levine 1999.
28. Anthony 1996.
29. Lawrence Keeley (1996, esp. pp. 42–58) has investigated the implications of Turney-High's declaration: "Warfare is social organization." The war parties of tribal people generally did not train as units. Skills in warfare were taught and learned individually. The style of fighting was not based on the subordination of soldiers to officers, nor were a leader's commands always supported by a socially accepted compulsion to obey. While there was plenty of practice with weapons, and men had opportunities to practice mock combats in games and ceremonies, the individuals in a war party might include many who had never before gone to battle together, unlike the specialized armies of states. Tribal warfare often was very serious and could result in ethnic genocide, but its tactics were not effective against the standing armies of ancient cities. The most famous tactic that made ancient cavalry effective against organized state-level armies—the feigned mass cavalry charge, abruptly stopped on a signal, followed by the feigned retreat, itself stopped suddenly on another signal, followed by a mass about-face and attack on the now-disorganized pursuing force—was possible only after raiders on horseback were organized into units that followed orders. In other words, the rise of cavalry was not the immediate result of the invention of horseback riding. It was instead the result of reorganizing and training riders who had long operated as individuals. For them to accept such a change in their status, there would have to have been a change in ideology and politics.
30. Di Cosmo 1994; Vinogradov and Epimakhov 2000.
31. Rosen et al. 2000.
32. Murphy 1998.
33. Sutton 1993.

2. Steppe Nomadic Culture and Political Organization

From their very first appearance on the historical stage at the beginning of the first millennium B.C., the horse-riding nomads of the Eurasian steppes made a vivid impression on their neighbors. Outlandishly dressed in leather and felt garments, they consumed milk and meat as the central part of their diet, glorified military adventure and heroic personal achievement, and appeared to travel as freely as the wind across the steppes when mounted on their small but sturdy horses. Their art, in the so-called animal style, was vivid in its colors and distinctive themes of animal combat, which showed figures of beasts that were a paradoxical mix of accurately observed depictions and imaginative distortions. They often tattooed their own skins with similarly complex designs. Prodigious drinkers of wine (when they could get it), they preserved their enemies' skulls to be used as drinking cups and smoked hemp in ritual tents. Their neighbors feared them as warriors who could attack from nowhere and then disappear as if by magic back into the very clouds of dust that had heralded their arrival. No people could have appeared more alien to the Greeks, Persians, or Chinese who encountered them.¹

Who these people were and how they lived, however, have received little attention. Even today we know more archaeologically about their tombs and funeral customs than

we do about their everyday lives. Yet by combining what we can glean from surviving historical accounts and the ethnography of more recent nomadic peoples, we can begin to develop a rounded picture of these societies and their distinctive cultures. Despite strong steppewide similarities in material culture and economy, we see that their political organization (and the relationships they established with their sedentary neighbors) was distinctly different in the eastern part of the steppe bordering China from that in the west bordering Europe.

HOW NOMADS LIVED

Sedentary writers generally overlooked or misunderstood the everyday life of steppe nomads because these writers could barely comprehend how nomadic pastoralism made steppe life possible. Pastoralism was more than an economic specialization; it constituted a distinctive way of life that involved everyone, men, women, and children, in the various aspects of livestock production. In general, men handled the herding, butchering, trade, organization of migrations, and fighting, while women handled the cooking, the packing and unpacking of possessions for transport, and the processing of wool, hides, and milk into a wide variety of useful products for consumption or trade. Compared with gender roles in sedentary societies, these boundaries were rarely firm, and foreign observers often found women's political influence in steppe societies, and their freedom in general, striking.

Steppe pastoralists fed the large number of animals they needed to support themselves by migrating from place to place in a regular cycle so that they could exploit extensive seasonal grasslands. Because humans could not directly digest grass, raising livestock had opened up a new steppe ecosystem to a people who knew how to use



Figure 1. Mongols herding horses, 2002. Photo: Thomas J. Barfield

it. The herds generally consisted of a mix of five animals: sheep, goats, horses, cattle, and camels. Of these, sheep were the most numerous and important for subsistence, and horses were most valued for transportation. Oxen were used to pull carts in the wetter parts of the steppe where the grasslands were richer; camels were commonly employed for heavy transport in more arid areas. Milk was the most important food product of the herds, and processing it into yogurt, dried yogurt, or cheese, or fermenting it for drinking (particularly mare's milk), were major tasks through much of the year. The animals were also slaughtered for their meat and hides. Such hides and sheared wool provided the raw material for clothes, storage bags, and felt covers for tents.² The steppe pastoralists made good use of other resources as well. Those who lived on borders of the steppe-forest zone proved to be skilled carvers and

woodworkers. They supplied themselves and their neighbors with spoked-wheeled carts, carved bowls and small tables, and wooden frameworks for their tents. A few groups did their own bronze and iron making; others managed to combine subsistence agriculture with pastoralism. All peoples had a keen interest in trade, which ranged from the acquisition of cloth, grain, metals, tools, and weapons useful in everyday life to luxury goods such as silk, gold, precious stones, and wine. Whether produced at home or imported, all objects used by the nomads had to be portable; thus they tended to be small in size or were designed so that they could be easily disassembled for transport.

NEW NOMADS FOR OLD

Steppe pastoralism as an economic specialization emerged during the Bronze Age of the second millennium B.C. Leaving the

protection of long-established sedentary agricultural villages in river valleys, these pastoralists began to migrate across the grasslands with large herds of animals. They had little impact on the world around them except when they emigrated from the steppes and conquered neighboring sedentary regions, as did the early Iron Age Indo-European invaders of Iran and India around 1200 B.C. These people fought on foot or from chariots, and, although mobile, did not move very fast.

Considering what was to come, what is most striking about this period is the lack of evidence for horse riding, or at least the effective use of it. Lightweight chariot technology had been a major military innovation quickly adopted by all the major powers, first in the Middle East around 2000 B.C. and a few centuries later in China.³ Although one presumes there was some form of horse riding (if only to round up the horses used to pull the chariots!), there is no evidence of horse cavalry either on the steppes or in the sedentary regions of Eurasia. Chariots reigned supreme, but the peoples on the steppe itself lived in obscurity.

At the beginning of the first millennium B.C., a new and distinctive nomadic culture began to emerge on the western Eurasian steppes. Although the basic stock of domestic animals had not changed, a series of innovations in horse technology, weaponry, and pastoral economy began to transform the way of life. The first of these innovations was a form of horse riding that gave the rider more control over his animal, including an improved system of bits and bridling.⁴ The second was mounted archery. Using the compound bow and arrows tipped with small, socketed, three-sided bronze arrowheads, mounted archers formed a swift and deadly cavalry that could attack an enemy at a distance or even while retreating (the famous Parthian shot). There also may have been a change in the pastoral economy toward a more mobile form of pastoralism that shifted emphasis away from cattle as the key productive animal to faster-reproducing

sheep that could be raised in a wider variety of environments. This new culture soon began to displace the older seminomadic riverine agricultural settlements and then to threaten neighboring sedentary civilizations.

In the west, the first historically known nomads were the Cimmerians and Scythians who descended on the kingdoms of the Near East at the end of the eighth century B.C. The Scythians allied themselves with the Assyrians in 674 B.C., but then helped to destroy their erstwhile allies and raided from northern Iran to the borders of Egypt before returning to the Pontic steppe. This form of steppe pastoralism spread rather quickly east through Central Asia to the western edge of the Mongolian plateau during the fifth century B.C., as evidence from the Pazyryk tombs shows, and from there to China, where mounted archers first appear in Chinese records around 325 B.C.⁵ The uniformity in nomadic material culture and other customs across the Eurasian steppes was striking. Yet, as Owen Lattimore has argued, it was not the spread of a single people that brought this about but the embrace of a new technology and way of life by many previously distinct societies along the fringes of the steppe.⁶

Between the sixth and fourth centuries B.C., names begin to be associated with the nomads of the steppe. On the westernmost steppe north of the Black Sea, the Scythians (themselves divided into a number of subgroups) were the best known because of Herodotus' famous descriptions of them.⁷ Between the Volga and the Ural rivers north of the Caspian Sea were the Sarmatians, a people most famous (again according to Herodotus) for their women warriors from whom the legend of the Amazons was derived. Various Saka tribes inhabited the regions between the Caspian and Aral seas and north along the banks of the Syr Dar'ya (known as the Jaxartes River to the ancients). One such people here, the Massagetae, killed the founder of the Persian empire, Cyrus the Great, when he invaded in 530 B.C. Tribes farther to the east are known only from the

Chinese records that referred to them generically as the Hu. These included the Yuezhi in western Mongolia, the Xiongnu living in central Mongolia and the Ordos region of China, and the Donghu in eastern Mongolia and the Manchurian steppes. Around 200 B.C., the Xiongnu conquered all the tribes in Mongolia and became the supreme rulers of the Mongolian plateau. Many of the Yuezhi tribes fled west to Central Asia and south to India, where, as the Kushans, they established a long-lived and highly cultured state that was instrumental in spreading Buddhism in the region.

POLITICAL ORGANIZATIONS

The political organizations of the eastern steppe nomads, such as the Xiongnu who bordered China, were large and centralized. Ruling from the third century B.C. to the third century A.D., the Xiongnu empire at its height incorporated as many as one million nomads under the authority of its imperial leader, or *shanyu*. They dealt with China's Han dynasty (206 B.C.–A.D. 220) as a political equal and fought a series of wars that eventually resulted in peace treaties guaranteeing the nomads regular trade and the equivalent of millions of dollars in subsidies paid in luxury goods. By contrast, the Scythians of the western Pontic steppe (seventh–fourth century B.C.) and the Sarmatians who later replaced them there (fourth–second century B.C.) failed to form centralized states, confined their military attacks largely to the steppe itself, and maintained relatively peaceful relationships with their sedentary neighbors. Not until the arrival of the Huns (themselves originally nomads from the east) in the late fourth century A.D. did Roman Europe associate steppe nomads with military aggression as the Chinese had always done. Yet we know from the wealth of the grave goods, particularly those in royal tombs, that the western nomads were also powerful and wealthy.

Why, in spite of the similarities in material culture and tribal organization at the local level, did these nomads of the eastern

steppe develop more complex political systems and prove more of a military threat to their neighbors than their older cousins in the west? Although scholars have often looked at environmental factors or internal social processes to explain these differences, the most significant factor appears to be the nomads' relationship to the outside world.⁸

Large-scale political organization among steppe nomads (100,000+ people) emerged primarily to deal with external relations. In Mongolia, empires—actually imperial confederacies—emerged as the nomads' structural response to the problems of organizing themselves to manipulate China. No single tribe along the frontier could effectively deal with a united China, but a single empire with an imperial administration could wield a power that even China could not ignore.⁹

Although the conquests of a charismatic tribal leader usually initiated the unification of the steppe tribes, this unification was only the first step in building an effective empire, because such nomadic states could not depend solely on the threat of military force to maintain cohesion. They also had to offer real economic benefits. In exchange for accepting subordinate political positions, the leaders of the confederacy's component tribes received access to Chinese luxury goods and trade opportunities that they could not have gained for themselves. Therefore the imperial confederacy and its leadership owed their continued financial success and political stability to their relentless exploitation of resources from outside the steppe. They obtained these goods from China through pillage, tribute payments, border trade, and international reexport of luxury goods.¹⁰

The nomads had first obtained these goods by violently raiding the frontier provinces of China, but quickly found that more revenue could be gained by promising peace in exchange for direct subsidies and regular border markets. By repeatedly going to war and making peace, the cost to China rose to extraordinary levels. In A.D. 50, for example, Chinese records report that the goods given in direct subsidies to their steppe

neighbors had reached the equivalent of \$100 million annually.¹¹ Yet there was a benefit to China too as it and the nomad states became mutually dependent on each other. The Xiongnu armies eventually took on the task of guarding the frontier for China and were the last defender of the Chinese dynasty when it suffered military mutinies and peasant rebellions that led to its final collapse in A.D. 220. Thus, when China remained centralized and powerful, so did the nomadic empires; when China collapsed into political anarchy and economic depression, so did the unified steppe polities that had prospered by its extortion.¹²

The Scythians and Sarmatians on the western steppes never formed such complex political structures. Indeed it has been difficult to determine the exact organization of their political structures, but they were far less centralized than those of the Xiongnu and lacked direct political control over the region. Although their weapons and cavalry were similar to the Xiongnu, after their incursions into Assyria in the seventh century B.C., the Scythians did not venture much outside the steppe; most of their wars were defensive in nature. They never attempted to directly extort from their sedentary neighbors.

The main reason for this peaceful relationship was that the Scythians and Sarmatians had much easier access to the goods they needed through trade and could collect significant revenue by taxing the trade that came through their territory. Until the time of Alexander the Great, the Greek states were not unified and never presented a common threat to the nomads. The Persian frontier did present a united front, but, unlike the Chinese, the Persians never seem to have attempted to deny the steppe nomads access to trade and appear to have regularly sent them gifts to win them over. Some of the Saka tribes in the Central Asian parts of the Persian empire were even incorporated into the empire itself.

The western steppe was more productive than the eastern steppe because it was

less arid, at a lower altitude, and had many rivers running through it. The Pontic steppe in particular was a rich agricultural zone renowned for its grain production; in the fifth and fourth century B.C., this zone supplied Greek trading cities along the Black Sea coast with large quantities of grain for export. Herodotus went so far as to describe large groups of “farming Scythians” in these regions, although whether they were recently sedentarized nomads or just clients of the nomads is not clear. In addition to their domination of a grain-producing area, the Scythians had the advantage of sitting astride the major north-south rivers (Dnepr, Don, Donets, and Volga) that flowed to the Black and Caspian seas. They also sat at the junction of the east-west overland caravan route that linked the Urals and Central Asia with the Mediterranean. As an intermediary power between different states, nomad empires here could often set the terms of trade or collect tariffs that made its leaders wealthy. Unlike the Xiongnu, the Scythians and Sarmatians did not face a unitary state like China, which resisted nomad attempts to trade and went so far as to build the Great Wall to keep them out.

The revenue raised through trade allowed the Scythian nomads to import a wide variety of luxury goods. These included fine pieces of goldwork by Greek artisans, sometimes decorated with Scythian motifs, as well as large quantities of wine. In spite of these imports, they maintained a distinctive cultural identity and strongly rejected foreign ways, as Herodotus noted: “These people dreadfully avoid the use of foreign customs, and especially those of the Greeks.”¹³ In this they were similar to the Xiongnu, who also had a strong desire for Chinese goods but never adopted much in the way of Chinese culture. One reason for this rejection of cultural ties was the nomads’ realization that as long as they stayed on the steppe, engaged in mobile pastoralism, it was practically impossible to conquer them. Both the Persians and the Chinese invaded the steppe, but found that the nomads could simply withdraw until

the invading armies had exhausted their supplies and had to return home. Worse yet, the nomads would then attack the retreating invaders and inflict great losses on them.

For the next 2,000 years, the successors to the Scythians and Sarmatians in the west and the Xiongnu in the east continued to dominate the steppe region. At the height of their power under the Mongols in the thirteenth and fourteenth centuries, the nomads created the largest empire the world had ever seen and became rulers of China, Russia, Central Asia, Iran, and Iraq. Yet by the eighteenth century, the changing military technology produced by the gunpowder revolution reduced and then eliminated the military advantages of mounted archery, and the nomads fell victim to the expanding empires of Russia and China. Evidence of the world they left behind, however, continues to hold a fascination because it is so different from our own. In its art, economic and political organization, and preservation of its own identity, the world of the steppe nomad has always remained both distinctive and unsettling to those from sedentary lands.

1. Jettmar 1967; Rice 1958.
2. Barfield 1993, ch. 5.
3. Downs 1961.
4. Anthony and Brown 1991.
5. Rudenko 1970; B. Watson 1993, vol. 2, p. 159.
6. Lattimore 1940.
7. Herodotus, *The Persian Wars*, Book 4.
8. Khazanov 1984.
9. Barfield 1981.
10. Washington 1995–96.
11. Yü 1967, p. 61.
12. Barfield 1989.
13. Herodotus, *The Persian Wars* 4.76.

3. Mobility, Art, and Identity in Early Iron Age Europe and Asia

Our understanding of the Early Iron Age peoples of Europe and Asia, and of interactions between them, is undergoing profound change. When systematic research into the archaeology of early iron-using societies began at the end of the nineteenth and the early part of the twentieth century, scholars identified distinct cultural groups that they designated by names such as Celts, Scythians, Thracians, and Germans. Archaeologists adopted these names from Greek and Roman authors, such as Herodotus, Polybius, Caesar, and Livy, whose delineations of the peoples they named were often vague and ambiguous. The practice of applying these names to archaeological groupings became standard in the study of the societies of Early Iron Age Eurasia. One result of this approach has been an implicit assumption that as far back as the sixth century B.C., groups such as the Celts were real cultural and political entities, identifiable both from the early texts and through the archaeological patterns. Representations of this view of the Early Iron Age cultural landscape include maps showing Eurasia divided into regions occupied by Celts, Scythians, Thracians, Germans, and other groups. Because this approach emphasized the identification of specific peoples by their archaeological expressions through their material culture, it tended to deemphasize (and to some extent ignore)

sites and regions that did not conform to the sought-after patterns. Furthermore, the approach focused on what was regarded as the distinctive character of the defined groups, and the topic of interaction between peoples attracted relatively little attention.

During the past several decades, many archaeologists have begun approaching Early Iron Age societies from new perspectives. One reason is that the quantity of archaeological material available for analysis has been growing rapidly. Archaeological fieldwork and publication have been extremely active in many parts of Europe and Asia, producing great quantities of new information. As more data become available, it is clear that Early Iron Age societies were much more complex and varied than investigators had thought. Furthermore, there has been a growing trend to publish research results in languages and media that are internationally accessible, making it easier for investigators in one region to compare their materials with findings in others. International exhibitions and conferences bring archaeological objects and scholars together at an unprecedented rate, encouraging the exchange of information and ideas between researchers working in different geographical areas and research traditions. Finally, new approaches to questions of identity challenge traditional ideas about the distinctiveness and boundedness of Early Iron Age societies.¹

MOBILITY IN EARLY IRON AGE EUROPE AND ASIA

During the late nineteenth and early twentieth centuries, as archaeologists began systematically collecting data on a large scale, their first major task was to develop typological and chronological frameworks for the regions in which they were working, with the aim of establishing the characteristics of regionally distinctive groups—in other

words, to define archaeological cultures. These archaeologically defined cultures were then often attributed to peoples named by the ancient authors. Each culture was characterized by a particular way of life—distinctive settlement patterns, house shapes, burial practices, jewelry types, forms of weapons, and so forth. The Hallstatt culture of Early Iron Age Central Europe is one example; the Jastorf culture of northern Europe another. This approach implied that these archaeological cultures had more or less fixed boundaries and that the people represented by the archaeological materials identified with the culture recognized by the archaeologists. Even the early recognition of trade objects on settlement sites and in burials, demonstrating interaction between peoples, did not change fundamental thinking about Early Iron Age cultures as spatially bounded entities.

This approach to Early Iron Age peoples was based on a view of prehistoric societies that derived in large part from the character of the European nation-state of the early twentieth century, with its fixed political boundaries and its emphasis on national languages and identities. Recent anthropological and historical studies of premodern peoples suggest that the Early Iron Age societies of Eurasia were probably much less bounded and fixed geographically than most investigators have thought.²

Archaeological research has tended to focus on specific sites, although broader approaches to landscape archaeology are gaining attention. Excavated and analyzed sites, whether settlements or cemeteries, are usually treated as representations of individual communities with more or less constant membership. Yet we know from historical and ethnographic studies that living communities are rarely closed to immigration or emigration. In the Early Iron Age, surely some people left their home communities to seek their fortunes, to marry individuals in other settlements, and to join trading or raiding expeditions. Traveling merchants or pilgrims might visit for a few days. Family members or trade partners from distant loca-

tions may have become temporary members of a community. Occasionally such outsiders would have died during their visits and would have been buried in the local cemetery. Increasing evidence indicates the importance of such mobility among individuals and communities in Early Iron Age Eurasia. Taking this mobility into account helps us to understand the changes reflected in the archaeological evidence during this dynamic period.

A few examples illustrate this point. A recently excavated cemetery at Ilse in northwestern Germany, dating around 550 B.C., included fifteen graves that differed from most burials of the region. These were inhumation rather than cremation burials, and the graves contained bronze jewelry characteristic of communities 300 miles to the south on the upper Rhine River. These graves represent either an immigrant community at Ilse or a group that adopted both ritual practices and jewelry styles from peoples with whom they were in contact 300 miles away.³

At Witaszkowo in Poland, a deposit of iron weapons decorated with gold and of numerous other gold ornaments attests to close links with the horse-riding peoples of the Eurasian steppes. The site was discovered in 1882, and its precise nature is unclear, but the objects recovered, and reference in the original report to burned soil and sherds of a large ceramic vessel, suggest that it was part of a man's burial, dating to about 500 B.C. The sword and dagger, both with gold-covered scabbards, the lavishly ornamented fish made of thick sheet gold decorated with animals in the Scythian style, and numerous other ornaments of gold are similar to objects in rich graves in the steppe region a thousand miles to the east.⁴

Ongoing studies of burials in the Tarim Basin region of Xinjiang in eastern Central Asia raise many questions about the origins and contacts of peoples who lived in the area during the Iron Age. Investigations to date suggest different possibilities to explain the origins of the cultural features apparent

among these cemetery populations. Many connections under discussion point to western origins. These still problematic finds in Xinjiang, which have only recently come to the attention of the international scholarly community, suggest that much more evidence about long-distance interaction awaits discovery and analysis.⁵

The mobility illustrated by these three examples was part of a widespread increase in the movement of peoples and goods throughout the Mediterranean Basin and Eurasia, which included trade, migration, invasion, and other mechanisms.⁶

ART

Art has played a major role in the way that investigators delineated the major regional groupings of Early Iron Age peoples. For example, “Celtic art” designates a particular style of ornament incorporating plant motifs and stylized human and animal representations, which developed during the fifth century B.C. in the middle Rhine region. The “Scythian animal style” denotes a combination of elements, including images of deer, lions, and birds of prey, that characterize the decorative repertoire of Eurasian steppe peoples (fig. 1). As new sites are excavated, however, and our database of material increases, it is becoming apparent that these styles cannot be sharply differentiated from others. Many regions whose Iron Age archaeology had been relatively poorly known internationally, including parts of eastern and northeastern Europe and eastern and Central Asia, are now becoming better documented, with the result that we see a much richer variability in the archaeological materials. Recent work in eastern Europe, for example, provides important evidence for understanding stylistic connections between western European, Celtic artistic traditions and those of the Eurasian steppes, including the Scythian animal style.⁷

As the international scholarly community becomes more familiar with Early Iron Age regional traditions that until now have been poorly known, increased understanding will help to illuminate the sources of many

objects and styles whose origins have been unclear. An important example in western Europe is the gold neck ring ornamented with tiny winged horses from the rich woman’s burial at Vix in eastern France, dating about 480 B.C.⁸ The ring is unlike anything else known from western or central Europe, and it has no precise parallels anywhere. Suggestions about its place of origin range widely. As we come to understand more about the variability of artistic traditions throughout Europe and Asia and more about interactions between peoples of the different regions, we shall be better equipped to interpret such problematic objects.

STYLE, MATERIAL CULTURE, AND IDENTITY

From Iberia in the west to Central Asia in the east, striking similarities existed during the Early Iron Age in many aspects of material culture, indicating a much greater degree of interaction between groups than we have reckoned with. In this brief discussion, I emphasize two themes in the material expression of identity, one about status and the other regional identity. As Mary Helms showed, status and identity in society are closely linked to interaction between peoples, and material culture plays an important role in communicating information about individual and social identity.⁹

Status Identity

During the Early Iron Age, societies inhabiting the lands north of the Mediterranean and Black seas, from the Atlantic Ocean to the Ural Mountains, began to express status differences in their communities to a much greater extent than at any time before, and in strikingly similar ways.¹⁰ The richly outfitted burials throughout this 3,000-mile-long landscape can be understood in terms of similar social changes that were taking place among societies in the Mediterranean Basin and in the temperate zones of Europe and Asia. These changes included the creation and accumulation of greater quantities of material wealth and the



Figure 1. Gold plaque: feline attacking a stag with antlers terminating in the heads of birds of prey, from Filippovka, kurgan 1, treasure pit 1, 4th century B.C. Archaeological Museum, Ufa. After New York 2000–2001, no. 64, p. 127

related growth in trade. The interregional similarities in burial practices and in symbolism that communities used to express status and wealth attest to the exchange of information between communities over this vast expanse of land.

Common to many communities throughout the territories north of the Mediterranean and Black seas was burial of elites under mounds of earth, frequently with stone structures inside and wooden chambers in the centers to accommodate

the richest graves. Some mounds were enormous, such as those of Magdalenenberg in southwestern Germany¹¹ and Filippovka in Russia.¹² Such tumuli typically contained other burials arranged around the central rich grave. Associated with many tumuli were lifesize stone sculptures of humans, such as those at Hirschlanden¹³ and the Glauberg¹⁴ in Germany and at Plavni and Kozhum'iaky in Ukraine.¹⁵

Whereas in earlier research, investigators focused attention on the contents of the

graves in the tumuli, recent excavations have broadened their scope to include the cultural landscapes of which the mounds were part. The results frequently show that the tumuli were components of structured landscapes in which elaborate rituals were conducted. For example, at Vix in eastern France¹⁶ and at Tolstaia Mogila in Ukraine,¹⁷ quantities of pottery and animal bones in special areas near the burial mounds can be linked to feasts that formed parts of the funerary ceremonies.

Early Iron Age elites throughout Eurasia displayed their status and wealth in remarkably similar ways. Gold personal ornaments are common, including neck rings, bracelets, and earrings. Together with lavish gold jewelry, richly outfitted women's burials often include bronze mirrors, as at Tolstaia Mogila in Ukraine and Reinheim in the Saarland of Germany.¹⁸ In rich men's graves, the ornate gold scabbards for swords and daggers of the Eurasian steppes¹⁹ are matched by the gold scabbard and hilt on the dagger in the Hochdorf burial in southwestern Germany.²⁰ Similar feasting rituals were shared by elites in different regions. Bronze cauldrons, serving vessels, cups, and drinking horns commonly occur among the burial equipment. Many vessels are of Greek manufacture, especially Attic pottery and bronze jugs, and Greek ceramic amphorae are well represented. Horses and horse-drawn vehicles are common. In the west, as at Hochdorf, a four-wheeled wagon was buried in the grave, along with horse trappings and representations of horses, but no actual horses. In east-central Europe, as at Somlóvásárhely in Hungary,²¹ horses were often buried along with their riders. In the great kurgans of the Eurasian steppes, entire herds of horses sometimes accompanied elite individuals in their tumuli.²²

The explanation for these striking similarities in the expression of status through burial symbolism across this 3,000-mile expanse of temperate Eurasia is a subject far beyond the scope of this essay. The aspect of principal concern here is that these similar practices indicate contacts and interactions over very large distances during this period.

Regional Identity

While these similar expressions of status and wealth were appearing among the elites of Early Iron Age societies, signs of regional distinctiveness were also emerging. These processes, which at first glance may seem contradictory, can be understood as responses to the same changes in the broader economic and social environment of greater Eurasia. The regionally distinctive material cultures commonly known as Celtic, Scythian, Thracian, and so forth were to a large extent responses by local societies to the increasing interaction between peoples during the Early Iron Age. A productive approach to investigating the origins and development of Celtic art, Scythian animal ornament, and the Thracian style is to examine them specifically in the context of evidence for interaction, both between the various Early Iron Age societies of temperate Eurasia and between them and the Greek world of the Mediterranean.

Archaeological investigations in different regions of Eurasia have revealed the emergence of major trade centers at which local goods were collected and processed for shipment to Mediterranean ports and where Greek imports were brought in. Well-documented examples include Mont Lassois in eastern France,²³ the Heuneburg in southwestern Germany,²⁴ and Bel'sk on the Dnepr River in Ukraine.²⁵ Like the richly outfitted burials, these trade centers are remarkably similar in character in the different regions. Their principal importance is in demonstrating a mechanism through which indigenous Early Iron Age societies interacted with the Greek world. Similar interactions between the societies of temperate Eurasia and Greek commercial communities surely contributed to the emergence of some of the similarities between the Early Iron Age groups in different regions. Direct connections between those indigenous communities were also important, but they have received less research attention thus far. As ongoing investigations focus their attention on those interactions, our understanding of the processes of change in the different societies throughout Europe and Asia will increase.

CONCLUSION

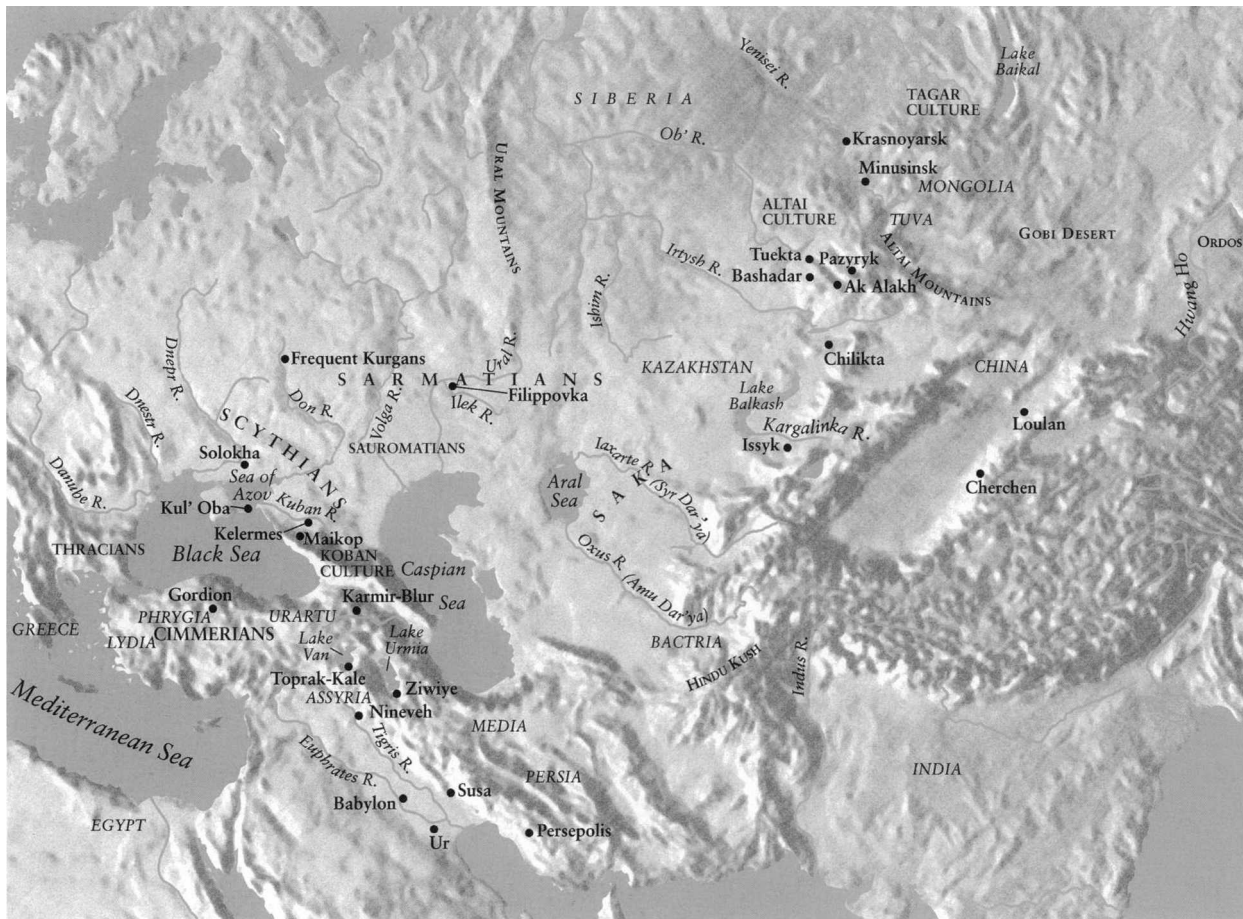
As I argue here, we have vastly underestimated the amount of interaction that took place, directly and indirectly, between Early Iron Age communities from Iberia to Central Asia. Recent archaeological research throughout Eurasia shows that we need to think of those societies as open and dynamic entities, exchanging goods and ideas and sharing practices and symbols. The well-documented trade between Mediterranean societies and those of temperate Europe and Asia—a topic that has been studied intensively over the past three decades—needs to be understood as just one part of a vast complex of interactions between diverse communities throughout Eurasia and the Mediterranean Basin.

1. Wells 2001.
2. Ferguson and Whitehead 1992.
3. Bérenger 2000.
4. Bukowski 1974.
5. Mallory and Mair 2000.
6. Sherratt 1993.
7. Kull and Stinga 1997.
8. Joffroy 1954.
9. Helms 1988.
10. Pare 1997.
11. Spindler 1971–77.
12. Pshenichniuk 2000.
13. Zürn 1970.
14. Frey and Herrmann 1997.
15. San Antonio and other cities 1999–2001.
16. Chaume 1997.
17. Onyshkevych 1999.
18. Echt 1999.
19. A. Alekseev 2000b.
20. Biel 1985.
21. Egg 1996.
22. Tolochko and Polin 1999.
23. Chaume 1997.
24. Kimmig 1983.
25. Meliukova 1995.

4. Scythians and Saka: Ethnic Terminology and Archaeological Reality

In the archaeological literature, the idea of Scythian and Saka ethnic unity has been emphasized through a combination of terms and the creation of phrases such as “Scythian-Siberian World,” “Scythian-Siberian Animal Style,” “Historical Unity of the Scythian-Siberian World,” “Scythian-Siberian Historical-Cultural Unity,” and even “Civilization of the Early Nomads.”¹ The cultural and physical anthropological

Figure 1. The main cultures and nomadic groups during the first millennium B.C. After New York 2000–2001, p. 43, fig. 44



components of the “Scytho-Siberian World,” however, are not equal. Their similarities are only general and demonstrate noticeable spatial differentiation that depends entirely on the cultures included in the nomads’ “World.” Selected cultural-horizon markers must be analyzed in their individual time frames because each marker shows great variability over time and space.

INTERPRETING THE ANCIENT SOURCES

The early first millennium B.C. was characterized by the development of a nomadic way of life across the Eurasian steppes. This lifestyle was conducive to population mobility and to the formation of military units necessary to protect herds and to conquer new territories. The dominant position occupied by these peoples in the ecological niche they frequently shared with neighboring agrarian tribes was a result of their nomadic military superiority as early as the end of the eighth century B.C. This superiority coincided with the advance of Scythian nomadic tribes from the steppes west of the Volga River and Caspian Sea to the northern Caucasus.

The earliest period of Scythian history is the least studied. Moreover, this era is inadequately reflected in written sources such as the Assyrian texts. Biblical prophets supply some meager information, and some data appear in the works of Greek and Roman authors. Greek authors of the fifth and fourth centuries B.C., foremost among them Herodotus, recorded a more complete description of Scythia. Like the other authors of his time, Herodotus knew that Scythia stretched from the Danube to the Don River. Herodotus’ legends about the origins of the Scythians relate to the territories of the northern Black Sea region. He was probably inclined to accept the traditional myth, which noted that the Scythian tribes had arrived in Europe from Asia. Under pressure from the Massagetae, they crossed the Araxes River and invaded the former land of the Cimmerian people in

Europe, a land that the Cimmerians had already abandoned. In pursuing the Cimmerians across the northern Caucasus, the Scythians reached the Near East.² A similar version of this tradition is reported by Diodorus Siculus, a first-century B.C. author who, according to researchers, used some earlier sources independent of Herodotus. Diodorus stated that the Scythians “lived in very small numbers at the Araxes River,” but already in ancient times had “gained for themselves a country in the mountains up to the Caucasus, in the lowland on the coast of the Ocean [the present-day Caspian Sea] and the Meotian Lake [the Azov Sea] and other territories up to the Tanais River [the modern Don].” Born in that land from the conjugal union of Zeus and a snake-legged goddess was a son named Scythes, who gave the name Scythian to the people. His descendants were named Pal and Naps, and they became the ancestors of two congeneric tribes—pals and naps. They won for themselves a country “behind the Tanais River up to Thracia and, having directed their military actions in the opposite direction, spread their rule up to the Egyptian Nile River.”³ Even in the period before Herodotus, ancient writers traditionally placed the Scythians in the Caucasus. The first records of Scythians in ancient cuneiform documents belong to the 670s B.C., when the Scythians, being allies of the Medes and the Mannaeans, struggled with Ashur.⁴

Ancient historians left us no detailed written histories of the nomads who inhabited the Asian steppes east of the Caspian Sea. The Avesta is the earliest written source to note the existence of Central Asian nomadic tribes, describing “Tura with fast horses,” who were enemies of the sedentary Iranians, and also the Danava-Turas.⁵ According to the Russian historical linguist Vasili Abaev,⁶ the “Danava-Turas” were Saka who inhabited the banks of the Jaxartes (the present-day Syr Dar’ya River).

Tura tribes maintained close contacts with the sedentary-agrarian populations of

Central Asia not later than the first half of the sixth century B.C. At the same time, *Saka* was another name used to denote the steppe nomads. The Saka were mentioned in the list of peoples conquered by the Achaemenid kings Cyrus and Darius. The earliest written sources to register the name *Saka* are found on reliefs at both Bisutun (sixth century B.C.) and Persepolis (fifth century B.C.).

In current scientific literature, the term *Saka* designates mainly Iranian-speaking cattle-breeding tribes who inhabited the steppe regions of Central Asia and eastern Turkestan in the first millennium B.C. The Massagetae, frequently mentioned by ancient authors, are treated by contemporary scholars as one of the Saka tribes who populated the trans-Caspian areas of Central Asia. On the other hand, ancient authors sometimes also designated as Scythians those nomads who lived to the east of the Caspian Sea. Thus, when they described Alexander the Great's campaigns in the East, Greek historians mentioned Scythians who lived "behind Sogdiana" and also Scythians who lived "on the other side of the Jaxartes River."

ARCHAEOLOGICAL DATA AND ETHNICITY

Many sites located in both the European and Asiatic parts of the steppes and dated in the Early Iron Age have been archaeologically investigated. Excavations of the kurgans in the northern Black Sea area have shown that male burials contained primarily three types of artifacts: weapons, horse harnesses, and items decorated in the so-called animal style. This complex of goods has been termed the "Scythian triad." During the 1950s, scholars discussing Scythian material culture formulated this concept and proposed that the "Scythian triad" be considered a conditional symbol of an archaeological site left by the real Scythians.⁷

Striking archaeological discoveries in the eastern part of the steppes and semi-deserts have forced us to rethink the cultural situation in this area during the early nomadic epoch, particularly because some

cemeteries with graves characterized by the "Scythian triad" were excavated here as well as on the Pontic steppe. As a result of these discoveries, scholars have applied the ethnonym *Scythian* to both heterogeneous and heterocultural ancient populations of Central Asia and Siberia, eventually theorizing the existence of an early nomadic unity across the territory from the Danube to Mongolia. To explain this so-called unity, scholars relied on Herodotus' version of events, which suggested that the Scythians came to the Black Sea steppes from Asia.

Such terms as "Altaic Scythians" appeared after excavations of kurgans in the Altai during the 1930s and 1940s. Later, researchers began to apply the ethnonym *Scythian* to typologically and chronologically different populations of Central Asia, such as "Scythians of Khwarezm," "Scythians of Tuva," and so on. And today, as in the past, ethno-colored clichés such as "Scythians" and "Scythoid culture" are still frequently and incorrectly incorporated into archaeological publications, including popular surveys. As recently as the end of the twentieth century, scholars continued the tradition of the ancient authors who used the ethnonym *Scythian* to denote the heterogeneous and multicultural conglomerate of the steppe nomads as well as the stock- and cattle-breeders.

Scholars have supported the notion of nomadic unity with three groups of facts.⁸ First, Herodotus reported that the Scythians crossing the Araxes River came to reside in the Black Sea area from Asia. (Some myth-makers have even added "from the depths of Central Asia.") Second, it was archaeologically established that some harness elements, typical Scythian materials, are earlier in date in Asiatic burials than in European ones.⁹ Third, during the Bronze Age, the European steppe population did not have zoomorphic depictions that resembled the Scythian animal style type. In the eastern steppes, from the Yenisei River basin south into the Mongolian plains, some elements of animal style decoration can be dated to the Late

Bronze Age. These are special animal depictions carved on stone stelae, today known as “deer stones.”

This theory of the eastern origin of the Scythians has opponents as well as supporters. Opponents believe that Scythians were culturally and genetically linked to the Late Bronze Age populations of the Black Sea steppes.¹⁰ Paleoanthropological data do not contradict this assertion.¹¹ As for the animal style elements, some argue that the Scythians borrowed their principal motifs from the Near East during military excursions rather than from the Eurasian steppes. After returning home to the Black Sea region, they modified the motifs to conform to their specific ideological purposes.

A third theory, formulated more recently, favors a polycentric origin of the early steppe nomadic culture. This theory postulates an independent development of local variants of nomadic culture. Transformations responsible for the development of the variants occurred because contacts were relatively stable between neighboring groups of nomads, and the principal animal style themes were developed both independently and within the spheres of various influential centers. Therefore, in diverse steppe regions, the influences might be significantly different.¹²

TERMINOLOGICAL DATA

The widely known name *Saka-Scythian* does not require a special explanation. Herodotus,¹³ specifying that the Scythians were the nomads who lived in Asia, called them Saka-Scythians. Ephorus and Arrian¹⁴ mentioned that the Saka were a Scythian tribe that lived in Asia. Strabo¹⁵ and Pliny¹⁶ wrote about the Scythians who lived “against” India or on the other side of the Jaxartes. We can also cite Diodorus¹⁷ and Pompeius Trogus.¹⁸ On the other hand, the Persians designated as Saka all the Scythians mentioned by Herodotus.¹⁹

The ethnonymic confusion seen here is not peculiar to the writings of ancient historians and geographers.²⁰ A modern example is the ethnos having the endo-ethnonym *Deutsch*, which in Russian is *Nemets*, in

French *Allemand*, in English *German*, in Italian *Tedesco*, in Finnish *Saxalainen*, in Serbian *Shvab*, and so on.

Toponyms can also be “false.” This problem is reflected in the old controversy about identifying the Araxes River of the ancient written sources with a real European or Asian river. Nowadays we cannot be certain where the border between Europe and Asia was located at the time of Herodotus.²¹ Some scholars suppose that the border was the Volga or Don; others believe that it was the Amu Dar’ya or Syr Dar’ya. The term “Tanaïs-Jaxartes” is also widely known. Ancient authors put the boundary between “Asia” and “Europe” precisely along this river. Characteristically, Pliny²² wrote that when the troops of Alexander the Great came to the Jaxartes (Syr Dar’ya), they thought they had reached the Tanaid (Tanaïs or Don River).

Identifications of the Araxes River mentioned by Herodotus are various as well. In the context of the movements of the Massagetae and the episodes of the Persian-Massagetae wars,²³ most modern writers associate the river with both the Amu Dar’ya and the Uzboy; the former flows into the Aral Sea, the latter into the Caspian. Yet in the context of the Scythians crossing the Araxes River and entering Europe,²⁴ scholars consider the river to be the Volga. However, nowhere in his writings does Herodotus suggest that he thought several different rivers were named Araxes, depending on where in his writings he referred to it.

THE HISTORICAL SITUATION IN THE ARAL SEA AREA

The geographical position of the South Aral Sea area between the European and Asian steppes gave it a key role in the processes of physical anthropological and cultural development that occurred in the steppe regions. Archaeological excavations in the delta of the Syr Dar’ya River resulted in the discovery of two cemeteries, Uigarak and South Tagisken.²⁵ These burial grounds were left by people who depended on domestic animal

breeding. The grave goods and mortuary practices suggest that these cemeteries probably belonged to the “Saka” described by ancient authors. This archaeological evidence consists of a complex of cultural traits including both diagnostic types of weapons and distinctive animal style motifs used for ornamentation.

The lower Syr Dar’ya was once thought to form the western boundary of Saka territory, and the Amu Dar’ya area was not considered part of the Saka world,²⁶ but this view changed as a result of recent archaeological research. During the 1980s, I discovered and excavated a number of Saka graves in the ancient Sarykamysch delta west of the Amu Dar’ya River, mainly on the Sakar-Chaga height.²⁷ Analyses of the skeletal remains and grave goods indicate that two culturally distinct groups of people, with similar economies, lived in the Sarykamysch delta west of the Amu Dar’ya.²⁸

Archaeological data on funeral rites show that one group dug shallow, narrow grave pits, buried the dead on their backs with arms and legs extended, and usually placed their heads to the west. In such burials, there were few grave goods and never weapons and items with animal style designs. During the Late Bronze Age and transition to the Early Iron Age, similar mortuary practices spread over the neighboring Volga-Uralian steppes. The second Amu Dar’ya culture had different funeral practices. Inhumation and cremation were contemporaneously practiced in cemeteries of this type; sometimes the burials were multiple, and in other cases the graves held the remains of isolated individuals. The graves containing more than one individual were not mass burials; rather, they were apparently used repeatedly. Many of the graves of this second culture contained grave goods such as weapons and horse harnesses, some of which had animal style ornaments in the classic Central Asian “Saka style.”

As with inhumations, cremations were sometimes performed on the surface of the ground and sometimes in very deep pits as

many as three meters below the surface of the ground. A semispherical earthen barrow or kurgan was invariably constructed over the area of the burial. Some of the pits with inhumations had postholes in the corners of the burial chamber. The postholes contained no traces of wood, and they may represent a symbolic vestige of earlier times when wooden structures were built over the burials.

These mortuary practices have clear parallels in the funeral rites of the early Saka area in Kazakhstan and at both Uigarak and South Tagisken in the Syr Dar’ya delta. The composition of the grave goods, and especially of the arrowhead types of the Amu Dar’ya Saka, suggests that these folk had their strongest interaction with people living to the east.²⁹

Craniological material shows that two genetically distinct populations manifested these cultural differences. Statistical analysis of the skull measurements testifies that people who had markedly different cranial morphologies practiced the two different types of funeral rites. Comparative analysis clearly displays significant physical differences between these groups. The group that did not use animal style motifs and had no weapons in their burials had physical parallels in the Late Bronze Age series from the Srubnaia (Timber Grave) culture of the southern Ural area.

The skulls from the graves containing weapons and animal style motifs had a different morphology from the first group. The faces of some individuals in this group were rather flat, suggesting the possibility of gene flow into this population from the eastern steppes or forest-steppes. The contemporaneous population represented by skeletal remains from the Uigarak cemetery on the lower Syr Dar’ya shows an even greater expression of eastern facial features. At both Uigarak and Sakar-Chaga, these traits are more strongly expressed among the women than the men.

The craniological data are consistent with the hypothesis, based on archaeological data, of a cultural input into the southern

Aral area from two different sides. Evidently, the Sarykamysh delta west of the Amu Dar'ya River was synchronously occupied by people who came from two different areas: the Volga-Uralian steppes and the steppes of Central Asia or southern Siberia. Both the craniological and archaeological data suggest that soon after their arrival in the Amu

among the steppe population in the era when cultures of the Saka type began to form. Some have explained the dominance of the eastern physical component among females of the Saka population in the Syr Dar'ya area as a preference on the part of Saka males for taking wives from outside the Saka and for some reason preferring women

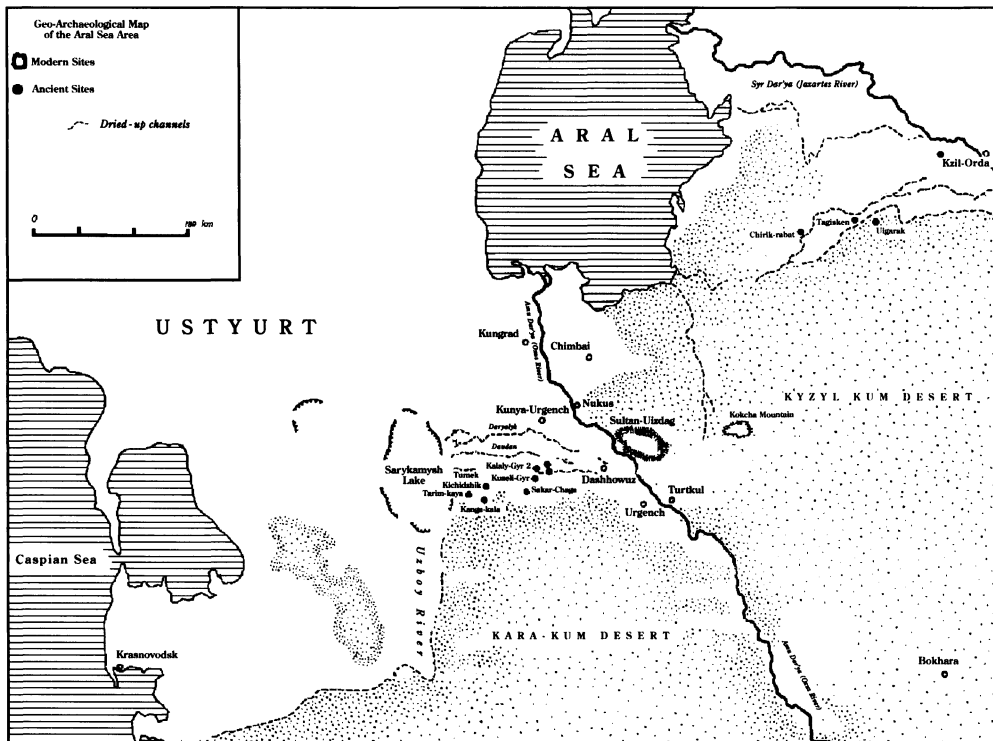


Figure 2. Geo-archaeological map of the Aral Sea area

Dar'ya delta, these populations began to interact intensively with each other.

DISCUSSION

The anthropological data that play a main role in determining historical migrations provide indisputable evidence of an eastern Central Asian impulse during the formative period of the Aral Sea cattle-breeding and nomadic cultures. The classical Europeans represented the population inhabiting the Asian steppes in the Bronze Age.³⁰ An eastern physical anthropological element appeared

of eastern appearance. Although this supposition is tempting, it does not explain the similar anthropological proportions in the Lake Sarykamysh area and also in the craniological series of the Saka period from the territory of Kyrgyzstan.³¹

Apparently, the reasons for this phenomenon were more complicated and perhaps arose from the fact that craniological signs had a low inheritability. The laws governing such phenomena are not yet well known, so that it is unclear why physical signs, including craniological ones, are inherited and exhib-

ited on the population level but not always on the individual level. In principle, the eastern element is fixed in both female and male skulls and is especially visible on materials from the western Aral Sea area and Kyrgyzstan. Obviously, this phenomenon reflects the result of the mixture taking place during several generations. The chronological amplitudes, which can be established by archaeological dating, show that representatives of different generations were buried in each cemetery.

Perhaps a complex of coadapted genes responsible for a certain group of craniological signs was derived in the process of mixture in the initially mixed population. This complex, together with gene modifiers, influenced human adaptation in the new ecological niche.

The availability of an expressed coadaptive gene complex³² within the Aral Saka populations testifies, first, to a rather recent beginning of the mixing process, and second, to an Asiatic basis of one of the anthropological components of the Aral Saka population. Exploring where this component originated must be a subject of future research, but this land of origin was probably somewhere in the depths of the Asian continent, a possibility that accords with Herodotus' story of the Asian origin of the Scythians and Saka. At the same time, it is improbable that there was a noticeable proportion of Asian (in the modern sense) emigrants of the Scythian physical type forming in the Black Sea area. The available craniological data show that the "Scythians" who inhabited the Black Sea steppes were direct offspring of the previous Srubnaia culture population and, in this sense, are indigenes of the western European steppe region.³³

To the west of the Amu Dar'ya River and Lake Sarykamysh, anthropological traces of the Asian impulse are not seen in craniological materials because there was no trace of an Asiatic element in the population of the Caucasus and Black Sea steppes in early Scythian times. Thus, when Herodotus wrote that the Scythians came from Asia, was he

thinking of those Scythians whom we usually designate with the endo-ethnonym *Saka*?

If Herodotus here meant the Tanais River as the border between Asia and Europe, as both Strabo³⁴ and Quintus Curtius Rufus³⁵ understood this boundary, the "Scythians"—for example, the populations of the Lake Sarykamysh area—could really have come from Asia (from the lands located behind the Jaxartes–Tanaïs–Syr Dar'ya) and appeared to the west of the main Araxes–Oxus–Amu Dar'ya area, that is, in "Europe," without abandoning the modern limits of the Asian continent. The Lake Sarykamysh area cemeteries, with their good correspondence of archaeological and anthropological data, demonstrate the ethnogenetic model of migration of nomads "from Asia."

In another geographical locus of the huge "Scytho-Siberian World," this model does not work so clearly. According to Herodotus, a military collision between the Scythians and the Massagetae impelled the Scythians to leave Asia and travel beyond the Araxes River.³⁶ If this passage in Herodotus is accurate, some nomadic population on the historical map of the fifth century B.C. with the endo- or exo-ethnonym *Massagetae* constituted an independent ethnic subdivision when the "Scythians" entered "Europe." Some Russian comparative linguists have suggested that the Massagetae union existed on the Asian steppes not later than the end of the eighth century B.C.³⁷ Saka cemeteries east of Lake Sarykamysh were dated to the end of the eighth to seventh century B.C. Thus, the Sarykamysh-type populations might be contemporaries of the historical Massagetae.

At present, there is no archaeological evidence of nomads residing to the west of Lake Sarykamysh earlier than the fourth or perhaps the very end of the fifth century B.C.

Therefore, at the present stage of archaeological knowledge, only the Sarykamysh area can be considered a prospective region for the initial Massagetae settlements.³⁸ Only in the Amu Dar'ya delta territory does physical anthropology fix the contact between two heterogeneous populations, and archaeology

give evidence of the contact of initially bicultural populations living in the epoch of the formation of both Scythian and Saka cultures.

CONCLUSIONS

According to all of the data, this region of the Amu Dar'ya differs in general both from the western ("Scythian") and eastern ("Saka") parts of the steppe. Cremation is used in the funeral ritual, ashes are carried from one place to another, bones belonging to the previously buried person are moved,³⁹ and so on. It is tempting to attribute the Amu Dar'ya delta cemeteries to the Massagetae,⁴⁰ who, according to Herodotus, had some customs that distinguished them from both Scythians and Saka.

The synchronous archaeological materials considered above originate from a small geographical region of the Eurasian steppe: the southern and eastern part of the Aral Sea area. Nevertheless, they demonstrate significant cultural and physical differences between groups of populations that settled the area in the Scythian-Saka epoch. It is difficult to believe that any "nomadic community" could exist in the steppe extending from the Balkan Mountains to the Far East. That is why the notion of a "Scytho-Siberian World" should be replaced in the scholarly literature by the concept of "cultural horizon."⁴¹

1. Martynov 1996.
2. Herodotus, *The Persian Wars* 4.11–12.
3. Diodorus, *Library of History* 2.43.
4. V. Vinogradov 1972.
5. Yasht 17.55–56; Yasht 13.37–38.
6. Abaev 1956, pp. 43–45.
7. Grakov and Meliukova 1954.
8. Bashilov and Yablonsky 2000.
9. Murzin 1986.
10. Grakov 1978.
11. Yablonsky 1999.
12. Raevskii 1993.
13. *The Persian Wars* 1.4.
14. *Anabasis Alexandri* 3.8.
15. *Geography* 8.3.24.
16. *Natural History* 6(19).7.
17. *Library of History* 2.2.2.
18. *Philippic History* 2, ch. 3 (1).
19. *The Persian Wars* 1.7.64.
20. Bromlei 1983.
21. Dovatur et al. 1982.
22. *Natural History* 6.19.
23. Herodotus, *The Persian Wars* 1.202.
24. *Ibid.*, 4.11.
25. Vishnevskaja 1973; Itina and Yablonsky 1997.
26. Vainberg 1979.
27. Yablonsky 1994, 1996.
28. Yablonsky 1994.
29. Some scholars have asserted that the Scythians used only socketed arrowheads, whereas the Saka had mixed tongue-socketed ones, but that in a contact zone the Scythians might use "archaeologically" Saka-type arrowheads and vice versa. Arrowheads discovered at the site of Kalaly-Gyr in Khwarezm were described as Scythian in type, but it is unlikely that the population of this site had the self-designation of "Scythian."
30. V. Alekseev and Gokhman 1984.
31. Tur 1996.
32. Zhivotovskii 1984.
33. V. Alekseev 1989, p. 232.
34. *Geography* 1.7.2.
35. *History of Alexander the Great* 6.2.12.
36. *The Persian Wars* 4.11.1.
37. Grantovskii 1975.
38. Yablonsky 1990.
39. Yablonsky 1996.
40. Yablonsky 1990.
41. See Bashilov and Yablonsky 2000.

5. Helmets and Mirrors: Markers of Social Transformation

When native North Americans were introduced to the horse and the gun, within mere centuries the lives of those on the Great Plains were completely transformed. The adopted technologies changed both hunting and warfare, and virtually all groups of Native Americans on the plains had to adapt to this new lifeway or move off the plains.¹ As David Anthony has pointed out, the historical process of these events provides a useful case study for looking at changing lifeways on the Eurasian steppe as new horse-related technologies and adaptations were introduced. This case study informs my approach to the data considered here.²

Stephen Shennan has observed about archaeology in general that “most of the archaeological record is a record of ‘moments in time’ from the perspective of the enormous spaces, spatial and temporal, in which it is scattered. Furthermore, the record is extremely particular in its specific instances, just as historical documents are.”³ This statement is particularly apropos to the archaeological record for nomadic groups of the first millennium B.C. Their material remains come primarily from graves. Often the exact chronology is in doubt—most cultures from this period are given bracketed dates of a couple of centuries—so directionality of influence, borrowing, contact, or culture change have been difficult to establish.

In recent years, as more material has been excavated and more scholars have addressed these problems, the overall picture has become increasingly clear, but issues of chronology and “influence” remain.⁴

In discussing our understanding of social institutions in pre-state societies, Shennan noted, “To identify long-term patterns in terms of the repetition of micro-scale activities is both more informative than the usual generalized social abstractions and more suited to the nature of archaeological evidence.”⁵ Nowhere is this process of analysis more pertinent than in the widely scattered, rather haphazard record of the first-millennium B.C. nomads, where the overall patterns of social transformation can be understood only by accumulated details of surviving material culture. Over time, through a meticulous evaluation of each element in what I would call the nomadic “tool kit,” that is, markers of a nomadic lifestyle, a comprehensive overview of the expansion of the horse-riding nomadic lifeway of the first millennium B.C. that appears less instantaneous and simultaneous in its emergence and less dependent on self-referencing dating will be compiled. As Nikolai Bokovenko recently pointed out in his summary of the evidence from Central Asia and Siberia, we are well on our way to this end.⁶

Horse-riding, bow-toting nomads burst into Near Eastern consciousness in the eighth to seventh century B.C. I will not address here the identification of their tribal names, spoken languages, or routes of travel to and fro. Suffice to say that they made a big impression on the settled populations of the Near East—and were vividly described in the annals of the Assyrians, the books of the Hebrew Bible, and the histories of the Greeks.⁷

Although today there is no serious disagreement that these nomads originally came to the Near East from somewhere east

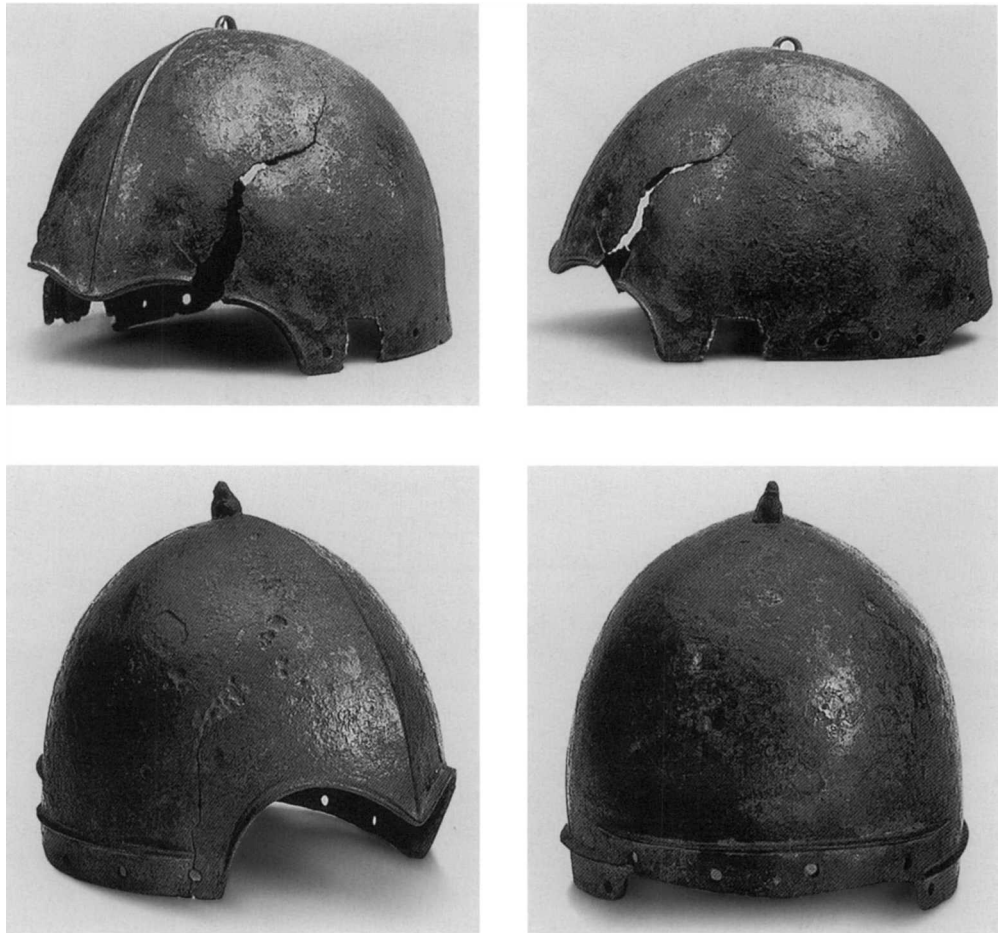


Figure 1. Bronze helmets from Kelermes, kurgan 2, excavated by Veselovskii. After Galanina 1997, pl. 14

on the steppe, the reasons for the timing of their incursions and the place where these waves of movement began are not clear. Generally, from a Near Eastern perspective, the farthest east the evidence is examined is Central Asia.⁸ Here I will look at two elements of nomadic material culture for indications of the origin of the equipment of elite nomadic military leaders. This in turn may shed light on where the highly effective military practices of the nomads developed and, perhaps, the social system associated with this elite equipment.

The kurgans of Kelermes, in the northern Caucasus, are among the earliest so-called Royal Scythian burials known to us. Six kurgans were excavated at the turn of the last century—four apparently undisturbed ones by a treasure hunter named D. G. Schultz in 1903 and two previously robbed ones by the archaeologist Nikolai I. Veselovskii in 1904. Horses had been buried with the deceased, in the rectangular burial chambers under the mounds.⁹ Between 1981 and 1990, additional burials, of less prestigious individuals, were excavated at Kelermes by Liudmila

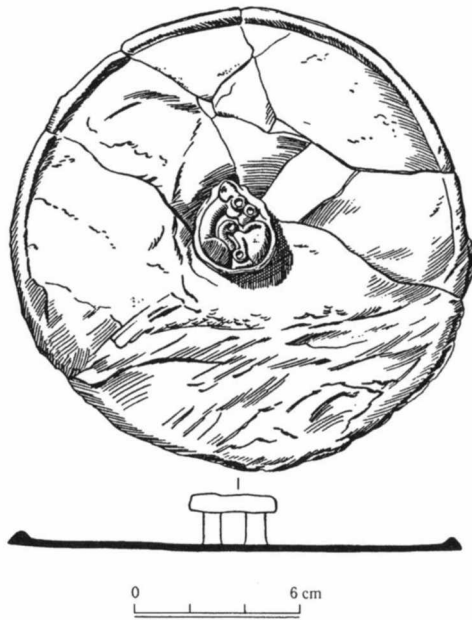


Figure 2. Bronze mirror from Kelermes, kurgan 2, excavated by Veselovskii. After Galanina 1997, pl. 31

Galanina of the State Hermitage, Saint Petersburg.¹⁰ She published a reconsideration of the dating and suggested that the burials excavated in 1903–4 date to the third quarter of the seventh century B.C.¹¹

Among the objects of particular interest retrieved by Veselovskii and Schultz are three bronze helmets and two mirrors. The second kurgan excavated by Veselovskii contained two cast bronze helmets (fig. 1) and a cast bronze mirror (fig. 2). The mirror, 15.2 centimeters in diameter, has a raised flange around the outer edge of the back and a handle consisting of two short posts topped by a disk ornamented with a curled feline.¹² The first kurgan explored by Schultz contained another cast bronze helmet, around which had been placed a gold diadem.¹³ Schultz's fourth kurgan contained a cast silver mirror with an overlay of electrum applied after it was cast. Like the one from Veselovskii's kurgan 2, this mirror has a raised flange around the edge of the back and originally had a handle in the center of the back, of which only the stubs of the two

posts remain.¹⁴ Whether the original handle of the silver mirror was in the same form as the bronze one, with two posts topped by a disk, or was instead a simple loop, cannot be determined from the remains.¹⁵

In the recent excavations of the less elite burials at Kelermes, two mirrors were found: one, from burial 27, is undecorated; the other, from burial 8, has a relief decoration with broad bands dividing the surface into quadrants, the resulting triangles filled with parallel lines. Both of these burials also contained cheekpieces and bits made of bone, iron, and bronze.¹⁶

Unlike helmets, to be discussed below, mirrors are frequently found in nomadic burials. In the period of the seventh through fifth centuries B.C., round mirrors with handles in the middle of the back have a widespread distribution across the forest-steppe, steppe, and deserts of Eurasia. The mirror exists in three variants: flat mirrors with loop handles in the middle of the back; mirrors with flanged edges and loop handles; and mirrors with flanged edges and

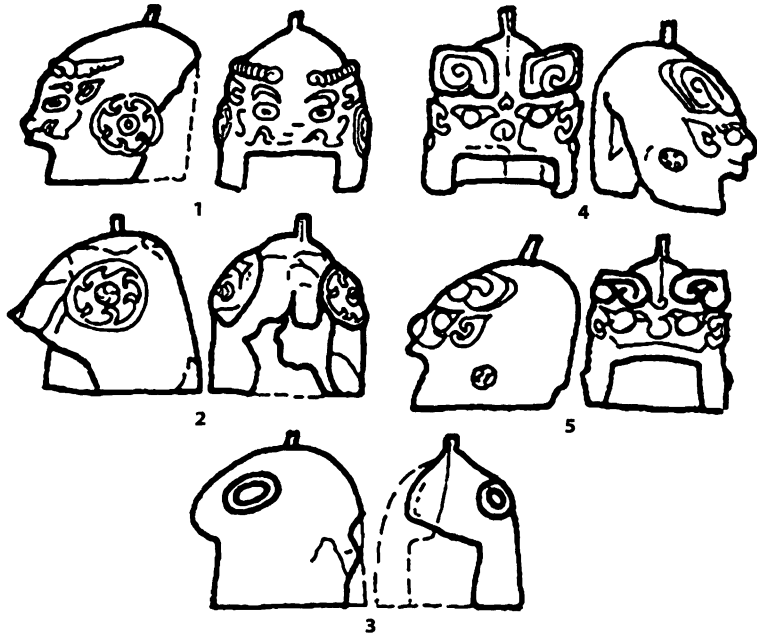


Figure 3. Bronze helmets excavated from Shang Chinese tomb HPKM 1004. After Varenov 1984, fig. 1 (1-5)

handles comprising posts topped by a small plaque.¹⁷ There is occasional evidence that mirrors were hung from a belt.¹⁸

The meaning and function of mirrors have been extensively discussed and are not considered here.¹⁹ Rather, I will review the archaeological history of the first variant, the mirror with a loop handle in the middle of the back, on the steppe and in Central Asia, prior to its appearance at the borders of the Near East.

The earliest known mirror with a handle on the back dates to the later third or early second millennium B.C. It was excavated from a burial of the Qijia culture, located in the western part of China: eastern Qinghai, Ningxia, Gansu, and southwestern Inner Mongolia.²⁰ The mirror was found on the chest of the deceased. A round loop-handled disk with a back decorated in a geometric pattern of raised lines, it is one of a few mirrors excavated from sites of this culture.²¹

Among Andronovo sites in Central Asia and southern Siberia of the second millennium B.C., the mirror type is similar: a disk

or squarish shape with a loop handle on the back,²² recorded in some cases to have been found on the chest of the deceased.²³ In the Siberian and Altaian Karasuk culture, which followed Andronovo, round mirrors with loop handles are very prevalent, and are usually found on the chests of the deceased.²⁴ Similar plain round mirrors with loop or squared loop handles dating to the later second millennium to early first millennium B.C. have been excavated in western China, at Yanbulaq and other sites in the Hami region of eastern Xinjiang.²⁵

The most securely dated second-millennium site in which related mirrors are found is the site of Anyang in the heartland of China. There, in the grave of Fu Hao, consort of a Chinese ruler, dated to about 1250–1200 B.C., were four disk-shaped mirrors with geometric designs in raised lines and simple loop handles, placed with bronze horse gear. Similar mirrors were found in other, less elite, male burials at the same site, also grouped with horse paraphernalia.²⁶ Most scholars who have discussed these

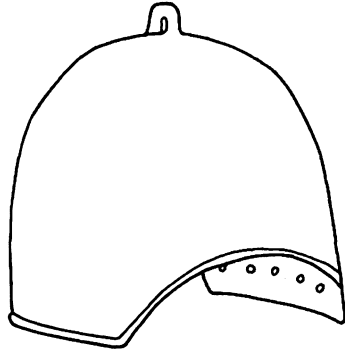


Figure 4. Bronze helmet excavated from Gaohong, Liulin Xian, Shanxi Province. After Washington 1995–96, fig. 14a

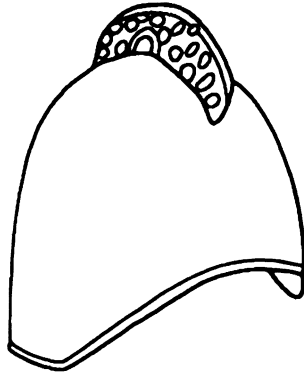


Figure 5. Bronze helmet excavated from Baifu, Changping Xian, Beijing. After Washington 1995–96, fig. 14b

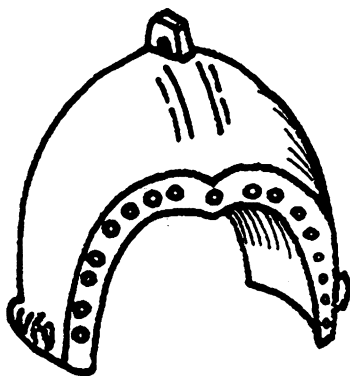


Figure 6. Bronze helmet excavated from Nanshan'gen, Nincheng Xian, southeastern Inner Mongolia. After Varenov 1984, fig. 5-1

mirrors suggest that they are not native to central China and are from either the steppe²⁷ or “the west.”²⁸ Katheryn Linduff suggests that, in the context of the Chinese royal cemetery, the mirrors are markers of affiliation with northern ethnic/social groups.²⁹ In these Chinese cemeteries, as in other contexts, mirrors are found in graves of both males and females.³⁰

In the first millennium B.C., in the Tagar culture of Siberia, the simple round mirror with loop handle continues in popularity, occurring in many burials.³¹ It is also found in Tuva.³² In fact, this mirror type appears to have been in use continuously in the greater southern Siberian area from at least the mid-second through the end of the first millennium B.C. In contrast to Siberia, there appears to be a gap in occurrence of mirrors in other areas of greater Central Asia and the Chinese borderlands, as well as central China, from the end of the second millennium to the eighth and seventh centuries B.C. Then, more elaborate mirrors, with raised rims on the backs and sometimes decoration, appear in scattered finds. However, in early Zhou contexts (ca. 1046–771 B.C.), mirrors are rare. For example, as Annette Juliano noted,³³ in the 182 tombs excavated at Chanjiapo, near Xi’an, only a single mirror was found (in tomb 178). At the site of Shangcunling in central China, dating to the eighth to mid-seventh century B.C., four mirrors were excavated—two undecorated, one with characteristically Chinese ornament, and one with the “X-ray” ornament of petroglyphic art.³⁴ Another mirror, with a wolf on the back, shown in outline with head turned over its back, was excavated at the site of Chawuhugou in Xinjiang.³⁵ Round mirrors with handles on the back and mirrors with handles in the same plane were excavated at Chong Bagh, also in Xinjiang; these mirrors may be contemporary with those found at Shangcunling and Chawuhugou, or may date as late as 400 B.C.³⁶

In considering the helmet, our second type of elite object of probable eastern origin found at Kelermes, I will focus on the

technology of production—casting—rather than details of form. Cast helmets are uncommon in the Near East, but have a long tradition in China. The earliest provenanced cast bronze helmets come from tomb 1004 at Anyang, the last capital of the Shang dynasty, dating to the last centuries of the second millennium B.C. (fig. 3). About seventy helmets, grave gifts for the royal decedent, were found in the tomb, some of which covered only the top part of the head. Of the helmets covering the entire head, some are ornamented with a masklike face that may have functioned in a protective manner, consistent with images from other Shang bronzes. There seems to be no question that the helmets are of Chinese origin.³⁷

The cast bronze helmet also occurs on the northern Chinese borderlands, initially as an “exceptional item of prestige goods,” according to Linduff.³⁸ There, in the Shang (ca. 1600–ca. 1050 B.C.) and early Western Zhou (ca. 1046–771 B.C.), it assumes different forms. There are many varieties in the northern Chinese steppe region, including rounded helmets with long sides like the Shang Chinese examples but having semicircular facial openings; helmets with diverse symbols used as crest or ornament; and undecorated, rounded helmets, often with side brackets, characteristic of these pastoral cultures in the late second and early first millennium B.C. (fig. 4).³⁹ Larger tombs of male burials of the Upper Xiajiadian culture often contain bronze helmets.⁴⁰ A helmet from Baifu, north of Beijing, dating to the later eleventh or early tenth century B.C., comes from a woman’s burial, which also contained weapons and horse and harness fittings (fig. 5). A male buried in a nearby grave also had a helmet.⁴¹

By the eighth century B.C. on the northern Chinese borderlands, there are still highly individual helmets with figural ornaments on top, as well as a plain type with a round form, round loop on top, and semicircular opening in the front (fig. 6).⁴² It is this latter type of cast bronze helmet that seems to be formally most similar to the ones found at Kelermes.⁴³

Cast bronze helmets are apparently very rare outside of China and its borderlands. Two examples were excavated from cist burials in northern Mongolia and a third was found out of context.⁴⁴ In the areas of the former Soviet Union, of the fewer than twenty examples so far found, the majority are from the Black Sea region.⁴⁵ Among this latter group, a helmet from the Vorontzovski kurgan in the Crimea is decorated with a gold fillet, like the helmet from Schultz’s Kelermes tomb 1.⁴⁶ Does this effort to elaborate a plain helmet provide any insight into the role of these helmets among the military elite? Helmets rarely occur outside of elite burials, thus were clearly status goods in and of themselves, even though they also afforded protection. Perhaps the addition of golden ornaments to the plain bronze helmets was meant to emphasize the high-status nature of the helmet, or communicate that status more clearly in the context of the abundant gold in the Black Sea burial mounds. In any event, the plain cast bronze helmet did not last long as part of the nomadic assemblage. The nomadic elite buried in the region of the Black Sea quickly changed to the hammered bronze helmets of the Greeks, if not more elaborate gold headgear.⁴⁷ Thus, the helmet remained an elite marker, but its form changed in the face of local opportunity and changing traditions.

Similarly, the mirror remained part of the nomadic tool kit, although its form changed. In the Black Sea region, Greek and Greek-inspired handled mirrors became the principal type found in elite graves.⁴⁸

Although I think there is no question that the cast bronze helmet and the mirror with a handle in the middle of the back originated in eastern Asia, they seem to have developed in different areas. The helmet is important in central China and its northern borderlands, perhaps into Mongolia, while the mirror is found more frequently in southern Siberia and western China, including early in Qinghai and Gansu, and somewhat later in Xinjiang. Were these two markers of elite status among the nomads

joined together as part of their equipment somewhere in the east, or were they carried westward in stages by various horse-riding groups and combined in the richest of the early kurgans in western Asia, at Kelermes?

Can we find in the Chinese texts information that might help focus the discussion? We know, of course, that tribes from the northwest were attacking the Zhou state in the late ninth and early eighth centuries B.C., eventually forcing the Zhou to move their capital eastward in 771 B.C., and that nomads attacked the duke of Jin in 729 B.C., among many other textual references to such troublesome incursions.⁴⁹ Perhaps in these texts can be gleaned indications of steppe confederations that brought together tribes from the areas where helmets were important status markers and the areas where mirrors were frequently found, providing an environment conducive to their cooption as elite symbols. Or perhaps the texts document key military or political events that stimulated groups to take the ideas of these two objects from the Chinese borderlands at a time congruent with a sudden appearance of both at Kelermes. We do not yet have enough data to answer these questions. But continued accumulation of the details of distribution and context of the helmets and mirrors, together with other “nomadic” markers, may one day allow us to identify the place, the time, and perhaps even the impetus for the rise of the first-millennium B.C. nomadic military machine.

1. For a detailed examination of the changing patterns of warfare with the introduction of the horse, the introduction of the gun, and by the combination of the two, see Secoy 1953.
2. Anthony 1986, pp. 301–4.
3. Shennan 1993, pp. 54–55.
4. To explore a recent dialogue on these issues, see Erdenebaatar and Khudiakov 2000 and Chlenova 2000, where archaeological evidence from Mongolia is dated and “influence” discussed by a Mongolian archaeologist and a Russian colleague, and another Russian scholar, in a respondent article, redates and

proposes a completely different direction of “influence” for the same material.

5. Shennan 1993, p. 55.
6. Bokovenko 1996. In summarizing much recent research, Bokovenko lists many characteristic objects of horse-riding nomads that appear earlier in Central Asia than on the western steppe.
7. There is a great deal of literature on this subject; see, for example, Rolle 1989, pp. 69–74; Jacobson 1995, pp. 29–39; and Ivantchik 1993.
8. See Jacobson 1995, p. 37, citing Andrei Alekseev. Varenov 1994 is a rare exception, although he looks at the Near East from a vantage point rooted in the archaeology of China, not starting in the Near East.
9. Artamonov 1969, pp. 22–23.
10. Galanina 1985.
11. Galanina 1994, p. 105.
12. Galanina 1997, pp. 238, 239, pls. 14, 31.
13. *Ibid.*, p. 224, pl. 14; Artamonov 1969, p. 25.
14. Galanina 1997, p. 230, pl. 1.
15. Maksimova 1954 argues that the handle was two posts with a plaque on top, conforming to the bronze mirror from Kelermes. It should be noted that the post-and-plaque handle is a variant of the simple loop handle that is more generally characteristic of this type of mirror (see Rubinson 1985).
16. Galanina 1985, fig. 3, no. 10, fig. 4, no. 3.
17. Rubinson 1985, pp. 48–49 and bibliography. See also Kuznetsova 1991, pp. 92–99, 116, figs. 1–7.
18. Margulan 1966, p. 313, fig. 4; Grach 1980, fig. 6.
19. Rubinson 2002, pp. 71–72 and bibliography. The suggested functions and meanings of mirrors among nomads include: to view oneself, symbols of light and the sun, a shaman’s tool, a marker of femaleness.
20. Juliano 1985, p. 39; Linduff 1998, pp. 625–27.
21. For a discussion of the possible place of the Qijia mirror among other mirrors in western China, see Mei 2000, p. 33.
22. Vinogradova and Kuz’mina 1996, p. 36; Kuz’mina 1994, fig. 33, nos. 19–20.
23. Komarova 1952, pp. 19, 22, fig. 8, grave 8, fig. 10. This burial is identified as male.
24. Griaznov 1969, p. 99.
25. Mei and Shell 1998, p. 587, fig. 6, nos. 1–2; Mei 2000, pp. 32–35, fig. 3.14: 1, 4, 6, 8, 9.
26. Juliano 1985, pp. 39–40; Linduff 2002.
27. Linduff 1995, p. 135; O’Donoghue 1990, pp. 24–25. O’Donoghue’s work is an exhaustive study of Chinese mirrors with extensive illustrations, including many of the mirrors mentioned here, although not the examples from Xinjiang.
28. Mei and Shell 1998, p. 593.
29. Linduff 2002, p. 267.
30. See Rubinson 2002 for a discussion of first-millennium B.C. burial contexts for mirrors in Siberia, where men, women, and children all are buried with mirrors at Ulandryk and both men and women are buried with mirrors in Tuva and in many elite burials in the Altai.

31. Chlenova 1967, pp. 82–84, pl. 21, nos. 1–10, pl. 23, nos. 11–13.
32. Kubarev 1987, p. 91, fig. 34, no. 10; Kubarev 1991, fig. 25, no. 16.
33. Juliano 1985, pp. 40–41.
34. *Ibid.*, pp. 38–39, 40–41.
35. Xinjiang 1999, pl. 448.
36. Mei and Shell 1998, fig. 4, nos. 3–5, p. 591.
37. See, for example, Linduff 1995, p. 135; W. Watson 1971, p. 104; Creel 1937, p. 148; Kidder 1956, p. 96.
38. Linduff 1995, p. 144.
39. Washington 1995–96, fig. 14, after Wu En. Helmet “a” is the more widespread type; helmet “b,” one of the idiosyncratic variations.
40. Kessler 1994, p. 40, fig. 16.
41. Washington 1995–96, pp. 44–46. Thus, as with mirrors, helmets are not buried with just one gender. It is a caution that skeletons need to be anthropologically sexed, since grave goods can be associated with both males and females, regardless of modern use or preconception.
42. Washington 1995–96, p. 46; Chzhun 2000, figs. 4, 7, nos. 48–52, fig. 15, and bibliography.
43. Varenov 1994 prepared a detailed analysis of the comparative sizes and shapes of the so-called Kuban helmets from the Black Sea area to various Chinese types.
44. Erdenebaatar and Khudiakov 2000; D. Erdenebaatar, personal communication.
45. Rabinovich 1941; Meliukova 1964; Chernenko 1968, pp. 74–82. Two additional helmets are now known, one from Tungus Olov, in the Transbaikal region, and a second from Tonn District, Kyrgyzstan (Khudiakov 2004). I am grateful to Victor Mair for the reference. The Kyrgyzstan helmet is also published in Khudiakov et al. 2001.
46. Rabinovich 1941, pl. VI, 1.
47. See, for example, Artamonov 1969, pls. 149, 270, 272.
48. See, for example, *ibid.*, pls. 69, 213.
49. Bunker 1997, pp. 14–15.

6. Burial Ritual of the Filippovka Kurgan in the Ural Region

Burial ritual is an important source of information for the cultural, ethnic, socioeconomic, chronological, and military-historical interpretation of archaeological sites.

Konstantin Smirnov, in his analysis of the funerary rituals at early Sarmatian (Prokhorov culture) burial sites, noted the great diversity in burial structures that existed even within the same grave site. He attributed this to the intermingling of old clans and tribes with new arrivals.¹ In view of this, it would seem to be important to analyze the burial rituals of the Filippovka kurgans, the largest and richest monument of early nomadic culture in the southern Ural region.

The Filippovka kurgan burial site is located in the watershed of two large rivers—the Ural and Ilek, four to five kilometers north of the village of Filippovka, 100 kilometers west of the city of Orenburg. The kurgan site is on slightly elevated ground compared with the surrounding countryside and is visible from a distance. The area is annually plowed and sown and is thickly covered with grass.

The burial site consists of twenty-five semispherical earthen kurgans. Almost all of the kurgans' southern sides are gently sloping, while their northern ends are steep. Most of the kurgans are arranged in an irregularly curving east-west chain about

four miles long. They fan out, at distances ranging from about half a mile to just under a mile, to the north, northeast, and northwest of the central and largest mound, kurgan 1, which is more than twenty-two feet high. Kurgans 3 and 4 are more than nineteen feet high. Along with kurgan 1, they are undoubtedly royal burials. The rest of the kurgans are midsize, ranging from 1.6 to approximately 10 feet.

After five seasons in the field, seventeen kurgans have been excavated, including all of the small mounds, nine midsize burials, and two large ones. Eight mounds remain to be excavated (fig. 1).

The kurgans were family crypts. In the center of the site were collective tombs, where three or four persons were interred. In the undisturbed kurgan 7, eight people were buried. The burial structure was built in the following manner. A large burial pit was dug on level ground. On the southern side was a stepped entryway going down to the floor of the grave. The entryway was blocked by a wooden shield or door placed between two poles anchored in the walls of the entryway. The excavated earth was neatly arranged to form a wall around the grave at a distance of five to ten meters (sixteen to thirty feet). There was a break in this wall at the entryway, on the southern side. A tentlike structure was then erected over the grave and entryway. This structure was made out of logs of various thicknesses, placed in layers and covered by a thick layer of branches. Logs, placed lengthwise and sideways, similarly covered the entryway. The entire structure was then covered with earth. Some of the kurgans were covered by blocks of sod approximately one foot square (30 x 30 cm). The diameter of the earthwork was not much greater than that of the wall made of excavated earth. The ground inside the perimeter of the wall was covered with branches.

These crypts were repeatedly reused, based on the burial needs of families or clans. It seems that only adult men and women were buried in these crypts; in only one case were remains of a child found. During the construction of the crypt, burial rituals—possibly sacrifices—were performed. The bones of horses (hooves and shoulder blades), including entire skeletons, remains of horse trappings, and clay vessels have been found inside the kurgans. In kurgan 3 (fig. 2), the skeletons of no fewer than twenty horses were found fifteen meters southwest of the entryway; five to six were complete. A large pile of horse trappings was found nearby and, based on the number of cheekpieces found, the trappings included no fewer than five bridles.

Entire horse skeletons were found in three other kurgans; one contained seven to eight, another five, and the third two. In the other kurgans, including the ones in the center of the site, only the bones of horse extremities and shoulder blades were found, evidently part of a memorial or burial service.

The burial pits vary in size and shape: in three of the kurgans they formed almost a perfect circle, with a diameter from 4.5 to 20 meters (figs. 3, 4); three graves were rectangular (fig. 6) and four were cross-shaped, with a protrusion at the northern wall (fig. 7). The area of the burial pits varies from 15 to 50 square meters; the area of kurgan 1 is more than 300 square meters. The entryways also vary in size and shape, with a length of anywhere from 2 to 17.5 meters and a width from 1 to 2 meters, with most being 5 to 8 meters long.

The construction of the entrance to the entryway also varies. In almost all of the kurgans, holes for poles dug at each side of the entryway have been found. The number of poles varies but they are always in multiples of one, two, or three along the sides of the entryway. Sometimes the entryway is broadened (figs. 3, 7).

In two of the midsize kurgans, the main burial was at the level of the ancient ground surface (fig. 8). There is no fundamental difference between the burials at the ancient

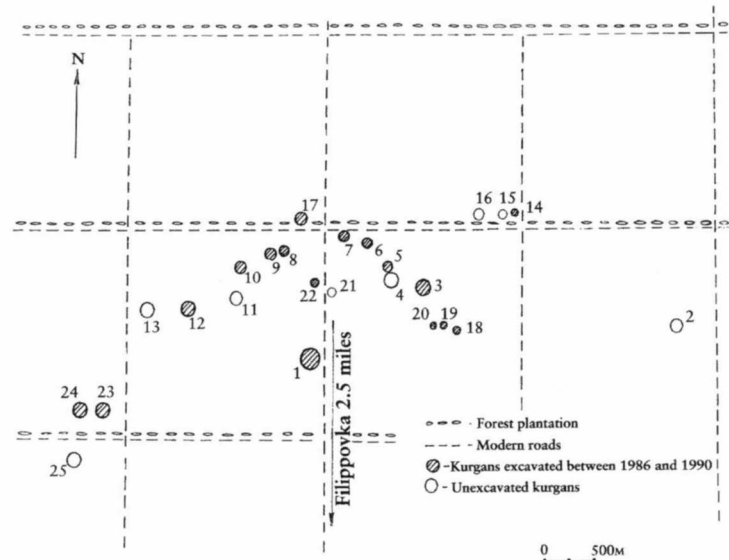


Figure 1. Plan of the Filippovka kurgan burial site

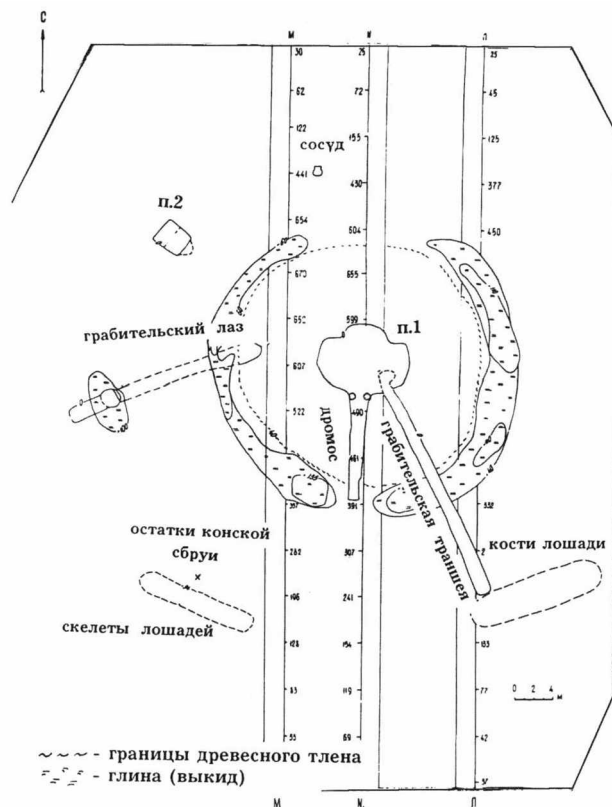


Figure 2. Kurgan 3 excavation plan

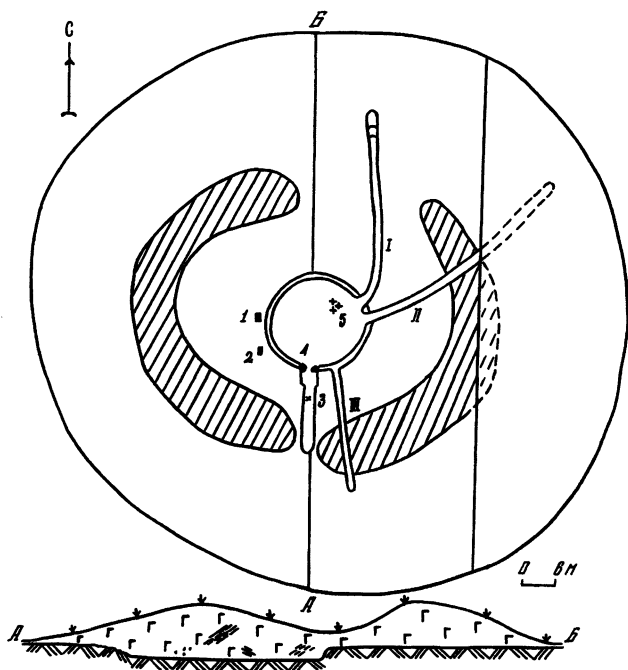


Figure 3. Kurgan I excavation plan and profile of the central edge: (1) treasure pit; (2) treasure pit; (3) weapons and horse trappings; (4-5) wooden figures of deer; (5) bronze cauldrons; (I-III) robbers' tunnels

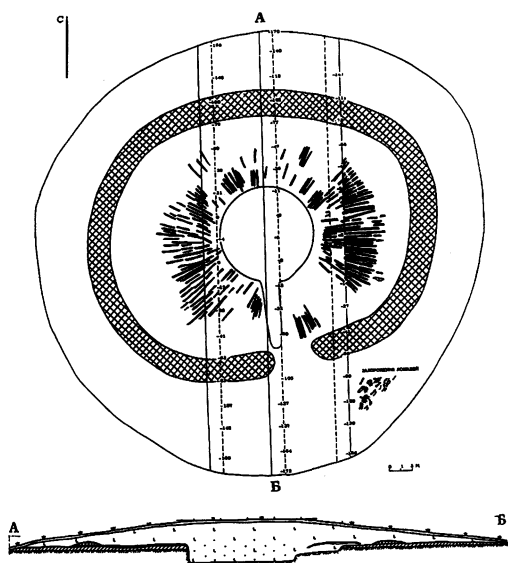


Figure 4. Kurgan 10 excavation plan of the central edge

ground level and those inside the earthen crypts. Both types were intended for multiple burials. In these kurgans, the wooden superstructure was also tent-shaped and the entryway was built of logs. Most of the burials centrally placed in the kurgans were plundered, which is why it is impossible to establish the number of people buried in them and their original position at the time of the burial. The only exception was kurgan 7 (fig. 7), which had not been plundered. In this cross-shaped grave, eight people were buried. Six skeletons were in the original anatomical position, on their backs, hands and legs stretched out along the torso, parallel to the walls of the burial pit, but facing in different directions. Three skeletons were oriented with their heads toward the east, one toward the west, and two toward the south, while five were oriented toward the middle of the grave. The bones of two persons in the eastern part of the grave were in a pile, one at the southern wall to the right of the entrance and the other on the northeastern side (fig. 9). Most likely this was not the result of plunder, but represented preparation for the next burials as the bones are not broken and spilled but gathered in neat piles.

No fewer than seven people were buried in the centrally placed kurgan 3 (fig. 2), which was damaged by plunderers. It is possible to establish—on the basis of the preserved order of the bones—that the interred were placed on their backs, heads facing south. On the basis of the accompanying burial artifacts, it has been determined that there were two men and one woman (fig. 10).

Two well-preserved, undisturbed skeletons of a man and a woman were found next to each other at the western wall of the centrally placed grave of kurgan 14 (fig. 5). Both skeletons were stretched out and facing south. The male skeleton's elbows were bent, with the hands in front of the face. The bones of an adult and two children's skeletons (the only examples of children's remains at Filippovka) were in a pile by the eastern wall. No fewer than five people were buried in each of kurgans 9, 10, 12, and 17.

The centrally located graves are mostly collective, with the bodies on their backs, stretched out, parallel to the wall facing south in twelve cases, and east and west in three.

In three of the centrally placed burials, not far from the entrance to the grave, there are remnants of small hearths. It is possible that such hearths were also located in other crypts, but because of plundering and because the ground was often covered by burned pieces of the wooden superstructure, they could not be found. The small hearths were evidently lit as part of the burial ceremony. In four of the kurgans, the remains of people buried outside of the wooden structure at the edge of the kurgan were also found (figs. 6, 8).

In six of ten kurgans, the wooden superstructure was badly scorched. The logs and branches were charred and the soil near the wood contained cinders and charcoal. It is important to emphasize that the wooden structures were not burned but singed and scorched. Without a doubt the wood burned after the grave was covered by the earthen mound, and it took place with practically no access to air. In most kurgans, ashes are completely absent, and small, charred branches were preserved. Nonetheless, the temperature must have been very high as the earth is scorched and contains cinders. Evidently the wooden structure caught fire only when the burial chamber was still "hollow"—that is, soon after the last interment and the sealing of the crypt, and before the earth covering the mound had seeped into the grave. There are similarities with several other early nomadic burial mounds in the southern Urals, in which singed logs have been found. We disagree with the stereotypical view that the traces of fire in the kurgans can be interpreted as proof of the existence of fire worship. It is much more likely that these fires were set by grave robbers.

All of the centrally placed graves in Filippovka, with the exception of kurgan 7, were robbed. Based on many pieces of evidence, the first robbery took place soon after the "sealing" of the kurgan, when the burial chamber was still hollow. For example, thieves were able to get into kurgan 3 via an

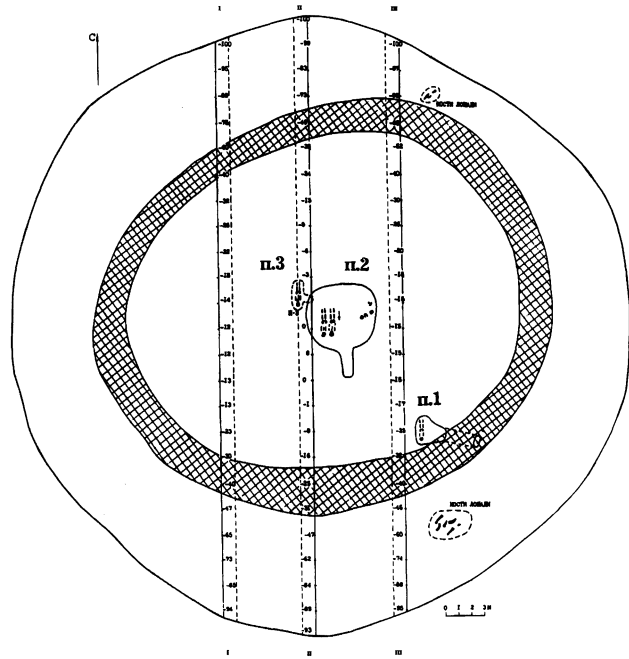


Figure 5. Kurgan 14 excavation plan

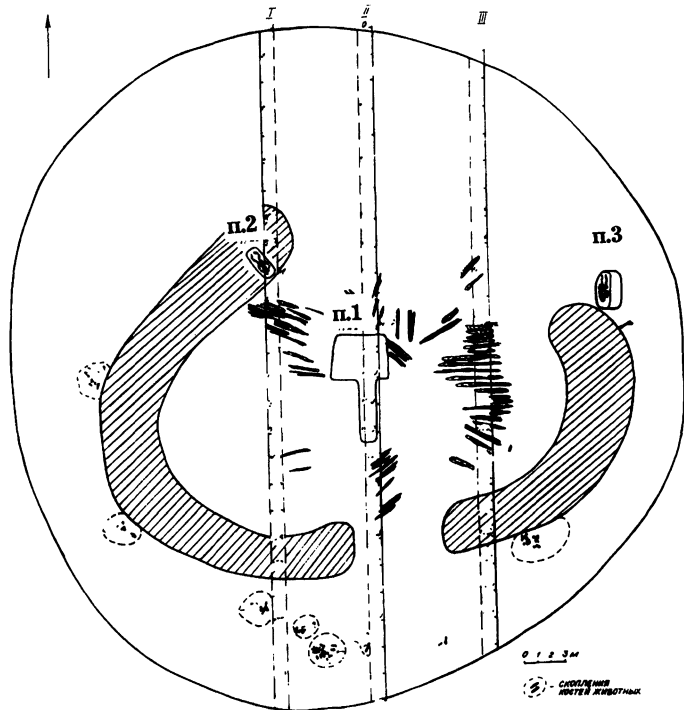


Figure 6. Kurgan 23 excavation plan

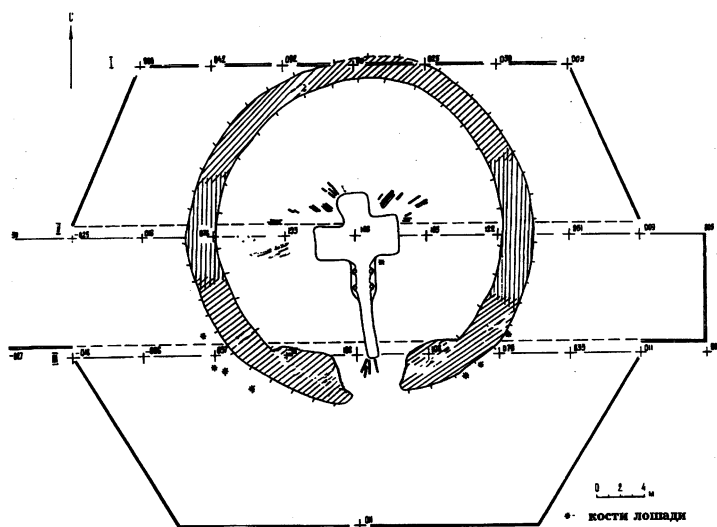


Figure 7. Kurgan 7 excavation plan

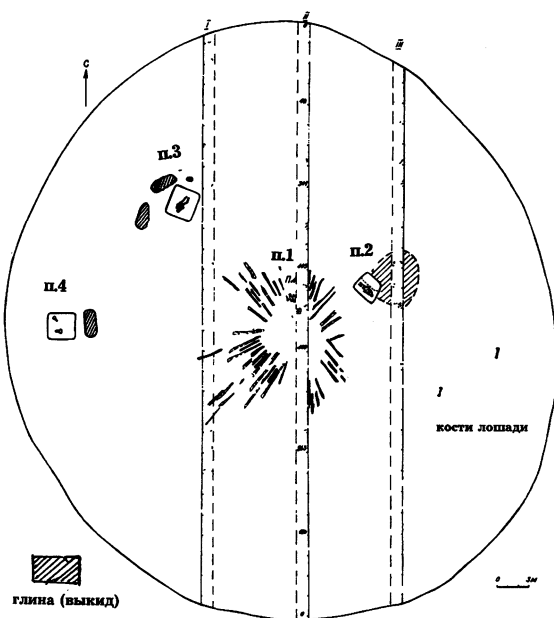


Figure 8. Kurgan 8 excavation plan

underground passage dug through the south-east side of the kurgan, and robbed the entire central and eastern part of the grave. The northwest corner of the grave was undisturbed because by that time the soil (which contained a lot of sand), seeping through the wooden

structure, had covered the objects and bones of those buried here (fig. 10).

Most of the large and medium-sized kurgans were robbed repeatedly and by different methods. For example, the centrally placed kurgan 1 was plundered no fewer than five times: twice through underground tunnels, twice through side passages, and perhaps more than once through the top of the mound.

In spite of the many robberies, the surviving material is rich and varied. As is usually the case with early nomad burials, most of the material consists of weapons and horse trappings, and a considerable amount of women's jewelry and toilet articles. There are gold plaques with animal style designs, which once adorned wooden vessels. The most uncommon finds in kurgan 1 were large wooden figures of deer, covered with gold and silver foil (see fig. 2 in the essay by Gernot Windfuhr, p. 50).

There is a great deal of similarity between the burial rituals of the Filippovka kurgans and other contemporary Eurasian sites in the steppes and forest-steppes. These include collective burials and entryways, tent-shaped wooden superstructures, and horses and horse trappings buried under large mounds in the crypts of the nomadic aristocracy, as in the large kurgan 10 (fig. 4). The Perevolochan burial site in Bashkortostan conforms to the Filippovka example; it contains a clay wall around the central grave, a large round burial pit with an entryway from the southern side, a tentlike wooden structure, the remains of horse trappings under the mound, and additional burials outside of the perimeter of the clay wall.² Collective burials in graves with entryways and tentlike structures also occur in other sites of the Sauromatian/Sarmatian culture of the southern Ural region.³ Similar burial sites are known in the Gorokhov culture of the Trans-Ural region⁴ and the northern Don region.⁵

These burials of nomadic aristocrats in large kurgans, accompanied by elaborate funerary rituals and a wealth of luxurious grave goods, were thus a common practice in the steppes and forest-steppes of Eurasia from the fifth to fourth century B.C.

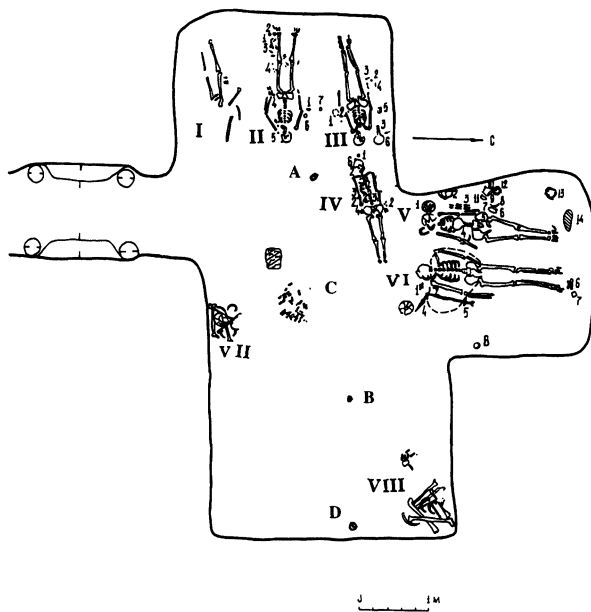


Figure 9. Plan of the centrally located burial of kurgan 7:

- A. Bronze plate
- B. Bone artifact
- C. Bone plate armor
- D. Bronze wheel-like pendant

Skeleton I

- Skeleton II—(1) cavity; (2) spindle whorl; (3) bit;
- (4) beads; (5) gold pendants; (6) spindle whorl;
- (7) ocher

Skeleton III—(1) remains of leather bag;

- (2) beads; (3) iron knife; (4) awl; (5) silver cloak; (6) bronze mirror; (7) gold earrings

Skeleton IV—(1) bronze plate; (2) gold beads; (3) crystal plates;

- (4) iron bracelet; (5) gold plate; (6) iron pendant

Skeleton V—(1) bronze mirror; (2) fragment of stone

- sacrificial altar; (3) quiver with bronze arrowheads;
- (4) bronze mirror; (6) bone tube; (7) stone; (8) iron knife;
- (9) quiver hook; (10) clay vessel; (11) shell; (12) clay vessel;
- (13) bronze cauldron; (14) chalk powder

Skeleton VI—(1) stones; (2) bronze pendants; (3) clay

- vessel; (4) iron spear tip; (5) iron sword; (6) bone spoons;
- (7) ceramic fragment; (8) fragment of spherical iron object; (9) remains of plate armor

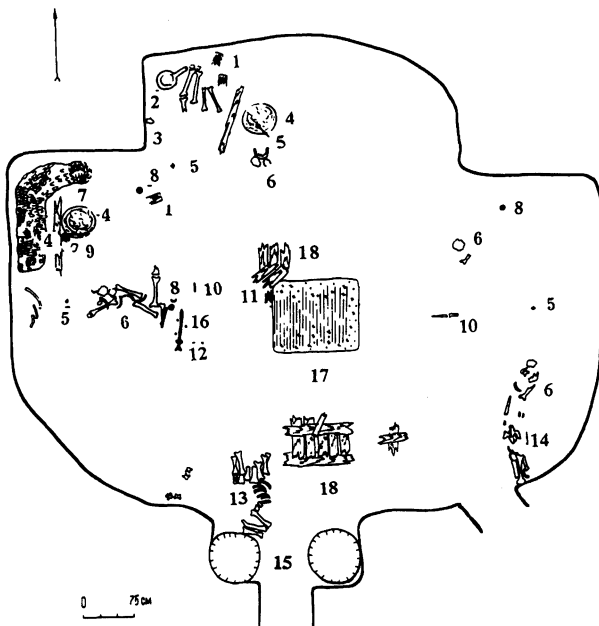


Figure 10. Plan of centrally located burial 1 in kurgan 3:

- (1) remains of quivers; (2) bronze mirror; (3) piece of chalk;
- (4) remains of wooden bowls; (5) gold jewelry;
- (6) remains of human bones; (7) iron armor plates;
- (8) imprints of wooden spikes; (9) ocher; (10) iron knife and bone implement;
- (11) arrow shafts; (12) iron sword;
- (13) horse skeleton; (14) bone figure of horseman;
- (15) pole pits; (16) bronze pendants; (17) remnants of hearth;
- (18) remains of wood covering

1. Smirnov 1989.

2. Pshenichniuk 1995.

3. Smirnov 1989, p. 171; Zdanovich and Khabdullina 1987.

4. Sal'nikov 1962, pp. 38–41; Gening 1993; Khabdullina 1976, p. 201.

5. Liberov 1965, Table 1, b.

7. The Stags of Filippovka: Mithraic Coding on the Southern Ural Steppes

The “stags of Filippovka” are twenty-six enigmatic staglike standing figurines from the main kurgan, or burial mound, of a magnificent Sarmatian burial complex located near the village of Filippovka in the southern Ural steppes, 100 kilometers west of Orenburg, Russia, close to the border of Kazakhstan. The cemetery, excavated between 1986 and 1990 (fig. 1), is designated as Early Sarmatian, dating from about the fifth to fourth century B.C., and thus contemporary with the long reign of the Achaemenid king Artaxerxes II (r. 405–359 B.C.).¹

These staglike figurines, made of wood overlaid with gold and silver foil, stand about fifty centimeters high. They are distinguished by elongated predatory muzzles and enormous many-spiraled antlers, which nevertheless display an exquisite dynamic symmetry. The musculature of their sturdy, catlike bodies is marked by elaborate spiral ornaments and incisions (fig. 2). As such, they represent the most spectacular of all finds in this burial complex and are without close parallels elsewhere.

These stags were produced by a group of elite adults, specifically for the funerary rites of the deceased ruler who occupied the main kurgan, as is evident from their construction.² In the course of the burial, they were ritually placed in specific numbers at specific locations. This suggests a high degree of symbolic sophistication in the beliefs of these people about the passage that their deceased ruler was to undertake. One must therefore assume that these stags, more than the other artifacts, played a crucial role in the creation, expression, and perception of the transcendent reality of sacred space and, equally important, of sacred time in the funerary rituals at Filippovka.

The following is an attempt to trace the function of these stags and of the burial site in the larger context of Iranian iconography, celestial myths, mythical history, eschatology, and the calendar.

OVERVIEW OF THE BURIAL COMPLEX

There are a total of twenty-five kurgans. The central main kurgan is huge and slightly oval; it measures 120 meters along its east-west axis and 103 meters along its north-south axis and was about seven meters high. The other kurgans are much smaller and vary in size considerably. Seventeen of these form a semicircle to the north of the main kurgan, while the remaining seven form three small groups to the northeast, east, and southwest (fig. 3).

The main kurgan has a single central burial chamber, again slightly oval, with a diameter of about twenty meters. It is surrounded by an internal circular mound, which once served as the basis for the timber-log roof of the chamber. To the west of the chamber, but outside it, are two so-called treasure pits. There is also a long entrance way, or *dromos*, leading to the chamber from due south (fig. 4). The architecture and the

design itself may provide clues for tracing the function of the stags. Likewise, it appears to be ritually significant that the twenty-six stags were not found in a single place, but were distributed over three different locations: (1) a set of five, the most elaborately carved, in the *dromos* at the left door post of the burial chamber; (2) a set of eight in treasure pit 1; and (3) in treasure pit 2, a set of thirteen, which, significantly, consists of two subsets, (a) a subset of five that match those by the burial chamber, and (b) a subset of eight that match those in treasure pit 1.

In addition to the stags, numerous precious finds from the kurgan may provide further clues to the function of the stags. The finds left in the burial chamber, which had been robbed repeatedly, included a stag-headed pole top, four huge cauldrons, and pieces of quiver decorations (no human remains were found). The finds in the disturbed *dromos* included a sword at the right door post to the chamber and numerous horse trappings. The finds in the two treasure pits, which had been left undisturbed by the robbers who had broken into the main tomb, included a host of spectacular objects, among them gold overlays for numerous drinking vessels. It is noteworthy that in all three locations the finds included a significant number of items of Achaemenid provenance or design,³ but none of western or Greek-inspired design. Ann Farkas intriguingly suggested that the drinking set may have been contributed by a Persian official from a stronghold in Central Asia or Anatolia.⁴ Similar though less direct evidence may be the artistic features that connect Filippovka to southeastern Central Asia.⁵ Filippovka thus reflects the strong cultural influence of the Achaemenid empire that stretched deep and far into the Iranian cultures in the north.⁶

THE FILIPPOVKA STAGS IN THE EURASIAN CONTEXT

Stylistic Links

As noted by Farkas,⁷ the artistic links of the stags of Filippovka go in two directions in this larger context. Stylistically, stags comparable to those at Filippovka occur in eastern Eurasian contexts, such as a carved wooden figure of a standing deer from Pazyryk in the Altai. But parallels and antecedents of these stags also lie to the west, in Transcaucasus and Anatolia. Thus, close formal similarities occur in seventh-century B.C. figurines from Phrygia, which in turn may be compared to animals topping bronze standards from pre-Hittite Alaca Höyük of the late third millennium B.C.

Deer, Tutelary Gods, and "Masters of the Beasts"

Thus, for several thousand years cervids figured prominently in the iconography of Eurasian and Near Eastern cultures. They have been associated with deities, in particular, mistresses of beasts such as Artemis, Cybele, or Nanai, or were themselves conceived of as stag deities. In Hittite tradition, there was a stag god, Lamma, whose sign in hieroglyphic Hittite had the shape of a stag. He functioned as a tutelary god, and the term came to designate tutelary deities in general, who are typically depicted as standing on a stag figure, holding weapons such as a bow.⁸

In Celtic tradition, there was the horned god Cernunnos. But stags were likewise associated with the "Mistress of the Beasts." This is evidenced, for example, by a Celtic bronze model cult-wagon from Strettweg, Austria, dated to the seventh century B.C. There the figure of a goddess holds up a large vessel, warrior-hunters walk along the sides, and women in front and behind the wagon hold two stags with huge antlers.⁹ The stags of Filippovka, then, may hint at similar tutelary deities, or a "Master of the Beasts," in the funerary rites performed there.



Figure 1. Map of Eurasian steppes showing the site of Filipovka. After New York 2000–2001, pp. xiv–xv





Figure 2. Gold foil-covered wooden stag, one of five found at the entrance to the burial chamber at Filippovka, 4th century B.C. Archaeological Museum, Ufa, 831/1214. After New York 2000–2001, no. 1, p. 72

THE FILIPPOVKA STAGS IN THE
IRANIAN CONTEXT

The Deer as Totem in Iranian Royal Iconography

In documented history, the relationship between Iranian royalty and the deer has two complementary aspects. On the one hand, the deer appears to have had a totemistic, or clanic, and protective function; on the other hand, the deer was a favorite game animal. In either relationship, there are detectable connections to the Iranian deity Mithra.

An impressive example of the clanic function is a stag protome that appears on the crowns of several Parthian kings and princes (ca. 247 B.C.–A.D. 224).¹⁰ A full set of eight stags is clearly seen surrounding the crown of Phraates III (r. 70–57 B.C.) on a silver drachm (fig. 5).¹¹ This dynasty originated from among the Dahi tribes in Central Asia, and the presence of these deer reflects ancient northern Iranian practices and beliefs.

In fact, the region between the Caspian and Aral seas was the northernmost outpost of the Achaemenid empire and, from the time

of its conquest by Cyrus the Great, was often a reluctant satrapy and ally. Significantly, the alliance appears to have been reaffirmed in the later reign of Artaxerxes II, as seen in the Achaemenid architecture of the palace of Kalaly-Gyr at the southwest corner of the Aral Sea, where phase 2 exhibits strong Central Asian traits.¹² The Dahian headgear is clearly related to the horned headdress depicted on the coins of the Indo-Scythian emperor Huvishka (second and third centuries A.D.), and to the horned headdress worn by the White Huns or Chionites (fourth and fifth centuries A.D.) discussed by D. N. Nelson.¹³ As pointed out by Schuyler Jones, a late reflection of those royal headdresses is the horned headdress that until recently was worn by the married women of the Indo-Aryan-speaking Kafirs in the Hindu Kush mountains of Afghanistan and Pakistan.¹⁴

The enigmatic stags in the main kurgan at Filippovka, as well as their number, twenty-six, would therefore seem to reflect similar totemistic symbolism.

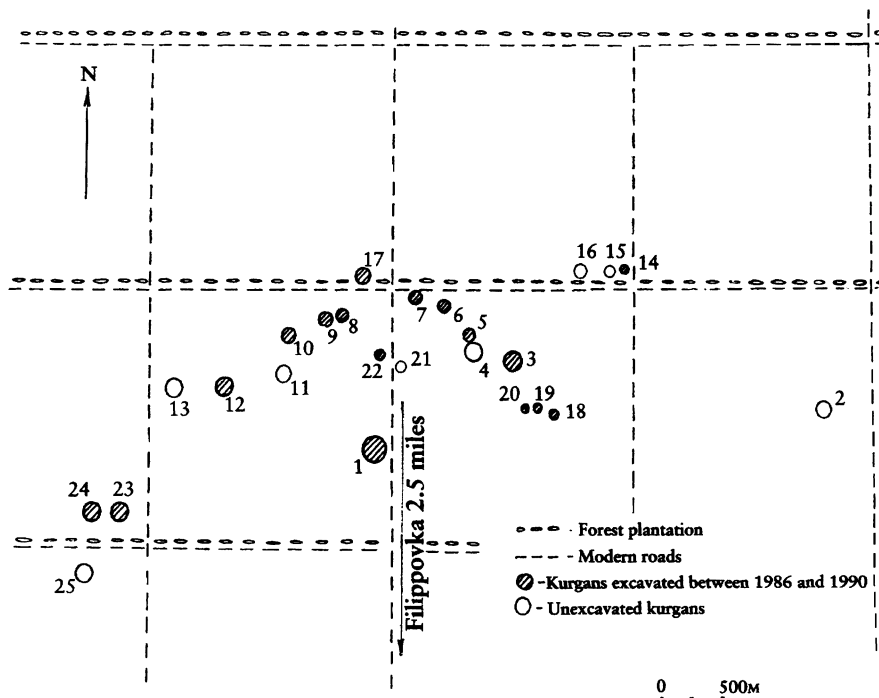


Figure 3. Overall plan of the kurgans at Filippovka, 4th century B.C. After New York 2000–2001, p. 22, fig. 20

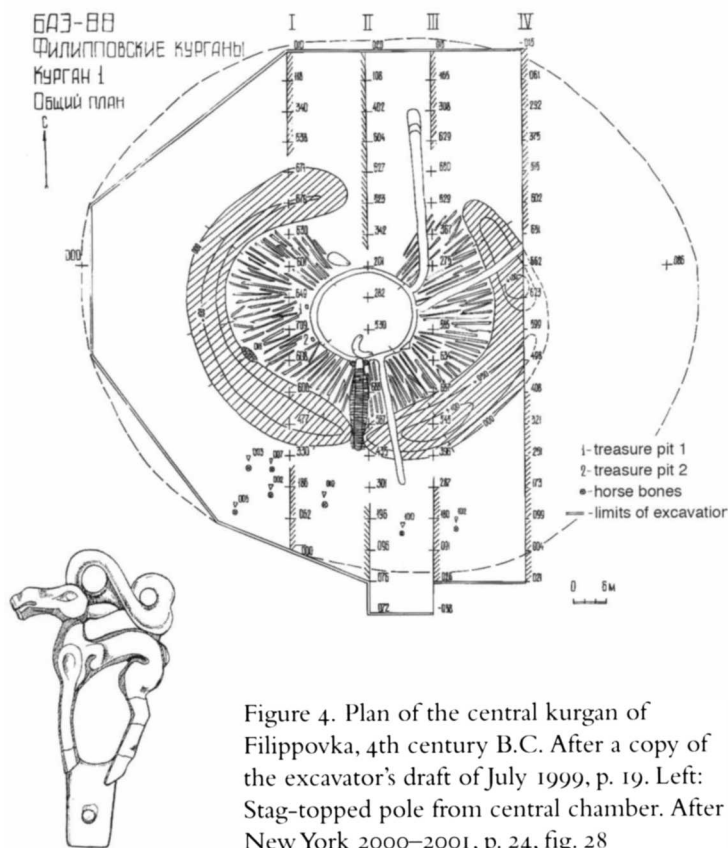


Figure 4. Plan of the central kurgan of Filippovka, 4th century B.C. After a copy of the excavator's draft of July 1999, p. 19. Left: Stag-topped pole from central chamber. After New York 2000–2001, p. 24, fig. 28



Figure 6. Wall painting of Mithra hunting deer and antelope, from Dura-Europos, 3rd century A.D. After Merkelbach 1984, fig. 17



Figure 5. Drachm of Parthian ruler Phraates III (r. 70–57 B.C.), wearing a crown surmounted by eight stags. Goebel collection, Vienna. After Jettmar 1964, p. 233

The Iranian Hunter and Mithra

The aspect of hunter and hunted is pervasive, which may reflect the belief in the mystical bond between the two. In fact, swift Persian fallow deer, along with antelope, were a favorite game in the royal hunts of the Sasanian kings (224–651) until the animals' later near-extinction. Scenes depicting such hunts appear throughout Sasanian art, and it has been recognized that the Sasanian royal hunter may have been the representative of the ever-watching god Mithra, as discussed by Prudence Harper,¹⁵ as was the case with the Achaemenid kings.¹⁶ Harper also pointed to possible connections with the traditional theme in ancient Near Eastern art of the "Master of the Beasts," a hero fighting with wild animals.

Mithra himself was shown as a hunter of deer and antelope in a third-century A.D. wall painting in Dura-Europos in Roman Mesopotamia, appearing like an Iranian "Apollo" (fig. 6).¹⁷ Exactly such a scene occurred at Filippovka some 600 years earlier, on a gold cup mounting depicting a mounted archer and two saiga antelopes pierced by arrows (fig. 7a–b).¹⁸

Noteworthy in the Iranian context is the single combat between king and deer.



Figure 7a–b. Gold mountings for a large bowl, showing a mounted archer and his prey, saiga wounded by arrows, from treasure pit 1, Filippovka, 4th century B.C. Archaeological Museum, Ufa, 831/7, 9, 10a–b. After New York 2000–2001, no. 24, pp. 95–97

Thus, on a silver plate thought to come from Anatolia, dating to the fourth century A.D.,¹⁹ the king, having jumped onto a stag, stabs it to death (fig. 8). This act is reminiscent of the central scene in Roman Mithraism where Mithra slays a bull instead of a deer.²⁰

The twenty-six Filippovka stags, then, may represent the game of the deceased chief on the celestial hunting grounds, where he will join Mithra. Similarly, just as Mithra, face turned aside, reluctantly kills the bull in the Mithraic scene, so the deceased chief



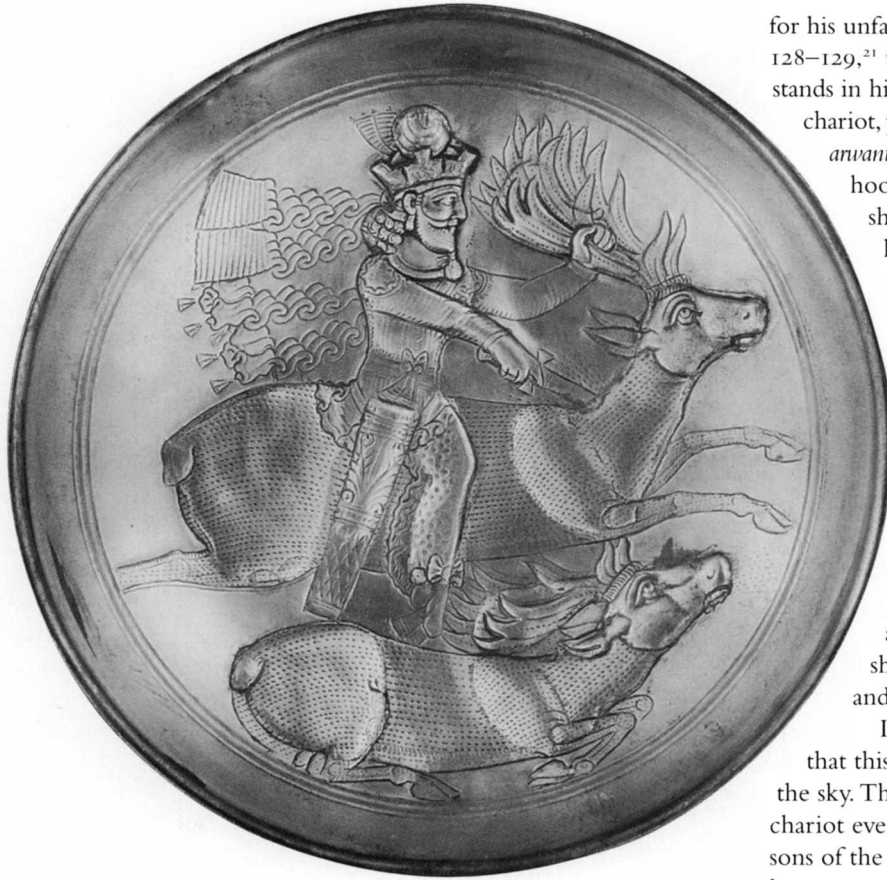


Figure 8. Gilded silver plate with relief scene of a king astride a stag, from Anatolia (?). Sasanian, 4th century A.D. British Museum B.M. 124091. After Brussels 1993, no. 59, p. 203

may have been perceived as having been reluctantly slain by Mithra, at the final turn of his allotted time.

The Iranian Mithra as Lord of the Year and Time
The preceding examples suffice to show the intimate correlation between the imagery of the deer and Mithra. In Iran, the earliest textual reference to the deer in connection with that god is indirect. It appears in the Avestan hymn to Mithra, which is of early Achaemenid date but retains much earlier material. In this Zoroastrianized hymn, Mithra's "game" is no longer the deer but the followers of the Lie and Evil, while the slain deer assists Mithra by providing the sinews

for his unfailing bow and arrow. In stanzas 128–129,²¹ this "grassland-magnate" god stands in his supernatural, star-decked golden chariot, pulled by four white coursers, *arwant-*, "swift ones," whose front hooves are said in stanza 125 to be shod with gold and whose hind hooves are shod with silver.

Mithra is accompanied by an entourage of divine entities, including the blazing fire that is the royal Kayanian Glory,²² and the god of victory, Verethragna, in the shape of a fierce wild boar. There in the chariot he has readied 1,000 bow-stretchers, *thanwartinī*, made from deer sinews, and 1,000 gold-mouthed and vulture-feathered arrows with two-horned barbs, to shoot at the heads of the evil gods and the breakers of the contract.

It is a fairly small step to recognize that this "chariot" is the hemisphere of the sky. The four coursers, which pull the chariot ever around, represent the four seasons of the year; their gold- and silver-shod hooves represent the days and nights and the interlocking cycles of the Sun and Moon.

The correlation between horse (Indo-European **ekwo*, "the swift one"; Latin *equus*, Greek *hippos*, Avestan *aspa-*, Sanskrit *asva-*) and the year, standing for Time, is ancient, and is reflected widely, be it in the Vedic royal yearlong *Aśvamedha* ritual, or the 360 horses buried in the Ul'skii Aul kurgan on the Kuban River, or Odin's yearlong celestial ride on his horse. The same representational and mythological lore appears to be encoded by the gold and silver foils of the stags of Filippovka.

Those stags may encode even more specific references to the year and the interlocking cycles of the Sun and Moon by their enigmatic number, which, given their calculated sets, is unlikely to be random. Twenty-six, exactly half of fifty-two, is thus half of the number of quarters of the monthly lunar cycle, or "weeks," in a solar year.²³ It may not

be coincidence that in the Achaemenid calendar Mithra presides over the month of the fall equinox at the transition between the summer and winter halves of the year.

Mithra the Judge

Mithra has a fundamental cosmic role as measurer and apportioner of Time. According to Zoroastrian tradition, he stands guard not only at a crucial point of transition in the temporal world, but also at a crucial point of transition between the temporal and spiritual worlds, where he is the impartial judge of the individual soul at the “bridge” to the other world, and at the transition from the world of limited to unlimited Time, where he is the smiter of the Evil Spirit during the final battle at the end of Time. In the Roman Mithraic Mysteries, Mithra is the savior per se.

Mithra’s roles as Lord of Time and as Judge would be particularly applicable to the symbolism of the stags in the funerary context of the Filippovka finds. Moreover, *Mithra* means “contract,” and he is the god of contract, allegiance, and oath, sworn by a shared sacred drink and handshake,²⁴ rituals for which the finds at Filippovka provide ample evidence.

FEATURES OF THE FILIPPOVKA STAGS: FORM AND FUNCTION

In spite of the general features discussed above, the Filippovka stags remain enigmatic. That they were conceived of as supernatural is shown by their exaggerated features and their gold- and silver-foil covering, as well as by the fact that they are only realistic enough to indicate their “deeriness,” as noted by Farkas. She suggested that the stags may have been conceived of as magical mounts for carrying the deceased to paradise or as depictions of tribal ancestors, but noted that the true function of the stags is defined by their funerary context, whose narrative escapes us.²⁵

The following attempt to identify more specific meanings and functions of the Filippovka stags begins with the set of the five most elaborate stags and their most



Figure 9. Headgear of a Yenisei shaman with frontal “feather.” After Harva 1938, p. 517, fig. 82

prominent feature, their antlers. The focus is on the antlers and their number, and on the composite character of the Filippovka stags.

Antlers as Headgear

While the figures are ostensibly those of stags, the complex array of their spiraled antlers remarkably resembles those of human headgear, in particular those of Siberian shamans. An instructive example is the horned headgear of a Siberian Yenisei shaman shown in Uno Harva’s monumental study of the religious beliefs of the Altaic peoples.²⁶ The impression of the close similarity between the antlers of the Filippovka stags and the shaman’s headgear is further supported by what on first sight appears to be an ornamental detail in both cases (fig. 9). The shaman’s headgear has a

frontal extension, just as the Filippovka stags have two frontal spirals on their noses. This shared feature suggests similarity in function. The extension on the shaman's headgear is said to represent a "magic feather," so that the two spirals on the nose of the stags may similarly have had a magic feather function. Given the context of a stag's antlers in both cases, one may think of a complementary symbolism, that of a third antler, which in fact occasionally grows on stags and is considered a sign of magic, suggesting bird-on-deer symbolism discussed below.

The Nine Spirals and Scythian Parallels

The fact that the spirals of the antlers on the five most elaborate stags of Filippovka number nine likewise suggests some magic function, given that 9 is a widely found sacred or magic number. This feature may again reflect beliefs still found in the lore of Siberian shamans. Specifically, the number 9 is correlated with the nine levels of the cosmos of the shaman, who must successfully pass nine guarded heavenly stations to reach the highest deity for approval of his healing efforts. The similarity between the Filippovka stags and shamanic lore becomes even closer when considering the ritual representation of those nine levels in shamanism. They are constructed in the form of a line of nine bird-topped poles of increasing height (fig. 10),²⁷

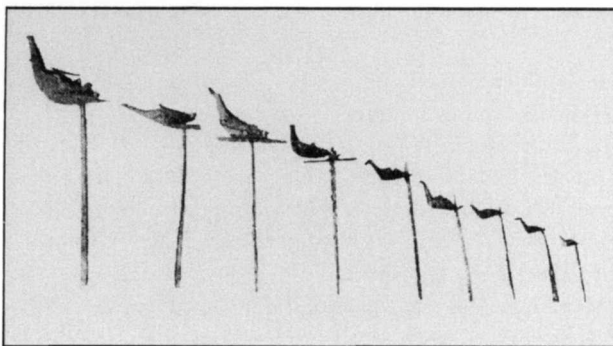


Figure 10. Nine bird-topped poles representing the nine heavenly stages of the shaman journey among the Dolgans of Siberia. After Harva 1938, p. 549, fig. 104

which would correspond to the bird-topped spirals of the Filippovka stags.

Artistically and historically, the nine spirals of the five most elaborate stag figures of Filippovka appear to have their most immediate correlates in Scythian art. Most closely related are the nine rhythmically repeated S-spirals of the tines of two gold recumbent-stag shield emblems, both of Greek workmanship and made for Scythians. One was found in the Kostromskaia kurgan near Krasnodar in the northern Caucasian Kuban region of Russia, between the Black and Caspian seas, and dates to the late seventh to early sixth century B.C. (fig. 11).²⁸

The other stag dates to the late fifth to early fourth century B.C., roughly contemporary with Filippovka, and was found in the Kul' Oba kurgan near Kerch on the eastern tip of the Crimea (fig. 12). It likewise has nine S-like spiral tines, but is further embellished. A ram's head has been added atop its hindquarter, while the tail turns into a griffin's head. In addition, four animal figures are sculpted on the body itself: a winged griffin on its hind side, a hare and a lion in the middle, and a dog at its throat.²⁹

Thus, the nine spiral antlers of the stags of Filippovka are likely to have not just magical but also cosmic connotations, following ancient lore.³⁰ While the nine-level cosmos is still reflected in shamanic lore, the oldest evidence in Iranian and Central Asian tradition is architectural, the nine-pronged circle-in-a-square of the fortified palace at Dashly 3 in Bactria (northern Afghanistan). It is part of the Bactria-Margiana Archaeological Complex (BMAC) and dates from the early second millennium B.C. (fig. 13).³¹

The Antlers as Zoomorphic Composites

The enormous bird-tipped antlers of the Filippovka stags are not unique in Eurasian art. Conceptually, that feature appears to point to the conflation of two animals into one figure, combining deer and bird. Therefore, the Filippovka stags are not only reminiscent but represent a variant of the frequent and ancient depictions of an eagle



Figure 11. Gold deer ornament from Kostromskaia kurgan, Kuban region, Caucasus. Scythian, late 7th–early 6th century B.C. State Hermitage, Saint Petersburg. After New York 2000–2001, no. 140, pp. 197–99



Figure 12. Gold deer ornament from Kul' Oba kurgan, near Kerch in the Crimea. Scythian, late 5th–early 4th century B.C. State Hermitage, Saint Petersburg. After Schiltz 1994, p. 159

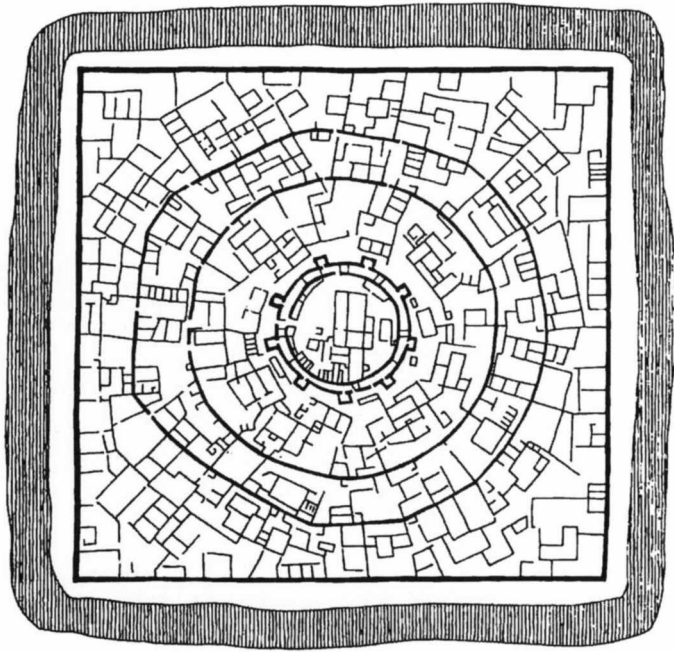


Figure 13. Nine-pronged fortified palace at Dashly 3, Afghanistan, early 2nd millennium B.C. After Sarianidi 1986a, p. 59



Figure 14. Left: Filippovka stag. Archaeological Museum, Ufa, 831/1219. After New York 2000–2001, no. 2, p. 77. Right: Bronze figure of an eagle perched on a doe. After Richer 1994, p. 150, fig. 44

perched on a deer or similar animal, found in Iranian, Mesopotamian, and Hittite contexts. An example is the standing figure of an eagle perched on a doe identified as Iranian (fig. 14), which has been discussed by Anna Roes³² and, more recently, Jean Richer,³³ among others. The function of such composites has long been recognized as cosmic. Roes interpreted this figure as representing solar imagery (the eagle as a solar animal); Richer more specifically recognized it as a representation of the autumnal equinox, assuming that not only the doe but also the eagle represent the same season, autumn.

The Filippovka stags would thus point to Mithra as the guardian of the fall equinox in the Achaemenid calendar, noting the close connection between Mithras and Sol in the Roman Mysteries, as well as in later Iranian tradition, where ultimately *mehr* became an alternate term for “sun,” as in Persian. At the same time, eagle-on-doe would also seem to symbolize autumn as the hunting season, and point to Mithra and the royal hero as the sacred hunter in hunting rituals.

THE SEASONAL LOGIC OF THE ZOOMORPHIC REPRESENTATION

Roes follows a long line of thought that interprets many, if not most, zoomorphic iconography as simply “solar.” Richer follows a long line of scholarship that recognizes a more specific function of many, though not all, zoomorphic representations, that is, depicting the seasons.

The Phalera of Vetersfelde

The basic logic, and relative simplicity, of such representations of the seasons, or the cardinal points of the year, may be illustrated here by interpreting an artifact that seemingly playfully combines four variations of the seasonal theme. It is a well-known ornament, probably a *phalera*, from the hoard of Vetersfelde, Germany (fig. 15),³⁴ and is selected here because one of the animals is a deer. Discovered in 1882, it is dated to the early fifth century B.C. and was made by a Greek artisan for a Scythian customer. It

consists of four disks around a small central disk. Each of the four disks depicts four animals. These, in turn, are arranged in two pairs each: (A) a hound running after a hare, and a lion chasing a fallow deer; (B) a leopard attacking a boar, and a lion attacking a bull; (C) a lynx facing an ibex, and two heraldic rams; and (D) two heraldic pairs of leopards.

The appearance of the sequence bull-lion in set B, and of the lion in set A, suggests the constellations Taurus and Leo of the classical zodiac. Taurus stands for spring, Leo for summer. Otherwise, the seasons are represented by those animals that are typical for the respective natural season. Accordingly, in set B, the leopard stands for autumn, and the boar for winter; in set A, the hare stands for spring, the deer for autumn, and the hound for winter. That is, sets A and B represent mixed representational schemes.

The scheme of set C is likewise mixed. However, here spring is signaled by the ram, that is, the constellation Aries, instead of the bull/Taurus. This shift from Taurus to Aries for spring reflects in fact two patterns: an archaic one in which Taurus was the spring constellation, followed by Leo, Scorpio, and Aquarius for the other cardinal points of the year, and a more recent one in which Aries had become the spring constellation, followed by Cancer, Libra, and Capricorn. (The latter pattern is still adhered to in modern astrology, even though astronomically Pisces has been the spring constellation since about the time of Christ.) Set C is also an example of representing opposite seasons by the same animal, often male and female; here, the ram represents both spring and autumn, while the feline lynx replaces



Figure 15. Gold *phalera* from Vettersfelde, Germany. Scythian, early 5th century B.C. Staatliche Museen, Preussischer Kulturbesitz, Antikenabteilung, Berlin. After Bothmer 1975, p. 154, fig. 2

Leo, and the ibex represents winter. Finally, set D represents all four seasons by the same animal, the leopard, thus generalizing autumn, as shown by the position of the leopard in set B, which in set A corresponds to the deer. In overview, the correspondences are as shown below in Table 1.

By this representational logic, and because these representations continue a tradition of several millennia, it can be concluded that

A	B	C	D	Season	Zodiac
Hare	Bull	Ram-1	Leopard	Spring	Taurus/Aries
Lion	Lion	Lynx	Leopard	Summer	Leo/Cancer
Deer	Leopard	Ram-2	Leopard	Autumn	Scorpio/Libra
Hound	Boar	Ibex	Leopard	Winter	Aquarius/Capricorn

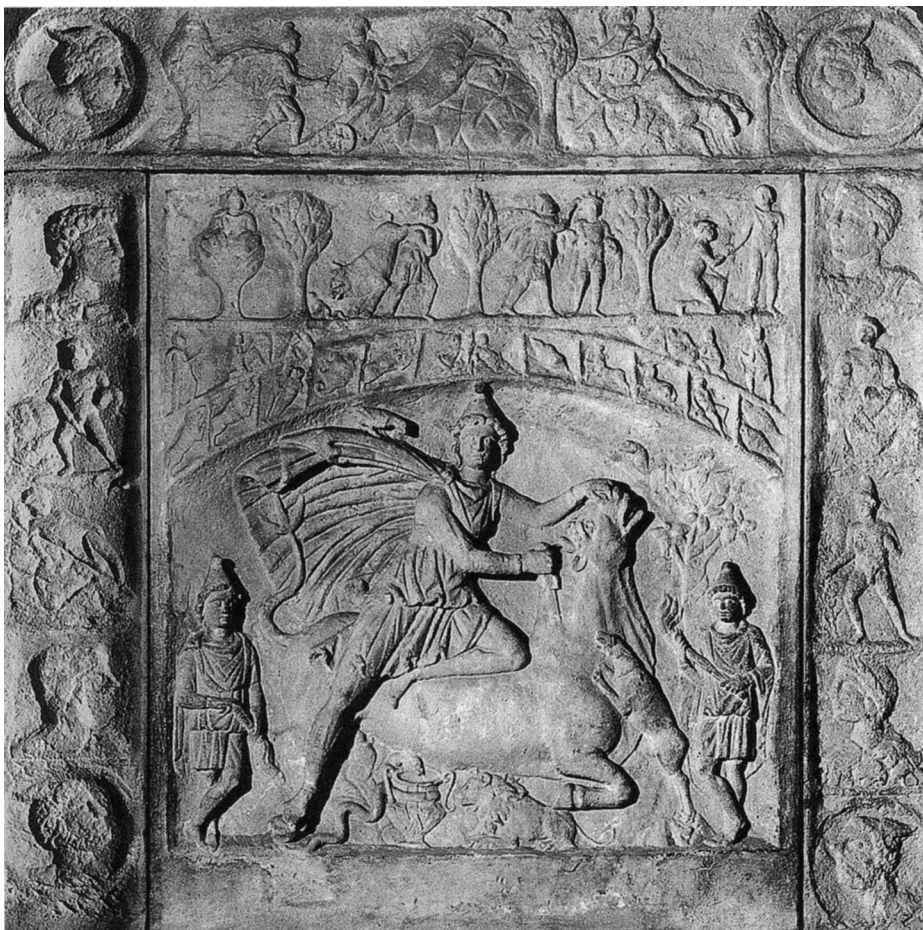


Figure 16. Relief of a Mithraic bull-slaying scene, from Hedderheim, Germany, 3rd century A.D. After Merkelbach 1984, p. 342, fig. 101

the antlered figurines of Filippovka highlight the deer-hunting season of autumn, and thus Mithra. This conclusion, in turn, may provide a clue to the funerary rites at Filippovka.

The Four Animals on the Kul' Oba Stag

Further examples supporting the logic of the zoomorphic representation of the seasons are the four animals depicted on the body of the recumbent Kul' Oba stag, whose close symbolic affinities with the elaborate stags at Filippovka were discussed above in regard to its nine S-shaped antlers. The four animals on the Kul' Oba stag are the hare, lion, griffin, and hound. These four, and their sequence, are virtually identical to those of set A on the Vetersfelde *phalera*: hare/hare, lion/lion, griffin/deer, hound/hound (Table 2).

The Kul' Oba Stag and a Mithraic Tauroctony

It is noteworthy that the four animals of set A of the Vetersfelde *phalera*, dated to the fifth century B.C., and those on the Kul' Oba stag, dated to the fourth century B.C., bear a striking resemblance to another set of four animals, depicted in a Mithraic scene from Hedderheim, Germany, dated to the third century A.D. (fig. 16). The animals are the snake, lion, scorpion, and hound. They are likewise associated with a hoofed animal—not the deer, but the Mithraic bull.

The Mithraic scene from Germany has been discussed by Reinhold Merkelbach,³⁵ who recognized the typical astrological symbolism of the complex imagery elsewhere in the scene. However, he did not recognize it in the four animals on and under the body of the bull. Instead, he discussed the hound

Table 2.

Vettersfelde A	Kul' Oba	Mithraic Set	Season	Zodiac
Hare	Hare	Snake	Spring	Taurus/Aries
Lion	Lion	Lion	Summer	Leo/Cancer
Deer	Griffin	Scorpion	Autumn	Scorpio/Libra
Hound	Hound	Hound	Winter	Aquarius/Capricorn

separately, and saw representations of the classical four elements as follows: lion—fire, snake—earth, crater—water, without identifying the scorpion. (Air he saw represented by the raven on the shoulder coat of Mithra.) Following the logic of seasonal representation, the correspondence between the three sets of four is as shown in Table 2.

In these fourfold schemes, the Mithraic autumnal scorpion/Scorpio reflects the sting that kills the astronomically opposite bull/Taurus. It corresponds to the griffin on the Kul' Oba stag, both animals highlighting the reluctant killer/hunter, while the depiction of the Vettersfelde deer highlights the victim/hunted. There are also parallels in replacement strategies. Since in the Mithraic Mysteries the vernal bull is the central animal, spring is symbolized by another animal, the snake. Similarly, since the Kul' Oba stag itself represents the autumnal deer, fall is represented by the griffin.

It thus becomes evident that the Mithraic scene continues an ancient tradition, including the mixed scheme of seasonal and zodiacal animals. It continues the ancient pair lion and hound for summer and winter, respectively, but replaces the hare with the snake for spring, and the deer/griffin with the zodiacal Scorpio, partially in adaptation to its European context. These similarities and, more significantly, the very fact of the continuation in the Mithraic Mysteries of the ancient mixed Iranian scheme, not noticed so far, suggests that the Iranian finds discussed here are informed by ancient Mithraic mythology, cosmology, and ritual.

These finds also provide hitherto unrecognized evidence for the wide distribution

of knowledge of the Middle Eastern zodiacal scheme throughout the northern Iranian regions, extending west into the eastern parts of Germany, at the latest by the fifth century B.C.

The Filippovka Stags and the Persepolis and Pazyryk Composites

If we compare these four-member sets with binary configurations like the eagle-on-doe, it becomes apparent that the latter are variants of the scheme that is reduced to a pair. In fact, a closer look at the stags of Filippovka reveals that they are not simply stags at all. They are composite monsters, which only highlight “deeriness,” as noted by Farkas, particularly by their oversize antlers. Their recognizable components are four: antlers, bird heads, feline bodies, and dog- or wolflike mouths.

As mentioned above, Farkas and others had already recognized the close stylistic resemblance of this monster to two much-discussed other monsters. One is found in a northern Iranian context, in Pazyryk, the other in Persepolis, the ceremonial center of the Achaemenid empire.

The first parallel is a monster that is represented, facing a phoenix, on an appliqué sewn to a wall hanging found in kurgan 5 at Pazyryk in the Altai, dating to the fifth or fourth century B.C. (fig. 17). A close look reveals that this monster is also quadripartite: bird wings, feline body, stag antlers, and human face. This set of features is nearly identical with that of the Filippovka stags, which likewise have bird heads, feline bodies, and stag antlers. These three animals represent the seasons as follows: bird heads—wings/spring, feline bodies/summer, antlers/autumn,



Figure 17. Wall hanging with a figure of a stag demon, from kurgan 5, Pazyryk, Altai, 5th–4th century B.C. State Hermitage, Saint Petersburg, ge1687/1. After New York 2000–2001, no. 196, pp. 272–73

respectively. The two differ only in their fourth component, which is a canine/wolf mouth at Filippovka, but a human face at Pazyryk. It is apparent that the wolf's mouth represents the grim nature of winter. The connection between the human face and winter at Pazyryk, however, can be recognized as zodiacal, as the figure stands for the constellation Aquarius, the traditional “Man” at the bottom of the zodiac at winter solstice.

The monster found at Persepolis is one of four zoomorphic creatures, besides the lion, bull, and bull-eagle, that prominently appear on the door jambs of three different structures at Persepolis, where they are in combat with what is identified as a superhuman figure, hero, or king (fig. 18).³⁶ The components of this monster are four as well. It consists of parts of

the bull, lion, scorpion, and eagle. (In detail, these four animals are referred to by the following parts: the horns and ears of a bull; the head, body, and forelegs of a lion; the neck, wings, talons, and hind legs of an eagle-like bird; and the tail of a scorpion.)

Unlike the depictions in the sets discussed above, at the imperial ceremonial complex of Persepolis each animal ostensibly and plainly represents the seasonal constellations. Significantly, they are those of the more ancient “Age of Taurus” rather than of the true “Age of Aries” at that time. Thus, the correlations are: bull/spring, lion/summer, and scorpion/autumn. While these follow the zodiacal scheme, the eagle follows the archaic seasonal scheme. It thus reinforces the representation of the hunting season of autumn,

Table 3.

Season	Filippovka	Pazyryk	Persepolis/Zodiac
Spring	Bird heads	Bird wings	Bull horns/Taurus
Summer	Lion body	Lion body	Lion body/Leo
Autumn	Stag antlers	Stag antlers	Scorpion tail–eagle parts/Scorpio
Winter	Wolf mouth	Man's face/Aquarius	Hero/Aquarius

guarded by Mithra. Therefore, winter must be represented not by any part of the monster, but by the superhuman figure, which thus corresponds to the man's face for winter at Pazyryk.

In synopsis, the three monster types correlate as shown in Table 3.

The overall design suggests that the eagle's wings represent more than just the autumn season. Considering that wings often symbolize spiritual or celestial contexts, and that the monster's components represent the temporal cycles, one is led to the following conclusion: the wings of this beast mark cosmic power, the power of the monster Time. Moreover, given the imperial context, the four components would seem to represent the four corners of the world, and of the cosmos, the ancient truth about inseparable time-and-space.

The cosmic reference is evident in all of these zoomorphic composites. It is most blatant in the Pazyryk monster, whose leonine body is additionally marked by twelve circular emblems, which must represent the twelve constellations of the zodiac. Turning to the human components that correlate with winter, at Pazyryk the man's face is incorporated in the figure. Assuming Mithraic mythology, the point in time hinted at is the birth of Mithra at winter solstice, and thus to Mithra rising. However, at Persepolis, the man's figure is separate, fighting the monsters. This would seem to represent the Achaemenid king of kings in the protective role of Mithra against disorder and the monster Time, at the lowest, and thus most dangerous, passage of the "year" throughout the cycle of his reign.

At Philippovka, winter is incorporated in the stags in the shape of a wolf's mouth, but



Figure 18. Achaemenid relief of a king in combat with a monster, from the palace of Darius at Persepolis, 5th century B.C. After Plunket 1903, pl. IV, facing p. 64

there is no human component. This absence could reflect the ritual representation of the departure of the deceased ruler, as well as the protective function of the figurines as his spiritual accompaniment on the passage, as is suggested by the emphasis on the bird-headed antlers.

Excursus: The Iconographic Tradition of the Four Animals and the Cherubim

The preceding exploration has, to quote a disclaimer by Willy Hartner, “nothing whatever in common with the blooming fantasies of the so-called Pan-Babylonianists, headed by Hugo Winckler, Alfred Jeremias, and others, who claimed that the earliest inhabitants of the Near East possessed a developed astronomical system, made very accurate observations, and knew, to mention only the most fanciful of their many assertions, the precession of the equinoxes. Nothing of what I am presenting here is capable of supporting such a claim, and it is not my wish at all to enter upon this question in the present context.”³⁷ It should be acknowledged, however, that the sky has been the great clock and ever-turning model of the world since times immemorial, and sages have always known its workings, told in the form of myth, not in the mathematical-astronomical precision of hard science.

Taking clues from John Landseer’s work of 1823 on animal imagery on Babylonian cylinders³⁸ and from others, in 1856 E.C. Ravenshaw identified the symbolic correlation of terrestrial animal imagery with celestial correlates in the four composite creatures then recently found at “Nineveh” (Nimrud): a winged bull with a human face; a winged lion with a human face; a winged man holding a pinecone in one hand and a square basket or vessel in the other; and an eagle-headed, winged human figure. He suggested that they were invented “as astronomical symbols of the equinoctial and solstitial points and represent the four seasons, spring, summer, autumn, and winter; and perhaps the four winds, and the four elements.” As such, they function as guardians of palace and temple entrances. Taking the clue from

earlier observations by Austen Henry Layard, he correlated these monsters with the four Cherubim in Ezekiel 1:10: “As for the likeness of their faces, they had the face of a man; and they four had the face of a lion on the right side; and they four had the face of an ox on the left side; they four had also the face of an eagle.”³⁹ Ravenshaw recognized in them the source of a continuing iconographic tradition. That is, the Cherubim “were likewise the originals of the apocalyptic beasts of Saint John; and . . . slightly modified, they were afterwards adopted, and are now used, as the symbols of the four Evangelists.” As instructive examples for the latter, he cited the creatures on the facades of the cathedrals at Poitiers and Chartres. Specifically regarding Persepolis, he suggested that the human figures battling the animals “probably indicated the sun passing through or conquering the signs of the zodiac.”⁴⁰ The traditional correlates with the zodiac (attributes in parentheses) are as follows: Matthew = winged man/Aquarius (cup, hatchet, power); Mark = winged lion/Leo (strength); Luke = winged ox/Taurus (sacrifice); John = winged eagle/Scorpio (chalice, contemplation). Here, the fourth figure of an eagle evidently corresponds to the eagle-on-doe/Scorpio.

Some fifty years later, the astronomer Emmeline Plunket,⁴¹ in a collection of articles republished in 1903, also recognized that the four-part animals at Persepolis had cosmic referents, specifically the four cardinal constellations of the zodiac. Thus the lion’s body represents the summer constellation Leo with its main star Regulus; the bull’s horns, the spring constellation Taurus with Aldebaran; the scorpion’s tail, the autumn constellation Scorpio with Antares. Finally, she correlated the eagle’s wings with the constellation Aquila and its brightest star Altair, which she suggested substituted for the true winter constellation Aquarius, which lacks a comparable bright star. Plunket specifically indicated⁴² that for her the decisive clue to the pervasive tauric symbolism at Persepolis was the bull-slaying scene in Roman Mithraism, which in her

view pointed to the Persian Nawruz (New Year). Therefore, the “colossal being thrusting his dagger into the body of a still more ‘mystic’ creature than the Bull of the Roman sculptures” was none other than solar Mithras, who in Iranian sources is the friend and representative of Ahura Mazda, in constant battle with the forces of evil.⁴³ Thus the composite animal was emblematic of the four seasons of the year and probably also of the four quarters of the world.⁴⁴

Shortly thereafter, in 1909, the astronomer E. Walter Maunder⁴⁵ also identified the four cardinal constellations with the four Cherubim in Ezekiel. He also referred to the Four Beasts in the Apocalypse of Saint John, better known as the Book of Revelation (4:6–8) (KJV): “And the first beast was like a lion, and the second beast like a calf, and the third beast had a face as a man, and the fourth beast was like a flying eagle.” To these he added the Four Beasts in the Apocalypse of Daniel (7:4–7): “The first was like a lion and had eagles’ wings . . .”; “Another beast appeared, a second one, that looked like a bear. It was raised up on one side, had three tusks in its mouth among its teeth . . .”; “After this, as I watched, another appeared, like a leopard. The beast had four wings of a bird on its back and four heads; and dominion was given to it”; “After this I saw . . . a fourth beast . . . It had great iron teeth . . . and it had ten horns.”⁴⁶ Maunder also pointed out their origin in Mesopotamian depictions of the constellations, in particular the early depictions on the so-called boundary stones of the second millennium B.C.

Thirty years later, Phyllis Ackerman prominently pursued the cosmological aspect of ancient thought in iconography. Thus, in discussing the iconography of Achaemenid seals,⁴⁷ she recognized their celestial, calendrical, and seasonal symbolism and correlated the animal figures with the four cardinal constellations.⁴⁸ According to Ackerman, they are symbolic game animals and, once subdued, have apotropaic functions in addition to their decorative appeal, but do not represent forces of evil per se.

Ackerman recognized in the iconography the theme of the hunt, noting that the hunt was a central feature in the Iranian system from 3000 B.C. through Sasanian times, with strong reflexes in Islamic Iran. She concluded that originally the hunter was probably the sun god or his agent, while his prey was the constellations of the zodiac. By controlling the constellations, he assured the orderly revolutions of the seasons. Thus, ultimately the ancient theme is “the functions of the principle of Time, astrologically marked,” and the crowned personage, particularly in the hand-to-hand combat, figures as the moving principle of Time, Chronos.⁴⁹ Similarly, in their study of 1956–57, M.-L. Erlenmeyer and Hans Erlenmeyer reaffirmed that from the mid-second millennium B.C. onward, cervids and bovids consistently appear in depictions representing configurations of constellations, where bovids stand for Taurus and, probably, mark specific seasonal festivals such as the New Year at the spring equinox.⁵⁰

Later scholarship, however, either tended to approach the astronomical symbolism with caution or dismissed it. Thus, Ernst Herzfeld briefly hinted at the similarity between the Persepolis creatures and the apocalyptic animals, without reference to astronomical implications.⁵¹ F. A. M. Wiggermann⁵² discussed the evolution of composite Mesopotamian beasts, which he generally identified as “protective spirits,” but he did acknowledge that several of these creatures have what he considered secondary “cosmic” functions, without offering specifics. (Wiggermann showed that some of these composite figures occur in representations of the earliest periods of Near Eastern iconography; others evolved, becoming more complex by adding features such as wings.)

Margaret Root,⁵³ in exploring meaning and expressive content in the Persepolis sculptures, recognized a cosmic design in the animal-combat scenes. She also compared these scenes with medieval depictions of Christ sitting in judgment, particularly with references to the sculptures at Chartres, and found that the typically diagonal gesture of

the arms of Christ parallels the chiasmic X-like pattern of arm and hand gestures in the Achaemenid combat scene. Following these observations, one may suggest that the distinctive diagonal design in both Achaemenid and medieval Christian depictions represents the obliquity of the ecliptic relative to the celestial equator, which is also prominently encoded as the oblique cross of ecliptic and equator on imperial orbs, and on celestial globes also found in mithraea.⁵⁴

A most influential contribution to this topic was an article published in 1964 by the historian of science Willy Hartner, co-authored with the art historian Richard Ettinghausen, in which the writers traced the iconographic and mythological history of the equinoctial and solstitial constellations. In a companion article of 1965, Hartner investigated the earliest history of the constellations in Near Eastern sky lore and astronomy, with a focus on the equinoctial symbolism of the lion-bull combat. An overview, including prominently work in Russian, of the history of research of this pervasive combat scene, which is usually correlated with the rites of death and renewal of the spring equinox and with the theme of the new ruler, is found in Elena Kuz'mina's article of 1987.⁵⁵

More recent, and comprehensive, is Richer's 1994 study, in which he attempts to demonstrate the astronomical basis of much of Greek zoomorphic iconography from its earliest beginnings. A particular advance in his approach over the preceding ones is his inclusion of figures from narrative mythology, rather than confining himself to the celestial menagerie. But this method is somewhat undermined by a less convincing approach to wide-ranging sacred geography.

Finally, as to typology, Lev Klein recognized a subset of composite creatures depicted primarily in Siberian art, which he somewhat misleadingly named the "Sarmatian *tarandrus*," after a term for reindeer or elk in classical sources (the scientific name for reindeer is *Rangifer tarandus*).⁵⁶ According to Aelian, the creature could change colors, which is true of both reindeer and red deer.⁵⁷ The distinctive fea-

tures of the *tarandrus* as identified by Klein are stag antlers ending in bird heads, similar to the Filippovka deer, and head, body, tail, and legs with horse, feline, or ursine characteristics. These creatures are often shown in combat with one or more creatures such as griffins or felines.

Typologically, then, there are linkages between the ancient eagle-on-doe motif and the bird-headed-antler composite creatures. These include the recumbent stags of the Kostromskaia and Kul' Oba kurgans, the Sarmatian *tarandrus*, and the unique standing stags of Filippovka. All appear to imply celestial correlates, and their erstwhile symbolism seems to be still reflected in shamanic lore about celestial journeys and in the shaman's headdress.

To sum up this aspect of the present essay, the menagerie at Persepolis, with its single and composite creatures, clearly represents an integral aspect of a complex but uniquely Achaemenid Persian cosmology, which has parallels in Pazyryk and Filippovka, both with evident Achaemenid input. Thus, iconographically the composite nature of the Filippovka stags is not a mystery; like the other fantastic figures, they simply and naturally represent the zodiac reduced to the zoa at the cardinal points of Time, or of the equivalent seasonal zoa.⁵⁸

The approach taken here is an attempt to demystify the issue and to show that the representational thought involved is fairly simple, even though enigmatic mythological narrative may be attached to it. The seasons—cyclical time—are represented by two clearly recognizable zoomorphic cycles, one referring to celestial constellations, notably the zodiac, the other referring to terrestrial beasts typical for the natural season.

THE DEER AMID THE CONSTELLATIONS

Certain stars and constellations, or parts thereof, have been seen as deer or related animals in all traditions. Therefore, it is worth exploring whether the stags of Filippovka fit into such schemes as well.

In Mesopotamian astral science, the celestial stag is the eastern part of Andromeda,

specifically α Andromedae.⁵⁹ However, the context of Filippovka suggests looking for clues in the Indo-Iranian and Eurasian traditions. In fact, these traditions point to a region in the night sky that involves not merely a single constellation but a well-known sequence of adjacent constellations, the celestial scene that stretches from Canis Major, with Sirius, the brightest star of the sky—and known in antiquity as the “arrow star” whose arrow can be seen in the three stars of the girdle of Orion—to Taurus, with its bright red giant star Aldebaran. The Indian tradition, which is much better preserved than the Iranian tradition, also provides narratives related to this array of constellations.

To begin with the Iranian tradition, there is the celestial antelope, which is the third station in the lunar cycle, and is called Azesar, “Antelope’s Head.” It constitutes the head of the huge body of Orion, including the star λ Orionis and two smaller ones. In the Indian tradition, it corresponds to the lunar station *Mṛga-śiras*, “Antelope-head,” whose presiding deity is Soma, the Moon.⁶⁰

Continuing with the Indian tradition, immediately adjacent to the Antelope’s Head, there is also a celestial doe, the Indian lunar station called Rohini, “the Red One” (female), referring to the red star Aldebaran of the constellation Taurus.⁶¹ The Indian narrative, in brief, is as follows. The creator god Prajāpati (= body of Orion) raped his daughter, the doe Rohini (= Taurus). For this crime, he is killed by the arrow of the god Rudra, also identified as Śarva, “the Archer.” That archer star-god is Sirius, the brightest star of the sky, and his mortal arrow is the three stars of the girdle of Orion.⁶² This deity is also known in Zoroastrian tradition as Saurva, where his connection with Sirius has been lost, and he has become a daevic god of misrule and wilderness.

The ancient Indo-Iranian lore is still echoed in contemporary Altaic traditions, which tell of a famous archer who hunts three stags, a sky myth that in origin and essence simply describes the distinctive fea-

tures and location of Sirius relative to the three stars in the girdle of Orion.⁶³

Elsewhere, Orion himself is also known as a mighty hunter. Thus, in China he was the “Warlord Tsan,” the master of the autumn hunt, just as he was the mighty hunter Nimrod in Near Eastern tradition. Being himself hunted by Sirius, Orion was the Hunted Hunter.⁶⁴

In Greek mythology, Taurus may have been a hunter as well. The rape of Indian Rohini (= Taurus) by Prajāpati (= Orion) appears to correspond to Greek Orion’s rape of Artemis.⁶⁵ Thus Artemis, the hunting deer goddess and mistress of animals, would be correlated with Taurus in the Greek tradition (see further discussion below). Her punishment of Orion by having him killed by the sting of a scorpion reflects the astronomical knowledge that the constellation Scorpio rises when Orion sets, an action mythologically enhanced as killing (with Orion replacing the adjacent Taurus in this set of astral myths).

There is thus an entire sequence of hoofed celestial hunters and hunted that could well have been the referents of the stags of Filippovka, and of the funerary rites staged for the ruler’s entombment. In Iranian mythology, Sirius—Avestan Tishtrya, to whom the Avestan hymn Yasht 8 is dedicated—was well known in antiquity as a marker of the annual cycle. Around 400 B.C., which is the time of the Filippovka kurgans, Sirius’ heliacal rising, that is, before sunrise, coincided with the entrance of the sun into the royal constellation Leo, which may be a clue to the time of the funerary rites or of a phase thereof. This conclusion may be supported by the fact that the time of year would have coincided with the summer month in the Zoroastrian calendar that is guarded by the Holy Immortal Ameretāt, “Immortality.”

However, in all known traditions, the rising of Sirius, which coincided with the beginning of the driest and hottest season, also foreboded the coming of the autumnal rains.⁶⁶ Such is the case in the Avestan hymn to Sirius. This fact may therefore point to an autumnal phase of the funerary rites, a

conclusion that would be supported by the fall symbolism of the stags discussed above. In fact, at the autumn equinox around 400 B.C., the entire assembly of constellations began to set and vanish on the western horizon in the morning hours prior to sunrise, beginning with Taurus and followed by Orion.

Sunrise is the traditional time of day when the souls ascend in Iranian-Zoroastrian tradition. To this day, the Zoroastrian funerary rites include a so-called *sag-did*, “the look of a dog.” In this rite, a special “four-eyed” dog, that is, a dog with two white spots under its eyes, is made to see the corpse. The forgotten origin of this rite was rediscovered by Bal Gangadhar Tilak in 1893, and noted by the Zoroastrian scholar Jivanji Modi in his comprehensive work on Zoroastrian rituals.⁶⁷ The four eyes symbolize the eyes of the two dogs in the sky, Canis Major and Canis Minor, and the two dogs can be compared to those of Yama, the Indian god of death. In fact, these two are the dogs that accompany Orion. One is located on the southern and the other on the northern side at the narrow passage of the Milky Way, which can be recognized as the ancient

chinwatah pærtu, “the ford of the weight-piler,” who is Mithra the Judge’s associate Rashnu and weighs the deeds; that is, it is the dangerous “bridge” that leads over to paradise.

STATIONS ON THE VOYAGE

The constellation that “ruled” the autumn equinox in the eastern sky during the “Age of Taurus” was Scorpio. The correlation of that constellation with the celestial voyage appears to be encoded in a well-known Scythian artifact. It is the repeated scene of a deceased rider that appears on a polychrome felt hanging from kurgan 5 at Pazyryk in the Altai, dated to the fifth to fourth century B.C. The rider seems to be at a way station presumably on his path toward a celestial destination and is equipped with *gorytos* and sword (fig. 19).⁶⁸ Significantly, the felt hanging was found together with the textile discussed above depicting the human-headed stag monster from Pazyryk.

The Pazyryk rider halts before an enigmatic enthroned figure wearing a serrated crown and holding a vine spray. The scene suggests an encounter between a deceased horseman and a divine guide, or interrogator,



Figure 19. Felt wall hanging showing a horseman before a seated figure, from kurgan 5, Pazyryk, 5th–4th century B.C. After New York 2000–2001, p. 14, fig. 14

whose nonhuman status may be indicated by the combination of male and female features, particularly the bald-looking or shaved head and the absence of a beard. Sergei Rudenko and others have identified this figure as a goddess. Alternatively, the figure might depict one of the *enares*, the womenlike men who according to Herodotus were known among the Scythians, in this case acting as a shaman.

As noted by Farkas, there is a distinct resemblance between the seated figure and depictions of enthroned Achaemenid rulers, who, as mentioned, considered themselves representatives of Mithra. This may suggest that the seated figure was meant to represent Mithra the Judge, properly neutral in gender. Alternatively, the figure may depict the spiritual *hauma*-priest who, in the Avestan hymn to Mithra (stanzas 88–94), venerates Mithra and is hailed as the first supernatural being to have raised the *hauma*-stalk on the high world-encircling “mountain” (i.e., the ecliptic). The rider then would be deceased royalty who, as representative and friend of Mithra, is about to receive the *hauma*-drink of immortality.⁶⁹

However one may identify the strange seated figure, the cosmic context is made obvious by the twelve tips of the vine spray, which represent the twelve constellations of the zodiac, just as the Pazyryk monster had twelve circles on its body. In this case, the twelve vine tips may have also been perceived as successive gates through which the rider had to pass. The specific star station of the seated figure appears to be the constellation Scorpio, whose sting is indicated by the arrowed thirteenth tip behind the throne. The station of the rider in front of it, then, would correspond to the adjacent constellation Sagittarius, the Archer. The Sagittarius-Scorpio station is significant: it coincides with the seat of the Egyptian scorpion lady Selket and with the Mesopotamian gate of the scorpion men through which Gilgamesh had to pass on his journey to the underworld.⁷⁰ In the Roman farmer’s calendar, the tutelary deity of the month of Sagittarius is Diana the huntress, corresponding to Greek

Artemis, both ancient “Mistresses of Animals.” This suggests that Artemis, who had Orion killed by the sting of a scorpion, once had her true seat at this gate.⁷¹

Here at Sagittarius, the ecliptic intersects the Milky Way. This astronomical fact is an ancient observation that in Roman Mithraism, as elsewhere, was interpreted as representing the gate for the ascent of souls across the Milky Way. Just as the rider of Pazyryk carries *gorytos* and sword, so the deceased ruler of Filippovka was buried with his prized weapons and mount. His weapons are represented by the Achaemenid quiver clasp that was found in the burial chamber and by the sword at the right door post outside the chamber, while his mount is represented by the Achaemenid bridle pieces in the entrance way to the burial chamber.

NUMBER SYMBOLISM

Number symbolism appears to be an integral part of the design of Filippovka. This is evident by the numerical value of the sets of stags and their combinatory patterns.

The Sequence 5–8–13

The antlers of the Filippovka stags are spiral in form. Their very shape may be correlated with, or reflected in, the peculiar numbers of stags in the sets 5–8–13. The fact that 13 is the sum of the two preceding numbers, 5 + 8, suggests the possibility that the underlying ideal proportions of the spirals are determined by what is well known in design and art history as the Fibonacci numbers. These are the series defined as the set of numbers each of which, after the second, is the sum of the two preceding numbers, thus (1–) 1–2–3–5–8–13–21–34–55, and so on. In practical terms, when a continuous curve is drawn with the approximately proportional diameters of these successive numbers, there appears a spiral that is also frequently found in nature.⁷² That is, the stags of Filippovka may encode a fundamental knowledge of proportions that occur in nature, though only in rough approximation as all such designs do.⁷³

This expanding natural pattern encoded

in the huge upward-spiraling, sail-like antler assemblies would seem to reflect spiritual ascent. Given that depictions of birds often mark a spiritual context, and particularly souls, this interpretation would seem to be supported by the bird heads in which the tines end. It is further supported by the

number of spiral antlers on the most elaborate stags, nine, the number that encodes the nine cosmic levels of ascent, as discussed above. Finally, these haunting antlers may additionally represent the swirls of the atmosphere, or even the swirls of the subterranean river through which the soul had to pass on its voyage before its rise.

The Four Sets of Stags

As indicated in the initial overview, the stags are arranged in sets that curiously match. While there are three sets by location, there are four sets when also considering their design.⁷⁴ Thus, some have gold foil on both sides, some have silver on the back. Some have antlers perpendicularly angled to the body, others not. And in some, the antlers end in small bird heads. There are also distinct differences in the care of execution. By these criteria, the four sets are uniquely defined as shown in Table 4 (fig. 20).

The Number 5

The sets of five stags may represent a number of traditional cosmic patterns, specifically the cosmic center and the four cardinal points. In particular, the five most elaborate stags at the burial chamber could also stand for the closest companions of the deceased. To stay with documented narrative mythology, the quincunx referred to could have been the five traditional tribes in Iranian tradition, the Airya, Tūrya, Sairima, Sāini, and Dāhi,⁷⁵ of which the term *Sairima* is the Avestan plural form of *sarma-ta*, “Sarmatian-s.”

The Number 8

There are two sets of eight stags. The number 8 is reflected in the eight stags around the crown of the Parthian king Phraates, mentioned above. Those eight royal attendants are reminiscent of the eight spies of Mithra, which in his hymn are said to be at every height watching out for the contract-breakers (Yasht 10, 45). Those eight ever-watching spies also reflect the eight directions constituting a double cross, combining the upright cross of the four cardinal directions and the oblique cross

Table 4.

Number	Gold*	Angled	Birds	Care	Location
5	+	+	+	+	burial chamber, left
5	+	+	-	-	treasure pit 2
8	-	-	-	-	treasure pit 2
8	-	-	-	+	treasure pit 1

*gold = gold only

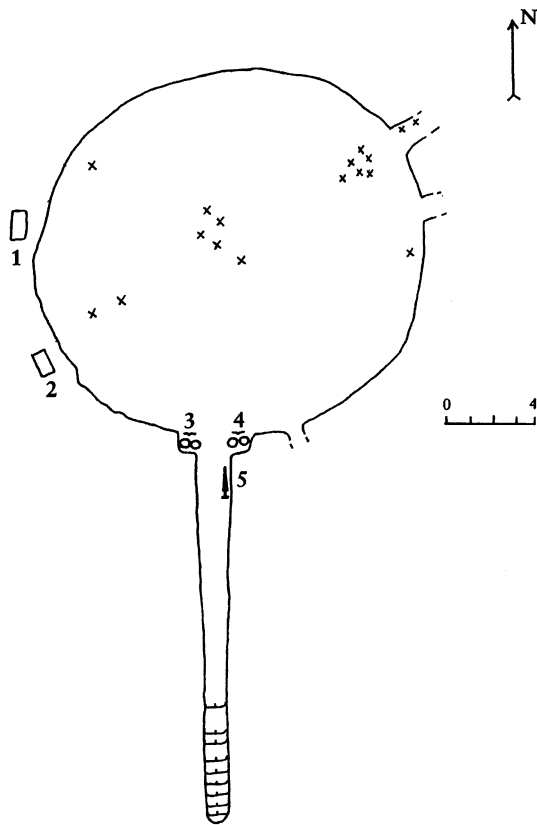


Figure 20. Plan of the central kurgan of Filippovka, showing the locations of the sets of stags, 4th century B.C. After New York 2000–2001, p. 24, fig. 27

of the four intermediate directions. In its social aspects, 8 has the numerological significance as a round, complete number and unit, whether a family of eight members or a period of eight days, which is found particularly in northern Iranian traditions.⁷⁶

Eight is also the number of priests at the high seasonal services of Zoroastrianism, a pattern that corresponds to the symbolism of the eight trigrams in Chinese Daoism. The likelihood that ritual references are implied is reinforced by the fact that the main kurgan at Filippovka is oriented due south, as are the ritual precincts in both Zoroastrianism and Daoism.⁷⁷

Combinatory Numbers 10, 13, and 16 and the Zoroastrian Calendar

In addition to the multiple coding explored so far, the arrangement and structure of the sets of stags may also encode specific times of the year, if not specific days, that are related to the ritual at Filippovka. As suggested above, the gold foil may indicate months, and the silver foil day-night units, which may also be encoded in the gold- and silver-shod coursers hailed in the hymn to Mithra.

Thus, there are two subsets of five stags. Both are defined by two features, gold foil on both sides and the perpendicular orientation of the antlers relative to the body. Similarly, there are two sets of eight stags. They are also defined by two features that distinguish them from the other two, silver foil on the back and antlers aligned with the plane of the stag body.

The sum of the two subsets with all gold foil is $5 + 5 = 10$; the sum of the two subsets with gold and silver foil is $8 + 8 = 16$. Exactly these numbers define the location of Mithra in the Zoroastrian calendar: Mithra is the guardian of the tenth month after winter solstice, which is the month of the fall equinox. He is also the guardian of the sixteenth day of each month, and thus of the day of Mithra in the month of Mithra.⁷⁸

This position of Mithra in the calendar, thus defined by the numbers 10 and 16 of the two subsets, reinforces the symbolism of the total number of stags, twenty-six, as a

half-year, as suggested above. Both point to Mithra's seat at the autumn equinox, and his guardianship of the winter half of the year.

By a different calculation, there are two sets of $5 + 8 = 13$. That number could encode the thirteenth day of each month, which is guarded by the star Tishtrya, "Sirius," the "arrow star" discussed above. Like Mithra, Tishtrya is also the guardian of a month at a cardinal point of the year, the month of the summer solstice. Moreover, Tishtrya has likewise a major Avestan hymn dedicated to him, Yasht 8. Significant in the context of the present exploration is the fact that Tishtrya's hymn alludes to the Iranian champion archer Erekhsha. It was he whose superhuman shot once determined the boundaries of the Iranian lands against the lands of the Turanian tribes in the north, a sacrificial feat that also exhausted the archer's life spirit.

SEASONAL FESTIVALS AND FUNERARY RITUAL: THE MITHRAKĀNA AND TĪRAKĀNA FESTIVALS

The two days specified by the two calculations demonstrated above do not only encode the calendrical positions of Mithra and Tishtrya, but they also encode two ancient Iranian festivals. The thirteenth day of Tishtrya in the month of Tishtrya is the Tīrakāna at summer solstice, which celebrated both the mythical archer and the promise of the reviving rains.⁷⁹ The sixteenth day of Mithra in the month of Mithra is the Mithrakāna at the autumn equinox.

On the day of Mithrakāna was celebrated the victory of the greatest Iranian hero, Thraētaona (Persian: Fereydun) over the usurper of Aryan lands, the mythologically humanized dragon-serpent Azhi Dahāka (the constellation Hydra). This festival was also seen as foreboding the resurrection and the end of the world, as still reported around 1000 B.C. by the polymath and polyhistor Biruni, who hailed from Khwarezm on the southern shores of the Aral Sea.⁸⁰

Biruni also reported a peculiar difference of the day on which the Mithrakāna was celebrated in Khwarezm. It was not the sixteenth

day of the month of Mithra, as in Iran proper, but the thirteenth day.⁸¹ Exactly this date thus may be reflected in the sets of the stags of Filippovka, as it combines the two numbers of sets, the 10 and the 13, for months and day-nights, respectively, a date that may have marked the conclusion of the funerary rituals at Filippovka. In fact, in Iranian tradition, the three-month period between the summer solstice and the autumn equinox corresponds to the period of the extended fight, described in the hymn to Tishtrya, between that star and the demon of drought, Apaosha, ending in the coming of the rains.⁸²

Thus, in the context of the funerary rituals for the deceased ruler at Filippovka, both the summer and the autumn festivals, if indeed numerically encoded in the sets of stags, would well correlate with the mythology attached to the two, one with its celebration of the feat and fate of the mythological archer, the other with its celebration of the victory of the ruler over the cosmic enemy, the dragon-serpent, and with its foreboding of the resurrection.

Seasonal Festivals and Funerary Ritual: The Number of Filippovka Stags and Hittite Funerary Ritual

There is a noteworthy coincidence between the numbers at Filippovka and specific stages in Hittite funerary ritual. Only thirteen days are known to be documented by text, although there may have been more. Thus, the eighth day of the Hittite ritual was devoted to procuring the “meadow,” represented by the turf piled on the tomb and the mound.⁸³ The twelfth day was the ritual of “cutting off the vine stalk.” This Hittite vine stalk is reminiscent of the twelve-tipped vine stalk held by the enigmatic seated figure in front of the rider on the felt hanging at Pazyryk. The thirteenth day of the Hittite ritual was devoted to making more than thirty bird figurines: ten were made of dough, ten of wood; ten were made of wood covered with silver foil, and five with gold inlays on their heads.⁸⁴ These Hittite birds would seem to encode a numerical and spiritual symbolism similar to that of the

Filippovka stags with their sets of $5 + 5 = 10$ bird-headed stags in gold foil, and $8 + 8 = 16$ stags in gold and silver foil.

THE SYMBOLISM OF THE KURGANS

Kurgans are an archaic Indo-European tradition that dates back to the fourth millennium B.C. Linguistically, their antiquity is evidenced by the fact that there is a common Indo-European term for them, **weru-*, and other variants derived from the root **wer-*, “to enclose, cover, protect,” in a good number of Indo-European languages. These include Greek *ἔρλον*, “tumulus”; Albanian *varr*, “grave”; Old Irish *fertae*, “burial mound closed with stones”; and Old Norse *warru*, “stone circle around a grave.”

The Iranian variant is *wara*, which is the designation of the underground enclosure that Glorious Yima, the ruler of the Golden Age in Iranian mythical history, built.⁸⁵ From there he will return with his people to repopulate the devastated earth in the final millennium, according to the myth that reflects the optimistic Iranian beliefs in temporary paradise and the final transfiguration of the world at the end of the cycle of the Great World Year of twelve millennia.

It is widely recognized that kurgans of the elite, more ostensively than the graves of common people, reflected a fairly universal cosmological view of the world, essentially the image of the circular, three-layered cosmos and cosmic mountain, shielding a central enclosure.⁸⁶ Thus, the erection of a kurgan is not only a demonstration of power and authority but must also be looked at as an extended spell, a spell that anchors the particular artifact and its owners within the cosmos. As such, the kurgan is a prop and conduit to the spiritual and supernatural world and functions as both closure and rallying point for those living in this world. In the following it is argued that the layout and orientation of the kurgans at Filippovka suggest just such elaborate spatial and numerical symbolism. This becomes more apparent when seen together with the specific distribution of the sets of stags, which

may be related not only to the cosmos but also to the calendar, both being complementary.

The underlying cosmic design of the main kurgan at Filippovka suggests three concentric rings: (a) the outer ring of the periphery; (b) the hidden interior circular mound; and (c) the circular central chamber. Given the east-west diameter of 120 meters, the relative thickness of the rings appears to follow the proportions $[3 : [2 : [1 + 1] : 2] : 3]$, with the unit being about ten meters. Just as the design may horizontally represent the Earth, with the supreme chief's citadel, or tent, in the center,⁸⁷ so the three concentric circles may vertically represent the three hemispheres of the Earth, the Atmosphere, and the Sky (or Earth, Sky, and Heaven), their relative sizes reflecting Zoroastrian notions of the relative thickness of these cosmic layers.⁸⁸

Further cosmic symbolism becomes apparent when the modern measure of the meter is taken as the approximate equivalent of three feet, the old manner of measuring sacred spaces. Accordingly, the proportions of the three circles are $[90 : [60 : [30 + 30] : 60] : 90]$, with the total of 360, which itself reflects the year.⁸⁹

Cosmic Orientation and Sacred Space

The central axes of the main kurgan are oriented exactly north-south and east-west, as defined by the entrance passage to the south and by treasure pit 1, directly west of the burial chamber. The kurgan's axes thus point to the four corners of the world (see fig. 4). This basic orientation may once also have been reflected by the four huge festive cauldrons in the central burial chamber, perhaps arranged around the bronze stag-topped pole in the center.

The angle of the two treasure pits relative to each other may also be significant. Measured from the center of the kurgan, the angle is a span of some thirty to forty degrees, which, together with the pits' western location, may physically encode the thirty days of the month of Mithra at fall equinox. In the funerary rituals, the western location of the two treasure pits with their plethora of drinking vessels would be eminently appropriate for the drinking ceremonies of closure. This is so

because in Iranian tradition, the celebration of the fall equinox was, according to Biruni, the one occasion in the year when the king was ritually bound to get drunk.

Turning to the north-south axis, the orientation of the *dromos* to due south from the central chamber would point to the summer month of Tishtrya, the arrow star. If the funerary rites began during that month, it can be imagined that ceremonial archery competitions were performed here at summer solstice.

Following this pattern of terrestrial and calendrical analogies, the five most elaborate stags at the door to the burial chamber would symbolize the celestial center. That is, they would represent the North Pole, which is the traditional seat of the ruler (the North Pole may have been represented by the stag-shaped pole top in the burial chamber). Specifically, they may have been intended to represent the circumpolar, never-setting, and steadily turning Great Wagon (Ursa Major). They would thus be the celestial correlate of the wagon on which the deceased Scythian ruler made his round among the tribes—according to Herodotus,⁹⁰ for forty days, that is, 5×8 .

The Central and Companion Kurgans

Although it is possible that the twenty-four companion kurgans at Filippovka were randomly added at different times, a close look shows that the subset of kurgans to the north of the central kurgan is roughly arranged in the form of a semicircle. Seen together with the central kurgan, from which they are separated by considerable distance, they appear to reflect a specific design (see fig. 3). When a continuous line is drawn through those kurgans, it traces an uneven curve reminiscent of the shape of a bow. The curve is crossed by an arrowlike line, which links the central kurgan (no. 1), through the pair of kurgans in the middle (nos. 21–22), to the northernmost kurgan (no. 17) (fig. 21). The tip of this “arrow” (no. 17) is slightly shifted west. This could be a flaw in the execution of the design. However, it may reflect fairly accurately Mesopotamian and Chinese representations of the relative

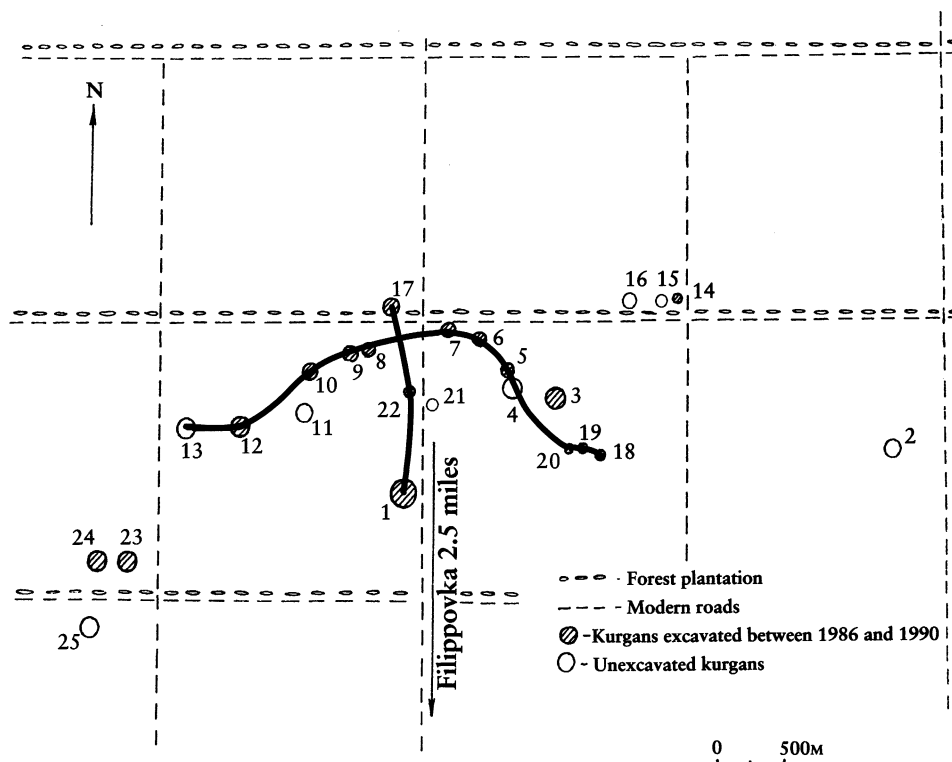


Figure 21. Bow-and-arrow pattern reflected in the distribution of the kurgans at Filippovka, 4th century B.C. After a copy of the excavator's draft of July 1999, p. 18

positions of the stars of the ancient celestial Bow and Arrow—the constellations Argo and Canis Major, and the arrow of Sirius, which, as mentioned, is aimed at Orion (fig. 22a–b).

Those constellations, if intended, would complement the symbolism encoded by the stags. In addition to its other referents, this unique Filippovkian representation of Bow and Arrow, aimed at the North Pole, would also be the material manifestation of the Sarmatians themselves, whose name probably derives from **saru-ma(n)t*, “having swift arrows.”

Cosmic Alignments

The layout of the kurgans at Filippovka may be explored not only in terms of cosmic representation, but also in terms of archaeoastronomy. It may not be too farfetched to assume that some of the smaller outlying kurgans served for alignments to the seasonal risings and settings of the Sun and the Moon or of a

particular star such as Sirius. In that case, there would have been specific alignment markers, as at Stonehenge, which is the best-known example for archaeoastronomy. Likely candidates for pinpointing would be stelae or effigies, which in fact were once placed on top of kurgans. By coincidence, the latitude of Stonehenge in England ($51^{\circ} 30' N$) is about the same as that of Filippovka ($51^{\circ} 19' N$) and also of the magnificent kurgan at Arzhan in Tuva, southern Siberia, which is only a fraction higher in latitude ($52^{\circ} 4' N$).

In this context, it should be noted that the suggested cosmic alignments and dating at Filippovka have two significant parallels in Iranian tradition, both related to Darius I. One is the terrace of the ceremonial capital of the empire, Persepolis, in Fars. As discovered by Wolfgang Lentz and Wolfhard Schlosser, Persepolis' northeast-southwest axis is aligned with the sunrise at the summer solstice and

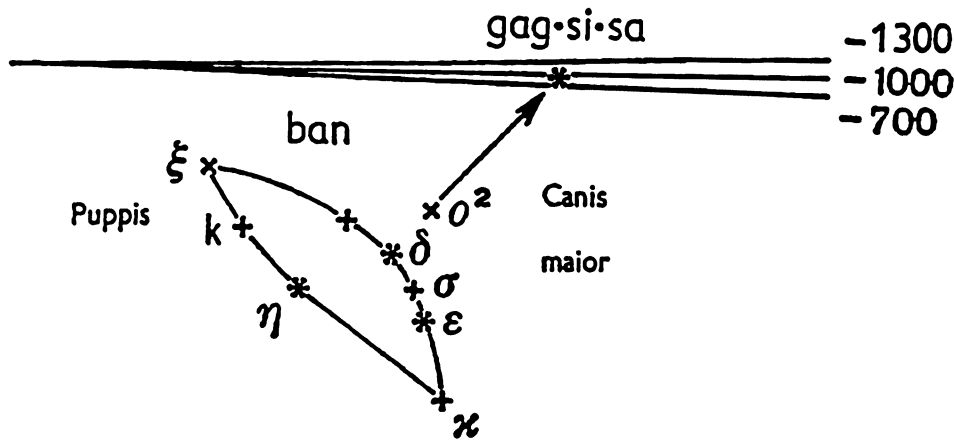


Figure 22a. The Mesopotamian constellation of Bow and Arrow (^{mul}BAN and ^{mul}KAK.SI.DI, or gag.si.sa), as reconstructed on the evidence of astronomical cuneiform texts; gag.si.sa/KAK.SI.DI is Sirius, the “arrow star.”

with the rising or setting points of the bright stars Sirius in Canis Major, Antares in Scorpio, or Mira in Cetus.⁹¹

Due west is the orientation of the rock face chosen for Darius’ relief and trilingual inscription at Bisutun, which is strategically placed at the transition from the Iranian highlands to the Mesopotamian lowlands. The relief shows the king, bow in his left hand, in front of nine captive rebellious tribal leaders, and the inscription tells of the slaying of the usurper Magus Gaumāta, “the Bull-sized,” on the tenth day of the month of Mithra at the autumn equinox. The inscription is appropriately embellished by a cleverly hidden calendrical numerology. Thus, the boast of Darius that he vanquished his opponents within “one year” occurs exactly in paragraph 52, which is 2 x 26.⁹²

Although these monuments thus provide antecedents to the possible alignments of the kurgans at Filippovka, there is no known parallel for the kurgans’ possible function as a bow-and-arrow cosmogram.

CELESTIAL OBSERVATIONS DURING THE CEREMONIES

The suggestion that the conclusion of the funerary rites at Filippovka coincided with the

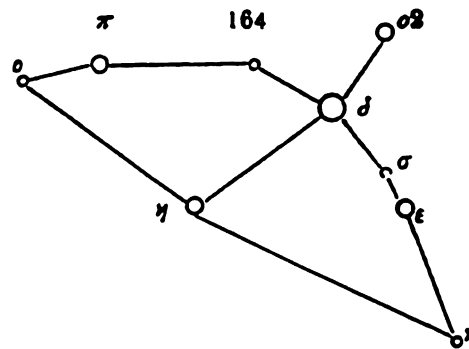


Figure 22b. The Chinese constellation built up by the same stars. In China, however, the arrow is shorter; Sirius is not the tip of the arrow, but the target: the celestial jackal T’ien-lang. After Panaino 1990–95, vol. 2, p. 49, pls. 4–5

autumnal festival of Mithrakāna seems to be supported by those constellations that the mourners at Filippovka must actually have seen (latitude 51° 20’; longitude 54° 07’; elevation 150 meters). If we assume observation during predawn between 4 a.m. and sunrise around 450 B.C., the following stood in the night sky and may elucidate some of the much-debated symbolism in Roman Mithraism as well:

In the **East** (fig. 23), there shines in rampant position the huge royal constellation Leo, while below it the Sun in Virgo is about to rise. In the **North** (fig. 24), the huge north-polar “imperial” constellation Draco hangs head down; high above it Ursa Minor points to the Pole Star. In the **South** (fig. 25), Canis Major, marked by the brightest star of

Figures 23–26. Constellations in the four cardinal directions as seen during predawn at Filippovka around the autumn equinox in 400 B.C. Produced with The Sky © Astronomy Software 1984–1998. I thank my colleague, the astronomer Professor Gunther Elste, for his kind assistance.

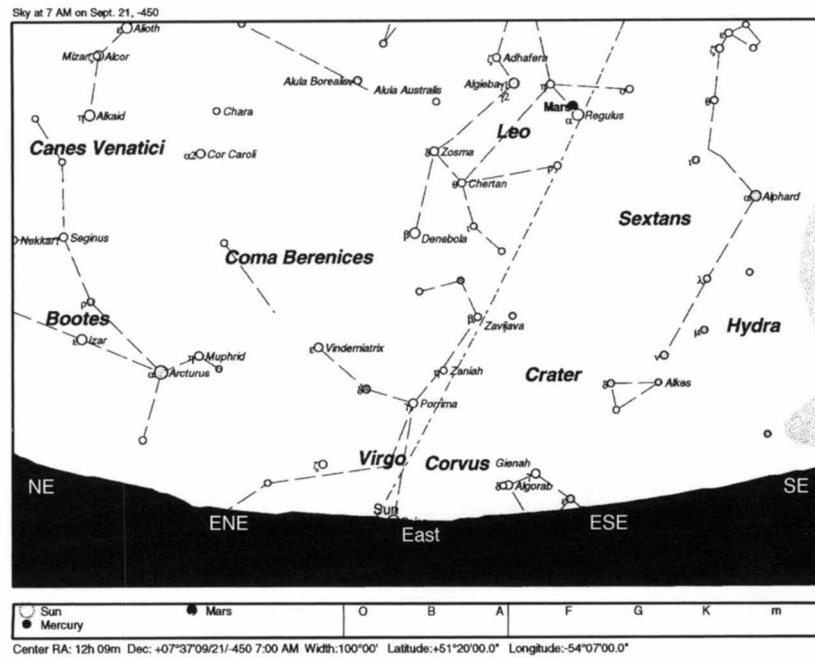


Figure 23. East

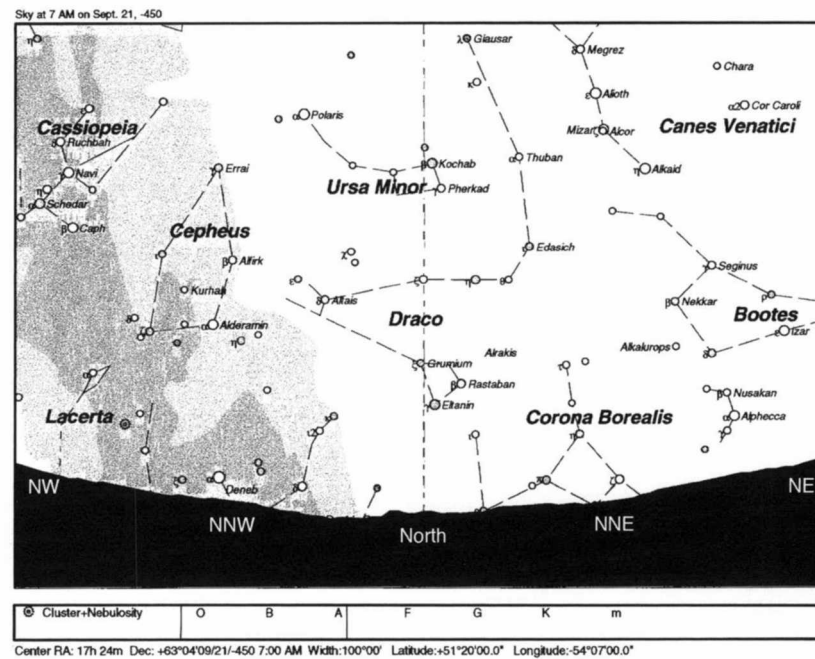


Figure 24. North

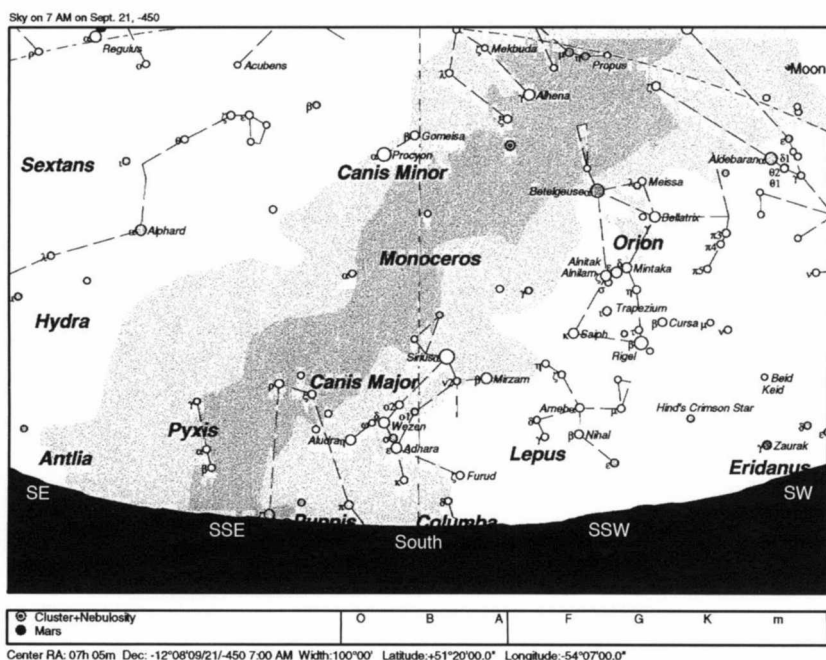


Figure 25. South

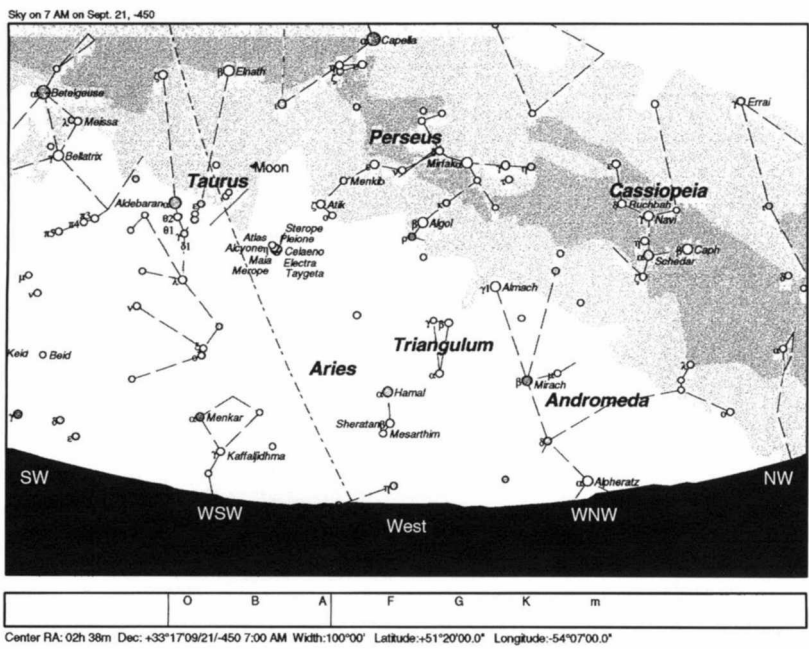


Figure 26. West

all, the arrow-star Sirius/Tishtrya, stands upright; high above it is Canis Minor on the other side of the Milky Way. In the **West** (fig. 26), Aries stands above the horizon; high above it is the mighty warrior Perseus.

The crucial scene appears to be the one in the quadrant between the south and the west (figs. 25, 26). There, moving slowly westward from south-southwest is huge Orion, the Hunted Hunter. He aims his bow and arrow at the head of the Celestial Stag (Taurus) in the southwest, whose long antlers (horns) stretch far up, while the full Harvest Moon, or rather Hunter's Moon, shines on their right (assuming that the ritual culminated at full moon).

It appears that even the relative positions of Orion to the southwest and of Taurus in the west-southwest of the predawn sky are reflected in the central kurgan: looking to the west from the center of the burial chamber, the two treasure pits are aligned with Orion and Taurus, respectively. Due south, the exit of the *dromos* is aligned with Sirius/Tishtrya and Canis Major (fig. 27).

It is possible that this slowly moving celestial scene was perceived as the celestial confirmation of the end of the ritual feast and feat. The deceased chief, represented by

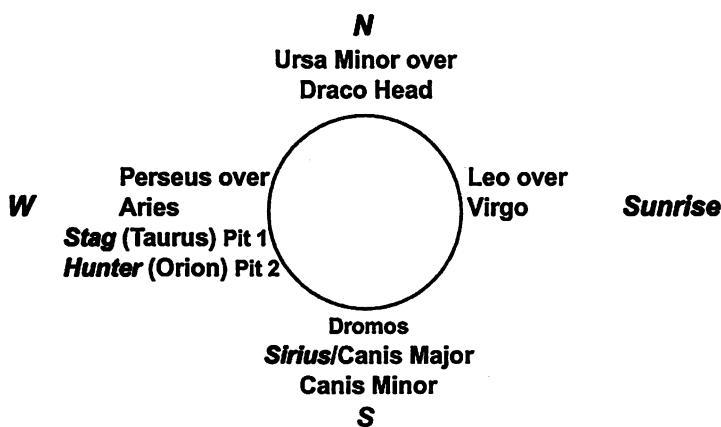


Figure 27. Schematic diagram of the predawn constellations at Filippovka, September 21, 450 B.C., superimposed on kurgan I

Orion hit by the arrow of Sirius/Tishtrya (the three stars of Orion's belt), has arrived. He is shooting his arrows at the Celestial Stag (Taurus) on the western celestial hunting grounds, as both are slowly setting and vanishing in the rays of the Sun rising in the east.

CONCLUSION: FILIPPOVKA AND MITHRAISM

Already in 1922, Michael Rostovtzeff could make the following remarks about the Sarmatians who had taken hold of the areas of southern Russia: "The excavations in the Kuban barrows, the great find of Novochechensk, the gold plaques from Siberia, the discoveries in the Ural steppes, showed for the first time that the Sarmatians were by no means barbarians. Iranians like the Scythians, they brought a high culture along with them, and adopted elements from Greek and Greco-Scythian civilization."⁹³ Rostovtzeff's insight has since been proved manifold. The preceding exploration is a contribution not only to the sophistication of the artistic culture of the Sarmatians of the southern Ural steppes, but also to the intellectual-conceptual and social framework of which it is part. The conclusions suggested here are tentative. But exactly because clues were taken from different pieces of evidence that mutually corroborate one another, the overall conclusion—that the kurgans of Filippovka, the artifacts, and the funerary rites provide a glimpse at a unique culture in which Achaemenid Iranian elements have been splendidly integrated—may be considered valid.

One of the unexpected conclusions is that the kurgan and the stags presuppose knowledge of the Achaemenid Zoroastrian calendar. That this may have been the case is not unlikely, even though there are no written documents at Filippovka and nothing is known about the Sarmatian calendar. The Zoroastrian calendar was established around 450 B.C. and was adopted throughout the empire, in the west in Cappadocia and Armenia, and in the east in Khwarezm, Sogdiana, Bactria, and Sistan.⁹⁴

One pervasive aspect is the many features that could be shown to have a close

relationship to what is known about Mithraic lore and art. Of course, this Mithraic element does not imply a single unified system, but a multitude of beliefs and their representations attached to the Iranian god known as Mithra. His focal aspect was that of guardian of the social and cosmic contract and of measurer of boundaries and allotted time. Rostovtzeff observed the following with regard to Scythian, and later Sarmatian, Mithraism in southern Russia: “This Iranian world is the pre-Zoroastrian one which disseminated the cults of Mithra and Anaitis [i.e., the goddess Anahita], the two Iranian divinities who exerted a potent influence on the classical civilization of Hellenistic and Roman times.”⁹⁵ It appears that at least those who erected the kurgans of Filippovka, and celebrated their deceased ruler, had intimate knowledge of Achaemenid culture. The contemporary Achaemenid ruler Artaxerxes II had indeed reintroduced Mithra and Anahita into the official pantheon, within the conceptual framework of Achaemenid Zoroastrianism.

EPILOGUE

The circular, three-level structure of the central kurgan at Filippovka may thus reflect the intersecting wheels of the Mithraic Sun and Moon, which symbolize the allotment of time.⁹⁶

Echoes of the funerary ceremonies are hinted at in two well-known episodes in classical Persian literature. In that tradition, the favorite game animals for the royal hunt were the gazelle and the onager. Their supernatural function is best known from the story of the death of the Sasanian king Bahram Gur (r. 421–39). During a hunt, he was led by his game animal into a cave, where he vanished in a watery pit. The animal differs according to author. It is an onager in the *Shahnama* (Book of Kings), the monumental Iranian heroic epic written by Firdausi (935–ca. 1020–26), who hailed from Tus in northeastern Iran; but it is a gazelle in the *Hafī Paykar* (“Seven Images”) epic (completed 1197), by Nizami Ganjavi in the

southeast Caucasus, whose mother tongue was Azerbaijani Turkish.

The other story is that of the mythical Kay Khusrau, the last of the long line of Kayanian kings, who was half Iranian and half Turanian (Central Asian). It is likewise told in the *Shahnama* of Firdausi.⁹⁷ Advanced in age, Kay Khusrau recognized that his deeds were done. After putting the realm in order and having appointed the newcomer Lohrasp (whose son Goshtasp would be the first protector of Zoroaster) to the throne of Iran over all other nobles, he rode toward a “mountain.” He was initially accompanied by many mourners, then by a small group of riders. Finally, his closest five paladins remained with him. They rested at a “well,” had a meal, and slept. In the morning, the king was gone, and the five paladins, not unlike the five stags at the door of the burial chamber at Filippovka, vanished on the mountain in a freak snowstorm that had been predicted by Kay Khusrau.

1. The main points of this paper were first presented at the international symposium held at The Metropolitan Museum of Art, New York, October 12–13, 2000, in conjunction with the *Golden Deer of Eurasia* exhibition. I thank Ann Farkas for inviting me to participate in this search for meaning in the art and artifacts of the Eurasian Iranians, and for the delightful and inspiring exchange of ideas. Shortcomings and errors remain my own.
2. Farkas 2000, p. 6.
3. The Achaemenid items found are as follows: burial chamber, quiver clasp (New York 2000–2001, no. 16, pp. 86–87); entrance way to the burial chamber, six Achaemenid bridle pieces (*ibid.*, nos. 10–12, pp. 83–84); treasure pit 1, one silver vessel (*ibid.*, no. 19, pp. 88–89); treasure pit 2, one gold amphora, two silver rhyta, and various handles (*ibid.*, nos. 93–95, 101, pp. 152–56, 164).
4. Farkas 2000, p. 6.
5. Pshenichniuk 2000, p. 30.
6. Marsadolov 2000, pp. 51–52.
7. Farkas 2000.
8. McMahan 1991.
9. Green 1995, p. 162.
10. Olbrycht 1997, pp. 46ff.
11. Jettmar 1964, p. 233, pl. 53.
12. Vainberg 1994.

13. Nelson 1993.
14. Jones 1983, with pls. XVII–XXI.
15. Harper 1978, pp. 12–23, 34–35, 116.
16. Merkelbach 1984, pp. 31ff.
17. Cumont 1975, p. 188; for a recent discussion of the Mithraic hunt at Dura-Europos, see Bivar 1998, pp. 48–49, fig. 1; cf. also Harper 1978, p. 34. There is a second similar fresco at Dura.
18. In treasure pit 1; see New York 2000–2001, pp. 95–96.
19. E.g., Harper 1978, fig. 4.
20. For the seeming exchangeability of bull and stag, cf. Bivar 1975, pp. 98–99; but see discussion below.
21. Gershevitch 1959, pp. 136–37.
22. For this royal fortune, cf. the section “Das Farnah in der Religion der Sarmaten und der Osseten,” in Litvinskii 1972, pp. 273–82.
23. Although it is unlikely that the seven-day week was used, the Zoroastrian month is divided into four sections of 8 + 8 and 7 + 7 days.
24. In his early “Indian” variant, Mitra is first mentioned in northern Mesopotamia of the fourteenth century B.C., in a Mitanni oath to the Hittite king. In Iran, Mithra was the major pre-Zoroastrian deity, and his name is one of the most frequently found in Old and Middle Iranian personal names. Adapted to Zoroastrianism, he became a major deity in that religion, as reflected in his Avestan hymn. Later, forms of Mithraism evolved on both ends of the Iranian world, in the east in Central Asia and northwestern India, and in the west in the Roman empire, where Mithraic Mysteries appeared in the first century B.C. in Cilicia (eastern Anatolia) and, with the Roman armies, spread throughout the empire, including the British Isles.
25. Farkas 2000, p. 13.
26. Harva 1938, p. 517, fig. 82; see also pp. 516–18.
27. *Ibid.*, pp. 547–57, fig. 104.
28. New York 2000–2001, no. 140, p. 197; New York–Los Angeles 1975, p. 100, pl. 3; Artamonov 1966, pls. 62–64.
29. Schiltz 1994, p. 159; New York–Los Angeles 1975, pp. 100, 111, pls. 9, 15; Artamonov 1966, pls. 264–265.
30. On the number 9 in eastern Iranian contexts, see also Kaegi 1891.
31. After Sarianidi 1986a, p. 59. See also Parpola 1994, p. 150, fig. 8.18, which includes a detailed discussion of the cultural and cosmological context of these structures with three concentric circular walls.
32. Roes 1933, pp. 100–114; drawing fig. 98.
33. Richer 1994, pp. 149–50, fig. 44; cf. also p. 291 n. 10.
34. About fifty miles southeast of Berlin; cf. Bothmer 1975, pp. 153–55, fig. 2.
35. Merkelbach 1984, pp. 342–43, fig. 101.
36. Cf. Schmidt 1953, pp. 136–37, 226–27, pls. 114–117, 144–146, 195–196.
37. Hartner 1965, p. 3.
38. Landseer 1823, p. 7.
39. <http://www.sacred-texts.com/bib/jps/eze001.htm>.
40. Ravenshaw 1856.
41. Plunket 1903, pp. 64ff., pl. IV.
42. *Ibid.*, p. 64. Plunket’s findings are summarized in Sesti 1991, pp. 362–63.
43. For the latter, Plunket refers to Ker Porter 1821–22, vol. 1, p. 672.
44. Plunket also suggested that another composite animal, the griffin so widely found in ancient art, may have represented the solstitial axis of Leo and the eagle. The latter constellation, with first-magnitude Altair, functioned as a substitute for Aquarius, which lacks a first-magnitude star, while Fomalhaut in Cetus is too far south to be easily visible from more northern latitudes.
45. Maunder 1909, pp. 166–67.
46. <http://www.pbs.org/wgbh/pages/frontline/shows/apocalypse/primary/bdaniel.html#11>.
47. Ackerman 1964 (1938).
48. Ackerman does not refer to Plunket.
49. Ackerman also suggested that the configurations of animals and other objects on at least some seals and artifacts may be commemorative, pointing to a particular celestial configuration at a particular time of the year and perhaps date; a prominent Mithraic example is the lion relief at Nimrud Dagh in eastern Anatolia, which encodes the year 62 B.C.; cf. Merkelbach 1984, p. 272, fig. 13. It is tempting to apply this possibility to the five, eight, and thirteen stags at the three locations at Filippovka. In that case, these multiplex figures could point to month 5 (counting from the winter solstice), day 8, and year 13. If we assume the period of Artaxerxes II, the date would be April/May in the year 404–13 = 391 B.C., perhaps dating the death of the Sarmatian royal at Filippovka.
50. Erlenmeyer 1956–57.
51. Herzfeld 1988 (1941).
52. Wiggermann 1992, pp. 141–88.
53. Root 1990, pp. 122–25.
54. For a Mithraic example, cf. Merkelbach 1984, p. 340, fig. 98.
55. Hartner and Ettinghausen 1964; Hartner 1965; Kuz’mina 1987.
56. Klein 1976.
57. Aelian, *On Animals* 2.16.
58. Kuz’mina 1987 interprets all combat scenes at Persepolis (and in fact wherever else such scenes may be found) as substitutes or equivalents of the Leo-Taurus = spring-autumn = life-death life cycle scenario, whatever the animals may be, and whatever shape and form, composite or not, they may have. She apparently took the initial clue for her cosmological interpretations from the groundbreaking article by Hartner and Ettinghausen (1964) on the pervasive lion-bull combat theme at Persepolis.
59. Hunger and Pingree 1999, p. 270.
60. Allen 1963, p. 318.
61. *Ibid.*, p. 389.
62. *Ibid.*, pp. 309–10.
63. Harva 1938, pp. 193–94.

64. Santillana and Dechend 1969, pp. 166, 357–58; Dunlap 1997.
65. For the latter, cf. Richer 1994, p. 114, among others.
66. Allen 1963, pp. 126, 306.
67. See Tilak 1893, pp. 143–44; Modi 1922, pp. 59–61.
68. Rudenko 1970, p. 275, pl. 154, p. 30.
69. For the spiritual *hauma*-priest identified with the constellation Orion and the spiritual bridge/ford, see Windfuhr 2003, with sky map.
70. Santillana and Dechend 1969, pp. 294–95, 450.
71. Cf. Boll 1967, pp. 473, 475.
72. A simple demonstration is to draw a baseline with the length of one of these numbers and successively add lines with the lengths of the next numbers at a right angle clock- or counterclockwise. For example, lilies have three, buttercups five, delphiniums eight, ragworts thirteen, and asters twenty-one petals, respectively; seeds in sunflowers, daisies, and pinecones form Fibonacci spirals, as do the leaves of many plants in their arrangements around their stems. See Dunlap 1997; Livio 2002; also, the Internet site of Dr. Ron Knott, <http://www.mcs.surrey.ac.uk/Personal/R.Knott/Fibonacci/fibnat.html>.
73. There may be further implications. The ratio of consecutive Fibonacci numbers ($1/2$, $2/3$, $3/5$, $5/8$, $8/13$) approaches the golden ratio or section, $1/1.618$. This number is called *phi* after Phidias, the architect of the Parthenon, who may or may not have applied those ratios, such as $5/8$, to achieve what are known as golden rectangles, approximations to which are found in architecture from Stonehenge and the pyramids to modern structures. Moreover, this ratio also defines the ratio of the triangular rays to the diameter in the pentagon, the ancient symbol of the five-pointed star. It is thus possible that the builders of Filippovka were aware of both the regenerative meaning of this number sequence and its relation to the pentagon and encoded both through the stags, with a focus on the 5 of the burial chamber.
74. The categorizations of the sets follow Pshenichniuk in the original rough translation of his contribution to *The Golden Deer of Eurasia*; see New York 2000–2001, pp. 26–27.
75. Yasht 13.143–44, the Avestan hymn to the Frawarti-, the forebears and protective spirits.
76. See Nachuzrshvili 1995.
77. See Windfuhr 2004.
78. In the Zoroastrian calendar, each day and each month is assigned a tutelary spiritual being, *yazata*; cf. Boyce 1984, p. 19, for ready reference.
79. Around 400 B.C., this festival of Tishtrya was celestially announced by the heliacal (predawn eastern) rising of Sirius, which marked the Sun's entrance into the royal constellation Leo and coincided with the period of greatest heat; see Allen 1963, p. 126. The criticism by Krefter (1973) is irrelevant to the issue of the monument's orientation.
80. Biruni 1979, pp. 207–8. Also on this day, Ahura Mazda spread out the Earth and created the bodies for the souls and created the Moon in her splendor.
81. *Ibid.*, p. 224; for the Khwarezmian calendar, cf. Panaino 1990, p. 666, and Livshits 1968.
82. Cf. Panaino 1990–95, an exhaustive study of Tishtrya/Sirius in Iranian and Mesopotamian traditions.
83. Herzfeld 1988 (1941), p. 257. For the turf piled on the tomb as the spiritual meadow, cf. Rolle 1979, vol. 1, p. 42.
84. Otten 1958; Kassian, Korolev, and Sidel'tsev 2002. See also Ann Farkas, "Afterword," p. 210, in this collection.
85. For the elucidation of the three-layered structure of this *wara*, cf. Steblin-Kamenskii 1995, with important references.
86. Ol'khovskii 1999, p. 127.
87. For the interpretation of the circular design and its representation in Iranian structures, as elsewhere, cf. Brentjes 1981.
88. For a discussion of the structure of the Zoroastrian cosmos, cf. Windfuhr 1983.
89. The actual oval or ellipsoid shape may be accidental or conditioned by the terrain, or it may symbolize the close union of two circles with two close foci.
90. Herodotus, *The Persian Wars* 4.73.1.
91. See Lentz and Schlosser 1969; Lentz et al. 1971.
92. See Windfuhr 1994, p. 272.
93. Rostovtzeff 1969, pp. 13–14.
94. On the Zoroastrian calendar, see Panaino 1990; see also Blois 1996, and Blois and Sims-Williams 1996. For the extent of long-range relationships between Iran and the Eurasian nomads, documented by archaeological finds, cf. A. Alekseev 2000b; for early and continuing cultural and ethnic interrelationships between Khwarezm and the Ural regions, cf. Olbrycht 1998, pp. 22–23, and Vainberg and Iusupov 1992, p. 124.
95. Rostovtzeff 1969, p. 11; also, with reference to Rostovtzeff, cf. Scheffelowitz 1933.
96. An intriguing further line of research is the possible relation of the numbers of the stags with lunar cycles. If one includes the stag-headed pole found in the burial chamber, the total number of stags is twenty-seven. This is the traditional number of the monthly lunar stations, or mansions, the other ancient method of time reckoning, which is also well attested for both Sogdiana and Khwarezm. The fact that each of these stations is correlated with mythological or celestial entities, varying somewhat with the culture, may provide further clues for interpreting the stags of Filippovka.
97. Warner 1905–25, vol. 4, pp. 272ff.

8. Restoration of the Objects from the Filippovka Kurgans

In June 1998, the laboratory for the restoration of art objects in the Department of Scientific Restoration and Preservation at the State Hermitage, Saint Petersburg, received the Filippovka kurgan objects from the Museum of Archaeology and Ethnography, Ufa Center for Ethnological Studies, the research center of the Academy of Sciences, Bashkortostan. The condition of many objects from these kurgans was so bad that we doubted whether it would be possible to complete the conservation in less than two years.

The objects were divided into three groups on the basis of their condition and their restoration needs: swords with gold inlays and gold foil-covered decorations, wooden figures of deer overlaid with gold and silver



Figure 1a–d. Condition of most of the deer figures found at Filippovka prior to restoration. 1a: fragments of gold- and silver-foil overlay



Figure 1b



Figure 1c



Figure 1d

foil, and gold plaques and handles that were originally attached to wooden vessels, in addition to a variety of gold plaques meant for other purposes. Both swords were in poor condition: they had been broken into three parts and were almost completely mineralized; the gold inlay was obscured by corrosion. Removing the corrosion layers by mechanical means was complicated because the gold and the oxide salts of iron were of differing hardness.

In most cases, the deer were merely heaps of fragments of gold and silver overlays (fig. 1a–d). The internal wooden bases were often no more than large stratified fragments (fig. 2a–b). The deformed gold, silver, and wood suffered from layers of corrosion and contamination, which presented difficult conservation, ethical, scientific, and exhibition problems. Reconstructing five vessels on the basis of drawings by Anatolii Pshenichniuk, the chief excavator of Filippovka, also posed problems because not one wooden vessel, or even the merest fragment of one, had been found during the excavation.

PHOTOFIXING AND SCIENTIFIC RESEARCH

Photography was carried out at all stages of restoration to provide photographs and slides, and we also used computer-processed images obtained with a digital camera.

TECHNICAL ANALYSES

Microscopic taxonomic analysis of wood fragments allowed us to determine that the wood used for some stag figures was birch (*Betula sp*) and a combination of birch and willow (*Salix sp*).¹ Analytical tests (micro-chemical reactions, thin-layer chromatography, infrared spectroscopy) were performed on the soil layers and corrosion products on the surfaces of the wood and metal foils. Analyses of organic substances on the wood surfaces and connecting joints showed the remains of animal glue, which was used to join the wooden parts, and a mixture of gelatinous paste or egg white that cemented the gold and silver foil to the wood figures. Holes in the metal foil as well as in the wood were often filled with copper corrosion products, which suggests the use of copper nails to fasten the foil.

As a result of electrochemical reactions, soil corrosion, and the typical decay of base metals in ancient gold and silver alloys, the present amount of gold and silver in the foil is now great. The following corrosion products of copper, silver, and gold were found: copper and silver oxides, sulfides, carbonates, and chlorides; and gold trichloride, red in color (AuCl_3). The layer of soil on the metal plaques was a mixture of gypsum, iron oxide compounds ($\text{Fe}(\text{OH})_2$, Fe_2O_3 , $\text{Fe}_2\text{O}_3\text{H}_2\text{O}$, Fe_3O_4 —dark color, very hard), minerals, and quartz sand. The resin is a natural component of wood. Animal proteins were also present.

Microanalytic examination uncovered mold spores on the gold and silver foil. X-rays of the swords revealed inlaid gold beneath the layers of corrosion. X-ray-fluorescent analyses were performed to determine the composition of the gold on the swords and of the gold and silver foil covering the stag figures.

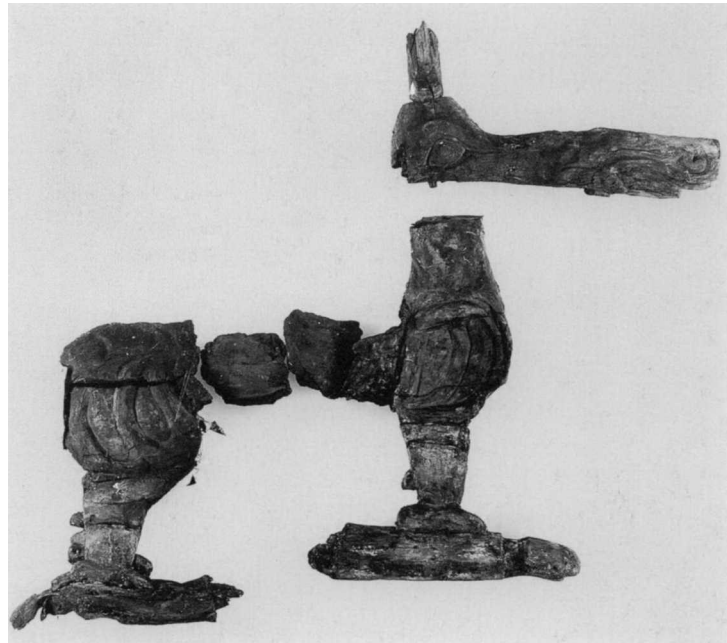


Figure 2a–b. Condition of wooden bases of Filippovka deer figures prior to restoration





Figure 3. Sword found at Filippovka, during the process of restoration (left) and after (right; reverse)

The results for the gold varied between 83 and 97 percent; for the silver, between 1 and 14 percent; for the copper, between 1.5 and 7 percent. The silver foil on the stags varied between 64 and 98 percent, and the copper, between 2 and 36 percent.

RESTORATION OF THE SWORDS WITH GOLD ENCRUSTATION AND GOLD FOIL

As previously mentioned, the swords were almost completely mineralized; the surfaces displayed blackening and disintegration; and corrosion and corrosion stratification had distorted the shapes of the swords and enlarged them. The restorers were instructed to remove the layers of corrosion and extraneous material obscuring the inlaid gold and to restore the weapons to their original shapes. When the swords underwent mechanical cleaning, it was difficult to remove the layers of corrosion, which were much harder than the overlaid gold. The stratified corrosion was removed with diamond and hard-metal alloy drills. Because of the danger of damage, cleaning was carried out on areas one to two millimeters square. The proportions of lost fragments were calculated on the basis of the blades' geometry and by comparison with related ancient weapons. A polyurethane model with the texture of the highly corroded iron was cast in a fourteen-centimeter-square piece. All parts were connected with an epoxy polyamide and were coated with a copolymer film (butyral) to strengthen weak areas and to prevent further corrosion of the iron and loss of the gold (fig. 3).

RESTORATION OF THE GOLDEN DEER

In many cases, the gold and silver foil was in pieces; cracks, tears, losses, corrosion stratification, especially in the silver foil, and deformation were present (fig. 4). The wood from which the bases of the stag figures had been carved was dried out and in a state of disintegration; deformations had resulted from the positioning of the figures and the pressure of earth on them. There was wide variation in the amount of wood preserved, from 70 to 80

percent² to less than one percent.³ Copper pins and bronze brackets were almost completely corroded. Some figures had been carved from a single piece of wood,⁴ whereas others had been carved in several parts that were then joined with pins or animal glue.⁵ Although most of the figures were severely damaged, we decided not to re-create them. The use of newly created wooden figures would have significantly facilitated the process of refastening the gold and silver coverings with bronze or copper nails by means of the original holes in the overlay, but such an approach would have entailed considerable guesswork and was considered unethical. Re-creation of the lost figures would also have precluded incorporating any preserved pieces of wood, and combining surviving fragments with new wooden parts would have fundamentally altered the qualities of the figures.

After removal of mold patches with an antiseptic, the pieces were matched and glued together over several months, a process complicated by the deformation of the metal foil and the desiccation of the wood. The gold and silver pieces often had to be restored to their original form to determine the shapes of the wooden fragments; this was accomplished through the use of specially made instruments and models of the stag figures. With few exceptions, the gold proved malleable, and in some cases the malleability even increased because of the natural reduction of the base-metal content of the alloy over time. In view of their extreme fragility, some pieces of silver foil required annealing (tempering). The cracks and gaps in the foil and silver were adhered and secured with a reversible substance (with a base of butyral and acrylic) and various other supports (glass textile) (fig. 5).

Conservation of the antlers of the stags posed considerable difficulties (fig. 6a–b). With synthetic materials (polyurethane) and reinforcements substituting for the missing wood, all identifiable wooden fragments were returned to their original positions. The pegs by which the antlers had been inserted into the stags' bodies had been destroyed because



Figure 4. Foil fragments of deer figure found at Filippovka prior to restoration



Figure 5. The reconstruction of a deer figure found at Filippovka, which involved matching fragments of metal foil and restoring them to their original shape

of the antlers' weight, and these were replaced.

A brass and copper grid, with a cell diameter ranging from one to three millimeters, was used to make exact impressions of all the gold and silver overlays, including those for the antlers. It was important to observe the exact form of each overlay to avoid skews and excesses, especially on the edges of overlays. The internal constructive elements were repeatedly glued with fiberglass fabric and were incorporated to create a complete bearing skeleton. On this skeleton, all the elements were attached with a reversible adhesive: the gold and silver overlays, fragments of wood, and in some cases new elements of wood. A filler of pigments and acrylics was also used. Unfortunately, we could work with only sixteen deer; ten more will be restored later.

RECONSTRUCTION OF VESSELS

As previously noted, not even a tiny fragment of a wooden vessel was discovered at Filippovka, so that we do not know what woods were used to make the vessels. We decided to reconstruct the vessels from a copper, brass, and steel mesh support, covered with wood-flour filler and acrylic. The gold overlays were fastened to the vessels with brass wire nails of one-millimeter diameter in order to substitute for the roughly 300 original golden nails.

1. New York 2000–2001, birch: nos. 3, 84, 88, pp. 73, 144, 149; birch and willow: nos. 1, 2, 4, p. 73.
2. *Ibid.*, no. 86, p. 144.
3. *Ibid.*, no. 90, p. 149.
4. *Ibid.*, nos. 20–22, 88–92, pp. 90–91, 149.
5. *Ibid.*, nos. 1–4, 84–87, pp. 72–79, 144–47.



Figure 6a. Filippovka deer figure during restoration



Figure 6b. Filippovka deer figure after restoration

9. Filippovka's “Poor Relatives”: Ancient and Modern Eurasian Nomads

Although it may sound derogatory to refer to the Early Sarmatians buried in the Pokrovka cemeteries as poor relatives, it is apparent that the hundreds of precious animal style ornaments from Filippovka kurgan 1 make other Sarmatian excavations look pale by contrast.¹ The more modest remains from Pokrovka, located only about fifty kilometers from Filippovka (fig. 1), however, have provided us with exceedingly rich materials and have permitted us to glean concepts about the little-known ancient nomadic peoples who summer-pastured in the southern Ural steppes around 2,500 years ago. Because most of the mounds at Pokrovka were not large in



Figure 1. Map showing the Sarmatian sites of Filippovka and Pokrovka. Illustration © Jeannine Davis-Kimball



Figure 2. Having ridden since before they were toddling, these preteen Kazakh girls amuse themselves on horseback, hardly ever dismounting during daylight hours. Before their child-bearing years, young women herd during the day, bringing the animals back to the *aul* each night. Photo © Jeannine Davis-Kimball

diameter or very high, they did not attract the attention of explorers and merchants who made a practice of robbing the great kurgans, such as Filippovka. After looting the mound for their gold artifacts, these adventurers melted down the precious metal objects for their monetary value (with the exception of the massive gold plaques preserved in the Peter the Great collection and now in the State Hermitage, Saint Petersburg).

NOMADIC LIFESTYLES, ANCIENT AND MODERN

Here I can only begin to touch on the varied lifestyles, beliefs, and statuses of the ancient nomads, including not only those of the southern Ural steppes, but also those in the high intermountain valleys of the Tian Shan and the Altai Mountains. Because the longevity and tenacity of these ancient civilizations are reflected in contemporary nomadic lifestyles, we can also illustrate a

few customs reflected in the burials and their artifacts, but lost through time's deterioration of organic materials. Many of these customs may be applied to the people who left the Filippovka burials.

The early nomads—the Scythians, Sauromatians, Sarmatians, and Saka—are the large tribal groups who first began practicing transhumance with an economy based on breeding horses, sheep, goats, camels, and, in the higher elevations, yaks.² They lived in a type of portable housing that certainly had strong parallels to the yurts and *gers*³ in which nomads live today. These portable structures—engineering marvels that resist tremendous wind force and protect against fierce cold—are supported by latticed walls and sturdy wooden shafts that serve as “rafters” or “ribs” forming a roof. On the exterior, they are covered with thick handmade felts, while on the interior, decorations of vividly embroidered textiles and multi-colored felt carpets create a cheery, homey

atmosphere. The hearth, now a metal stove, is located in the center under the smoke hole, which is covered during chilly nights and gale-force storms. As one faces inward from the door toward the back of the yurt, where the honored guests are seated, men's stores and saddlery are to the ready at left, while women's kitchen equipment, cheese-making paraphernalia, and the all-important sheepskin bag holding the ceremonial koumiss are at the right.

During the summer, the animals are herded on horseback—in fact, horse riding was and is more customary than walking, and youngsters begin to ride as soon as they sit (fig. 2). By the time both boys and girls

are six or seven years old, they are jockeys who jostle to win the competitive 25- to 35-kilometer-long horse races so popular among the nomads.

In the summer pastures, all the family members busy themselves preparing for the bitter winters in this climate. Sheep and yak are milked, frequently several times a day, and the milk is processed into cheeses: a soft variety consumed during the summer and a hard-as-brick cheese, known as *kurt*, stored for winter. Women must milk the mares to replenish the supply of koumiss, for the bag must never be emptied while fine grasses are available for the mares. In the fall, sheep are butchered and salted for winter; later this



Figure 3. Aisha (second from right) makes a sheep's-wool rope with the help of the children from her *aul* (yurt village), where she is the person in charge. To make the surprisingly tough rope, several plies are twisted together. When finished, the rope serves many purposes, which include binding the felt to the yurt, seen to the right. In the background, men soften horsehide leather thongs using a counterbalanced tripod and a large stone. When supple, the leather strips are braided into lariats or incorporated into handcrafted bridles. Larger pieces of tanned leather are made into saddles. Sheep pelts are cured in yogurt, thoroughly washed, dried, and hand-softened before being used to line clothing or fashioned into warm sheepskin coats. Photo © Jeannine Davis-Kimball

tender meat is simmered over the hearth stove and eaten with homemade pasta. When pastures have been grazed down, the entire *aul*, the small yurt village that travels together, and whose inhabitants provide symbiotic support for one another, is dismantled and packed onto camels, before it is transported to a new location.

This lifestyle continues until the cold winds of winter force the *aul* to its winter quarters, either along a sheltered river or under a rock escarpment that faces south, catching solar heat that provides an ideal atmosphere for the animals—animals that furnish food, materials for clothing, for housing and harnessing, for the ultimate forms of nomadic transportation, and for rituals that nourish the soul (fig. 3). To lose their animals is (and was) not only to lose their material wealth; it also threatens their way of life and may force the ultimate loss, that of their lives.

DISCOVERIES AT POKROVKA

Five massive kurgans, known as Piat Bratia (Five Brothers), similar in size to Filippovka kurgan 1—and also robbed, as was Filippovka—are located some ten kilometers from the Pokrovka cemeteries. These were the burials of high-ranking personalities, who may have been tribal leaders of the people (fig. 4) who spoke an Indo-Iranian language and were buried in the Pokrovka kurgans. The majority of the burial mounds held more than a single skeleton; kurgans were reused (fig. 5), probably by kinsfolk and possibly over generations. It is known that the early nomads believed in an “Other-world,” and articles from everyday life accompanied them to their tombs—some for use during the journey, others so that they could continue the same type of life and maintain a similar status after arrival in the Beyond. Thus, in almost all the burials, we encountered animal bones that were originally chunks of meat to provide nourishment—accompanied by an iron knife, the eating utensil. Handcrafted pottery vessels held broth, water, and koumiss for liquid and

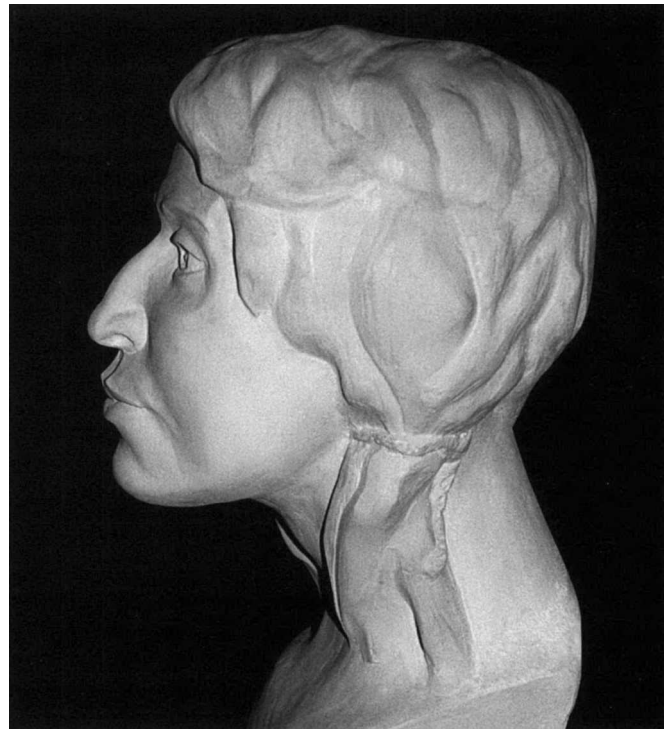


Figure 4. A Sarmatian female head was reconstructed based on an excavated cranium. Probably representing a significant number of small tribes buried at Pokrovka over a period of 800 years, these Sarmatians were European in type and, according to historical sources, spoke an Indo-Iranian language. (Head reconstruction by Leonid T. Yablonsky.) Photo © Jeannine Davis-Kimball

an occasional seed from a hallucinogenic plant, which, according to written sources, was a ritual element.⁴ The burials of men, who were primarily warriors, also contained bronze and, later in time, iron arrowheads; either type was sometimes contained in quivers made from wood and leather. Most unusual were the several instances when a small child was buried with a male without weaponry. The presence of a preadolescent in these circumstances is an unexplained phenomenon, particularly as women at Pokrovka were not buried with minors. However, if we turn to ethnography, it is not unusual to see nomadic men “tending” small



Figure 5. One archaeologist supplies measurements for the other as he draws the two burials that were interred in a single pit of this kurgan. The one on the right is the original interment of a Sauromatian woman in a catacomb. On the left is the skeleton of a robust Early Sarmatian male with animal bones at his feet. The Sarmatians frequently reused kurgans constructed by their predecessors. DNA evidence from kurgan 8 in cemetery 2 at Pokrovka shows no physical relationship between several women who were buried there, although they were warriors and warrior-priestesses. Photo © Jeannine Davis-Kimball



Figure 6. A plaque, probably originally made as a belt ornament, was excavated from a Sarmatian male burial at Pokrovka. It had been reused by cutting holes at each end to attach it to a quiver with leather thongs. The motif is a “combat scene” in which two bears attack a horse. The plaque was a trade item, manufactured far to the east of Pokrovka. Photo © Jeannine Davis-Kimball

toddlers while the mothers complete one of the many tasks that continually await them.

Imports from faraway lands along the ancient Silk Road found their way into the burials, as illustrated by a remarkably beautiful cast bronze and gilt plaque in the style known as a “combat scene,”⁵ which shows two bears attacking a horse that has fallen to its knees (fig. 6). Women’s tombs frequently held imported objects of more varied types, and in greater quantity, than did men’s burials. The majority of the women decorated themselves with hundreds of glass eye beads and amulets imported possibly from Iran or from southern Russia, where parallels are known;⁶ beads of semiprecious stone—jet, • carnelian, turquoise, and even amber—were also popular personal adornments. Frequently both types were sewn around the hems of their costumes or worn as anklets or bracelets.

The religious or cultic life of these people was ministered by priestesses whose artifacts included fine bronze mirrors⁷ to divine the future, carved-stone ceremonial altars that may have served as mortars to grind colored ores used to paint or tattoo—as the Pazyryk mummified bodies revealed—or to decorate ritual textiles,⁸ and fossilized seashells that occasionally still held residual paints.⁹ Animal style plaques were fashioned from gold, some of which portrayed Tian Shan snow leopards (fig. 7); others displayed deer or griffin motifs and even representations of birds that seemed to have been fecundity symbols. Priestesses of lesser status, responsible for rites of passage within the family or clan, had only a single shell and an undecorated mirror. These simple accouterments placed in their burials had been used in this life and were treasured for the next.

Figure 7. A very ancient lady, who had been an important priestess before her death at about the age of sixty, was interred with many artifacts indicating her status. These included a bronze mirror decorated with incised geometric motifs and a carved-stone ceremonial altar, both placed in a special niche above her head. Two small gold decorations in the form of Tian Shan snow leopards are seen around her neck, while a third is at the viewer's left, carried there by a *suslik*, a small ground squirrel. The feline may have been an animal helper to the priestess. Photo © Jeannine Davis-Kimball



The Sarmatians worshipped nature gods, and evidence from the burials indicates that a goddess also played some role in their religious beliefs. One female burial held a gold ring with a tiny nude female sculpture attached. Another contained a miniature sculptured-stone amulet of a nude female wearing a torque—a high-status symbol—with her arms folded at her waist so that she assumed the stance of the well-known Cycladic sculptures. With almost exactly the same stylization, a larger white carved-stone female sculpture, wearing a headdress and accompanied by small carved-stone vessels with animal style handles, was excavated from another Sarmatian burial. These sculptures and similar ritual vessels have also been encountered in the Don and Volga river regions of southern Russia and reveal connections among the three locales.

For those of high status, burial ceremonies could extend over a significant time and could be performed by many people. The lands where kurgans now mark the landscape were hallowed for the ancient nomads, and in some cases—revealing the longevity of traditions—existing Bronze Age kurgans were reused by the Sarmatians, although they completely rebuilt the burial mounds

anew. The mourners cleared the sod of a circular area that could measure twenty meters (sixty-five feet) or more in diameter. They often dug elaborate burial pits, which might include a catacomb or a side niche (*podboi*) to hold the deceased, as well as entry ledges along the sides—ledges that also supported tree branches forming a roof over the corpse. These tombs were dug with the most primitive of tools fashioned from bone and antler; some were possibly constructed of bronze, although there is little evidence that this metal was used for this purpose at Pokrovka.

If a person buried at Pokrovka—which was a summer pasture—had died during winter, the deceased was ritually prepared for burial at that time, wrapped in felts supported by cane rods, and the bundle was hung from a tree, so that in a sense it became “mummified” by the intense cold. Only after the ground had thawed at summer pasture could the burial ritual take place.

Sometimes a log “house” was constructed in a very large pit. In one case at Pokrovka, the deceased was buried in such a house, which was then torched, and as the logs burned the mourners covered them with dirt, quenching the fire so that much of the wood became carbonized. Several artifacts



Figure 8. Evidence of a horse ritual performed during the burial ceremony for a high-ranking Pokrovka male. Twenty-two horse heads, now only skeletons, were arranged around the edge of the kurgan, and the postcranial bones were thrown into two separate piles, one seen to the right above the horse crania in the foreground. The two piles of bone probably indicate two discrete feasts. Photo © Jeannine Davis-Kimball

from this burial allowed us a further glimpse into the rituals. As our excavation team removed the dirt from the mound, they discovered a bronze container that would hold perhaps two to three quarts of liquid. However, it had large holes punched in the bottom an inch or so in diameter so that it plainly had had another function. In two other areas in the mound, caches of horse bones not in anatomical position were encountered. Finally, along the perimeter of the kurgan, the excavators found twenty-two horse crania, neatly arranged in a semicircular row (fig. 8).

I was uncertain of the interpretation of these artifacts until a few years later when I joined several hundred Kazakh nomads, who have many traditions that echo the rituals of the early nomads. We were at a festival honoring a hero of some 140 years ago whose negotiations had saved his tribe from battle with fierce Manchu warriors. Fifteen or so

yurts had been assembled in a semicircle, and in the open courtyard a group of men had assembled cauldrons made from fifty-gallon oil drums cut in half. They began cooking horse meat over an open fire (fig. 9), and when it was done, they took a kettle with holes in the bottom, scooped the meat from the cauldron, and placed it in a basin. Then a small amount of broth was added to the meat. As people cut some meat from the bone, they dipped it into the broth before eating.

The interment ritual at Pokrovka was probably similar. After the burial was completed and the burning log structure was covered with soil, the mourners butchered twenty-two horses—a goodly amount of expendable wealth indicating a person of high status. They cooked the meat in large bronze cauldrons—an artifact frequently associated with the early nomads—and removed the horse meat with the bronze “sieve” that we had found in the mound. While feasting, they



Figure 9. Kazakh men cooking horse meat in oil drum “cauldrons” at a festival honoring an eighteenth-century military hero. Photo © Jeannine Davis-Kimball

threw the bones into the not-yet-completed kurgan mound. Perhaps there had been two feasts, for we excavated two discrete piles of horse bones. When they had completed the kurgan by mounding soil over the burial and covering the surface with squares of sod, they arranged the horse heads at the edge of the kurgan. Erosion of the soft sandy soil over 2,500 years had covered the horse heads that were excavated at the edge of the kurgan.

In another kurgan, a small catacomb extending from a pit revealed a skeleton, which had a complement of artifacts that provided still more information about the very earliest Sarmatians buried at Pokrovka (fig. 10). As the skeleton was cleaned of fine soil, we noticed a green object on its chest. We later discovered that this was a leather pouch holding a bronze arrowhead, and the green resulted from the bronze patina that had seeped through the leather. In addition to a large terracotta pot and animal bones indicating food for the jour-

ney, a short iron sword lay along the deceased’s right thigh, and near the left leg more than forty bronze-tipped arrows had been placed in a quiver. Near the feet, a huge boar’s tusk, drilled for suspension, seemed to be amuletic as well as to emphasize prowess—as did the arrowhead in the leather bag. The mourners had placed in the tomb two seashells and a natural stone shaped like a shell, which held a residue of white paint. Although wood is only rarely preserved at Pokrovka, this burial also had the remains of a tiny wooden bowl decorated with zigzag strips of bronze foil. When the skeleton was sexed, we discovered that these were the remains of a young woman.¹⁰

If we regard the men buried with arrowheads as warriors and the women buried with seashells as priestesses, the artifacts in this young woman’s tomb indicate that she must have been training to be a warrior priestess. If she had not died at such a young age, when older she probably would have made



Figure 10. On the basis of the type of artifacts included in her burial and the orientation of her head, this young female was a very early Sarmatian warrior-priestess. The arrowhead amulet is midway between the cranium and the vertebrae, and her sword is beside her right femur. Photo © Jeannine Davis-Kimball

divinations and advised her tribal chieftain on important matters of state, which would have had a direct impact on the welfare of her people.

CONCLUSIONS

The gold artifacts from Filippovka kurgan 1, without doubt, indicate that the person-ages—for there could have been more than one—buried there were of very high status and that these were the leaders of a large tribe. The amphora and rhyta reveal some involvement in international trade. Many large and beautifully fashioned glass beads, in combination with the gold jewelry and a large mirror as well as other objects, imply that a priestess had been among the deceased interred in the kurgan. Most intriguing, the profuse animal style is aching to be analyzed in the hope of revealing trade partners and sources of precious metals¹¹ as well as ancient religious and cultic beliefs. But as Filippovka reveals only limited elements of the total cultural picture, it is fortunate that we can glean further knowledge from the “poor relatives” at Pokrovka as well as extrapolate from contemporary nomads. We can consider the Pokrovka people to be, in general, “middle-class” Sarmatians whose artifacts, along with their preserved skeletal remains, provide many more details of everyday nomadic life, belief systems, and customs. With this information, along with that from Filippovka, we can begin to picture the existence of a great nomadic Sarmatian tribe that came to the southern Urals each summer to pasture herds of animals and to bury their dead.

1. Collaborative excavations at Pokrovka were conducted by the Center for the Study of Eurasian Nomads, Berkeley, California, headed by Jeannine Davis-Kimball, and the Institute of Archaeology, Russian Academy of Sciences, Moscow, led by Leonid T. Yablonsky. Between 1992 and 1995, more than 150 burials in 50 kurgans were excavated.
2. For more on the early nomads, see Davis-Kimball et al. 1995.
3. Yurts are used by contemporary Kazakhs and other Turkic-speaking peoples; *gers* are used by Mongols; the two portable housing structures have only minor differences, primarily in proportions and decorative elements.
4. Demkin and Ryskov 1995; see also Herodotus, *The Persian Wars* 4.75, and Rudenko 1970.
5. Identical to one in the Nasli M. Heeramanek Collection of Ancient Art at the Los Angeles County Museum of Art; see Moorey et al. 1981.
6. Hall and Yablonsky 1998a.
7. The quality of bronze in the mirrors was far superior to that in the arrowheads; see Hall and Yablonsky 1996, 1998b.
8. Davis-Kimball 1997–98, 1999.
9. Davis-Kimball 1997.
10. Ibid. Subsequently, DNA testing was done on some of the skeletons at Pokrovka. These results will be published in the future.
11. Gold metallurgical research has been completed on the Pokrovka materials; see Hall et al. 1998.

10. On the Northern Periphery of the Nomadic World: Research in the Trans-Ural Region

Crossing the Ural and entering on the Tobol and Irtysh we continually encountered the vast steppe that preserved from ancient times enormous barrows, which loomed in groups along the high river banks.
—Vasilii Radlov, *Iz Sibiri* (From Siberia), p. 410

Even a century ago, the steppe and forest-steppe landscapes of Russia were inconceivable without numerous mounds or barrows. Today, not many mounds remain undisturbed. From the sixteenth century onward, treasure seekers (*bugrovshchiki*) were at work, and their activities were particularly destructive in the Trans-Urals and western Siberia. The German scholar Daniel Messerschmidt, who served Peter I after 1716 and visited Siberia in 1720–27, wrote in his diary:

The Russians living on the upper Ob are called the Ishimtsy. They usually participate in hunting for gold and silver in graves. The Russians living on the Ishim River were the first to do this; they moved farther and farther, until they reached the Ob River. . . . They earn much money by kurgan excavations. By the last sleigh

road they go to the steppe, gathering from all the villages 200, 300, and more people. Their groups disperse in different directions. . . . Having found any mound above the pagan graves, they discover many gold and silver things, 5, 6, 7 pounds, consisting of horse harness objects, armor decorations, idols and other things.¹

Some people attempted to collect the objects from the excavations made by grave robbers. In particular, a member of the Dutch mission to Russia, the geographer Nicolaas Witsen, received after his return to Amsterdam some precious and curious objects from Siberia, which friends had managed to obtain and send to him before Peter the Great issued an order claiming such excavated valuables as imperial property. Witsen published a book of his Russian experiences, *Noord en Oost Tartaryen*,² and the last (posthumous) edition of 1785 included four plates of illustrations of Witsen's collection of Siberian material, which had been engraved by a Dutch artist. This collection was sold at auction after Witsen's death and has vanished, whether because the objects were melted down for their gold or because they passed into unknown hands (fig. 1).³

Documentary evidence suggests that the area of the most intensive grave robbery was somewhere between the Ural Mountains and the Yenisei River.⁴ It has often been stated that Nikita Demidov, the founder of metallurgy in the Urals and owner of the Tula ironworks (in Nizhnii Tagil in the Urals), gave a rich group of Siberian gold objects to the empress Catherine I on the occasion of the birth of her son by Peter the Great; unfortunately, this story is not supported by any documentation.⁵ It is certain, however, that the governor of Siberia, Prince Gagarin, dispatched from Tobolsk to Saint Petersburg

shipments of gold objects from 1715 to 1718, on the orders of Peter the Great.⁶ This group of objects, which became known as the Siberian collection of Peter the Great, went to Peter's *Kunstammer* in 1725, after his death, and in 1859 to the Winter Palace and thence to the Hermitage in 1860 (fig. 2).

The Siberian collection of Peter the Great has always attracted scholarly interest, much of which focused on the origins of the finds. Yet of all the hypotheses about the objects' places of origin and possible dates, the least attention was paid to the territory between the Urals and the middle Irtysh until the mid-1980s. Although many kurgans were excavated in that region, they had been robbed of precious objects and held only ordinary goods, albeit sometimes in large amounts. The central graves of these kurgans sometimes held small pieces of gold, imported beads, and pottery, but the archaeological culture of this area, termed *Sargatskaia* or *Sargat*, was modest compared with the splendid discoveries known from the great Scythian and Sarmatian burials and was familiar to only a few specialists.⁷

THE SARGAT CULTURE

During recent years, not only grave robbers have been interested in the ancient kurgans; scholars have made notable advances in understanding the cultural evolution of the Urals and western Siberia, and since the 1920s, when the *Sargat* culture was first distinguished, our knowledge of it has increased.⁸ Current research indicates that, in the Early Iron Age, the *Sargat* culture played a major role in the cultural development not only of the Tobol and Irtysh province but also across a much wider area (fig. 3). This culture was a multi-component system like some other Eurasian cultures of the Iron Age, and we can distinguish two concepts: the *Sargat* culture as a narrowly defined archaeological assemblage, and a greater *Sargat* historical entity.⁹

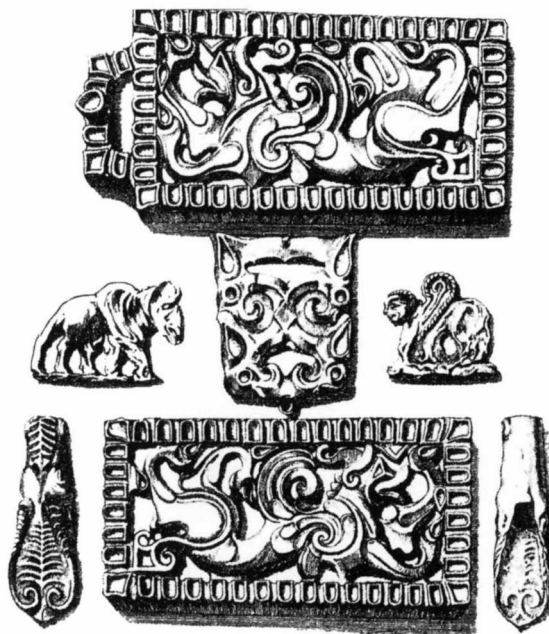


Figure 1. Some Siberian gold objects in Witsen's collection, published in the 1785 edition of his book *Noord en Oost Tartaryen*. After Rudenko 1962, p. 8, fig. 1

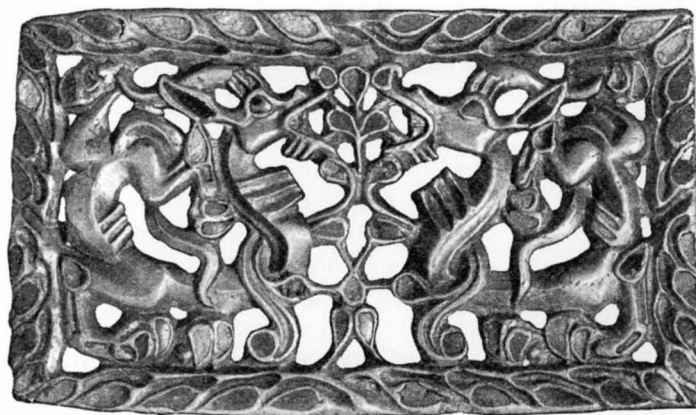


Figure 2. Gold openwork buckle plaque from the Siberian collection of Peter the Great. State Hermitage, Saint Petersburg. After Rudenko 1962, pl. 9, fig. 6

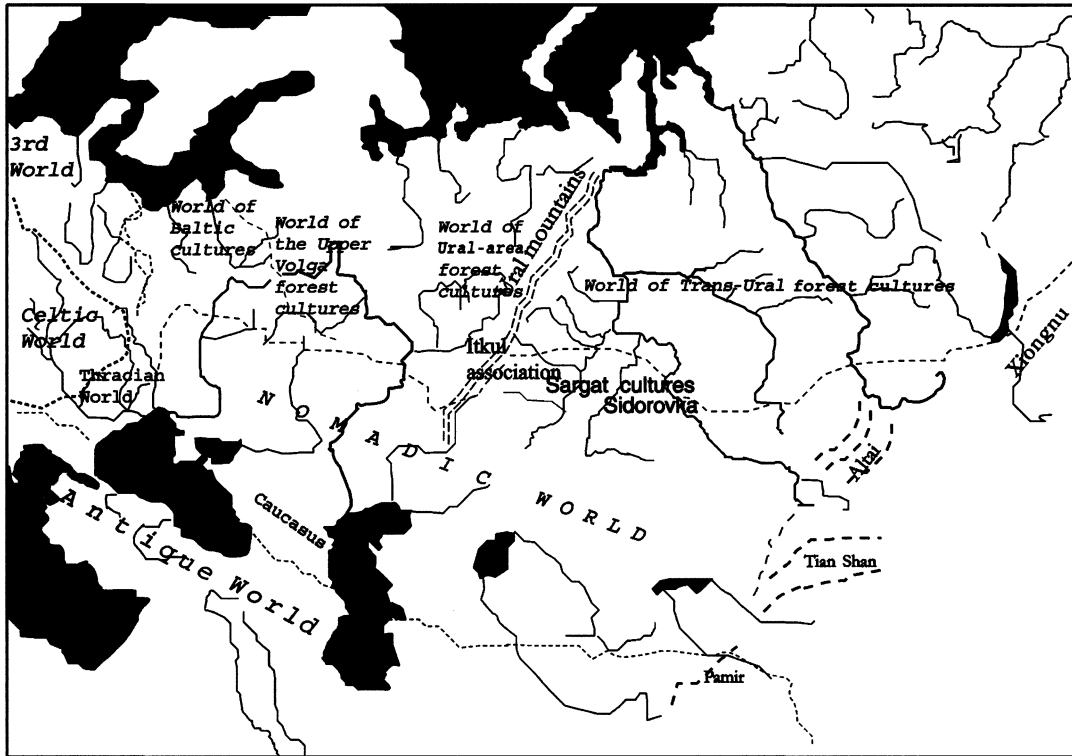


Figure 3. Map of the cultural worlds of Eurasia in the Iron Age

Sargat culture sites included numerous settlements and cemeteries, differentiated by size, form, and function. The sites took two forms: small fortified temporary camps of a polygonal shape produced by a combination of mats and ditches, which functioned for a short time and served as frontier posts; and large settlements including a fortified area and a vast open habitation area with numerous houses, exploited for long periods and serving as regional (administrative?) centers. Their fortification systems varied from simple enclosures to rather elaborate combinations of two deep ditches and two wood and clay ramparts (fig. 4).

The subsistence economy was based primarily on stock breeding and seasonal exploitation of the rich biological resources of the forest-steppe. All settlements held abundant paleozoological material, including bones of horses, cattle, sheep, camels, and dogs. A full range of domestic animals was discovered in

the kurgans, as well as the remains of sacrifices and food offerings. On the basis of the excavated sites, we can hypothetically outline the forms of stock breeding developed by the local population: seminomadic pastoralism with relatively high mobility, typical of southern areas; semisettled pastoralism with a high percentage of horses; and settled pastoralism with a predominance of cattle herds.

Both settlements and kurgans showed a high level of spatial organization, planning, and house and fortification building corresponding to the specific environmental conditions. Wood was the basic material for residential and funerary construction. The house types varied from small, light dwellings to multiroom structures (of about 100 square meters) with several hearths and large internal economic areas.¹⁰

A detailed analysis of funerary ritual has revealed several patterns relating to different chronological periods and social gradations.¹¹

The burials were covered by mounds and surrounded by a circular or polygonal ditched enclosure, which served to delimit the mortuary area. The kurgans varied in size, construction, and number of burials (fig. 5). Research has shown that the kurgan mounds were pyramidal constructions built from turf bricks.

Each kurgan held from one to several burials. As a rule, one or two graves in the center were primary burials, and later burials were arranged around the periphery. There were several types of grave pits, with straight vertical walls and with benched walls. Some pits showed evidence of vertical wood pillars supporting an upper covering, in particular, a tent-shaped daylight surface construction especially characteristic of western areas close to the southern Urals. Burial chambers displayed some elements of house design. Special coffins or litters were used in the burials, and the funeral ceremony included animal sacrifices and food offerings.

The deceased were buried in an extended position, oriented mostly to the north. Grave goods accompanied the dead and indicated their social and professional status. Recently we found evidence of a special means of conserving a body in the case of a death occurring during the winter.¹²

Food offerings (wooden plates with pieces of horse meat and vessels holding milk or broth) were an integral part of the mortuary assemblage. Horse, cattle, and sheep meat was consumed during the funeral feast, and the remains were left outside the grave pit. Male burials had a clearly expressed warrior character. Weapons might accompany a male of twelve to fourteen years of age, a practice that sheds some light on the system of age groups in Sargat society.¹³ Women were buried with ornaments (imported beads and earrings), utensils associated with textile production, and various vessels, including bronze cauldrons and stone platters. Fire apparently played an important role in funeral ceremonies.

In the central burials of major figures, the pits were much larger than those of the peripheral burials and were supplied with

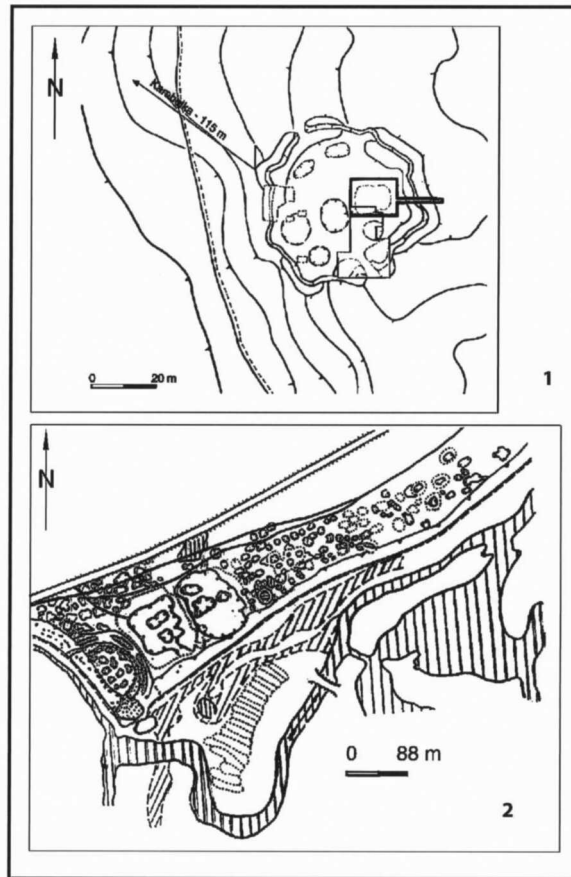


Figure 4. Two sites of the Sargat culture: (1) Malokazakhbayevo, after Daire and Koryakova 2002; (2) Pavlinovo, after a photograph interpreted by I. Botanina

more imposing wood constructions, including a large upper section. These burials were largely contemporary with the Filippovka kurgans.

The Sargat culture area was under repeated influence from the south during the Iron Age, beginning as early as the formation of the nomadic steppe tribes, not later than the seventh century B.C. Some Saka peoples apparently moved into the area, as evidenced by the cemeteries with small kurgans containing central burials, either on the ancient surface—and with traces of a fire—or in shallow pits. These kurgans yielded typical eastern bronze arrowheads with tangs and sockets.¹⁴ The nomadic

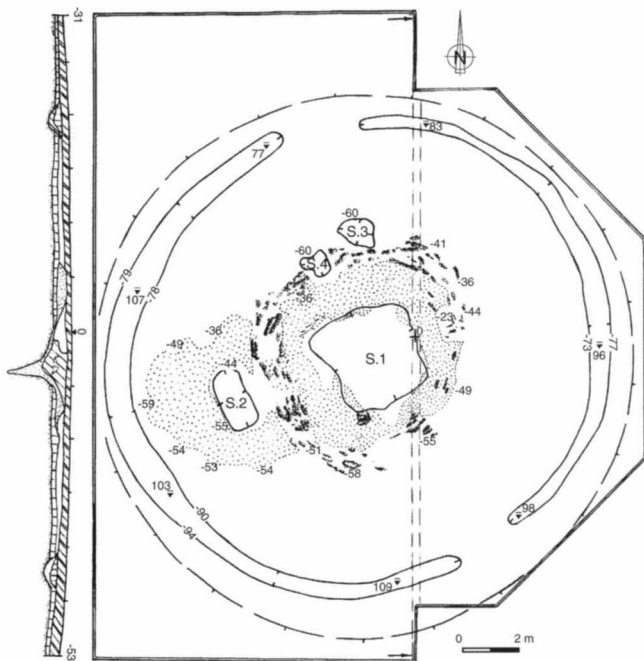


Figure 5. Sargat culture, Skaty cemetery, kurgan 4. Drawing by A. Kovrigin

influence is expressed primarily in the patterns of funerary ritual, parallels for which lie with various groups in Kazakhstan, the southern Urals, and eastern Europe. The Sargat funerary ritual, represented in all excavated cemeteries, was thus formed as a result of cultural synthesis between nomadic groups and the local population, whose origins go back to the Bronze Age.

These characteristics of the Sargat culture, as determined by the evidence from archaeological excavations, indicate numerous people living in highly organized societies with a militaristic mode of life. At present, most of the excavated materials represent the middle and lower classes of the population; few really rich complexes comparable to those of the Eurasian steppes have yet been discovered.

NEW DISCOVERIES OF THE SARGAT CULTURE

The late 1980s was marked by several discoveries of unrobbed wealthy graves whose gold

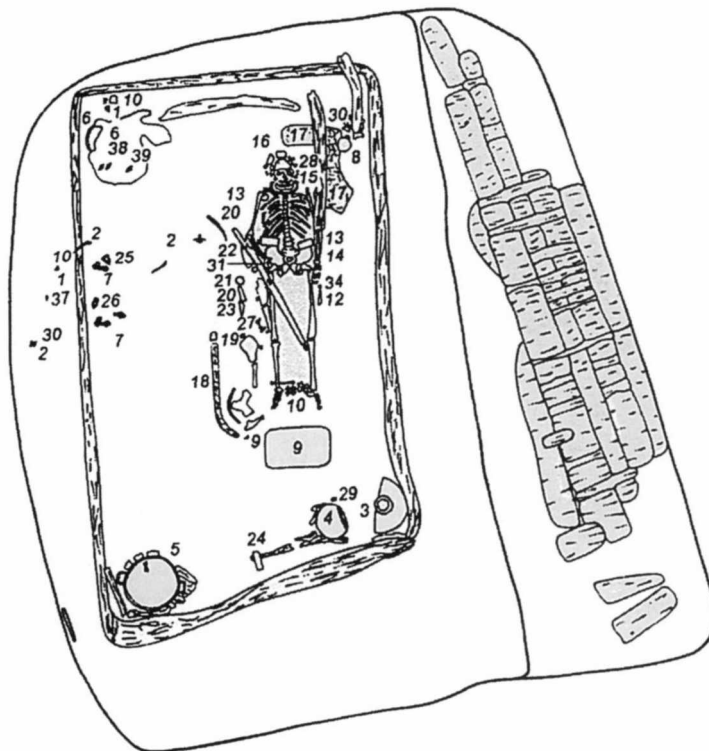


Figure 6. Sargat culture, Sidorovka cemetery, kurgan 1, grave 2: (1, 2) animal bones; (3) large imported pot; (4, 5) small and large bronze cauldrons; (6) silver *phalerae*; (6a) iron armor; (7) six silver buckles; (8) silver bowl; (9) fragment of leather (vessel); (10) two turquoise and gold buckles; (11) iron sword; (12) iron knife; (13a,b) two gold plaques; (13c) gold belt buckle; (14) silver belt buckle; (15) gold torque; (16) gold ornaments; (17) remains of gold and silver brocade; (18) remains of brocade-decorated quiver; (18a) three gold appliqués; (19) horse bones; (19a, 20) iron arrowheads; (20) four bow-end plaques; (21) iron dagger; (22) large bead; (23) six small gold plaques; (24) iron ax; (25) large iron buckle; (26) small silver buckle; (27) remains of bone object; (28) gold earring; (29) silver decoration; (30) handmade clay vessel; (31) nine silver rivets; (32) fragment of leather belt; (33) bronze ring; (34) silver chibouk, or smoking pipe; (35) piece of felt; (36) small silver bottle; (37) iron shank; (38) iron bits; (39) iron shank; (40) remains of iron spear; (41) gold bell. After Matiushchenko and Tataurova 1997

and silver objects can be compared to those in the collection of Peter the Great as well as to those collected by Witsen. These graves were excavated in the Tobol and Irtysh areas in particular, in the Tutrino,¹⁵ Isakovka,¹⁶ and Sidorovka cemeteries.¹⁷ The graves were similar to those in many Sargat cemeteries: many graves had been robbed but some held wheel-made pottery fragments, remains of weapons, and gold appliqués. The most interesting discovery was Sidorovka kurgan 1, which had, apart from a destroyed central burial, a well-preserved peripheral one. Its large pit held two interments; the upper one was destroyed but it protected a lower and well-preserved one. It is difficult to say whether this burial was deliberately or accidentally preserved but its contents were intact and rich (fig. 6).

At the bottom of the pit, under a covering of wood blocks, birch bark, and a coverlet, archaeologists found the remains of a wooden funeral bier (2.2 x 4 m) holding the remains of a male warrior. V. I. Matiushchenko wrote:

Small tubes rolled up from a thin gold leaf were laid on the forehead bone of a crushed skull, on the right of which a gold earring was found. A massive gold torque was around the neck [fig. 7]. Two gold belt plaques inlaid with semiprecious stones and decorated with a combat scene of two tigers and a wolf-headed serpent were found at the waist. The tigers' bodies and the border were marked by tear-shaped cells [figs. 8 (1), 9 (1)].¹⁸

Stylistically similar openwork plaques with tiger and dragon were discovered in tomb 100 of the Ivolga cemetery, which is dated to the second to first century B.C.¹⁹

The male had been provided with a full set of defensive and offensive weapons: an iron sword about one meter in length, with a nephrite staple for a scabbard attachment; an iron dagger; a composite bow; a quiver with iron arrows; an iron spear; armor; and an iron

battle ax with the remains of a wooden handle. He was buried with a smoking set including a silver chibouk, or smoking pipe (fig. 8 [4]), and a small silver bottle (fig. 8 [3]). Two painted leather vessels were laid at his feet; in one corner, a silver bowl and an ordinary Sargat pot held food. A traveling flask and a bronze cauldron with mutton and covered with a large ox hide were placed in two other corners. The remains of horse harnessing, including two *phalerae*, lay together with iron armor. The gilded silver *phalerae* were decorated with the depiction of a winged griffin with a circular serpentine body and fierce leonine paws (figs. 9 [2], 10).

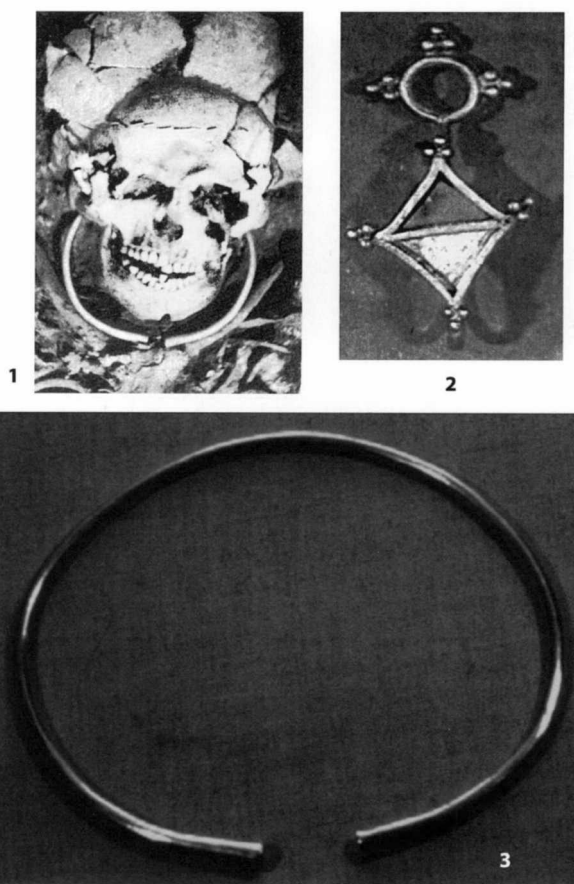


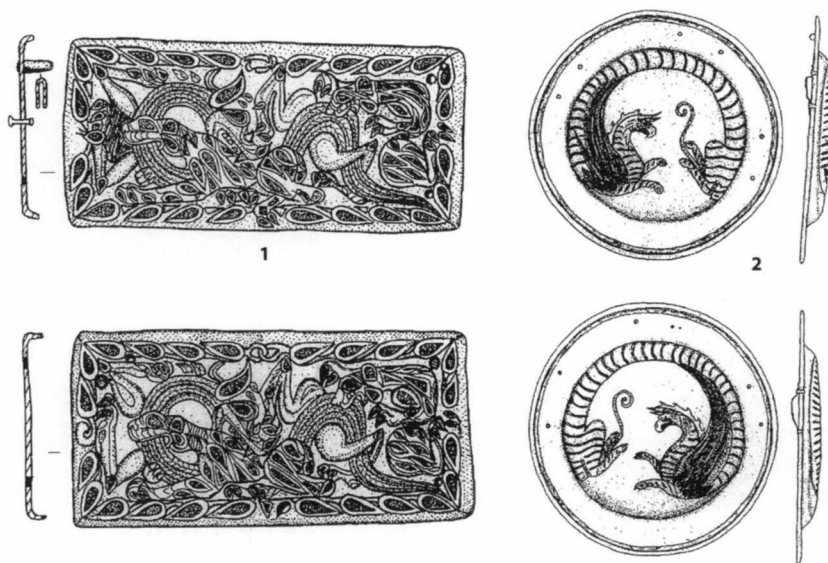
Figure 7. Sargat culture, Sidorovka cemetery, kurgan 1, grave 2: (1) skull in situ; (2) gold earring; (3) gold torque. After Matiushchenko and Tataurova 1997



Another elite burial was excavated by Leonid Pogodin in 1989 in the Isakovka cemetery, Omsk district. Especially rich was grave 6 in kurgan 3. It lay at the periphery of the kurgan and overlapped its circular outer ditch. The grave was covered with a massive three-layered wooden roof. The bottom covering rested on a wooden frame forming a fairly large funeral chamber. A wooden bed (2.2 x 1 m) held the remains of a man wrapped in golden textiles; his head was oriented to the northwest. Outside the chamber, between its wall and the northern wall of the pit, were two big bronze cauldrons holding a wooden spoon and remains of horse meat and bones. A closed clay pot with five tubes and white powder inside, used for smoking, hung by an iron chain on the north wall. A large vessel of Central Asian origin and a leather vessel stood in the southwest corner, and a small handmade Sargat-type pot was placed by the head of

Figure 8 (left). Sargat culture, Sidorovka cemetery, kurgan 1, grave 2: (1) gold and turquoise belt plaque; (2) silver shoe buckles; (3) silver bottle; (4) silver chibouk, or smoking pipe; (5) silver belt buckle; (6) gold belt plaque. After Matiushchenko and Tataurova 1997

Figure 9 (right). Sargat culture, Sidorovka cemetery, kurgan 1, grave 2: (1) two gold and turquoise belt plaques; (2) two silver *phalerae*. After Matiushchenko and Tataurova 1997. Drawing by Larisa Tataurova



the deceased. Near the skull, a large silver phiale, identical to one found in the Kazanluk district in Bulgaria, held remnants of silk;²⁰ placed near the feet of the dead man were another silver phiale with a lotus decoration and a silver bowl adorned with dolphins and swimming ducks. Alongside his right knee was a bronze kettle or wine container. The deceased wore a massive gold torque around his neck and one gold earring. Two gold plaques decorated his wide red belt, to which was attached by a stone staple a lacquer-covered scabbard holding a long iron sword; the scabbard had been placed across the body from right to left. An iron dagger adorned with stone-inlaid gold plaques hung from the belt as well. Beside the western wall were iron armor and a large iron belt.²¹

This and other graves in the Isakovka cemetery produced similar material, including heavy weapons (figs. 11, 12), gold objects decorated with turquoise, gilded silver bowls or phialae in Persian style with inscriptions, and beautiful Chinese bronze cattle figurines and vessels of the Han dynasty.²²

One can dwell on three inscribed silver phialae (bowls) coming from the Isakovka I burial ground (kurgan 3) excavated by Pogodin in 1989. They have recently been published by V. A. Livshits.²³ Two phialae carry Khwarezmian inscriptions, and one has a Parthian inscription. On the first silver phiale (figs. 13, 14), the inscription is engraved smoothly on its plain everted rim. According to Livshits, this inscription marks the earliest stage of Khwarezmian writing, which derives from the Aramaic alphabet of the Achaemenid epoch (fig. 15). He provides an almost complete translation: "This banquet bowl is of Barzavan, son of Takhumak . . . His Majesty, king Amurzham, son of the king Wardan, [this bowl] is made for him as a gift . . . on the third [of the month] frawarin."²⁴

The second Isakovka phiale is of conical shape (fig. 16). The composition, three dolphins alternating with three flowers, is depicted in the center of the interior. The

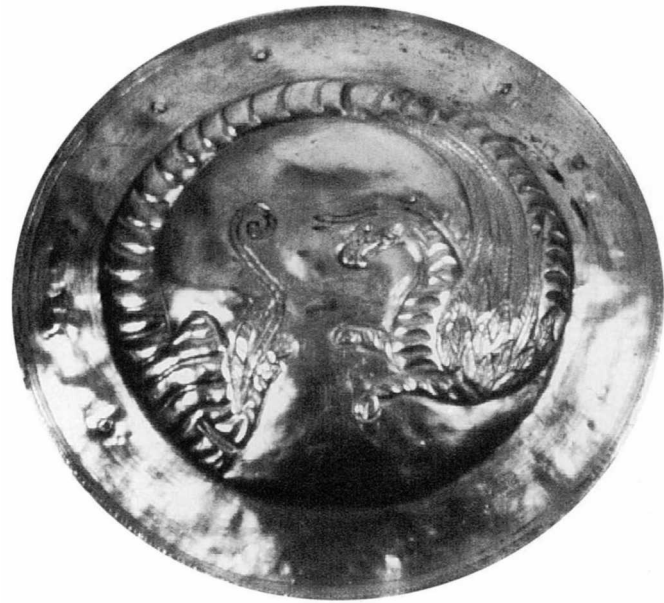


Figure 10. Detail of one of the silver *phialae* in fig. 9 (2)

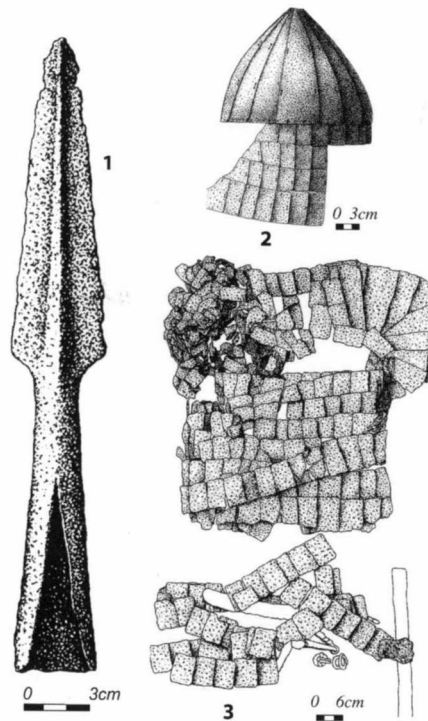


Figure 11. Sargat culture, Isakovka I cemetery, kurgan 3, grave 6. Elements of weaponry: (1) iron spear; (2) iron helmet; (3) iron armor and belt. After Pogodin 1998a

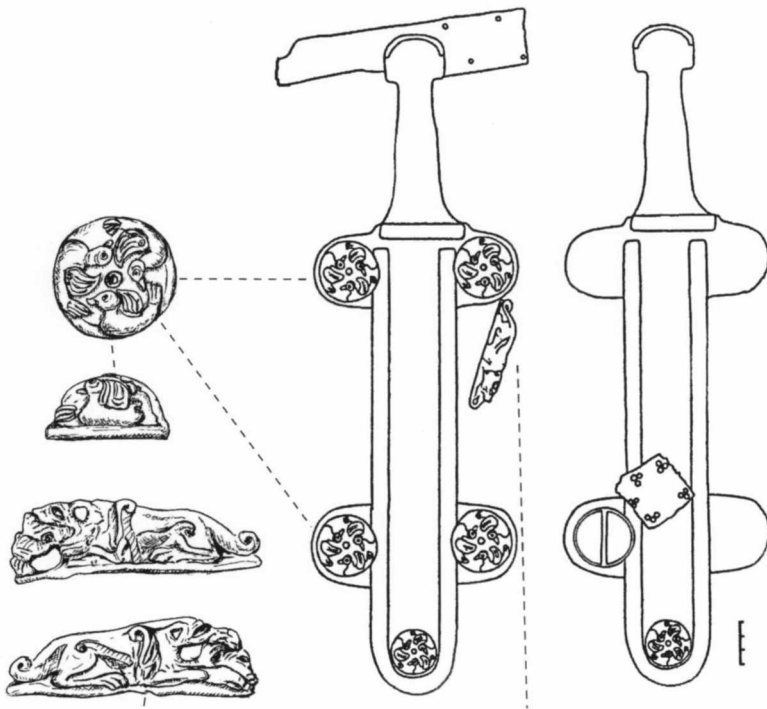


Figure 12. Sargat culture, Isakovka 1 cemetery, kurgan 3, grave 6. Sword in scabbard. Leather-covered wood scabbard, decorated with black lacquer, with red line (width 1–1.5 cm) along the edges. The scabbard had four semicircular lugs ornamented with red lacquer; these were once adorned with gold and turquoise *phalerae* and hollow gold mounts showing a predatory animal attacking an antelope. The sword had a wooden top and handle covered with black lacquered leather. After Pogodin 1998a, pp. 36–38

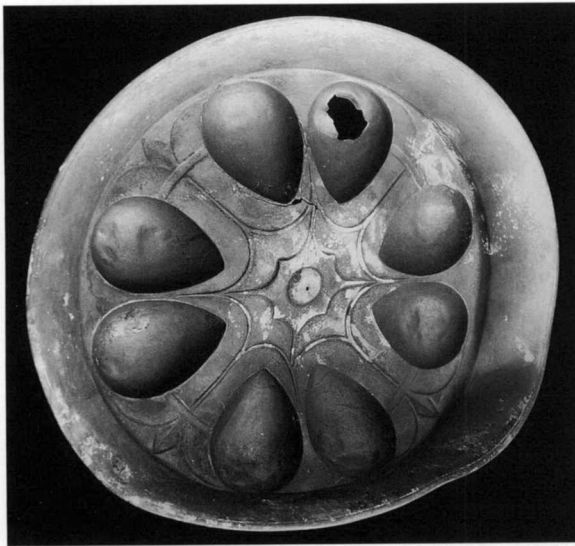


Figure 13. Sargat culture, silver phiale no. 1 from Isakovka 1 cemetery, kurgan 3, grave 6, excavated by Leonid Pogodin. After Livshits 2002, fig. 1. Original photograph by Leonid Pogodin

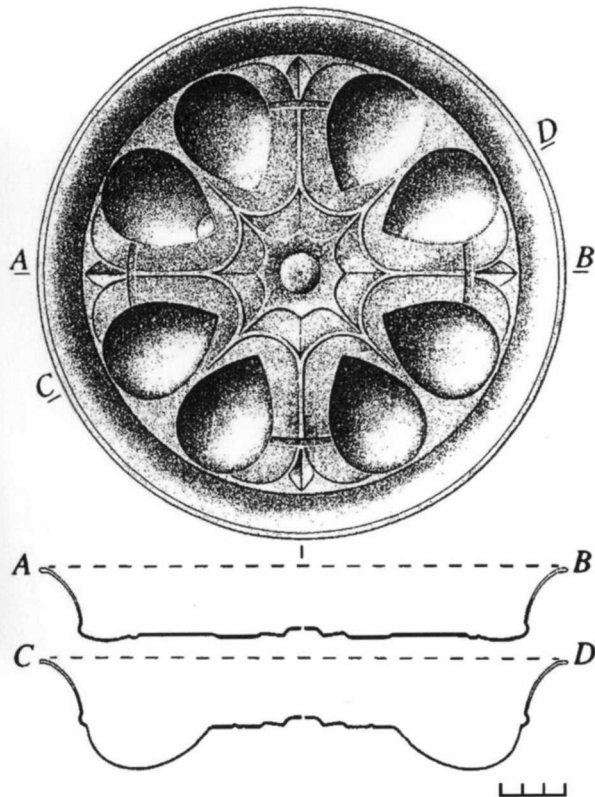


Figure 14. Sargat culture, external view of phiale no. 1. After Livshits 2002, fig. 2

nantant dolphins and ducks are also depicted along the bowl's interior rim; the inscription is engraved rather deeply on the exterior. Livshits could decipher only part of the inscription: "This bowl, of the weight [?] by 120 staters . . . to the sovereign Wardak . . . the gift to him . . . Through mediation of Ruman [?] Tir."²⁵

The third silver phiale carries the Parthian inscription, rendered in pointillé on the exterior. It gives the bowl weight: "5 karshes, 2 staters, 1 drachma." The interior center of the bowl is decorated with an octofoil along with a gilt garland and narrow fillet (fig. 17).²⁶ Stylistically, the first phiale relates to the Achaemenid metalwork tradition;²⁷ the two others find their closest parallels among the bowls in the collection of the Getty Museum (treasure I, II, III)²⁸ and in Thracian treasures.²⁹

Most probably, all of these valuable objects, found together with Chinese and Hunnic materials in the same grave, were either diplomatic gifts or trophies taken in raids to the southern lands.

Aleksandr Matveev compared the map drawn by Witsen in 1687 to the data in Witsen's correspondence about his Siberian objects, which were said to have been collected around sixty degrees north in latitude. He concluded that the sixtieth parallel on Witsen's map was placed much farther south than it is on modern maps, crossing the Sinara, Iset, Tobol, and Irtysh rivers—in other words, exactly in the territory of the Sargat culture.³⁰

Some of the objects from these kurgans were imported from China, Iran, the eastern Mediterranean, India, and Bactria. In the 1970s, Viktor Sarianidi investigated the rich burials at the Tillya Tepe necropolis in Afghanistan.³¹ The gold and turquoise objects discovered by Sarianidi are similar to some objects in the Siberian collection of Peter the Great, and to some gold and turquoise objects from the Sargat burials and

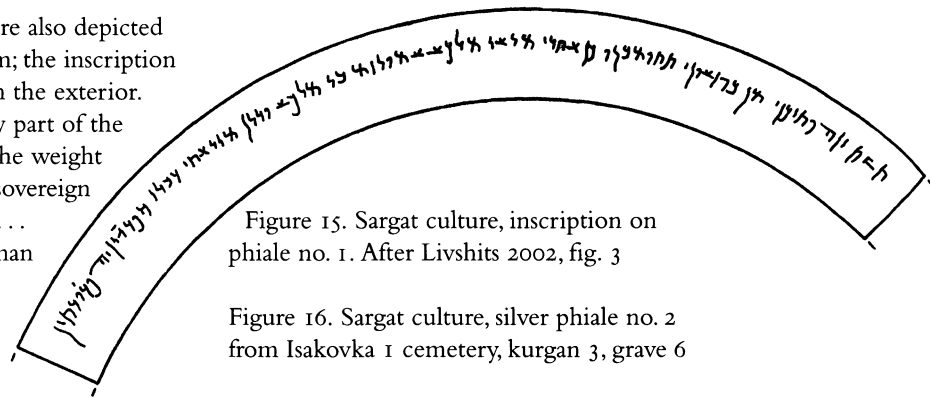
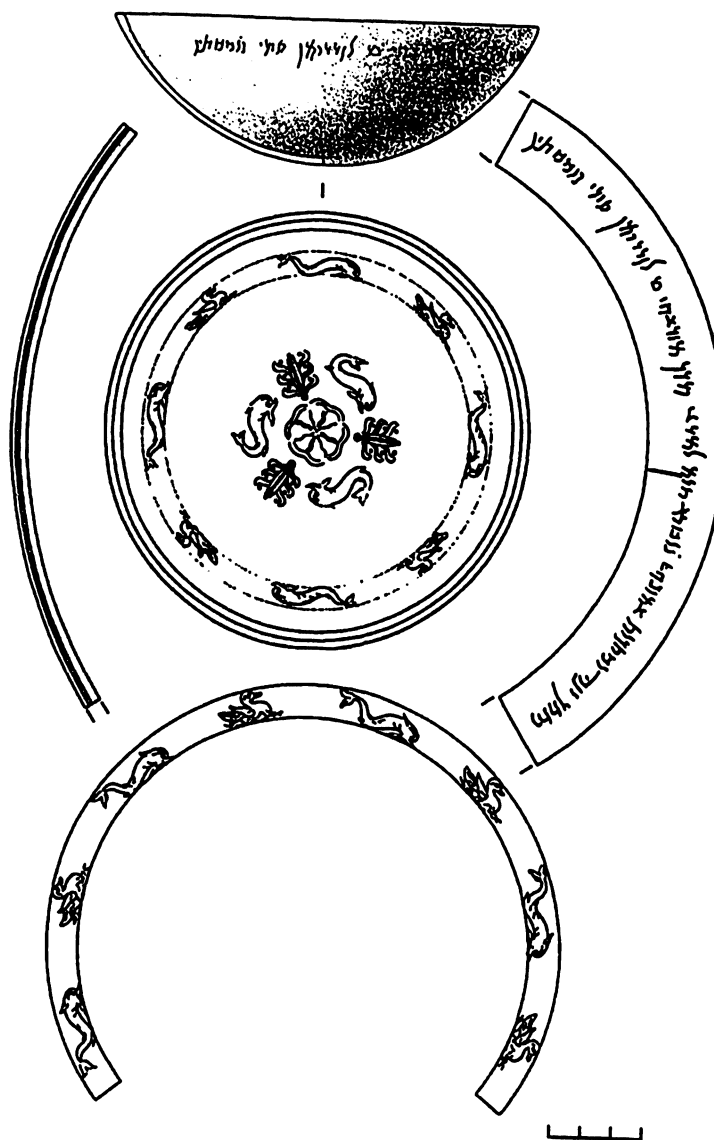


Figure 15. Sargat culture, inscription on phiale no. 1. After Livshits 2002, fig. 3

Figure 16. Sargat culture, silver phiale no. 2 from Isakovka I cemetery, kurgan 3, grave 6



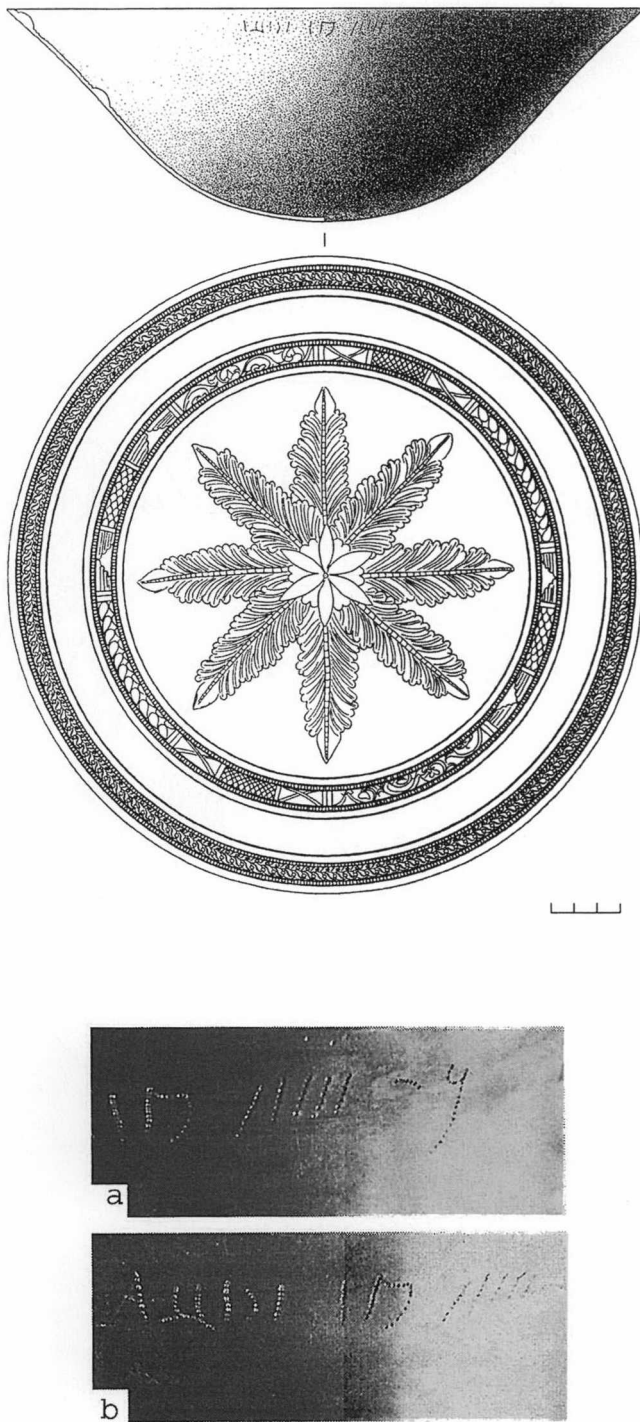


Figure 17. Sargat culture, silver phiale no. 3 from Isakovka I cemetery, kurgan 3, grave 6

from Sarmatian graves of the early first millennium A.D.

The origin of this version of the animal style is not clear. Sarianidi referred to “gold-plentiful Bactria.”³² Such a style appeared in China in the Zhou epoch, but from the third to second century B.C. it was adopted by the Saka of the Semirech’e, and only after that did it become known in Bactria and later among the Sarmatians.³³ The Sargat depictions are close to Hunnic–Chinese objects. Unfortunately, these preliminary observations cannot be clarified until all the material of the Irtysh area is published.³⁴ One observation, however, can be made: the gold objects that resemble those in the Peter the Great treasure were imported into the Sargat culture, not made there.

At present, most of the known vessels in the Irtysh area with Aramaic inscriptions come from the Sargat territory, among which should be included some objects published by Kamilla Trever.³⁵

Some Roman coins were found in the Tobol area and near Omsk,³⁶ and Chinese coins were discovered in the Baraba area.³⁷ To these should no doubt be added the lost examples published in Witsen’s book.³⁸ The system of long-distance trade connected with the Silk Road probably existed in Eurasia in the third quarter of the first millennium B.C. and early in the first millennium A.D. Its northern periphery embraced the distant lands of the western Siberian forest-steppe, as some scholars have concluded.³⁹ Additionally, Pogodin investigated the remains of lacquer objects from the Sargat burials and found some twelve belts and twenty daggers and swords with lacquer coverings.⁴⁰

CONCLUSIONS

After the recent discoveries, scholars no longer doubted that the Sargat antiquities belonged to a society that was not in the backwater of the Eurasian nomadic world but, rather, participated in many events occurring toward the end of an old era and at the beginning of a new one. Some objects

in the Siberian collection of Peter the Great are obviously associated with examples recently discovered at Sargat culture sites. Thus the Sargat culture was organically involved in a system of Eurasian connections and constituted a northern periphery of the nomadic world—one of the largest among the Eurasian “worlds” of the Iron Age.

The Ural region played the role of contact zone, beautifully reflected in its archaeological material, for example, the Filippovka cemetery. The Ural nomads were also responsible for disseminating favorable cultural and economic innovations to the north—to the area of the forest-steppe. There were at least two great waves of nomadic intrusion into the forest-steppe, which were followed by notable social differentiation and the formation of elites. The first corresponds to the period of the sixth to fourth century B.C. (Filippovka, Saka expression), and the second coincides with Late Sarmatian and Hunnic expansion at the turn of the first millennium B.C.

There are several stages in the history of the Sargat culture: the archaic stage (seventh to sixth century B.C.), marked by the first penetration of Saka cultural elements (and people) into the forest-steppe; the formative stage (fifth to third century B.C.), marked by the direct shift of nomadic groups of Sauromatian-Sarmatian type; the classical phase (second century B.C. to second and third centuries A.D.), marked by the creation of an independent polity communicating with a large circle of nomadic chiefdoms and trading with states (Hunnic-Chinese goods); and the late stage (third to fourth century), marked by decline and disintegration.⁴¹

1. Cited in Radlov 1989, pp. 417–18.
2. Amsterdam, 1692, 1705, 1785.
3. Zavitukhina 1999.
4. Zavitukhina 1974, 1977a, 1977b, 1999.
5. Rudenko 1962, p. 11; Zavitukhina 2000, p. 279.
6. Zavitukhina 1977b; Zavitukhina 2000, pp. 277–79.
7. Mogil'nikov 1972; Koryakova 1988; Polos'mak 1988.
8. Koryakova 1988; Mogil'nikov 1992; Matveeva 1993, 1994.
9. Koryakova and Daire 1997.
10. Koryakova and Daire 2000; Daire and Koryakova 2002.
11. For an overview of Sargat funerary rituals, see Koryakova 1988, 1994; Koryakova and Daire 1997; Matveeva 1993, 1994; Mogil'nikov 1992; Polos'mak 1988.
12. Koryakova and Daire 2000.
13. Koryakova and Daire 1997.
14. Koryakova and Daire 2000.
15. Matveev and Matveeva 1987, 1992; Matveeva 1993.
16. Pogodin and Trufanov 1991; Pogodin 1998a.
17. Matiushchenko and Tataurova 1997.
18. Matiushchenko 1989, pp. 53–54.
19. Davydova 1971.
20. Marazov 1998, p. 101, fig. 11.
21. Pogodin 1989.
22. Pogodin 1998a, 1998b, 1989; this material is still largely unpublished.
23. Livshits 2002.
24. *Ibid.*, pp. 43–46.
25. *Ibid.*, p. 53.
26. *Ibid.*, p. 54.
27. Özgen and Östürk 1996, nos. 38–41.
28. Pfrommer 1993, no. 5, p. 24.
29. Marazov 1998.
30. Matveev 1991.
31. Sarianidi 1983.
32. Sarianidi 1984, pp. 78–82.
33. Iatsenko 1993.
34. The Omsk Museum of Art had planned to organize an exhibition of Siberian gold in 2001, but the exhibition was canceled.
35. Trever 1940.
36. Mogil'nikov 1992, p. 304.
37. Polos'mak 1988, p. 77.
38. Rudenko 1962.
39. Bokovenko and Zasetkaia 1993, p. 86.
40. Pogodin 1998b, p. 38.
41. I am grateful to the symposium organizers for inviting me to The Metropolitan Museum of Art; without the Museum's financial support, my participation would not have been possible. I especially thank Jean Sorabella, who was and is so patient and helpful. I am also grateful to Leonid Pogodin for generously sharing the unpublished material from his excavations, and to V. I. Matiushchenko for his permission to publish the material from the Sidorovka cemetery.

*Henri-Paul Francfort,
Giancarlo Ligabue, and
Zainullah Samashev*

II. The Gold of the Griffins: Recent Excavation of a Frozen Tomb in Kazakhstan

The excavation of a frozen tomb of a prince at Berel in the Kazakhstani Altai was conducted by a team of Kazakh, French, and Italian researchers under the direction of Dr. Zainullah Samashev (Institute of Archaeology of Kazakhstan) and Henri-Paul Francfort. It was funded by the Centre National de la Recherche Scientifique (CNRS) and the Ministère des Affaires Étrangères (Ministry of Foreign Affairs) of France, and by the Centro Studi e Ricerche Ligabue in Venice. Three campaigns were organized, in autumn 1998, spring 1999, and early 2000.¹

We shall briefly describe the methods and results of the excavation. However, because the excavations of frozen tombs are exceptional, and the finds made at Berel are rich, we shall focus on one very important issue: the relationship between the nomadic tribes of the Altai and the Achaemenid empire of ancient Persia (sixth to fourth century B.C.).

In the regular monarchic propaganda of Achaemenid Persia, the eastern Eurasian nomads—referred to as Saka—are considered a conquered and tributary people. Therefore, they appear vanquished by the victorious Persians on a cylinder seal from the Oxus Treasure found in Bactria, in

Central Asia,² and on a beautiful cloisonné pectoral in the Miho Museum, Kyoto, where Persian foot soldiers and horsemen attack, overcome, and rout nomadic infantry and cavalry, who are easily identified by their costumes and weaponry.³ This repetitive imperial vision, however, cannot obliterate the reality (recorded by Greek historians) of the cruel defeats suffered by the Achaemenid armies under Cyrus and Darius the Great in battles with these peoples.⁴

Some Saka were obligated to give tribute and to serve in the Persian army, but others, as well as related peoples outside the empire, whether allies or foes of the Persians, were always in contact, directly or indirectly, with the Persian empire up to its most remote eastern outposts in Bactria and Sogdiana (near the Pamir Mountains where today Afghanistan, Tajikistan, China, and Pakistan meet).⁵

The excavations of the frozen tombs in the Altai reveal many unexpected aspects of the cultures of eastern Eurasian nomads in the heart of Asia. We have just completed the excavation of one of these frozen tombs or kurgans. This research program has produced considerable archaeological and biological data, and it has also provided a unique opportunity to reassess the place of these peoples in the Eurasian world.

EXCAVATIONS AT BEREL

Our excavation is the most recent of a succession of excavations of frozen kurgans, performed fifty years ago in Russia, at sites like Pazyryk, Tuekta, and Bashadar,⁶ and more recently at Ukok (early 1990s).⁷ The site we excavated, Berel, is located in the valley of the Bukhtarma River, the only route penetrating the enormous Altai Mountain area from the west. There, Kazakhstan meets Russia and China as well as Mongolia. From this Bukhtarma valley, perhaps from Berel itself, came a silver deer in Achaemenid style



Figure 1. Berel kurgan II and the Tarbagatai Range. Photo: MAFAC

presently in the State Hermitage, Saint Petersburg.⁸

The Bukhtarma's upper course at Berel forms a typical mountain river. Our team explored the valley in 1996 and 1997. The kurgan was identified and selected in 1997 for its potential to keep organic remains in frozen conditions (fig. 1). It is located on the river terrace 1,200 meters above sea level, not far from the Altai peaks to the north. Downstream, to the south, lies the Tarbagatai Range, tracing the border with China.

During the first campaign in autumn 1998, we reached the roof of the funerary chamber, about four meters under the present-day ground surface level. The roof was covered with large sheets of birch bark and twigs. The hole made by an ancient looting was clearly visible. At the same depth is also the permafrost lens with a general temperature of around zero degrees Celsius.

North of the chamber, as we later discovered, a number of sacrificed horses were lying with all their bridles and trappings intact. A saddle still on the back of one of them was visible. Saddles of eastern Eurasian nomads were made of wood, leather, and gold foil and adorned with highly colored embroideries and felt appliqués (fig. 2).⁹

Because winters are extremely cold in the Altai, we had to retreat early in November. The excavation was filled up, and the finds were taken to Alma-Ata and stored in freezers. In April 1999, we resumed the excavation for two months. We knew that we had to dig out everything without a break or a stop because the permafrost lens would have melted during the heat of one summer. We organized a special type of excavation to preserve the cold conditions. Frozen blocks were cut out, placed into a refrigerator truck, and stored in a refrigerated



Figure 2. Reconstruction of the burial at Berel. Photo: MAFAC

room in a laboratory in Alma-Ata. The blocks were to be “excavated” indoors early in the year 2000.

Because of the need to work speedily, only the first of two levels of sacrificed horses was able to be studied on the spot to determine how the artifacts were originally placed. For example, the head of a horse was clearly visible with its neck, withers, and leg. An iron bit was visible in the mouth, as were gilded wooden pendants and cheekpieces in the shape of elks (figs. 3–5). The cheekpieces of a nearby horse were also made of gilded wood, in the shape of mouflon heads (fig. 6).¹⁰

The funerary chamber measures four by two meters, and its height is 1.2 meters. The chamber had been carefully constructed with planks of larch and Siberian pine. Ancient looters had entered by cutting a hole in the side and roof. The sarcophagus, made of a single larch trunk, stood on a platform. Four bronze nails decorated with eagle-griffins fixed a wooden lid in place (fig. 7).¹¹ The sarcophagus fit very well into the interior space. The chamber, with precisely



Figure 3. Gilded wooden horse cheek-piece with elk terminals. After Francfort 1999, p. 57. Photo: MAFAC



Figure 4. Head of horse with cheekpiece, in situ, at Berel. After Francfort 1999, p. 50. Photo: MAFAC

fitted planks, was obviously the work of a skilled carpenter (fig. 8).¹²

After the removal of the coffin lid, we discovered that not one but two skeletons had been buried in this kurgan (see fig. 1). The bodies had been deposited with an interval of time between them, during which the pillaging occurred. The first individual was a man of approximately forty years (a ruler whose importance was marked by the sacrifice of thirteen horses and by the construction of a kurgan with a diameter of twenty-three meters). The first body had been pushed away when the second body was interred, a female sixty to seventy years old. A wooden pillow, common in the Altai during this period, was placed in the coffin. The two bodies, although not preserved as mummies, had enough organic tissue for analysis.



Figure 5. Gilded wooden horse pendant in the shape of an elk. Photo: MAFAC



Figure 6. Gilded wooden cheekpiece in the shape of mouflon heads. Photo: MAFAC



Figure 7. Bronze nail decorated with eagle-griffins, from the lid of the sarcophagus. Photo: MAFAC

Anthropologists, biologists, and parasitologists are studying the human corpses. The two individuals had some eastern features but belonged to a mixed population. The ruler had a high pigtail. He died of a head wound inflicted by an ax (a death common in the Altai),¹³ after an unsuccessful trepanation had been attempted. Tiny marks left by a sharp knife were observed on various bones; the sternum had been cut, and remains of string testified to embalming procedures (emptying the body, filling it with vegetal and animal material, and sewing the skin in place).¹⁴ In regard to funerary practices, one recalls that Herodotus mentioned that the embalmed body of the king of the Scythians was displayed to the allied tribes during a yearlong journey.¹⁵

Another important discovery was that the two bodies were infested by a parasite (*Ankylostomias*) of tropical type, perhaps brought from warmer areas like the Aral or Caspian regions or Iran. The two individuals may have traveled far away from the Altai. Genetic analysis showed that the two individuals were not closely related. Because they were buried at different times (separated by five to forty-five years), the woman was perhaps the dowager. Other double burials in the Altai should be reexamined. When the bodies are found in the same or different coffins



Figure 8. The sarcophagus and the two skeletons at Berel. Photo: MAFAC

(both cases occur in the Altai), one can no longer assume that the females were sacrificed immediately after the husband's death.¹⁶ The high status of women in Altai society also argues in favor of other interpretations.¹⁷

It is impossible to determine the identity of these people, whether Argippeans, Wu-Han, or Yuezhi, in Greek or Chinese sources. However, they were culturally Altaian and certainly related to the corpses buried in the Ukok kurgans, only 100 kilometers away as the crow flies. From an archaeological point of view, the Berel people are part of the so-called Pazyryk culture.

The two layers of sacrificed horses had been placed north of the chamber (see fig. 2). Beneath the horses with their bridles and trappings intact (mentioned above) were an additional seven horses, which were found undisturbed under large birch-bark sheets. Excavating a mixture of organic material is rather an unusual experience in archaeology.



Figure 9. Head of a feline, a gilded wooden pendant, in situ. After Francfort 1999, p. 60. Photo: MAFAC



Figure 10. Wooden belt plaque with a predation scene, from Berel. Photo: MAFAC

Horse skin, wooden ornaments, and textiles had to be recorded in place (fig. 9), with the maximum of information, before the blocks were carefully cut out by the restorers and transported to the capital city, Alma-Ata. There they were found again in a good state of preservation in January 2000 and removed one at a time from the refrigerated room. Unfreezing each block took one night. Each block was then studied in detail under controlled temperature conditions. Various specialists took part in the study of the blocks: zoologists, veterinarians, biologists, archaeologists, and restorers. The quantity and quality of the collected data are exceptional. Forty kilograms of horse bodies' samples were collected and are presently being studied in laboratories in Kazakhstan and France (especially in the Institute of Horse Pathology in Normandy). Parasitology, bacteriology, virology, and genetic analyses are in process.

THE FINDS

Some of the finds are remarkable. First we will discuss those discovered in the funerary chamber, and then the most Iranized of the horse trappings. In the chamber, a fragment of a fur-lined coat was found on the coffin lid. It had been decorated with a scroll made of small glass beads (blue, green, red) adorned with gold foil and pyrite. Such scroll motifs originated in the Near East.

Two wooden belt plaques are the only remains of the ruler's dress (fig. 10). They depict a tiger attacking a deer. Predatory beasts attacking their prey are a common theme in steppe art, but this example has three remarkable elements. First, the predator is the easternmost one of the steppe zone, the tiger. Second, the deer's hindquarters are marked by a design similar to a "dot and comma" pattern. Third, the two animals are represented with "twisted hindquarters," a



Figure 11. Gilded wooden raptor griffins.
Photo: MAFAC

typical stylistic motif occurring over a vast area centered on the Altai-Siberia region. The Berel plaque can be compared to a pair of gold plaques in the Siberian collection of Peter the Great in the State Hermitage, Saint Petersburg.¹⁸ Here, the twisted hindquarters appear on a horse attacked by a feline with wings, horns, and a tail ending in a spearhead shape. These plaques may have been manufactured in the fourth to third century B.C., somewhere between the Altai and the Semirech'e area (the Alma-Ata region in Kazakhstan).

The "dot-comma" motif occurs not only in the art of the Altai but also in Bactria, where it appears on various objects of the Oxus Treasure that have Achaemenid affinities.¹⁹ Bactria, an important eastern satrapy of the Achaemenid empire, could have been one of the main regions for the transmission of Persian themes and motifs toward the Altai.

Bronze eagle-griffins adorned the tops of the coffin nails (see fig. 7). This mythical bird of prey is common in the art of the Altai, although its origins are mixed: Persia, Greece (for griffins from Pazyryk),²⁰ and the local Siberian imagery of eagles (fig. 11).²¹

A row of miniature wooden sphinxes was placed on the coffin lid (fig. 12). It symmetrically flanked a monocephalic (one-headed) sphinx with two bodies. The sphinx is obviously Near Eastern but its characteristics and headgear are local, recalling saddle



Figure 12. Miniature wooden sphinx, from a coffin lid. Photo: MAFAC

ornaments from Pazyryk kurgan 1 and wood pendants from Kuturguntas.²²

Although the grave robbers had removed precious metals from the burial chamber, their looting had only partly destroyed the horses buried beside the tomb, and this area offered the best idea of the ruler's funerary cavalry. A saddle cover was photographed in situ and not cleaned before the final restoration, yet to take place, but a



scene of a yak being attacked by a tiger and an eagle-griffin is visible. This motif recalls the predation scene on a saddle from Pazyryk kurgan 1,²³ as well as a similar scene on a Siberian gold plaque.²⁴ Yaks and tigers suggest the Sino-Mongol area and the Xiongnu world, that is, the world of the Huns. Such problems of iconography and ethnic identification are currently being studied.

Each horse had its own iconographic consistency, and the iconographic regions—Near Eastern, Sino-Mongol, and local Siberian—were not mixed. A circle of allies seem to have brought horses, with their

Figure 13. Gilded wooden griffin with a radiating mane, from Berel. After Francfort 1999, p. 63. Photo: MAFAC

Figure 14. Wood and leather griffin in the round, from Berel. Photo: MAFAC



regional trappings, to be sacrificed at the ruler's funeral.²⁵ Three horses, the first lying to the east, had leather and wood horns gilded, as at Tuekta and Bashadar 2. Such false horns belong to parade headgear. In Central Asia, sacrificing horned horses is an ancient practice known in the Bronze Age, in the rock art of Tamgaly (Kazakhstan), where the horned horse, the horseman, and the ax in the hands of the sacrificer are visible. During the same period, strange composite mythical animals appear in the rock art of the Altai, some having bovid bodies with deer antlers. But the study of the rock art, so important for the archaeology of the whole of Central Asia, is still far from accomplished.²⁶

The details of bridles at Berel were similar to those of Tuekta: horse bits, cheek-pieces, separators, and frontal, cheek, and breast pendants and ornaments.²⁷ On the nicknamed "mouflon horse" at Berel we found mouflons depicted on pendants and on wooden cheekpieces coated with stain and covered with gold (see fig. 6).²⁸ The head and nostril treatment, as well as the marks on the horn, indicate Achaemenid influence, similar to stylizations on luxury tableware.²⁹

Another horse was decorated with a griffin with a radiating mane (fig. 13), actually an eagle-griffin grasping a mouflon head in its beak; it is an alternate version of a predation scene, with Achaemenid stylistic details. Two garlands of pendants join together in a central breast medallion, where a mouflon head is represented in relief as a protome, and the cheekpiece shows the same ornamental theme. It is relevant at this point to mention the beautiful headgear of Pazyryk kurgan 1, with the same predation theme in a purely local style.³⁰ The Achaemenid origin of the motif is known from various jewelry pieces and from the Pazyryk 1 feltwork reproducing gold originals.³¹

Another Berel griffin is depicted in the round (fig. 14). It had been fixed on the head of a horse. The leather wings have disappeared, but one can see the mane, protruding eyes, half-open beak, and scrolling horns.

The spearhead-shaped ears were fixed separately, pointing forward. All these details are reminiscent of architectural elements at Persepolis, where monumental column capitals had such griffins.³² In Central Asia, at Kalaly-Gyr, the provincial capital of the Achaemenid satrap of Khwarezm (near the Aral Sea in present-day Uzbekistan), a similar Persepolitan-type griffin image has been found in a palace.³³ The same type of griffin decorates a bracelet in the Oxus Treasure, and its hindquarters are marked by the "dot and comma" motif.³⁴ Outside the Altai, this



Figure 15. Gilded wooden horned lion on a palmette decorated with two griffin heads. Photo: MAFAC



Figure 16. Gilded wooden horned lion with a spearheadlike-ending tail, scrolling horn, and slim body shaped like an S. Photo: MAFAC

motif is typical of the art of Achaemenid Bactria.

The horned lion is another mythical being of Berel, appearing on another horse but again deriving from Achaemenid Persia. It has an open mouth, big eye, ear, collar, and scrolling horn (fig. 15). The hump on the back is a stylistic element originating in the local Siberian art of the Early Iron Age (beginning of the first millennium B.C.).³⁵ Pendants from the same horse depict this creature in relief, on a plaque where a palmette is flanked by two eagle-griffin heads. The monster has a typical scorpion tail, reminiscent of the beautiful cloisonné gold torque from the Siberian collection of Peter the Great; here are the details of the Berel horned lion from horns to tail,³⁶ as well as some peculiarities of the Oxus bracelet (the flat ends of the horns, for example). Once more, there are parallels with the monumental sculpture of the capitals at Persepolis, where the mortises for the horns remain empty.³⁷ The same monster appears on the glazed brick walls of Darius' palace at Susa, now in the Louvre in Paris, but there the artist represented the horns in a symmetrical manner.³⁸ At Persepolis, the horned lion with scorpion tail stands on a door jamb of the Hundred Column Hall, attacked by the Persian royal hero.³⁹

On a cylinder seal in the Ashmolean Museum, Oxford, the horned lion is grasped by the standing royal hero.⁴⁰ Another example of a horned lion comes from Xinjiang, western China, at the extremities of a big torque-like object from Xinyuan.⁴¹ A horned lion in a different style may be seen on a figurine from the Oxus Treasure, here with a spearheadlike-ending tail.⁴² At Berel, a horse wore pendants



Figure 17. Gilded wooden frontlet in the shape of horned lions, with a masklike face. After Francfort 1999, p. 50. Photo: MAFAC

depicting the same creature but in an Altaian style: spearheadlike-ending tail, scrolling horn, and slim body shaped like an S (fig. 16).

The frontal ornament of another Berel horse exhibits a different version of the horned lion (fig. 17). Here, two symmetrical felines in profile and a feline face turned upside down (or the reverse) are shown, with open mouth, horn, ear, mane, and collar with a typical Achaemenid drop-shaped decorative pattern. The feline face, masklike, shows exactly the same components of the horned lion in a frontal symmetrical transposition: eyes, collar, ears, and horns. Here the artist is not copying the Achaemenid model. Rather, the motif is integrated into another artistic language, using double inverted symmetries and split representation: the old artistic principles of Eurasia, known since the Bronze Age cultures of Siberia. This is conceptual art, where the artist represents what he or she knows, not what he or she sees. A frontal ornament from Pazyryk kurgan 1 depicts a horned lion attacking a bird in a split representation where either a full face or a profile view, but not both at the same time, can be seen.

The horned lion, enemy of the royal hero in Persia, was adopted in the Altai either as a decorative motif or as a motif with a new function and meaning, used on objects like the trappings of elite horses. Such usage is interesting in a region where the lion is absent in the local fauna and the dominant image is that of the eagle-griffin (here seen on a cheekpiece). Certainly the artistic and decorative value of Achaemenid motifs was appreciated in the Altai as in Persia, where the art, whether heroic or narrative, is always figurative.

For Altai rulers, certain Achaemenid themes and motifs were chosen from a vast repertoire and integrated into a specific Altaian artistic universe already possessing its own iconographic and stylistic laws. The functions of these motifs migrated from court art to horse trappings on animals disguised as wild animals and psychopomps. Such a migration implies routes that can be

traced via Bactria and Khwarezm, but also social mechanisms involving the interaction of nomadic elites. For instance, in Kazakhstan, near Alma-Ata, a rich kurgan excavated at Issyk offers evidence for intermediaries. There, some Achaemenid silver was found along with typical gold plaques of Siberian origin depicting elk (not a steppe animal) with twisted hindquarters (a Siberian trait).

In the Altai, only the elite burials demonstrate relations with Persia, and the meaning of the motifs that migrated from Iran, as well as their aesthetic value, must have been of interest. In the hundreds of modest burials excavated, the predatory animals are all indigenous: panther, wolf, and eagle (shown as eagle-griffin). In nomadic art, hunted animals are really hunted, and the predator is a hunter. The predator therefore is not an enemy to be defeated, as it was in the dualist universe of Persia. It is possible, then, to suggest that the Altai elite, having mastered the flow of exchanges with Persia, integrated a monster such as the horned lion into their imagery, not as an incarnation of evil but, rather, as just another predatory creature like the familiar panther, wolf, eagle-griffin, bear, tiger, or even the old dragon of the stone stelae and slabs of the Siberian Bronze Age cultures. In the Central Asiatic cultures of shamanic type, the supernatural world is immanent, omnipresent, and the predator is part of a continuous world where the cyclical exchanges are permanent between nature and the supernatural, life and death.⁴³

The ferocious predatory beasts decorating horse trappings or tattooed on human bodies are not simple barbaric copies of Achaemenid models. The artistic and social codes ruling the array of Altai trappings were powerful and imposed their own laws on the images borrowed from Persia. The way the pure ornaments from Persia are used tends to support this notion. Achaemenid ornament presented in its original form is integrated in local compositions. Examples include the palmette between griffin heads; the feline faces from Pazyryk, recalling the Bes heads of the Oxus Treasure, but with a beard in

palmette shape;⁴⁴ and lotus flower motifs as pendants or bridle decorations.

Persia was not the only source of inspiration for the Altai artists. Early Siberian local art, known since the Neolithic and Bronze Ages, is splendidly represented by the image of the elk with typical antlers and humped back. Chinese art of the Warring States period may also have influenced some imagery of feline faces, perhaps via Chinese silk and lacquer found in the Altai as at Pazyryk and Ukok.⁴⁵ Here the scroll inside the ear looks Chinese, but the feline face is above a motif that is not simply geometrical but also depicts stylized elk heads, another form of the predation scene.

We are far from having exhausted or understood all the lessons of the Berel excavations. A great deal of restoration and analysis is still to be performed. But as far as the question of relations with the Achaemenid empire is concerned, there is an interesting problem. Recent dendrochronological results for the burial at Berel provide a date of 294 B.C., twenty-five or thirty years after the fall of the Achaemenid empire. Thus it is necessary to try to distinguish the transmission of *objects* from the transmission of a dynamic *artistic tradition*. Formally, this problem is the same as the one posed by Achaemenid antiquities found in later (Hellenistic) contexts in Bactria in three sanctuaries: the Oxus Treasure, the finds of Takht-i Sangin (Tajikistan), and one temple in Ai Khanoum (Afghanistan).⁴⁶

Paris, January 2003

1. Francfort et al. 1998; Francfort 1999; Samashev et al. 2000.
2. Dalton 1964, pl. XVI, fig. 114, pp. 31–32.
3. Miho 1997, no. 38, pp. 87–89.
4. Briant 1996, pp. 767–68.
5. Kuz'mina 1977b.
6. For earlier excavations, see the bibliography in Schiltz 1994.
7. For recent publications of the Ukok excavations, see Derevianko and Molodin 2000; Molodin 2000b; Polos'mak 1994, 2001.
8. Paris 1975. A bronze mirror discovered at Maiemir helped Mikhail Griaznov define the Arzhan-Maiemir style of Scytho-Siberian art (Griaznov 1969, fig. 150). Our recent research in Maiemir found petroglyphs with the same motif in the same style; see Marsadolov et al. 1998.
9. From Pazyryk kurgan 1: Rudenko 1960, pl. 135; from kurgan 5, a felt hanging with a representation of a rider: *ibid.*, pls. 147, 154.
10. Herodotus, *The Persian Wars* 1.125, mentions the gold horse trappings of the Massagetae; it is possible that the text refers to gilded bronze or wood pieces and not solid gold.
11. Similar griffins were found at Berel, kurgan 1: Rudenko 1953, pl. LXXXV, figs. 4–5.
12. Such careful woodworking is known only in Pazyryk kurgans 2 and 5 (Rudenko 1970, pls. 33–35; Rudenko 1953, p. 47, fig. 19, p. 100, fig. 52), and Tuekta 1 and Bashadar 1 (Rudenko 1960, pls. II, XIV).
13. Samashev 1992, fig. 174, nos. 1–2; Rusakova 1998.
14. Ak-Alakha 3: Polos'mak 1996; Pazyryk kurgan 5: Rudenko 1970; Bashadar 2: Rudenko 1960.
15. *The Persian Wars* 4.64.
16. Same coffin: Pazyryk kurgans 2 and 5, Shibe; or two separate coffins: Pazyryk kurgan 4, Ak-Alakha 1, kurgan 1.
17. The young woman of Ak-Alakha 3 wore the same tattoos as a Pazyryk old man who was long considered a leader.
18. See, for example, Schiltz 1994, fig. 140.
19. Dalton 1964, pl. VI, no. 11.
20. Kawami 1991.
21. Barkova 1987.
22. Polos'mak 1994, p. 90, fig. 114; Griaznov 1950, pl. XVII, 2. Ethnic identifications of such heads are risky and not established (Barkova and Gokhman 1994); the same is true for the identification of Huns' heads reflecting warriors killed in battle (Kliashornyi and Savinov 1998). The interpretation of such sphinxes in the Altai is still problematic.
23. Schiltz 1994, fig. 259.
24. *Ibid.*, fig. 172.
25. A similar hypothesis was proposed by Griaznov 1984 for the horse sacrifices of the Arzhan kurgan in Tuva (eighth to seventh century B.C.).
26. Bashadar 2 and Tuekta 1: Rudenko 1960, pls. XXXVIII, LXVIII–LXX. The custom of putting horned masks on horses is widespread in the eastern nomadic world and began in the Bronze Age in Central Asia; see Francfort 1997.
27. Schiltz 1994, p. 403, fig. 333.
28. Parallels in Pazyryk and Bashadar: Rudenko 1970, pls. 84, 85 (Pazyryk 1); Rudenko 1960, pl. L (Bashadar 2); Rudenko 1953, pls. XLV, 5, XLVI, 1 (Pazyryk 2).
29. Such as a handle from the Oxus Treasure: Dalton 1964, pl. V, no. 10.

30. Schiltz 1994, fig. 202.
31. Ibid., fig. 212.
32. Ghirshman 1963, p. 218, fig. 267; Wilber 1969, p. 7.
33. Tolstov 1958, p. 158, fig. 61.
34. Dalton 1964, pl. 22.
35. Sher 1994, pp. i–xxviii, esp. xvii–xx.
36. Schiltz 1994, p. 302.
37. Wilber 1969, p. 6.
38. Ghirshman 1963, p. 142, fig. 191.
39. Ibid., p. 202, fig. 250; Dalton 1964, p. xlv, fig. 26.
40. Collon 1987, no. 420, p. 91.
41. Xinjiang 1999, p. 371, no. 1055.
42. Schiltz 1994, fig. 227.
43. Hamayon 1990, 1994; Jacobson 1993, 1997.
44. Dalton 1964, pl. XII, no. 32, and on the chariot.
45. Molodin and Polos'mak 1999.
46. The more recent chance finds of “Oxus 2” or Mir Zakah are of the same kind.

*Konstantin V. Chugunov,
Anatolii Nagler, and
Hermann Parzinger*

12. Discovery of a Royal Burial of the Scythian Period in Tuva

The study of an intact royal burial in Tuva is the result of a joint investigation by a Russian–German scientific project. The excavation was conducted by the Central Asian Archaeological Expedition of the State Hermitage, Saint Petersburg, and the Eurasian Section of the German Archaeological Institute, Berlin.



Figure 1. Arzhan 2, burial 5, general view from the southeast. Photo by the authors

Figure 2. Arzhan 2, burial 5, plaques decorating a male headdress. Photo by the authors



The Arzhan 2 kurgan, where the undisturbed burial was found (fig. 1), is located in the northern Tuva Republic of eastern Siberia, near the village of Arzhan in the Western Sayan Mountains. The diameter of the site's ground construction is eighty meters, its height two meters. A preliminary examination of the kurgan was carried out in 1998. A detailed plan of the site was made, and German specialists completed a geophysical survey. More than 200 ring-shaped stone ritual constructions surrounding the kurgan were found. Excavation of the kurgan itself was begun in 2000, at which time some of the ring-shaped constructions were also studied. This work allowed for the selection of the optimal methodological approach to the study of this extraordinary site.

The excavation of 2001 began in May and continued through the end of July. Roughly a quarter of the aboveground structure was studied. It is a circular building made of slab stone with clay and has an enclosure faced with vertically set slabs. Many details of this elaborate construction have yet to be ascertained.

The most important (and unanticipated) result of the 2001 season was the discovery inside the kurgan of an undisturbed grave dated to the second half of the seventh century B.C. In the bottom of a deep square pit, excavators found a wooden burial chamber with double walls of Siberian larch. The wood is perfectly preserved and it was thus possible to establish all the construction features of the chamber. On its carefully prepared floor, the deceased, a man and a woman, had been placed on their left sides, knees bent, heads facing northwest, a position characteristic of Scythian-period burials in Tuva. Their rich burial attire and accom-



Figure 3. Arzhan 2, burial 5, cover of a quiver, a bow, a lash, and plaques decorating a quiver (detail). Photo by the authors

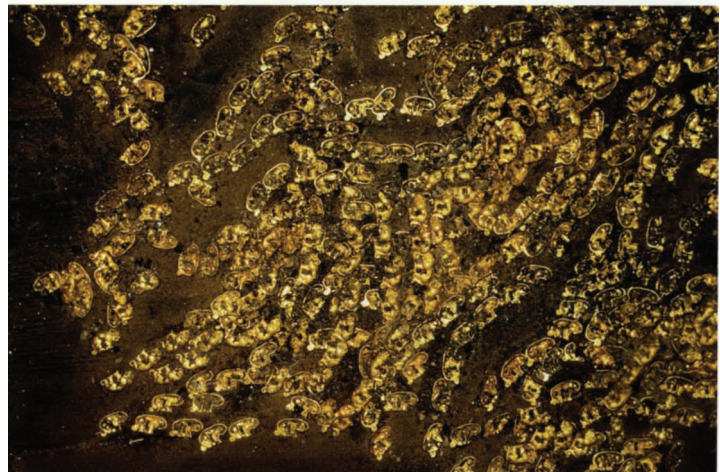


Figure 4. Arzhan 2, burial 5, decoration of a male garment (detail). Photo by the authors



Figure 5. Objects from the royal burial. Photo: V. Terebenin

panying objects indicate that the man and woman belonged to the upper echelon of nomadic nobility. Both were dressed in garments decorated with small sewn-on gold plaques in the shape of a feline predator. Some 5,000 of these plaques were found (fig. 4). The position of the plaques made it possible, for the first time in archaeological practice, to “read” the pattern formed by them on the cloth. The headdresses are decorated with gold plaques in the shape of horses, stags, and panthers (fig. 2). The female headdress is crowned by gold pins featuring engravings in the so-called Scythian animal style; the pins are topped with finials, one of which is an exquisite sculpture of a standing stag. In the area of the woman’s neck and chest were earrings, numerous pendants, and beads made of gold, turquoise, and even amber. Around the man’s neck was a massive gold torque, a symbol of power. The entire surface of the torque, like that of many other objects found

in the chamber, is decorated with depictions of animals—horses, stags, rams, wild boar, camels, panthers, and wolves, constituting a veritable encyclopedia of Central Asian nomadic art (fig. 5). The man’s trousers are spangled with tiny gold beads, his boot tops covered with sheet gold. Placed in front of each corpse’s face was a bronze mirror. Grave goods were hung in the corners of the chamber on vertical poles. Near the woman were a golden pectoral, leather vessels containing grain, a wooden ladle, and bronze and stone censers. Near the man was a ceremonial belt, to which were attached a bow, quiver (fig. 3), and battle-ax. All weapons found in the grave are made of iron. The short *akinakes*-type sword, knives, ax, and even arrowheads are decorated with gold. Evaluation of the decoration became possible after careful restoration in the State Hermitage laboratory.

Work at the Arzhan 2 kurgan was completed in 2004.

13. The Material Culture of the Iron Age Peoples in Xinjiang, Northwest China

Xinjiang, in eastern Central Asia, is the westernmost and largest provincial region of China. Xinjiang archaeology began 100 years ago, when Sven Hedin, Aurel Stein, and other Western explorers conducted extensive archaeological and geographical expeditions around the Tarim Basin. Although some finds from these expeditions suggested the existence of early cultures in Xinjiang, the prehistory of Xinjiang as a whole has remained virtually unknown until recently.

In the early 1980s, prehistoric remains found in Xinjiang were still roughly divided into three categories: microliths, polished stone tools, and painted pottery, all being ascribed to the Late Neolithic.¹ Since then, however, with increasing archaeological discoveries in Xinjiang, many painted pottery sites are often associated with bronze or even iron objects, suggesting that they belong to a developed cultural horizon. Some Chinese scholars thus have proposed attributing many sites with painted pottery to the Bronze or Iron Age rather than to the Neolithic,² a concept that marks an important turn in the history of Xinjiang archaeology.

The last twenty years have witnessed a number of remarkable archaeological discoveries in Xinjiang, such as the so-called Tarim mummies from the Taklamakan Desert³ and

the large cemetery site at Chawuhugou in the southern foothills of the Tian Shan.⁴ These discoveries clearly show that Xinjiang entered the Bronze Age no later than the beginning of the second millennium B.C., and the Iron Age began in Xinjiang about 1000 B.C.⁵ This essay focuses on the material culture of Iron Age Xinjiang and its connections with neighboring regions.

THE MATERIAL CULTURE OF IRON AGE XINJIANG

More than thirty Iron Age sites have been discovered in Xinjiang. They may be organized into fourteen cultures or cultural groups, namely Chawuhugou, Qunbake, Baozidong, Alagou 1, Alagou 2, Wulapo, Aidinghu, Xiangbaobao, Tiemulike, Dalongkou, Hanqigou, Miao'ergou, Xiatai, and Zahongluke.⁶ Most of these cultures are concentrated roughly along the foothills of the Tian Shan, with a few along the southern rim of the Tarim Basin (fig. 1).

Most Iron Age sites in Xinjiang are cemeteries. Among them, Chawuhugou is the largest and most important burial site, consisting of 2,000 graves.⁷ The excavation of over 600 graves has revealed a very rich assemblage of funeral goods, including a large number of painted pottery vessels (fig. 2) and implements and ornaments of bronze, iron, gold, and bone (fig. 3). The grave goods discovered at other Iron Age cemeteries also show the predominant place of painted pottery vessels and bronze objects. These discoveries, as well as many stray finds of metal vessels, shed new light on the material culture of Iron Age Xinjiang.

Painted Pottery

The extensive use of painted pottery is one of the most significant features of Iron Age cultures in Xinjiang. To a large extent, this reflects a continuation of the Bronze Age tradition in the region. The beginning of painted pottery in Xinjiang can be traced back to the early second millennium B.C., as attested by recent finds from the Tianshanbeilu cemetery in Hami, eastern

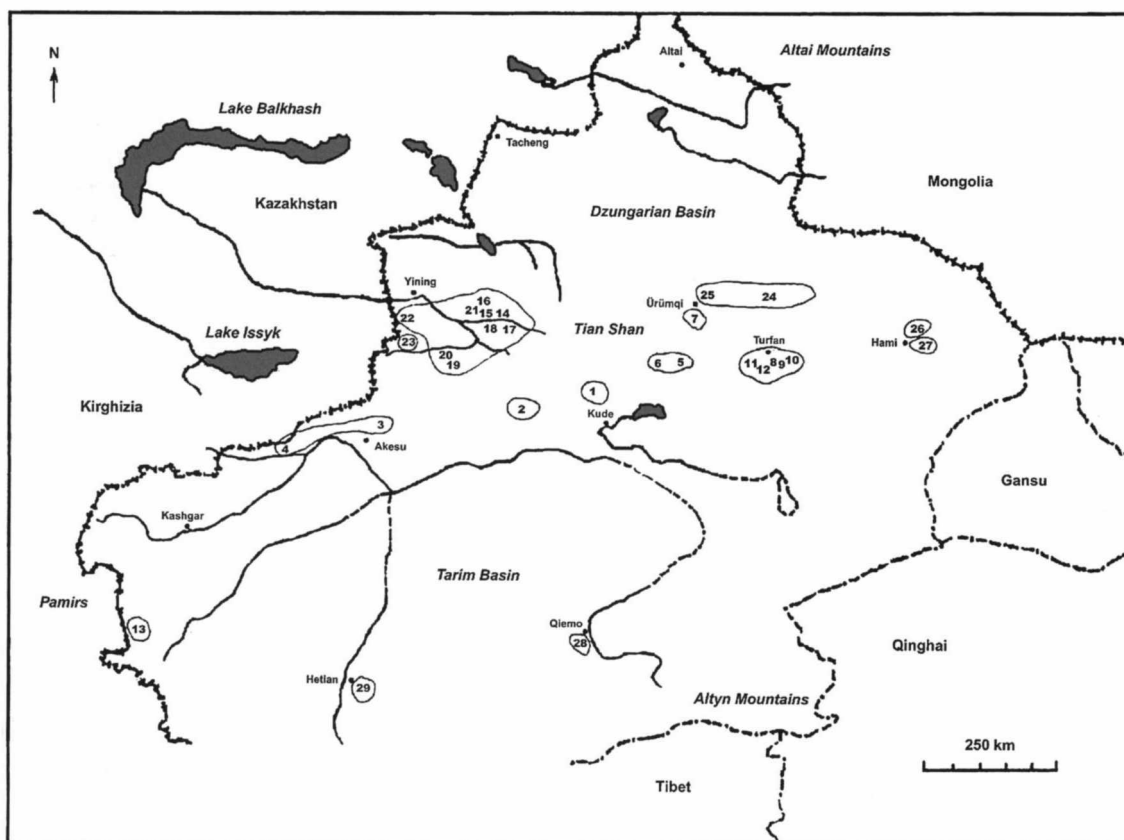


Figure 1. Distribution of Iron Age cultures and major sites in Xinjiang: 1. Chawuhugou; 2. Qunbake; 3. Baozidong; 4. Kulansarak; 5. Alagou; 6. Dongfengchang; 7. Wulapu; 8. Aidinghu; 9. Subashi; 10. Yanghai; 11. Kageqiake; 12. Yinyayilake; 13. Xiangbaobao; 14. Tiemulike; 15. Zhongyangchang; 16. Nulasai; 17. Gongnaisi; 18. Heishantou; 19. Yimuchang; 20. Tielisigai; 21. Halatubai; 22. Suodunbulake; 23. Xiatai; 24. Dalongkou; 25. Dacaotan; 26. Hanqigou; 27. Miao'ergou; 28. Zahongluke; 29. Shanpula

Xinjiang.⁸ The Bronze Age painted pottery unearthed in eastern Xinjiang shows close links with the earlier painted pottery traditions of Gansu and Qinghai to the east. It seems probable that the Xinjiang painted pottery originated from the westward spread of the Gansu-Qinghai ceramic traditions.⁹ The concentrated distribution of painted pottery along the foothills of the Tian Shan in Iron Age Xinjiang may also be seen as an extension of Bronze Age ceramic traditions.

From the beginning of the first millennium B.C., painted pottery declined in Gansu and Qinghai, but in Xinjiang it seems to have shown a strong tendency toward local innova-

tions, which resulted in a wide variety of vessel forms and painted designs. The prominent presence of several regional styles of painted pottery can be readily seen among the finds from such Iron Age sites as Chawuhugou (fig. 2), Yanghai (fig. 4), Aidinghu (fig. 5), and Alagou (fig. 6), all located along the foothills of the Tian Shan. The appearance of regional ceramic styles is a clear sign of the formation and growth of regional cultural centers in Iron Age Xinjiang, most likely associated with different groups of people.

Also significant is the evidence for close cultural connections among these regional centers. For example, bowls with a stand

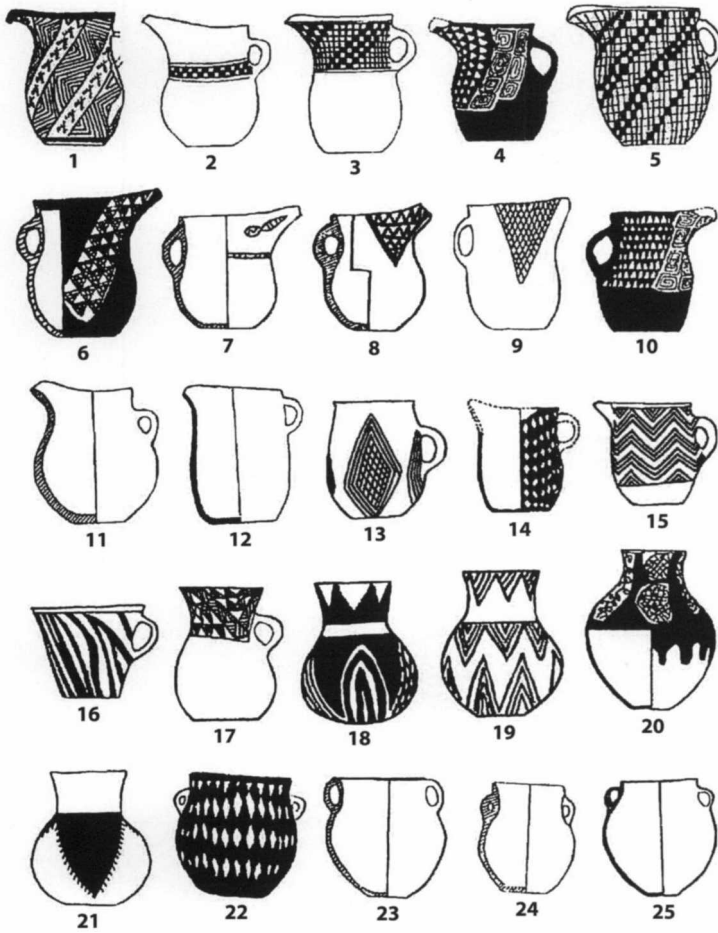


Figure 2. Pottery vessels found at the Chawuhugou cemeteries, Hejing county, Xinjiang. (1–3, 12–13, 15–17, 21, 25) from cemetery 1; (4–6, 8–10, 14, 18–20, 22–24) from cemetery 4; (7, 11) from cemetery 2. After XAT 1988, p. 87, fig. 12, p. 90, fig. 13; XIA 1987, fig. 5; XIA 1988, pp. 10–16, figs. 9–12; XIA 1989a, p. 20, fig. 7; XAT 1990, p. 516, fig. 5

(*dou* vessel) are seen not only in Hami, eastern Xinjiang, but also at the sites of Yanghai (fig. 4 [1]) and Alagou in the regions of Turfan and Ürümqi. The spouted jug with one handle is a typical form of Chawuhugou ceramic vessels (fig. 2 [1–10]). Jugs with similar forms, however, have also been found in the Turfan region to the east and the Kuche

region to the west. The similarities in vessel forms from different regions in Xinjiang suggest the existence of cultural interactions between those regional centers.

Copper and Bronze Objects

Copper and bronze finds from Iron Age contexts in Xinjiang show some interesting features. The most common metal objects unearthed at the burial sites are small implements, weapons, and ornaments, such as knives, awls, arrowheads, mirrors, snaffle bits, buckles, and earrings (fig. 3 [1–29]). However, there are some stray finds of relatively large copper and bronze vessels such as cauldrons and footed trays, which are also essential for a better understanding of the material culture of Iron Age Xinjiang.

Cauldrons

More than twenty cauldrons have so far been found in Xinjiang, and most of them can be dated to the mid-first millennium B.C. (fig. 7).¹⁰ They were mostly recovered north of the Tian Shan, in the northern foothills and in the Altai, except for two examples that came from the mountainous areas of southern Xinjiang.¹¹ This phenomenon suggests that the appearance and wide use of copper and bronze cauldrons in Xinjiang were associated with the rise of a nomadic way of life in northern Xinjiang during the early first millennium B.C.

These cauldrons can be roughly classified into four types based on their handle design. Type I is characterized by a pair of rounded handles extending up from the rim of the mouth (fig. 7 [1–10]). Type II is distinguished by a pair of handles extending obliquely from the shoulder of the vessel (fig. 7 [11–13]). Type III has a pair of “three-legged” handles placed horizontally on the shoulder (fig. 7 [14]). Type IV is a developed form of Type I, with two handles decorated with “mushroom” designs. This type is generally dated to the third through fifth centuries A.D., much later than the other types. So far, only one specimen of this type has been recovered in Xinjiang.

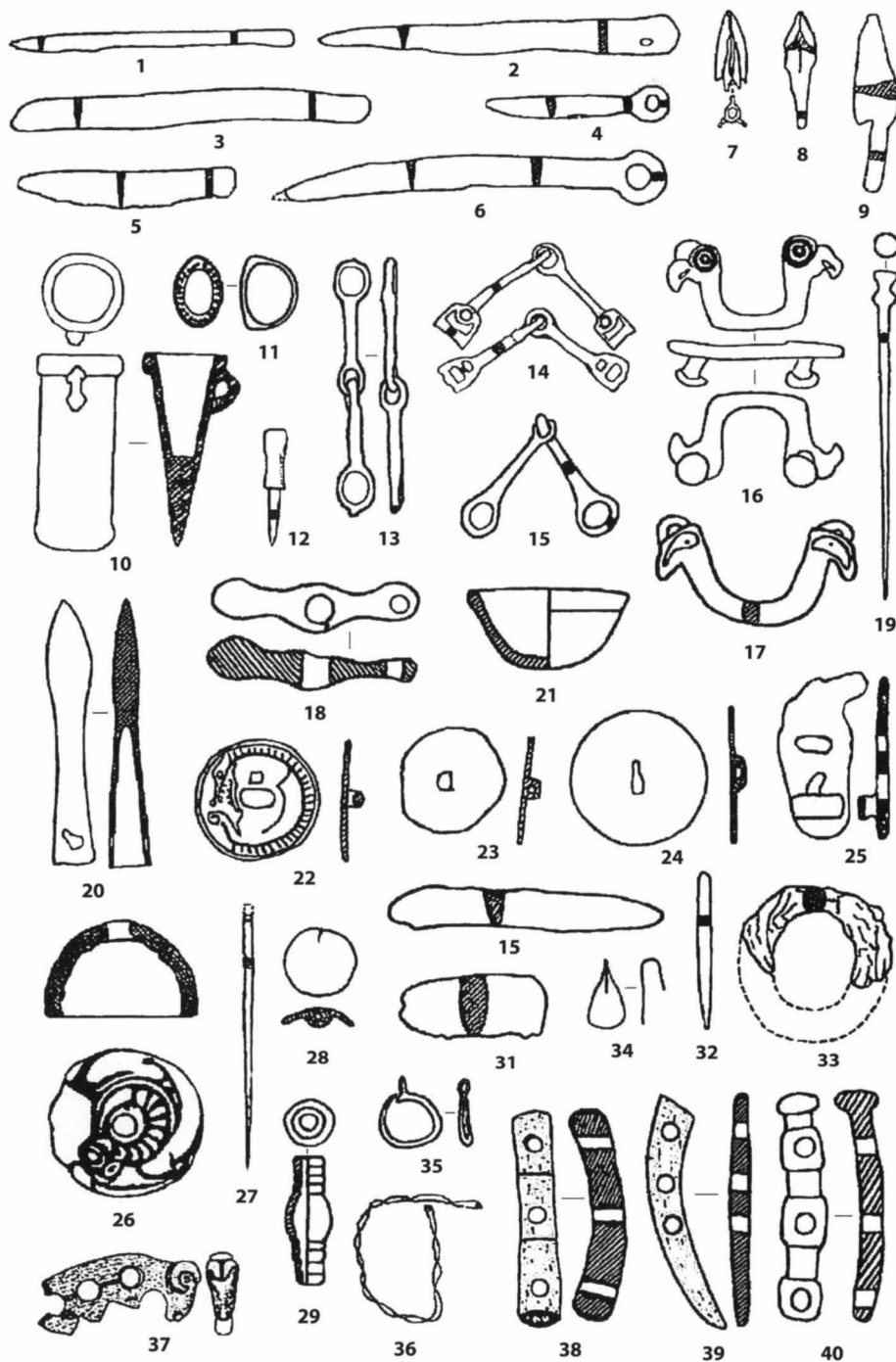


Figure 3. Funeral artifacts from the Chawuhugou cemeteries, Hejing county, Xinjiang. (1–29) copper and bronze objects; (30–33) iron objects; (34–36) gold ornaments; (37–40) bone ornaments and cheekpieces. After XAT 1988, pp. 91–93, figs. 14–17; XAT 1990, p. 517, fig. 6; XIA 1987, p. 5, fig. 6; XIA 1988, pp. 18–21, figs. 13–15; XIA 1992, pp. 52–59, figs. 39–42

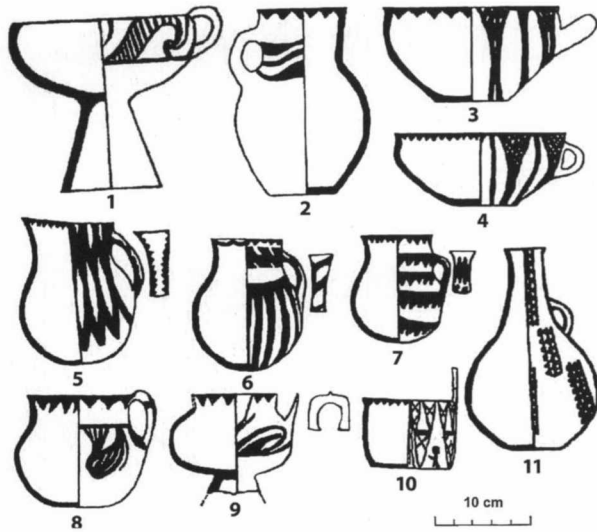


Figure 4. Painted pottery vessels from Yanghai cemetery, Shanshan county, Xinjiang. (1) footed bowl; (2, 5-8) handled jars; (3-4, 10) handled bowls; (9) footed jar; (11) handled pot. After XIA 1989b, pp. 35-37, figs. 1-4

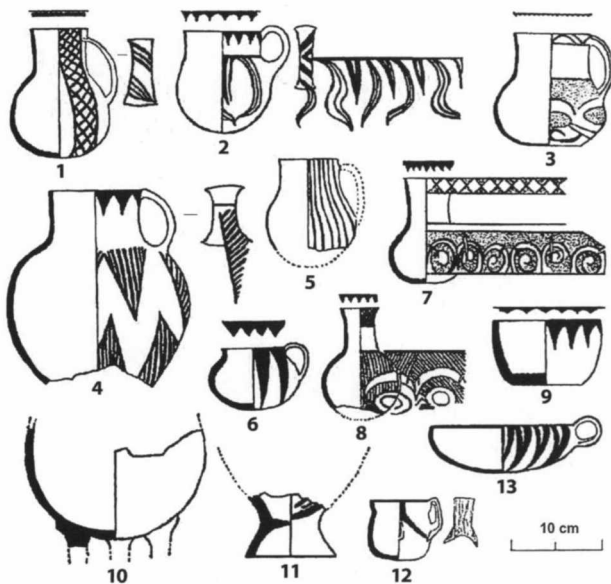


Figure 5. Painted pottery vessels found at Aidinghu cemetery, Turfan, Xinjiang. (1-6) handled jars; (7-8) pots; (9) bowl; (10) tripod cauldron; (11) footed bowl; (12) cup; (13) handled bowl. After Li and Liu 1982, pp. 366-68, figs. 4-6

Although these cauldrons can be classified into four major types, their sizes and details vary enormously, and one cannot find two identical specimens. This suggests that the sources for these cauldrons were likely diverse and localized. Type I cauldrons from Xinjiang are comparable in form to those found in northern China, Mongolia, and southern Siberia, which have been dated roughly to the eighth through fourth centuries B.C.¹² The dates for the Xinjiang cauldrons probably fall within a similar chronological range. Type II cauldrons from Xinjiang typologically resemble those found in the Semirech'e region in Kazakhstan and Kyrgyzstan, which Russian scholars have attributed to the Saka culture of the seventh through fourth centuries B.C.¹³ or the fifth through third centuries B.C.¹⁴ This resemblance suggests that the Xinjiang specimens can be considered within a Saka context and dated to the seventh through third centuries B.C. Cauldrons of Type III are relatively rare in Xinjiang but common in southern Siberia.¹⁵ The appearance of Type III cauldrons in Xinjiang seems to imply the presence of cultural influence from southern Siberia during the late first millennium B.C. Finally, except for a few decorated with simple geometric patterns such as lines and triangles, most cauldrons from Xinjiang are plain, which contrasts with the heavily decorated Scythian cauldrons of the seventh through fourth centuries B.C. from western Eurasia.¹⁶

Only four cauldrons from Xinjiang have been subjected to metallurgical analysis. This revealed that three earlier cauldrons (Types I-III) were made of copper with small amounts of minor elements such as arsenic and antimony, whereas the only Type IV cauldron of later date from Ürümqi was a copper-tin-lead alloy. The reason for using copper rather than tin bronze to cast cauldrons may be related to the availability of metal sources in the relevant localities. On the surfaces of some cauldrons from Xinjiang, traces of joint lines from the casting molds can be seen, indicating that they were cast by

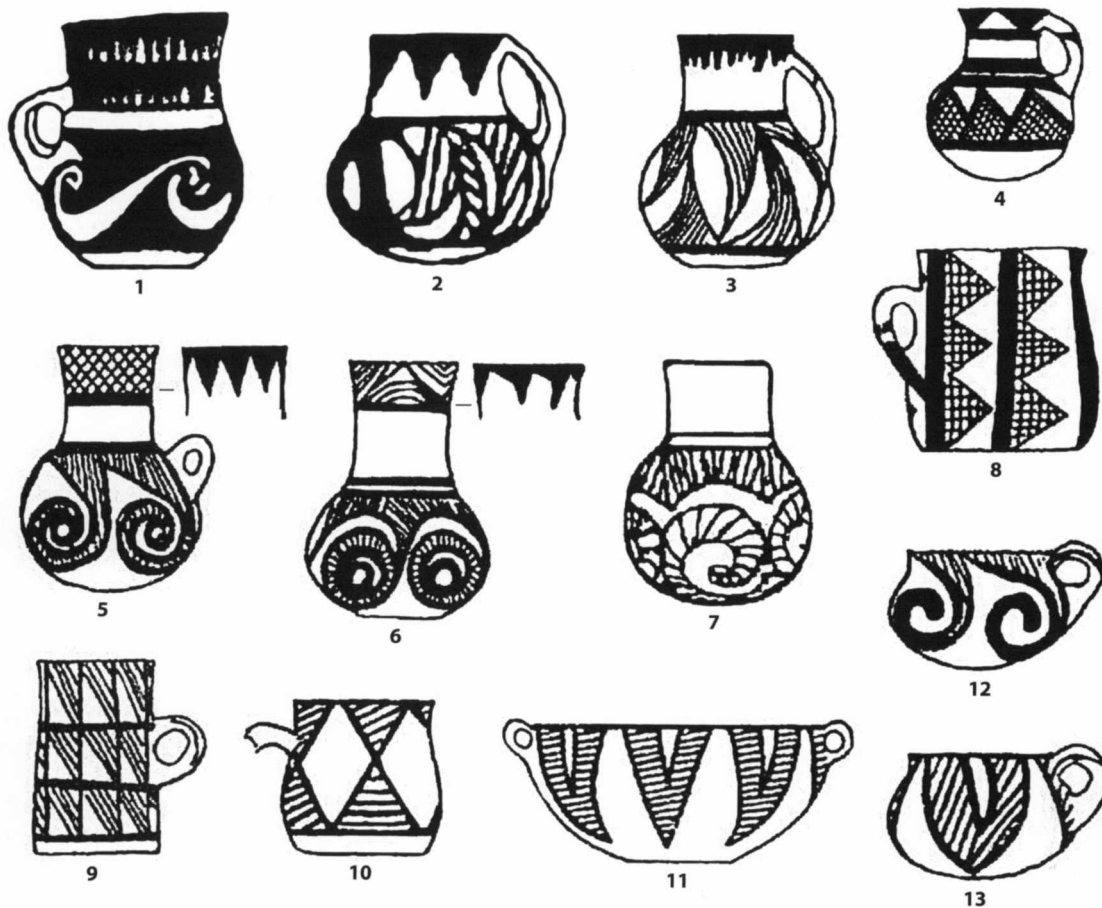


Figure 6. Painted pottery vessels from the pebbled-chamber burials at Alagou, Ürümqi, Xinjiang. (1) jug; (2-4) jars; (5-7) pots; (8-10) cups; (11-13) bowls. After Debaine-Francfort 1989, p. 194, fig. 13; Shui 1993, p. 457, fig. 5

using section molds, a technology that probably originated in northern China.

Tripod Cauldrons and Trays

Tripod cauldrons and trays are characteristic vessels found in Xinjiang. So far, only two tripod cauldrons and six trays have been recovered, mostly from the Yili region (fig. 8 [1, 4, 6-7]). On the basis of their close correspondence to equivalent Saka tripod forms found in the Semirech'e region

(fig. 8 [2-3]), the two tripods from Xinjiang can be attributed to the Saka culture and dated to the fifth through third centuries B.C.¹⁷

Six trays so far recovered in Xinjiang clearly belong to two types: square trays with a single stand can be ascribed to Type I (fig. 8 [6-7]), while those with four animal-shaped feet are regarded as Type II (fig. 8 [4]). Both types of trays recall similar finds from the neighboring Semirech'e region in Kazakhstan and Kyrgyzstan, which are generally

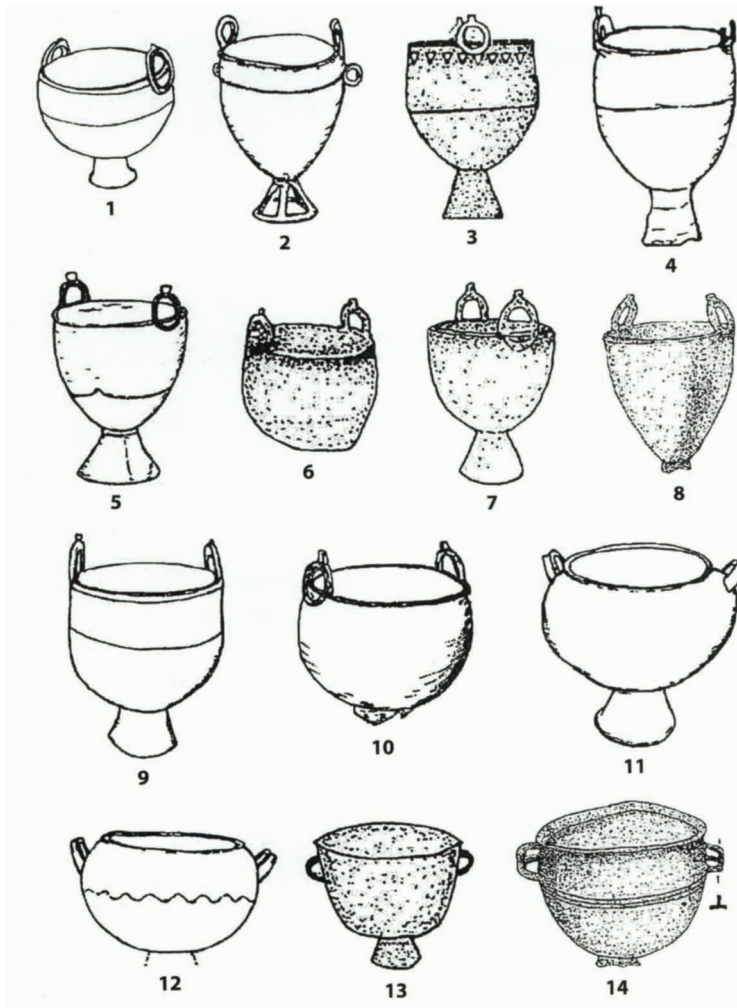


Figure 7. Copper and bronze cauldrons recovered in Xinjiang. (1) from Tiereketi, Habahe, Altai; (2) from Sha'erbulake, Fuyun, Altai; (3) from Gongliu, Yili; (4) from Xiao'erbulake, Yili; (5) from Lanzhouwanzi, Balikun, Hami; (6) from Dahe, Balikun, Hami; (7, 12) from Nanwan, Balikun, Hami; (8) from Hongshan, Balikun, Hami; (9) from Ka'erzi, Qitai, Changji; (10) from Ürümqi; (11) from Taleqiate, Habahe, Altai; (13) from Shihezi; (14) from Biliuhe, Qitai, Changji. After Wang Bo and Qi 1995, p. 290, fig. 11; Zhang and Zhao 1991, p. 42, fig. 1; drawings by the author after photos and objects (6–8, 13–14)

ascribed to the Saka culture of the fifth through third centuries B.C. (fig. 8 [5, 8–10]).¹⁸ There is little doubt that the trays from Xinjiang, like the tripod cauldrons, can be attributed to the Saka. Although the tray finds are concentrated in the Yili River region, one Type I tray was unearthed in a burial at Alagou near Ürümqi. This may be seen as evidence for the eastward expansion of Saka cultural influences during the latter part of the first millennium B.C., a possibility that has already been observed in the case of the Type II cauldrons.

Mirrors

Mirrors are the most common toilet articles in prehistoric Xinjiang. Up to now, more than fifty early metal mirrors have been found, mostly in burials. These mirrors are classified into three types. Type I is a circular mirror with a knob on the back (fig. 9 [1–7]); Type II is a circular mirror with two or three small holes near the rim (fig. 9 [8–10]); and Type III is a circular mirror with a handle (fig. 9 [11–16]).

The earliest mirrors in Xinjiang come from Bronze Age sites in the Hami region, such as Tianshanbeilu, Nanwan, and Yanbulaq. Mirrors from other regions are generally later than the Hami finds and have been placed broadly in an Iron Age context. According to the evidence available to date, most of the specimens from the Hami region belong to Type I, suggesting that Type I mirrors appeared in Xinjiang earlier than the other types. Whether the origins of bronze mirrors in Xinjiang can be related to the neighboring Gansu-Qinghai region to the east is still open to question.¹⁹

It is significant that in Gansu and Qinghai, as well as in the Central Plains of China, all the early mirrors so far known are circular with a knob on the back, belonging to Type I; no handled mirrors have yet been found. By contrast, the handled mirrors constitute an important portion of the mirror finds in Xinjiang, exhibiting a strong regional characteristic. The handled mirrors seem to represent a tradition that ultimately originated

somewhere in the west.²⁰ They became increasingly commonplace in Eurasia from the beginning of the first millennium B.C. and were associated with nomadic people, such as Scythians, Saka, and Sarmatians. The handled mirrors display a wide variety of forms. For example, the handles of the Scythian specimens are often decorated with animal designs;²¹ the Sarmatian type frequently has a small pinlike handle; and those found in Mongolia and Tuva are characterized by a short, wide handle.²² By comparison, the handled mirrors found in Xinjiang are all plain and have no pinlike handles; the examples from Wulapo and Zahongluke (fig. 9 [11]) are comparable in form to the finds from Mongolia and Tuva. It seems beyond doubt that the presence of handled mirrors in Xinjiang is, to a large extent, a result of cultural influences from the west, but the exact origins of these influences remain obscure.

The Type II mirrors from Xinjiang probably have riveted handles, just like some Scythian or Sarmatian specimens, and can thus be regarded as another type of handled mirror. This suggestion is supported by a recent discovery of three bronze mirrors riveted with iron handles in Hejing county.²³

Harness Fittings

Harness fittings are clear indications of horseback riding, which marks a cultural change in prehistoric Xinjiang. Much evidence suggests that horses began to play an important role in the life of Iron Age people in Xinjiang from the beginning of the first millennium B.C. or even earlier. The evidence includes the burials of horse heads, bronze horse bits, bronze and bone cheekpieces, and bronze ornaments for horses. The burials of horse heads were found at the Chawuhugou and Qunbake cemeteries. The examination of the horse bones from the Chawuhugou cemetery showed that these horses were all domesticated species.²⁴ Among the metal harness fittings found in Xinjiang, horse bits are relatively common, and a few cheekpieces, buckles, trappings, and bells have also been recovered.

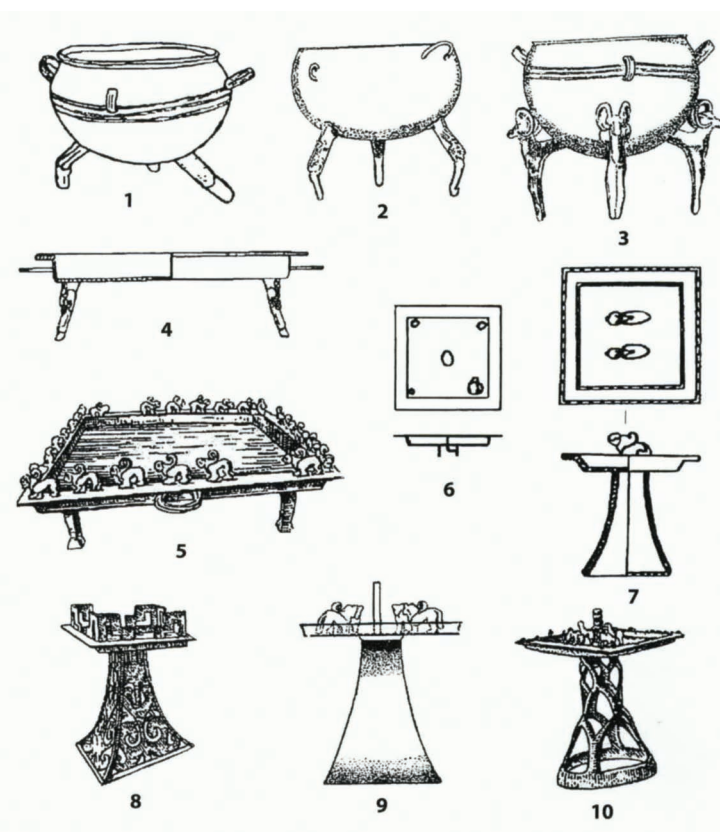


Figure 8. Copper and bronze tripod cauldrons (1–3) and footed trays (4–10) found in Xinjiang and the Semirech’e region: (1, 6) from Gongnaisi, Xinyuan county; (2–3, 5, 8–10) from the Semirech’e region; (4) from Chabucha’er, Yili; (7) from Alagou, Ürümqi. After Li and Dang 1995, p. 44, fig. 20; Moshkova 1992, p. 377, fig. 27; Chen 1995, p. 36, fig. 12

Horse bits have been found in many Iron Age sites in Xinjiang, such as Chawuhugou, Qunbake, Wulapo, and Yanghai (figs. 3 [13–15], 10 [1–4]). They can be classified into three types. Type I can be identified by stirrup-shaped ends, which were pierced with an additional hole (fig. 10 [1]); Type II includes those with stirrup-shaped ends but with no additional hole (fig. 10 [2]); bits with ring-shaped ends are regarded as Type III (fig. 10 [3–4]). At the Chawuhugou cemeteries, Type I bits were usually found in earlier burials, whereas Type III specimens were in later burials.²⁵ (This observation

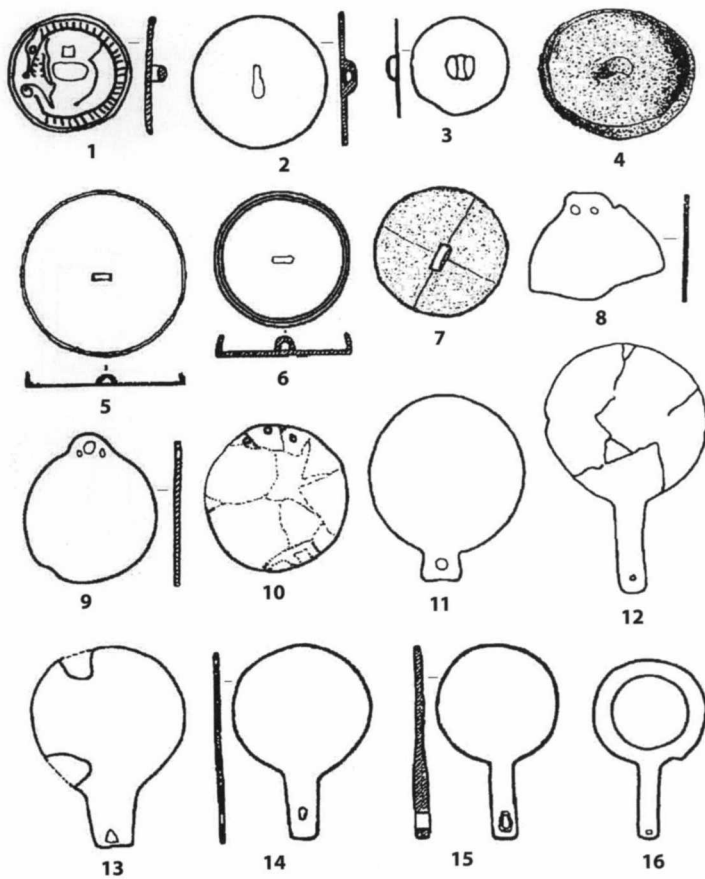


Figure 9. Copper and bronze mirrors found in Xinjiang. (1–2) from Chawuhugou cemetery, Hejing county; (3) from Yanghai cemetery, Shanshan county; (4) from Kezi'er (Kizil) cemetery, Baicheng; (5) from Dalongkou, Jimusa'er; (6, 14–15) from Qunbake cemetery, Luntai county; (7) from the Altai; (8) from Banfanggou, Ürümqi; (9) from Zhongyangchang, Yili; (10) from Aidinghu, Turfan; (11) from Zahongluke, Qiemo county; (12, 16) from Tiemulike, Xinyuan county, Yili; (13) from Chawuhugou, Hejing county. After XAT 1987, 1988, 1991; XIA 1985, 1987, 1989a, 1989b; Chen 1995; Liang 1990, p. 97; Liu Xuetao 1993, p. 131

accords with archaeological evidence from other regions.) Saka bridle bits (seventh to fourth century B.C.) found in central Kazakhstan include all three types (fig. 10 [5–7]) and are similar to the Xinjiang specimens. A typological study of these Saka bits suggests that the first type is often dated to the eighth century B.C., the second to the seventh century B.C., and the third to the second half of the sixth century B.C. or later.²⁶ It is still unclear where these bits originated.²⁷

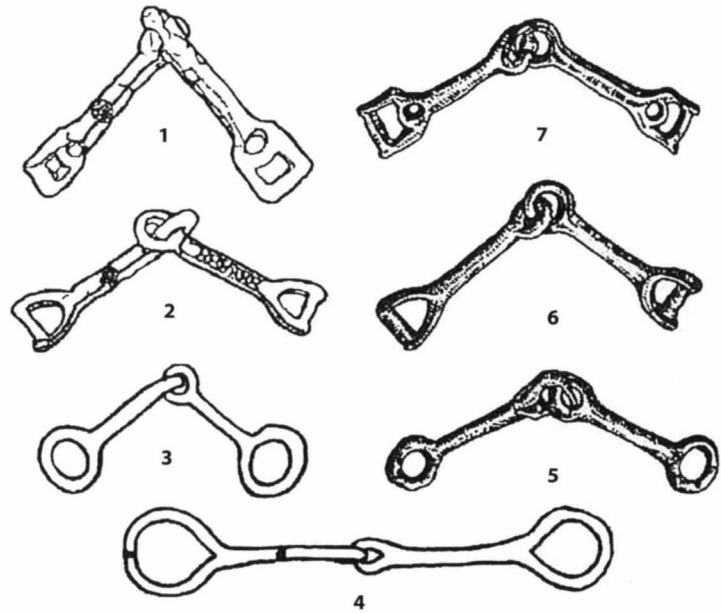
Torques and Plaques in Animal Designs

Torques or rings with a pair of animal-design terminals are exceptional forms of ornament recovered in Xinjiang. Only two specimens have so far been documented: one terminating in the design of a tiger head, with a diameter of approximately 38 centimeters, and the other ending with two winged mythical animals (griffins?) and having a diameter of approximately 42.5 centimeters (fig. 11 [1–2]). They have a hollow-tube body and are similar in style. They were found in Yili together with a square tray (fig. 8 [6]), a tripod cauldron (fig. 8 [1]), and a statue at Gongnaisi, suggesting that they are also Saka, dated to the fifth through third centuries B.C.²⁸

Bronze plaques with animal designs from Xinjiang throw further light on the cultural links between Xinjiang and its neighbors, especially those to the north. More than a dozen specimens have been documented and dated broadly to the later part of the first millennium B.C.²⁹

The most unusual specimen is a round openwork piece with a decoration of five wild boars surrounding a coiled feline, which was recovered at Dongcheng in Mulei county (fig. 11 [3]).³⁰ It shares the same motif with bronze plaques found at Saka sites of the seventh through fifth centuries B.C. in the lower Syr Dar'ya and Amu Dar'ya river regions (fig. 11 [4]).³¹ Another specimen of interest, also from Dongcheng, is a rectangular plaque with a design of two stallions in combat (fig. 11 [5]). It parallels a large number of plaques recovered in Siberia and Mongolia

Figure 10. Copper and bronze horse bits found in Xinjiang and Kazakhstan. (1–4) from Xinjiang; (1–2) from Qunbake, Luntai county; (3) from Wulapo, Ürümqi; (4) from Yanghai, Shanshan county; (5–7) from Tasmola, Kazakhstan. After XAT 1987, 1991; Chen 1995, p. 43; XIA 1989b, p. 39; Moshkova 1992, p. 402



and dated to the second century B.C., indicating cultural connections between Xinjiang and the eastern Eurasian steppes during the late first millennium B.C. (fig. 11 [6]).³²

A bronze plaque with a figure of a tiger holding a goat in its mouth was recovered from Aidinghu in Turfan (fig. 11 [7]).³³ This plaque resembles specimens from southern Siberia that have been ascribed to the Tagar culture of the middle to late first millennium B.C. (fig. 11 [8–9]).³⁴ It is interesting to note that bronze plaques with an almost identical motif have also been found in the eastern Gansu and Ningxia regions in recent years, suggesting distant connections across the eastern Eurasian steppes.³⁵

Gold and Silver Objects

Although the use of gold in Xinjiang can be traced back to the Bronze Age (Tianshanbeilu cemetery in Hami), it was during the Iron Age that objects and ornaments of gold and silver became commonplace and important, signaling a significant cultural change in the region. This change most likely resulted from steppe influence.

Of great interest are three gold plaques or foils from Alagou, which share an important motif: animals with their hindquarters twisted 180 degrees (fig. 12 [1–3]).³⁶ This motif also appears on a small gold plaque excavated at the Kulansarak cemetery in Aheqi, providing evidence for cultural connections along the southern foothills of the Tian Shan during the late first millennium B.C. (fig. 12 [11]).³⁷ These Xinjiang finds show stylistic affinities with the two gold plaques excavated from the well-known Issyk tomb of the fifth through fourth centuries B.C. in the Semirech'e region,³⁸ as well as with the tattoo designs on the man

buried in the fourth-century B.C. tomb 2 at Pazyryk in the Altai Mountains.³⁹ It seems that the motif of animals with their hindquarters twisted 180 degrees originated in the areas of the Tian Shan and Altai ranges, where nomadic tribes became increasingly interconnected during the latter part of the first millennium B.C. This new animal style motif was soon introduced into Chinese art during the last centuries B.C. through the northern steppe tribes.⁴⁰

Copper Mining and Smelting in Xinjiang

As is clear from the above evidence, copper and bronze objects constitute a major part of the material culture of Iron Age Xinjiang. Were these objects made locally or imported from elsewhere? Some evidence suggests the existence of local metallurgical centers in Xinjiang during the Iron Age. The most significant evidence is the Nulasai mining and smelting site found in Yili, which has been radiocarbon dated to the middle of the first millennium B.C.⁴¹ The examination of slag and ingots from Nulasai showed that copper-arsenic-lead alloys were made at this site. Copper and arsenical copper could have been produced here too, although decisive evidence for this possibility is still lacking.⁴²

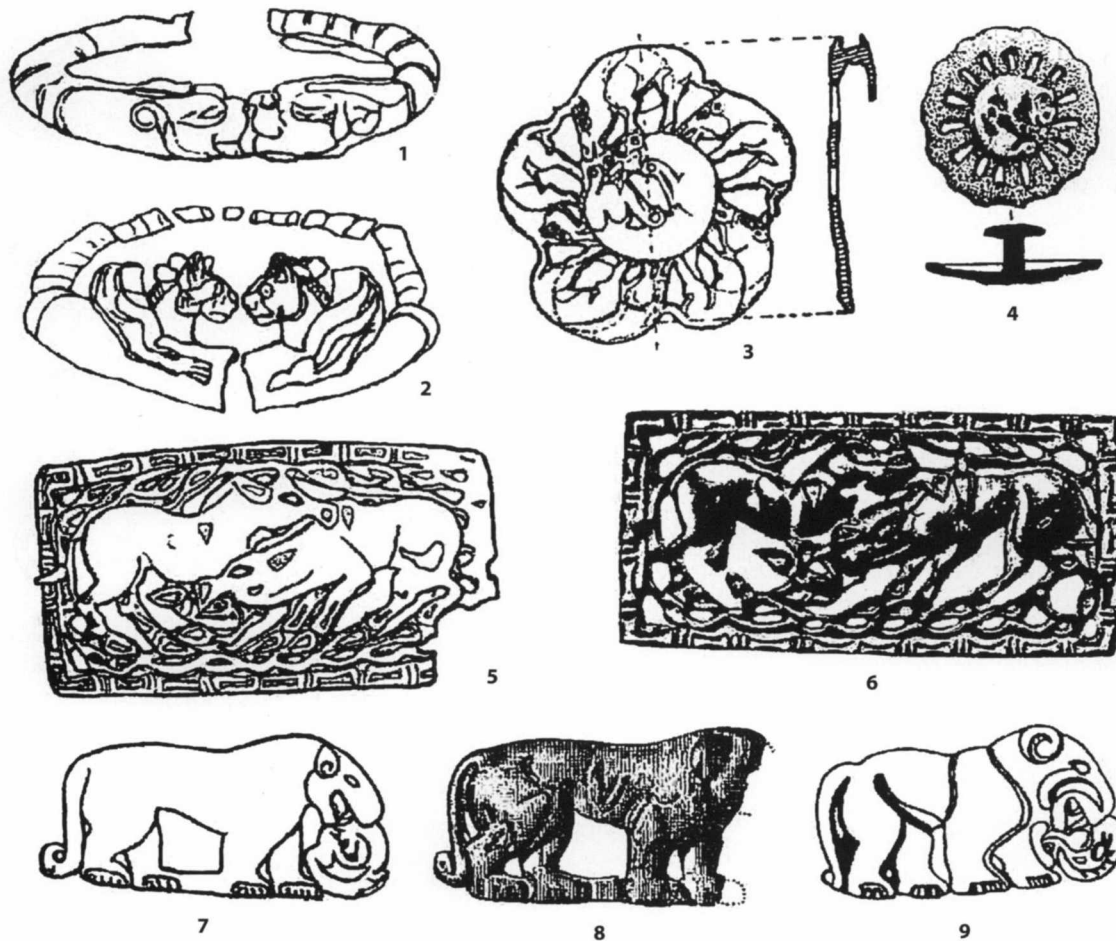


Figure 11. Copper and bronze torques and plaques recovered in Xinjiang and Eurasia. (1–2) from Gongnaisi, Xinyuan county, Xinjiang; (3, 5) from Dongcheng, Mulei county, Xinjiang; (4) from Sakar-Chaga, central Kazakhstan; (6, 8–9) from Siberia; (7) from Aidinghu, Turfan, Xinjiang. After Li and Dang 1995, p. 44; Wang Binghua 1986, p. 888; Yablonsky 1990, p. 293; Devlet 1980, p. 6; Liu Hongliang 1992, p. 31; Sulimirski 1970, p. 114; Chlenova 1967, p. 285

Scientific data available to date is far from conclusive in establishing a link between the Nulasai site and the majority of Iron Age copper and bronze objects. However, a bronze button recovered in eastern Xinjiang has been revealed to be a Cu-As-Pb alloy, strongly suggesting a connection with the Nulasai site.⁴³ It is hoped that the research now in progress, which makes use of the Pb-isotope technique, will throw light on

this issue. In the Altai, a number of casting molds have been found, suggesting the presence of a local metalworking center in that region as well.

CULTURAL CONNECTIONS BETWEEN XINJIANG AND ITS NEIGHBORS

The materials presented above demonstrate that Xinjiang actively interacted with its neighbors during the first millennium B.C.

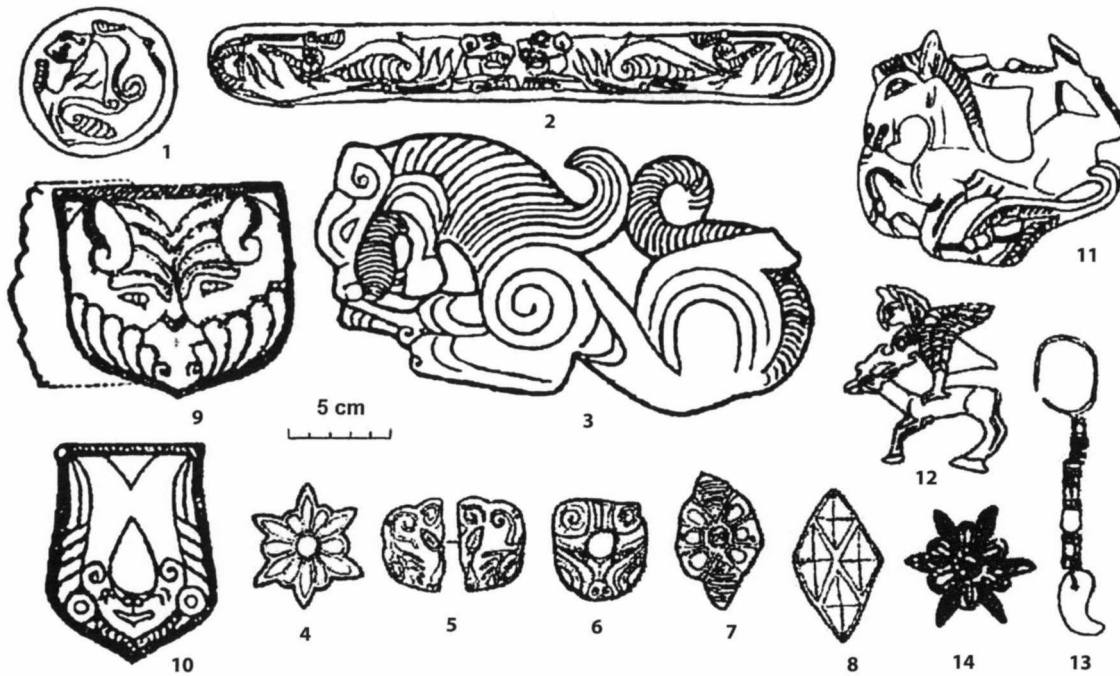


Figure 12. Gold and silver ornaments recovered in Xinjiang. (1–10) from Alagou cemetery; (1–8) gold plaques and foils in varied designs; (9–10) silver plaques; (11–13) gold artifacts from Kulansarak, Aheqi county; (14) gold ornaments from Yanghai, Shanshan county. After Wang Binghua 1981, p. 20; XIA 1995, p. 27; XIA 1989b, p. 39

Two distinct cultural spheres can be delineated in Iron Age Xinjiang. One is in the southern foothills of the Tian Shan, where a number of regional cultures are characterized by their distinctive painted pottery; the other is in the Yili River region, where Saka remains play a prominent role. The painted pottery cultures seemed to develop from the Bronze Age traditions that came from the east, namely Gansu and Qinghai. Local innovations, however, to a large extent stimulated the growth of regional painted styles.

The appearance and spread of Saka culture in Central Asia in the early first millennium B.C. marked the start of a new period in early Eurasian cultural interaction. The discovery of Saka remains in Xinjiang indicates that the area held an important place in the history of Saka culture. As we have seen, many copper and bronze finds such as trays,

tripod cauldrons, and Type II cauldrons from Yili closely resemble Saka pieces recovered in the Semirech'e region and can thus be attributed to the Saka with no hesitation. According to the *Hanshu* (History of the Han Dynasty), the Saka people were active in prehistoric Xinjiang from the late seventh to the second century B.C., but were restricted to the Yili River valley and the Pamir Mountains. The archaeological finds from Yili and Kulansarak substantiate the existence of the Saka culture in Xinjiang.

The presence of Saka-related objects in central Xinjiang, such as the footed tray and the gold plaques from Alagou, is evidence for the eastward extension of Saka cultural influence. Many other finds are related to this influence, such as the round bronze plaque from Dongcheng, horse bits from Chawuhugou, flanged bronze mirrors from

Dalongkou and Kezi'er (Kizil), and Type II cauldrons from Shihezi, Ürümqi, and Balikun. The existence and expansion of the Saka culture clearly played a crucial role in the development of Iron Age Xinjiang, although the cultural interaction between the Saka culture and the painted pottery culture in the southern foothills of the Tian Shan is still poorly understood.

The cultic trays and tripod cauldrons are the most characteristic finds among the Saka bronzes (fig. 8). Their concentrated distribution in Yili-Semirech'e suggests that the region was probably a local center of Saka culture. This center was in close contact with the Altai region, as attested by similar finds, especially the motif of animals with their hindquarters twisted 180 degrees, from the Issyk and Pazyryk tombs. The finds from Alagou not only reveal the presence of Saka culture in central Xinjiang, but also demonstrate cultural contact with the Altai, because the Alagou gold and silver plaques and ornaments are similar in form and style to the wooden plaques found in the Pazyryk tombs.⁴⁴ Both the Pazyryk and Alagou tombs yielded objects of Chinese origin, such as bronze mirrors, silk, and lacquer wares, a fact that suggests trade links with the Central Plains of China. Cultural interactions between east and west became significantly intensive around the mid-first millennium B.C. in the areas of the Tian Shan and Altai ranges. Largely stimulated by these cultural interactions, some innovations in animal decorative style occurred in the region, such as the introduction of the motif of animals with their hindquarters twisted 180 degrees. These innovations made Saka art unique and distinguish it from other contemporary art.

Cultural connections with the eastern Eurasian steppes are also significant for the growth of Iron Age cultures in Xinjiang. As I have demonstrated, the bronze plaques recovered at Turfan and Mulei show close affinities with the animal style frequently seen in the eastern Eurasian steppes. In fact, many other finds in Iron Age Xinjiang can be related to steppe influence, such as the

Type I cauldrons, knives with zoomorphic pommels, dagger-axes, and decorated mirrors.

From the late first millennium B.C., goods and artifacts of obvious Chinese origin became commonplace in Xinjiang, such as silk textiles, bronze mirrors, and lacquer wares. Etched carnelian beads from India have also been recovered in Xinjiang, suggesting that trade links were established between southern Xinjiang and India during the late first millennium B.C.

Although there is no direct evidence relating Iron Age Xinjiang with the extraordinary finds at Filippovka, some general correspondences may be mentioned here.

Among the bronze finds from Filippovka, the handled mirror is prominent.⁴⁵ It is comparable in form to the mirror found at Tiemulike in Yili (fig. 9 [16]), though much larger than the latter. The large bronze cauldron from Filippovka is also an impressive find.⁴⁶ Its surface is decorated with a wave line, which is similar to that on the Nanwan cauldron from Balikun (fig. 7 [12]). The motif of animals with their hindquarters twisted 180 degrees is common on gold plaques from Filippovka,⁴⁷ recalling the decorative style of the Alagou gold plaques (fig. 12 [1, 3]). The Ke'ermuqi cemetery in the Altai yielded a stone bowl with a horizontal handle in the form of an animal head,⁴⁸ which parallels the reconstructed wooden vessel with gold handle in the animal style from Filippovka.⁴⁹ All these distant correspondences do not imply direct contact, but they do demonstrate cultural interactions occurring during the mid-first millennium B.C. across the Eurasian steppes.

CONCLUSIONS

Only during the last twenty years have scholars begun to gain some sound understandings of prehistoric Xinjiang. The examination of the material culture of Iron Age Xinjiang has revealed its distinctive characteristics and thus cast new light on Xinjiang's crucial role in the cultural interaction between east and west during the first millennium B.C. Archaeological evidence has

indicated several closely interconnected Iron Age cultures along the southern foothills of the Tian Shan, such as Aidinghu, Alagou, Chawuhugou, and Qunbake, all characterized by their own distinctive pottery vessel forms and painted designs. These cultures seem to have had a wide range of contacts with neighboring and distant cultures, which is documented by bronze objects (socketed dagger-axes, handled mirrors, and footed trays), gold and silver plaques, as well as silk, lacquer wares, and etched carnelian beads. Cultural connections with the eastern Eurasian steppes played a major role in the spread of bronze animal style objects in Xinjiang during the first millennium B.C.

Archaeological evidence also demonstrates the existence of a local variant of the Saka culture in the Yili region, characterized by such exceptional bronzes as footed trays, tripod cauldrons, and torques. Saka cultural influence clearly spread eastward into central Xinjiang, as seen in the finds from the Alagou cemetery near Ürümqi. It has been suggested that some innovations in animal decorative style took place in the Yili-Semirech'e region and thus gave Saka art some unique features.⁵⁰

1. Mu et al. 1983.
2. Chen 1985, 1987; Wang Binghua 1985a, 1985b.
3. Mallory and Mair 2000.
4. XIA 1999.
5. Debaine-Francfort 1988, 1989; Chen and Hiebert 1995; Chen 1995; Mei 2000, pp. 7–24.
6. Mei 2000, pp. 15–23.
7. Lü 1999; XIA 1999.
8. Xinjiang 1999, pp. 110–12.
9. Shui 1993, pp. 466–68; Li 1999, pp. 58–62.
10. Wang Bo and Qi 1995, pp. 277–94.
11. Gong 1997, p. 16; Xinjiang 1999, pp. 252, 270.
12. Liu Li 1987, p. 62; Chlenova 1994, p. 506.
13. Akishev and Kushaev 1963, p. 111.
14. Bernshtam 1949, pp. 353–419; Bernshtam 1952, p. 47.
15. I am grateful to Dr. D.V. Demidenko for advising me of the existence of Type III cauldrons in southern Siberia and for a stimulating discussion.
16. Jacobson 1995, pp. 189–92.
17. Wang Binghua 1985b, p. 52; Zhang and Zhao 1991, p. 42.
18. Bernshtam 1949, p. 352; Bernshtam 1952, pp. 41–45; Artamonov 1973, pp. 39–42.
19. Liu Xuetao 1993; Song 1997; Mei 2000, pp. 32–35.
20. Liu Xuetao 1993, p. 128; Song 1997, p. 158.
21. Jacobson 1995, fig. 72.
22. Davis-Kimball et al. 1995, pp. 129, 278; Novgorodova 1989, p. 266.
23. Xinjiang 1999, p. 177.
24. An and Yuan 1998.
25. Zhou and Liu 1995, p. 62.
26. Yablonsky 1995, p. 202.
27. Chlenova 1994, pp. 502–3.
28. Wang Bo 1987, pp. 49–50.
29. Gong 1997, pp. 14–15.
30. Wang Binghua 1986.
31. Yablonsky 1990, p. 293.
32. Kiselev 1951, fig. 2; Devlet 1980, p. 6; Bunker 1997, p. 261.
33. Liu Hongliang 1992, p. 31.
34. Chlenova 1967, p. 285; Sulimirski 1970, p. 114.
35. Washington 1995–96, pp. 133–34.
36. Wang Binghua 1981.
37. XIA 1995, p. 27.
38. Akishev 1978, fig. 25.
39. Rudenko 1970, p. 111, figs. 53, 54.
40. Tu 1993, pp. 351–57; So and Bunker 1995, p. 156.
41. Wang Mingzhe 1984.
42. Mei and Shell 1998, pp. 595–96; Mei 2001.
43. Mei 2000, p. 57.
44. Litvinskii et al. 1988, pp. 120–21.
45. New York 2000–2001, pp. 168–69.
46. *Ibid.*, p. 88.
47. *Ibid.*, pp. 126–27.
48. Xinjiang 1999, p. 339, fig. 948.
49. New York 2000–2001, p. 127.
50. I would like to thank Dr. Joan Aruz and Professor Ann Farkas for their interest in my research and for kindly inviting me to take part in the symposium held in conjunction with the *Golden Deer of Eurasia* exhibition. I am grateful to Dr. Karen Rubinson, Professor Colin Renfrew, Dr. Colin Shell, Dr. Jessica Rawson, and Dr. Chris Scarre for their guidance, insight, and encouragement. To Professors Lü Enguo, Abodu Idris, Wang Binghua, Zhang Yuzhong, Wang Bo, Li Xiao, Liu Guorui, and Chi Wenjie, I wish to express my profound gratitude for their generous support and assistance in the course of this research. Grateful thanks are also due to Professor Takahama Shu, Dr. Hirao Yoshimitsu, and Dr. Hayakawa Yasuhiro for their help in preparing the illustrations. Finally, I wish to gratefully acknowledge the considerable financial support of the East Asian History of Science Foundation (Hong Kong), the Chiang Ching-Kuo Foundation, and the McDonald Institute for Archaeological Research.

14. Reconstructing Cimmerian and Early Scythian History: The Written Sources

PROBLEMS OF TEXTUAL INTERPRETATION

The ancient nomads of Eurasia are known to us largely through their archaeological remains, and therefore they are primarily studied by archaeologists. Written sources are simply used to confirm preliminary hypotheses elaborated on the basis of archaeological data and are rarely subject to critical analysis.¹ On the other hand, some philologists investigate Greek texts (primarily Herodotus) without comparing them with other data such as Near Eastern texts, archaeology, and parallel classical traditions. They neglect the fact that the Greek ethnographic descriptions do have a reality behind them, particularly in regard to Scythian society. As a result, some actual phenomena, the existence of which is unequivocally confirmed by independent sources, are declared to be fictitious. For instance, François Hartog considered Herodotus' description of Scythian society to be a play of oppositions such as culture-nature or war-marriage, which he thought typical of Greek literary style and especially of that of the "father of history."² Detlev Fehling saw the same passages in Herodotus as mere topoi.³

However, the existence of the institutions described by Herodotus is confirmed by evidence of other Iranian traditions (the Avesta, the available data on Achaemenid society, Ossetic ethnography, etc.). Therefore they belong not to the literary and imaginary realm but to reality, which forces us to evaluate differently than Hartog and Fehling both the nature of Herodotus' work as a whole and his ethnographic descriptions in particular.

Because the Eurasian nomads had no writing, we depend on texts from various traditions that viewed nomadic culture from the outside. This circumstance distinguishes the sources on the Cimmerians and Scythians from the histories of literate civilizations of antiquity, such as the Near East and Greece. Thus when we reconstruct the history of these nomads, we must always consider the cultural distance between an ancient author and the reality described; many aspects of Cimmerian or Scythian life might have seemed incomprehensible to a Greek author and therefore might have been misinterpreted. Occasionally a writer might even have deliberately presented a distorted view of nomadic people, for instance, modifying facts to support the writer's conceptions or theories.⁴ Chronological distance must also be considered: many descriptions of nomads appear in late sources, which in turn drew on various intermediaries.

This situation makes extremely important the problem of credibility of ancient sources, especially when speaking of the works of classical authors. We can verify a source by comparing it with independent traditions, if we can distinguish them; however, classical authors often used common approaches and common stereotypes in their descriptions of foreign peoples, so that we cannot always consider their reports as independent.

Nevertheless, certain evidence of the cultural traditions of Iranian-speaking people related to the Scythians can be considered independently of the reports of classical authors. In the mid-first millennium B.C., the various Iranian peoples were still close to one another in terms of language and, to some extent, culture. Their linguistic unity still existed in the second half of the second millennium B.C., when the ancestors of the Iranian-speaking peoples shared a common culture. Although a division between Indian and Iranian languages had taken place at least 500 years earlier, the similarity in the description of the society and religion of the Indo-Aryans and the Iranians, revealed in their sacred books, the Veda and the Avesta, is apparent. Thus one can attempt to verify classical reports of the Scythians with information provided by other Iranian traditions, including the Avesta.

We can also compare the Greek classical descriptions of Scythians with those of Persian and Median societies. While it is true that the Persians acquired the status of dominating people of a world empire as a result of Cyrus' conquests, changes in their society could not have occurred suddenly. In fact, Persian society in the time of Cyrus and his first successors preserved many archaic features shared with Scythians.

The use of this historical data is complicated, however, by the fact that a substantial part of the information about the Medes and Persians comes also from classical sources and is thereby marked by the very same problems presented by classical descriptions of Scythian society. However, the use of these descriptions is legitimated by the fact that classical authors did not consider the Persians and Scythians as originally related peoples and preferred to contrast the two: the refinement of Persian civilization versus the savagery of the Scythians, for example. This

opposition of the Scythians and the Persians was probably reinforced by Darius' unsuccessful expedition against the Scythians, which made a great impression on the Greeks. They were inclined to look upon this event as a model of the clash between savagery and civilization, nomadism and a settled way of life in general. When Greek writers discussed Persians, Scythians, and other peoples, they tended to link the Persians with the Assyrians and Babylonians and the Scythians with the Thracians. Therefore, it is likely that when similarities between Scythians and Persians do appear in classical sources, they are meaningful and reflect genuine similarities in the two cultures.

One more Iranian tradition is especially important for the study of Scythian society, culture, and history. I refer here to Ossetians, the people living in the mountains of the central Caucasus. The ancestors of the Ossetians were the Alans (a dialectical form of the ancient Indo-Iranian self-designation *Arya-*), whom the Mongols and Turks forced to move from the steppes to the mountains in the twelfth to thirteenth centuries. The Ossetians speak an Iranian language of the North-Eastern group, which is a direct offspring of the Sarmatian language.⁵ Although the Scythians and the Sarmatians can be easily distinguished archaeologically, their languages and cultures were very close to each other and the Ossetians can be considered as the possessors of the common Scytho-Sarmatian cultural heritage. Their society, being conservative, preserved many customs and beliefs from earlier times. Although they had been converted to Christianity in the sixth century, many features of their ancient pagan religion have remained until today, almost unchanged. Therefore, Ossetian ethnography offers clues for interpreting classical descriptions of the Scythians.

CIMMERIAN AND EARLY SCYTHIAN HISTORY

Written sources mentioned the Cimmerians and Scythians when these people first came into contact with literate civilizations. The earlier history of these groups is unknown to us and can be reconstructed only on the basis of archaeological, linguistic, and other indirect data. The Cimmerians are first mentioned in 714 B.C., as being on the northern frontier of Urartu, in an intelligence report of an Assyrian spy, and from then until the 630s B.C., the group is mentioned in cuneiform texts.⁶ Many Near Eastern states, including Assyria, suffered Cimmerian raids: in the 670s B.C., the Cimmerians destroyed Phrygia, then attacked the kingdom of Lydia to the west, captured its capital of Sardis, killed the Lydian king Gyges, and ravaged several Greek cities in Ionia.

According to Greek sources, a Cimmerian ruler named Lygdamis destroyed Magnesia and tried to burn the famous temple of Artemis at Ephesus. Long after the event, Ionian Greeks remembered the Cimmerian raids: an inscription found on Samos and dated 283 B.C. describes a lawsuit between Samos and Priene over the ownership of a little seaside region called Batinetis.⁷ Both sides in the suit offered arguments mentioning an episode related to a Cimmerian attack; according to the inscription, the inhabitants of Batinetis tried to save themselves from the Cimmerians by abandoning their land and taking refuge in the islands. Even the length of time that the Cimmerians held Batinetis was noted in the inscription, written almost 400 years after the attack.

Thus two groups of independent sources deal with the Cimmerian raids in the Near East: contemporary Assyrian and Babylonian cuneiform texts and later Greek writings. The former group is a reliable but not very consistent source; the latter group dates from long after the Cimmerian presence in the Near East and presents a general view of the events. The information contained in the latter group of sources passed

through many intermediaries and hence its reliability should be carefully scrutinized.

From the 670s B.C., the Cimmerians and the Scythians were mentioned in cuneiform texts as operating in different spheres. The Cimmerians were mostly in territories to the west of Assyria, while the Scythians were on the northeastern frontiers of Assyria, in the area of the Mannaeans and Medes.⁸ In this period, the Scythians seem to have played a much less important role in Near Eastern politics than did the Cimmerians, although a Scythian king named Partatua asked Esarhaddon to give him one of his daughters for a wife.⁹ Such a demand does not imply a high status for Partatua: Assyrian kings had many daughters born from different wives and we know of cases in which they married petty rulers subjected to Assyria.

SCYTHIAN RULE IN ASIA

From the 630s B.C., cuneiform texts of historical character disappear, and classical texts become the main sources of information about the Cimmerians and Scythians. Greek sources now mention that the Scythians seized power in Asia and held it for a long time. Because Assyrian texts do not mention this Scythian domination, it becomes difficult to assess the validity of the story. Some scholars accept the fact that the Scythians ruled over parts of Asia; others do not. This problem has two aspects. First, what is the nature of the classical traditions about Scythian domination in Asia, how did these traditions develop, and what sources and historical events do they reflect? Second, what are the dates of these events?¹⁰

There are several different and partly independent versions of the Scythian domination of Asia, some of which were conflated. Pompeius Trogus, for example, mentions three Scythian invasions in Asia and three periods of Scythian domination; he borrowed the descriptions from three different sources. The first invasion is related to the Scythian war with the legendary Egyptian king Sesostris. This is a fictitious

tradition that probably goes back to Ephorus, who created it to corroborate his opinion that the Scythians were invincible.¹¹ Aside from this story, two more versions of the Scythian domination of Asia occur in Pompeius Trogus and one in Herodotus. Other authors, such as Diodorus Siculus¹² and Quintus Curtius Rufus,¹³ also gave short accounts of these events.

Herodotus' version¹⁴ is probably the best known. According to him, the Scythians, under Madyes, son of Protothyes, invaded Asia, defeated the Medes, and began to rule in Asia. When they attempted to conquer Egypt, the pharaoh Psammetichus bribed them to turn back. The Scythians then plundered the temple of Aphrodite Urania in Ashkelon and ruled in Asia for twenty-eight years, until the Median king Cyaxares invited them to a feast, made them drunk, and slaughtered them. The surviving Scythians fled back home, where they found that their wives had borne children sired by their slaves. These children battled the returning Scythians but were overthrown when the Scythians attacked them with whips.

A slightly different version of the same story is related by Pompeius Trogus, who considers these events as the "third domination of the Scythians in Asia." We know this text through the summary by Justin,¹⁵ who gives no details of the raid itself but only mentions that the Scythians left their wives and children at home and were absent for eight years. Justin's account of the war with the slaves, however, is longer.¹⁶ Here the adversaries were not the slaves' offspring but the slaves themselves; other details also differ from Herodotus' version.

The "second Scythian rule" described by Pompeius Trogus (after the first one related to the war with Sesostris and before the third one related to the war with the slaves) represents a quite different version of the Scythian invasion into Asia. Here two "royal youths" named Plynos and Scolopitus, exiled from their country, led a band of young men to the region of Themiskyra

near the river Thermodon in Cappadocia. There they plundered their neighbors for many years until the neighbors managed to defeat them by trickery (Pompeius' original version may have related the death of the Scythians in more detail than that given in Justin's summary). The wives of the slain Scythians then took up arms to become the first Amazons, whose legendary history Pompeius describes.¹⁷ He therefore dates the "second Scythian rule" to the mythical past at least one generation before Herakles and Theseus, whose contemporaries were the daughters of the first Amazons, and two generations before the Trojan War.

Thus two traditions with different origins were united in this single account by Pompeius. The first tradition concerned the history of the Amazons, which originally was connected with Asia Minor and had nothing to do with the Scythians until the time of Herodotus.¹⁸ This tradition belongs completely to Greek literary fiction. The second tradition was the description of the Scythian invasion of Asia, which became linked to the Amazons' story. Because the main events in the history of the Amazons were connected with Herakles and Theseus, the emergence of the Amazons and hence the Scythian presence in Asia had to be dated earlier than usual. The region of Themiskyra and the river Thermodon, which replaced the vague "Asia" of other versions, are the usual areas associated with Amazons in classical literature. Thus the dating and the localization were simply literary devices of a late date due to the conflation of two initially independent stories.

The beginning of Pompeius' account, however, does not concern the Amazons; it comes from another source that probably goes back to Scythian oral traditions. The name of one of the Scythian leaders, Scolopitus, has a North-Eastern Iranian (i.e., Scythian) etymology. The second part of the name includes the Iranian word *pita(r)*-, "father," also attested to in Scytho-Sarmatian names (Πιτοφαρνακης, Πιτφαρνακης, Φιτοφαρ[νακης]—**Pita-farnaka*-, Πιδος,

Φιδας, etc., cf. Ossetian *fyd / fidæ*, “father”).¹⁹ The first part represents the Scythian self-appellation Σκολότοι.²⁰ This name and the name Σκόθαι are two dialectical forms of the same Scythian self-designation, which appears in Akkadian texts as *I/Aškuzāia* and can be reconstructed as **s/škuða-*. Thus, one of the two Scythian “royal youths” who led the invasion was named “Father of the Scythians.” This meaning was probably unknown to Pompeius Trogus and his source but would have been obvious to the Scythians. The dialectical form of the Scythian name Σκολότοι appears only in Herodotus and Pompeius Trogus.²¹ This rarity and the word’s status as a dialectical indicate that at least part of Pompeius’ account comes from a well-informed source that drew on the traditions of the same Scythian group as did Herodotus.

The name of Scolopitus, like the names in Herodotus’ legend of Scythian origins,²² implies that the basis of the account is Scythian.²³ The meager information about Scolopitus also points to his connection with a Scythian folklore tradition: he was a “royal youth” and a leader of young Scythians. This information suggests the archaic institution of *balc*, which was typical for the Ossetic society. This name designated predatory raids in the territory of more or less remote neighbors, carried out by mobile groups of youths and young men called *bal*. To achieve his status as warrior, each man had to participate in three *balcs*, of one year, three years, and seven years, in addition to numerous shorter raids. The first *balc* of one year was at the same time necessary to initiate a youth into the class of adult men. In the nineteenth century, each Ossetic youth left his wife on the third day after their wedding to participate in his first *balc*, which lasted one year. Participation in such a raid was in earlier times a necessary condition for a man to marry.

The existence of a similar custom among the Scythians is confirmed by some independent evidence. According to Pompeius, it was youths who participated in the raid into Asia. In fact, classical sources from Herodotus

onward considered the Scythian invasion of Asia as undertaken not by all Scythians but only by men who left their families and goods behind, typical of a *balc*. Even the word *bal* was known in Scytho-Sarmatian dialects, being attested in two names mentioned in Greek inscriptions from Tanais and Olbia: Οὔαστοβαλος and Οὔαρζβαλος, which mean “loved by *bal*” and “loving *bal*.”²⁴ Thus we can suggest that the Scythian raids in the Near East were made by mobile groups similar to the Ossetic *balcs* and would have probably been considered by the Scythians as a kind of *balc*.²⁵ The Ossetic Nart epic contains many descriptions of such raids, and all the adventures happen during the *balcs*. The raids in the Near East, reflected in classical tradition as a Scythian rule over Asia, clearly played an important role in Scythian folklore and inspired some of their epics, partly preserved in Greek sources.

Pompeius Trogus’ accounts of the second and third Scythian invasions and Herodotus’ account probably go back to different versions of the same Scythian legend. Their comparison allows us to reconstruct this legend and to separate it from classical additions. Young Scythian warriors had once made a successful raid to distant Asia, where they plundered widely. Local people could not defeat the Scythians in open battle and so overpowered them by deceit. The *Epitome* of Justin only mentions this trick, but Herodotus gives details: the Medes invited the Scythian heroes to a feast, made them drunk, and slew them. Similar stories are known in Ossetic epics, where the perfidious Boratæ, who could not overpower Wæræzmæg in battle, invited him to a feast and tried to make him drunk in order to kill him. Similarly, an epic hero named Hamyc was killed by his enemies only after they made him drunk because he was too strong to be overpowered when sober.

The folkloric basis of this tradition is clear in the account of the battle between the Scythians and their slaves. The major difference between the versions of Pompeius and Herodotus is the duration of the

Scythian stay in Asia—eight years according to the former and twenty-eight according to the latter. In Ossetic custom, the maximum duration of a *balc* was seven years. To participate in such a long *balc* was a great honor achieved only by outstanding warriors. If a warrior did not return home after seven years and there was no news of him, he was considered dead; after a mourning period of one year, his wife could and even should remarry. Thus, a woman was considered free to remarry after her husband was absent for eight years; so, the conduct of the Scythian women was not as criminal as a Greek pronounced. In fact, Pompeius mentions that the Scythian women considered their husbands dead. His statement that the Scythians ruled in Asia for eight years is likely to reflect Scythian epic tradition and is connected with the story about the infidelity of the wives of the warriors who participated in the raid. Herodotus' twenty-eight-year span, on the contrary, arises from his calculating the general chronology of Asian history.²⁶ Therefore, neither date is historical.

In addition to Scythian folklore, Greek authors used other sources such as information about the Scythian raids preserved in the traditions of local inhabitants of Asia. However, the story of the Scythian domination in Asia probably does not come from Median sources, as was sometimes supposed. These sources would scarcely have heroicized the Scythians while unfavorably depicting the Medes. One account in Herodotus may nevertheless derive from a Median tradition. According to this account,²⁷ Cyaxares took into service a group of Scythians who had moved into Asia and had them train Median youths in archery. When the king offended the Scythians, the nomads killed one of the Median boys and prepared a meal from his flesh; the dish was presented to Cyaxares and his guests to dine on, and the Scythians fled to Alyattes, king of Lydia. Here the Scythians are shown to be savage, treacherous, and ungrateful, an image likely to have been preserved by the Medes. The Median folklore story, which surely comes from a different source than the tradi-

tion heroicizing the Scythians, confirms that it was Cyaxares who ruled in Media during the Scythian raids in Asia.

Another non-Scythian aspect of their raids in Asia is Herodotus' tale of the Scythian plunder of the temple of Aphrodite Urania in Ashkelon and the Scythians' subsequent punishment by the goddess. This story was no doubt created to glorify the deity and may resemble the Ephesian myth about the ruin of the Cimmerian ruler Lygdamis, who tried to destroy the temple of Artemis.²⁸ The existence of such tales in various Near Eastern locales implies that the nomads did indeed plunder here and there, although there is no indication of a genuine domination or rule over Asia.

Scythian accounts of the Asian raids were connected with two figures: Scolopitus and Madyes, son of Protothyes. These two were probably acting in different versions of the legends, which belonged to two different tribal groups. Scolopitus, whose name means "Father of the Scythians," was no doubt an epic hero perhaps without any historical prototype, but Madyes was a historical figure. Strabo²⁹ mentioned him in a passage whose source was both well informed and independent of Herodotus and probably derived from a local Greek tradition in Asia Minor. This source not only knew the name of the Cimmerian ruler (Λύγδαμις, *Dugdamme* in Assyrian texts) but also the circumstances of his death, which is described in Assyrian texts.³⁰ Strabo also mentioned the Scythian defeat of the Trerans and probably of the Cimmerians, another detail unknown to Herodotus.

The historicity of Madyes, son of Protothyes, is attested not only by his mention in two independent Greek sources, the accounts of which are partially confirmed by the cuneiform texts, but also by a direct indication of one of these texts. Although Madyes' name does not occur in cuneiform texts, that of his father, the king Par-ta-tu-a (the Πρωτοθύης of Herodotus), appears in one of Esarhaddon's inquiries to the oracle of Shamash.

CONCLUSIONS

Thus we can draw the following conclusions about the “Scythian domination” in Asia. The classical tradition is based on real events that occurred shortly after 626 B.C. At that time, when Assyrian imperial power had weakened and the emerging Median and Babylonian polities had not yet been firmly established, Scythian bands could freely roam about the Near East. They had been indeed attested on the northeastern borders of Assyria from the 670s B.C., but for a long time they played only a marginal role in Near Eastern history. Later, however, they succeeded in defeating and perhaps even ruling over the Medes, under the Median king Cyaxares. Scythian bands also plundered some cities in Syria and Palestine, among them Ashkelon. The most successful ruler of such raids was Madyes, whose father Protothyas/Partatua was a contemporary of

Esarhaddon. Scythians never established a stable political rule over Asia or any part of it but engaged in periodic raids like the later Ossetic *balcs*; some states, such as Media, would have paid tribute to the Scythians.

Stories of these raids would have played an important part in Scythian epics, and classical descriptions of the Scythian rule over Asia come largely from such epics, which would have exaggerated the length and importance of the Scythian presence in the Near East. Classical authors also used information from the Greeks of Asia Minor and from other peoples in contact with the Greeks who had been exposed to Scythian raids. Finally, later constructions and chronological calculations also affected the classical tradition, in the attempt to fit the “Scythian domination” into the general history and chronology of Asia.

1. See, however, the works of Edvin Grantovskii, which present a rare exception, especially Grantovskii 1960, 1980, 1981, 1994; see also Lévy 1981.
2. Hartog 1988.
3. Fehling 1989; for a criticism (sometimes excessive) of both Hartog and Fehling, see Pritchett 1993.
4. For example, the pseudo-historical traditions about the victorious Scythian campaign against the Egyptian pharaoh Sesostris and the Scythian conquest of Asia; this story was constructed by Ephorus from details borrowed from two accounts of Herodotus: Darius' campaign against the Scythians and the Near Eastern incursion of the Scythian king Madyes. See Ivantchik 1999a; Ivantchik 2005, pp. 190–220.
5. See esp. Miller 1881–87.
6. Ivantchik 1993.
7. Welles 1966, pp. 46ff., no. 7; Ivantchik 2005, pp. 121–26.
8. The Scythians are first mentioned in the annals of Esarhaddon; see Heidel 1956, pp. 14–17, lines II, 20–23; Borger 1956, pp. 51–52; Ivantchik 1993, pp. 78–80, 85–94.
9. Starr 1990, no. 20, pp. 24–26; Ivantchik 1993, pp. 205–9.
10. Here I do not discuss this second question; in a recent article, I suggest that although the importance of the Scythian raids was exaggerated in classical sources, they did occur and should be dated between 626 and 616 B.C.; see Ivantchik 1999b, Ivantchik 2005, pp. 221–44.
11. Ivantchik 1999a.
12. *Library of History* 2.43.4–6.
13. *History of Alexander the Great* 7.8.18.
14. *The Persian Wars* 1.103–6, 4.1–4, 12.
15. *Epitome of the Philippic History* 2.5.1.
16. *Ibid.*, 2.5.2–7.
17. *Ibid.*, 2.4.4–33.
18. *The Persian Wars* 4.110–17.
19. Vasmer 1923, p. 48; Zgusta 1955, pp. 134–35; Abaev 1979, p. 299. *Pace* the skepsis of Szemerényi 1980, p. 22, about this explanation.
20. Herodotus, *The Persian Wars* 4.6; cf. 78–80: Scythian king Σκύλης.
21. Cf. however the name of the Scythian king Σκίλουρος, in Strabo, *Geography* 7.3.17, 7.4.3–7, which probably contains the same word.
22. *The Persian Wars* 4.5–7.
23. This legend has often been analyzed; see esp. Grantovskii 1960 and Ivantchik 1999c, citing other literature.
24. IOSPE 91:9; CIRB 1282:30.
25. Cf. Jettmar 1967, pp. 214ff.
26. Ivantchik 1993, pp. 105–13.
27. *The Persian Wars* 1.73–74.
28. Callimachus, *Hymn to Artemis* 3.251–58.
29. *Geography* 1.3.21.
30. See Thompson and Mallowan 1933, pp. 79–113, lines 138–63; Millard 1968, pp. 109–10; Fuchs 1996, pp. 287–88, 295; Borger 1996, pp. 197, 251.

15. Bronze Socketed Arrowheads and Ethnic Attribution

This study arose from two overlapping interests: my work at Ayanis, an Urartian site on the eastern shore of Lake Van, and my concern about the problem of determining precisely when and by whom Ayanis and other Urartian sites were destroyed. Research on the site led to an examination of scholarly attempts over many years to identify the enemy forces responsible for the destruction.¹

AYANIS AND THE DESTRUCTION OF URARTIAN SITES

Ayanis is one of five sites known to have been built by Rusa II—the others being nearby Toprakkale and Kef Kalesi, as well as Bastam in northwestern Iran and Karmir-Blur in Armenia.² Ayanis was constructed in the 650s B.C., a chronology determined by dendrochronological research at the site conducted by Peter Kuniholm; it was destroyed sometime thereafter, a fate common to every Urartian site excavated to date in northeastern Turkey, northwestern Iran, and Armenia.

Uncovered to date at the site is a massive fortification wall of typical Urartian cut stone courses supporting a high brick super-

structure, and a gate; the enclosure encircles the site except for the western steep side that faces the lake (fig. 1). Within the site is a large temenos enclosing a temple and auxiliary rooms, all surrounded by a massive stone propylaeon; to the east and west of the temenos are two large magazines filled with large pithoi containing oil and grains. The precise method of recording the specific loci and contextual distribution of all finds allowed the distribution patterns of specific artifacts at the very time of destruction to be observed.

Most scholars who have studied and commented on the violent destruction of the Urartian cities focused on two basic issues. One is that, although the precise time of the destructions remains under review, their seemingly contemporary occurrences across the geographical regions, a determination based primarily on the close similarity of the pottery forms, is recognized. Second, practically every scholar attempting to identify the aggressor(s) has focused attention on the bronze socketed and iron tanged arrows recovered at every Urartian site and has singled out the former as the artifact that yields the specific evidence to identify the enemy. Leaving aside for further study the issue of the precise chronology of the destruction (and whether it occurred during Rusa's or a subsequent king's reign), I reviewed the literature on ethnic interpretations of the shooters of the arrow forms, then charted the latter's precise distribution at Ayanis. A review of their presence at other sites, both Urartian and non-Urartian, in the Near East was also undertaken. Indeed, it turns out that Ayanis now provides the very first documentation at any Urartian site of the exact locus of each form of arrow recovered. This situation allows the arrows to be meaningfully discussed together with other artifacts juxtaposed with them.

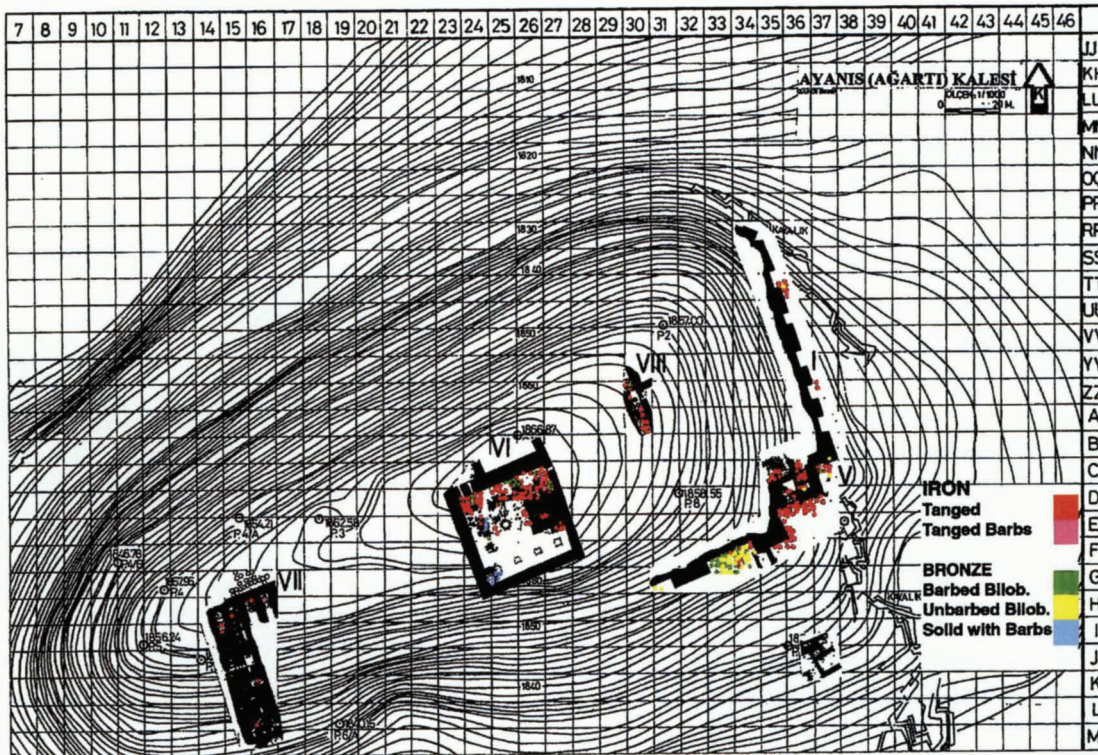


Figure 1. Plan of the Urartian site of Ayanis. Illustration: Zafer Derin

TYPES OF ARROWS AT AYANIS

Up to the end of 1999, 314 iron and 157 bronze arrows were recorded at Ayanis. All the iron examples are of the solid tanged variety (fig. 2). Those of bronze are of two varieties (figs. 3, 4). The predominant type (146 examples) is socketed, all but two are bilobates (66), and many are barbed (79); there are two plain trilobate examples (fig. 4 [I57]); all of these were cast in molds. Nine bronze examples are solid and tanged (fig. 3 [I38–I40]), of the same form as those made of iron (one example is a small solid arrow, fig. 4 [I58]). Directly outside the gate, the nearby towers, and the south wall face were recovered sixty-six barbed and fifty-nine plain bilobates and one trilobate, as well as seventy-six tanged iron arrows. Within the temenos area were sixteen bilobates, some 200 tanged iron arrows, as well as nine tanged bronze examples. In the east and west magazines were recovered four bilobates and seventeen tanged iron examples.

ARROWS AT OTHER URARTIAN SITES

All Urartian sites contained both bronze socketed and iron tanged arrows. At Çavuştepe,³ southeast of Ayanis, tanged as well as “thousands” of socketed arrows were recorded together inside and outside the fortification walls; bilobates predominated. Some had damaged tips or were actually found sticking in the outside face of the fortification walls; at least one of these was a trilobate; no inside site loci were provided. At Toprakkale,⁴ there were eighty-seven iron and many socketed arrows. At Karmir-Blur, both iron and bronze forms were recovered within the site; many socketed examples came from the area in front of the fortification walls; some, including trilobates, had damaged tips. Whether iron examples occurred here was not revealed. Trilobates predominated here, in contrast to Ayanis and Çavuştepe, where bilobates predominated. At Bastam⁵ in northwestern Iran, there were tanged iron as well as nine bilobates, one or

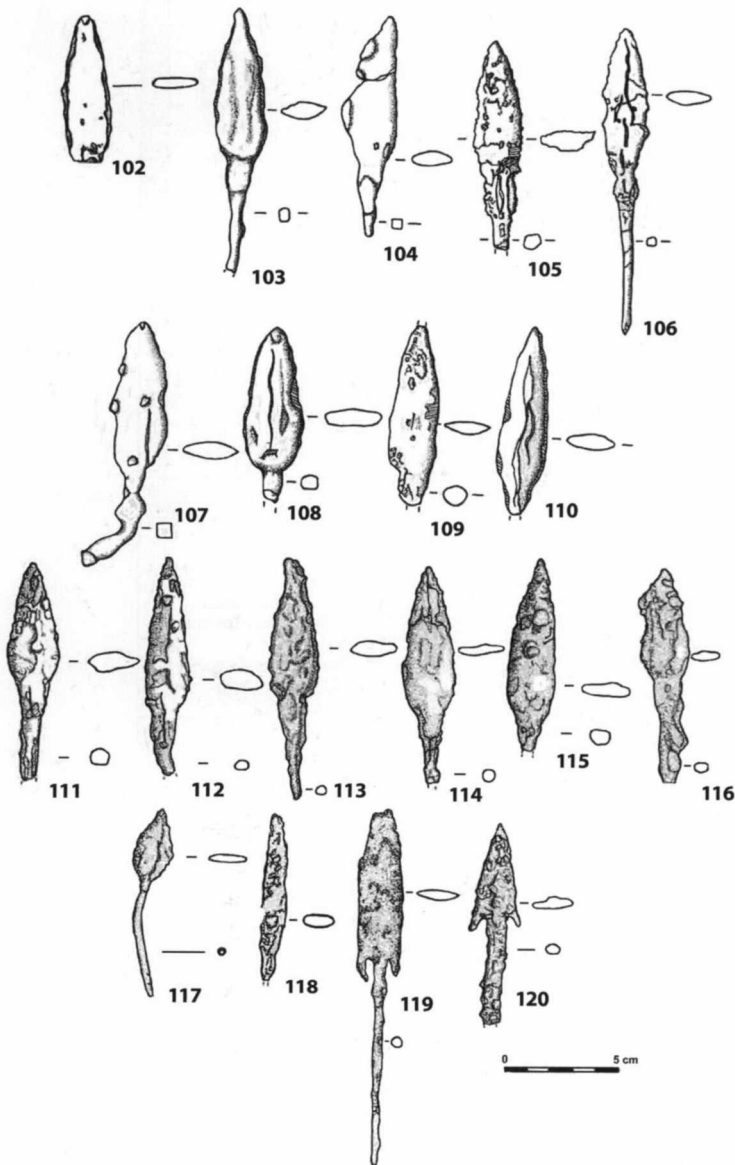


Figure 2. Types of iron arrows found at Ayanis. Illustration: Staff of Ayanis excavations

two barbed, and two trilobates. In post-800 B.C. Hasanlu (probably but not clearly from the Urartian Period IIIB) were recovered five trilobates—three barbed—and one bilobate arrow; and at nearby Agrab Tepe were one trilobate and one bilobate, as well as twenty-one tanged iron examples.⁶

ARROWS AT OTHER NEAR EASTERN SITES

From Iranian excavations at Ziwiye (where a bulla of the Urartian king Rusa II was discovered) derived bilobates and trilobates, as well as many iron tanged examples.⁷ Several other non-Urartian Iron Age III sites in Iran, such as Bab Jan, Zendan-i Suleiman, Nush-i Jan (Median site), and Tepe Sialk (unstratified), all yielded trilobates, as did most later Achaemenid sites excavated in Iran.

In Anatolia, of eighteen central and eastern sites examined, eleven had only bilobates, four had only trilobates, and four sites contained both forms; no socketed arrows were recovered in the ca. 700 B.C. destruction level at Gordion (they occur in later dated mound and tumuli contexts).

Other relevant data about the arrows include molds for socketed arrows and finds from nomadic-form burials. From an unstratified context at Gordion (unpublished) came one-half of a bronze mold for a trilobate; at Zincirli was a stone mold for a bilobate; from Carchemish was a metal mold for two trilobates, one barbed.⁸ The British Museum has an unprovenanced mold for two trilobates and one bilobate, all barbed.⁹ As for nomadic-form burials, they occur in Anatolia in the Amasya area, where many bilobates were recovered, and a tomb at Norşuntepe contained one barbed trilobate.¹⁰ To date, only socketed arrows are reported in nomadic-form burials.

SUMMARY OF ARROW DISCOVERIES

Summarizing the above data indicates that of eight destroyed Urartian sites, two preserved only bilobates and five sites preserved both forms, but at three of these—two in Anatolia and one in Iran—bilobates predominated. At only one site (Karmir-Blur) did trilobates predominate. In western and northwestern Iran, trilobates predominated, except at Bastam, and they continued to predominate into the Achaemenid period. In central and eastern Anatolia, bilobates predominated.

INTERPRETING ARROW FINDS

Most scholars automatically repeat, one citing the other, that the existence of socketed arrows at a site in the Near East, including Urartu, signifies the presence there of Scythians,¹¹ although some scholars believe that both they and the Cimmerians introduced these arrows.¹² The Cimmerians are documented in Assyrian texts as penetrating first into Urartu (northeastern Anatolia) and then into northwestern Iran around 715 B.C., and the Scythians are first mentioned as being in northwestern Iran in the 670s. Socketed arrows occur, however, nowhere in the Near East before the seventh century B.C. and usually in post-650 B.C. contexts. What the evidence demonstrates is that the arrows appear at a time after the nomadic incursions, which suggests that it is probable that one or more of these groups introduced them. But from this chronological and historical information, it cannot follow that evidence from the ca. 650s B.C. and later can be brought forth to document specific arrow forms introduced by specific peoples two to six decades previously, a period about which we know nothing archaeologically. Nor can it be argued, as some scholars do, that one polity used bilobates, another trilobates.¹³ As demonstrated, many sites preserved both forms in the destruction debris, and the British Museum mold¹⁴ demonstrates that both forms were cast by one force (polity?) and could be shot anywhere on the march. The mold eliminates an ethnic interpretation of bilobate versus trilobate forms.

Most scholars assume that Urartian forces employed only iron tanged arrows, found at all their sites, and that therefore bronze socketed arrows present at these sites were intrusive, shot by enemy attackers. To them, these latter were Scythians; and some scholars even argue that some locally found socketed arrows may also have belonged to posited Scythian allies of the Urartians. The arrows are presented as the sole “evidence” for these interpretations.¹⁵ Other scholars claim that socketed arrows were also used by the Medes, and therefore, at least at some

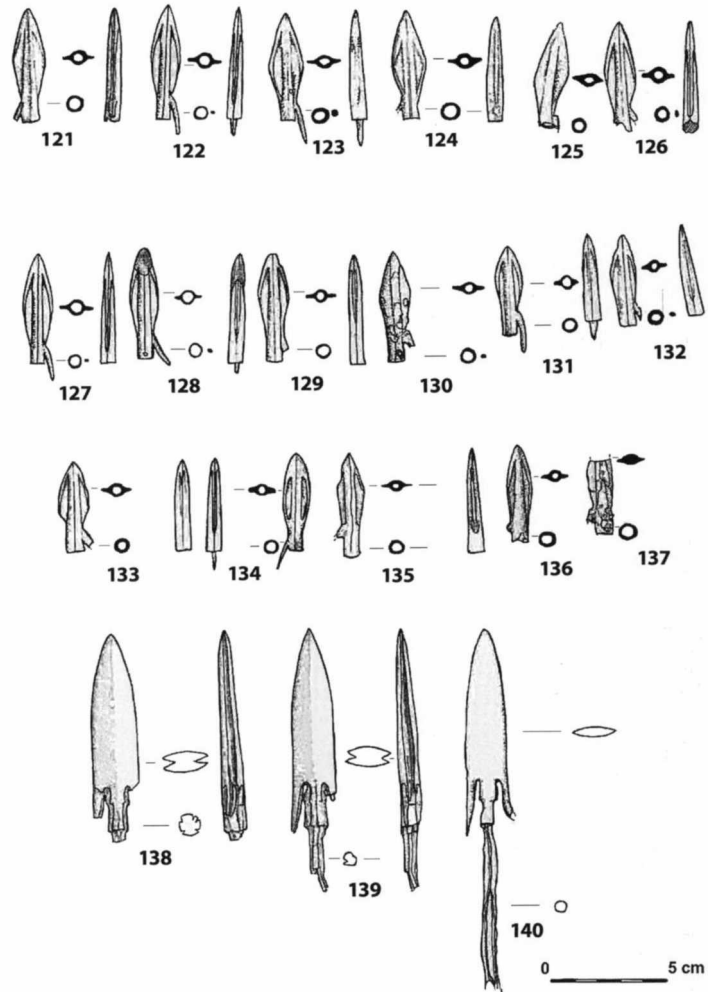


Figure 3. Types of bronze arrows found at Ayanis. Illustration: Staff of Ayanis excavations

sites—arbitrarily chosen—these arrows indicate to them Median aggression.¹⁶ This approach forces an anomalous situation: some claim that the Scythians destroyed Karmir-Blur while others claim that honor for the Medes.

Is it possible for the excavated evidence to contribute to the debate on ethnic identity based on arrow forms? At least at Ayanis and Çavuştepe, iron tanged and bronze socketed arrows were recovered together immediately outside the fortification walls and also within the citadel (the latter find spot a char-

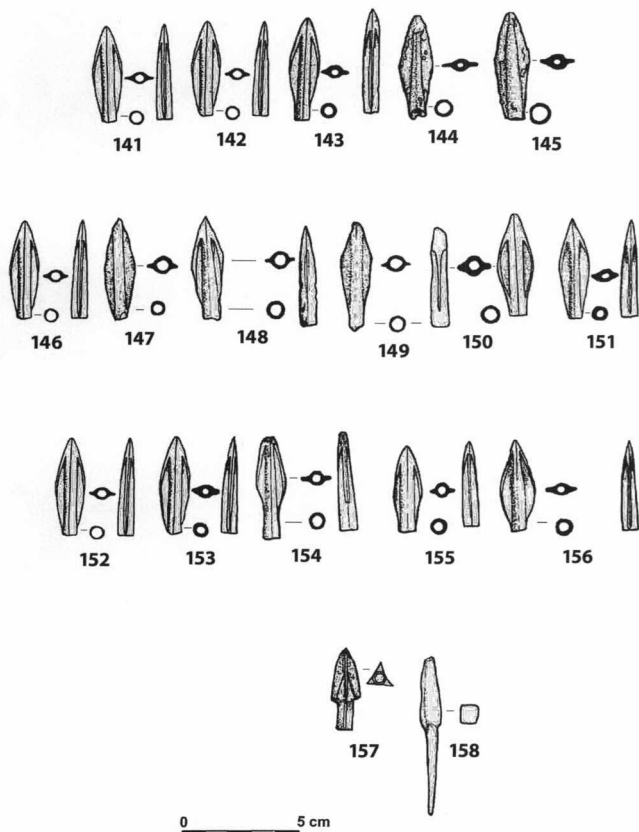


Figure 4. Types of bronze arrows found at Ayanis. Illustration: Staff of Ayanis excavations

acteristic of all Urartian sites). The former find spot surely documents the arrows shot by attackers and defenders—but one cannot sort out those shot defensively from those shot offensively (or reused!), except that the damaged socketed forms reported outside the walls at Karmir-Blur and Çavuştepe were probably shot offensively (whether reused or not). One could thus posit the common interpretation that only socketed arrows were shot by the attackers, the iron tanged by the defenders—this because we know from nomadic-form graves and from skeletons at two sites¹⁷ that nomads and attackers used socketed forms, and that Urartians had used tanged iron forms since the eighth century B.C. But one could also posit from the physical evidence of the loci that one or both forces may have used both forms.

Although there is no way to disprove or prove these claims, one must anchor views in the historical and archaeological data and reflect on a possible solution. As noted, all the socketed arrows date to mid- or post-mid-seventh-century B.C. contexts, decades after the nomadic incursions and after the possible introduction of the arrows by the intruders. Furthermore, it is significant that the arrows were spread over a vast area: in Anatolia, western Iran, Mesopotamia, and other areas. These data suggest that all polities in these areas adopted the socketed arrow at a time (very soon surely) after their first encounter with them. They were powerful weapons, manifesting a new technology and shooting power in the ancient world, and they were easily cast on the move in portable, permanent molds, and easily joined to preformed arrow shafts in seconds. Herodotus' claim that the Medes adopted Scythian weapons, that is, their arrows and bows, is but one—welcome—recorded example of this adaptive situation. What arrow form(s) do archaeologists think Mannaeans—who endured both Cimmerian and Scythian invasions—or Urartians—who experienced a Cimmerian defeat—used? Put another way, all polities, whether nomadic or not, adapted and shot socketed arrows.

Consequently, it may be argued viably and strongly that to ancient polities socketed arrows could not have been perceived as ethnic/polity markers—except, of course, perhaps within a few years of their introduction. A further consequence of this view is that the same conclusion obtains for modern archaeological interpretation of recently excavated examples: we do not know which polities or ethnicities introduced them—although it was probably the nomads; and we do not know how many indigenous polities subsequently adopted them or chose not to adopt them. Archaeologists cannot and may not on the basis of arrow presence claim to be able to identify which specific polities shot which arrows at Urartian sites. Who destroyed some or all of the Urartian sites remains a subject of investigation.

1. The paper I delivered at the symposium held in conjunction with the *Golden Deer of Eurasia* exhibition was based on a paper I submitted with Zafer Derin to the first major report of the Ayanis excavations: "Iron and Bronze Arrows," in *Ayanis 1: Ten Years' Excavations at Rusahinili Eidura-Kai, 1989-1998*, edited by Altan Çilingiroğlu and Mirjo Salvini (Rome, 2001). Hence the present essay is a précis of the original paper.
2. Çilingiroğlu and Salvini 2001, pp. 15-24.
3. Erzen 1988, pp. 46ff., figs. 39, 40, pls. 45, 46.
4. Wartke 1990, pp. 60ff. n. 1, 127, 132, fig. 9, 32, I, pl. 14a.
5. Kroll 1979, p. 100 n. 11, 154, 158, 162, figs. 3, 10, 15, 16.
6. Dyson 1965, p. 207; note that Muscarella 1988, p. 63, is from post-Period IV fill; Muscarella 1973, pp. 66ff., fig. 27.2-3, 5-13.
7. Dyson 1963, pp. 36-37; Stephan Kroll, personal communication; Ursula Seidl, in Kleiss 1979, p. 150 n. 8.
8. Andrae 1943, pl. 8; Woolley and Lawrence 1921, pp. 130ff., pl. 23b.
9. See Boehmer 1972, p. 114 n. 784—but incorrect forms given; Piotrovskii 1959, p. 239; Cleuziou 1977, p. 191.
10. Ünal 1982, pp. 65ff., 69ff., figs. 1.5-11, 3-7; Barnett 1982, p. 362; Hauptmann 1983, pp. 253ff., 258, 269; Ivantchik 1997, pp. 17ff., 30.
11. Sulimirski 1954, but on p. 308 assigning the earliest examples to Cimmerians; Piotrovskii 1959, p. 241; Barnett 1982, p. 364; Yamauchi 1982, pp. 92ff., 95; van Loon 1966, p. 25; Iusifov 1982, p. 349; Hauptmann 1983, p. 269; Erzen 1988, pp. 46, 48, 50, 53.
12. Sulimirski 1954, p. 308; Cleuziou 1977, pp. 190ff.; Moorey 1980, p. 65; Medvedskaia 1982, pp. 90ff.; Diakonov 1981, pp. 133ff. n. 57; Diakonov 1985, p. 92; Ivantchik 1997, p. 14.
13. E.g., Sulimirski 1954, pp. 308, 313; Boehmer 1972, p. 115; Cleuziou 1977, p. 193; Moorey 1980, p. 65; Medvedskaia 1982, pp. 90ff.; cf. Piotrovskii 1959, p. 239; Yamauchi 1983, p. 94.
14. See note 9, above.
15. Sulimirski 1954, pp. 313ff.; Piotrovskii 1959, pp. 235, 240ff.; van Loon 1966, p. 25; van Loon 1985, p. 190; Rolle 1977, pp. 295ff., 312ff.; Barnett 1982, p. 364; Wartke 1990, p. 60.
16. Diakonov 1981, p. 134 n. 57; Diakonov and Medvedskaia 1987, p. 391; Hauptmann 1983, p. 251; Phillips 1972, p. 135.
17. Rolle 1977, pp. 312, 329; Piotrovskii 1959, p. 247.

16. Scythian Kings and “Royal Barrows” of the Fifth and Fourth Centuries B.C.: Modern Chronology and Interpretation

During the last 150 years, but especially during the late nineteenth and early twentieth centuries, many Scythian antiquities were brought to light, and in recent decades new excavations have produced remarkable discoveries.¹ These data are so varied and significant that we can now progress from simple statements of fact to exploring some major problems of modern Scythian archaeology, such as the chronological, cultural, and political situation of the nomadic peoples of the first millennium B.C. in relation to the contemporary Greek, Near Eastern, and Chinese civilizations and the historical development of the steppe folk. It is also interesting to look for evidence of historical figures in the archaeological data, by associating some of the important Scythian “royal” barrows with specific persons known from Herodotus and other classical sources.²

HISTORICAL AND ARCHAEOLOGICAL DATA

The history of European Scythia in the seventh to fourth century B.C. demonstrates two chronological and cultural phases.³ The first phase focuses on the forest-steppe and foothill zones of the northern Black Sea region and is dated to the seventh to sixth century B.C. The culture of this phase is connected with the appearance in the late eighth century B.C. of hordes of Scythian nomads who brought with them a culture of Central Asian type. Soon after their presence in the northern Black Sea region, and as a result of the Scythian infiltrations into the Near East, their culture was enriched by foreign elements.

The second phase encompasses the late sixth to fourth century B.C. and occurred on the so-called Pontic steppes north of the Black Sea. Many elements in Scythian culture of this period can be traced to contacts with the Greek cities on the Black Sea. Other changes, in the sixth century B.C., indicate a new migration of nomads from the east, from a region as yet unknown.

The list of named Scythian kings is far from complete, but it is sufficient to allow us to associate some barrows with specific rulers. The names of forty-three Scythian mythic and historical figures are known from literary sources, but for the fifth to fourth century B.C. the names of only about ten kings and other members of royalty are certain.

Five great barrows with a height of about sixteen to twenty-one meters were erected in the Pontic region from the late fifth to the late fourth century B.C. Only these barrows can be considered “royal” tombs. Four—Solokha (excavated 1912–13), Chertomlyk (1862–63, 1979–86), Oguz (1894, 1902, 1970–80s), and Alexandropol (1851–55)—have been partly or totally excavated. One last barrow—Nechaeva Mogila—remains untouched.

MODERN CHRONOLOGY

Solokha seems to be the first great kurgan, or burial mound, on the Pontic steppes. According to its chronology, based on Greek ceramics, including amphorae (fig. 1), the central (initial) grave is dated 420/410–400 B.C.; the second tomb, where the well-known gold comb and other precious objects were buried, is dated ca. 400–375 B.C., with a possible date in the 380s B.C.⁴

The chronological period (based on silver amphorae, harnesses, and so on) for the Chertomlyk barrow ranges from the end of the fifth century to the second half of the fourth century B.C. The Greek amphora stamps (figs. 2, 3) and ceramics found at Chertomlyk allow a more exact range: Chersonesos stamp, 315–300 B.C.; Sinope, 310–285 B.C.; Heraklea, 350–325 B.C.; and an unknown center (Rhodes?), late fourth to early third century B.C. The ceramics from Chertomlyk (fig. 4) can be dated 350–325/320 B.C.⁵ Thus a reliable date for the main (central) chamber is 340–325/320 B.C.; the northern chamber, excavated fifteen years ago, is dated to the last decade of the fourth century B.C.

According to archaeological evidence, the Oguz barrow, which was reexcavated some twenty years ago, can be dated ca. 330–310 B.C.⁶ and the Alexandropol barrow to 330/325–300 B.C. (fig. 5).⁷ The famous Kul' Oba barrow, on the Crimean Peninsula, can also be added to this list. Kul' Oba is comparable to the great steppe tombs and dates to the second half of the fourth century B.C., or, according to the latest date of one amphora (Thasian, with the stamp of Areton, ca. 345–325 B.C.),⁸ to the 330s B.C.⁹

The traditional methods of archaeological dating can now be synchronized with radiocarbon dating. This technique has only recently been applied to European Scythian archaeology, and the carbon dates agree on

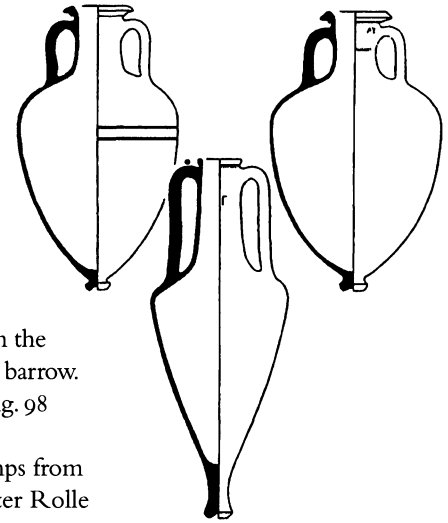
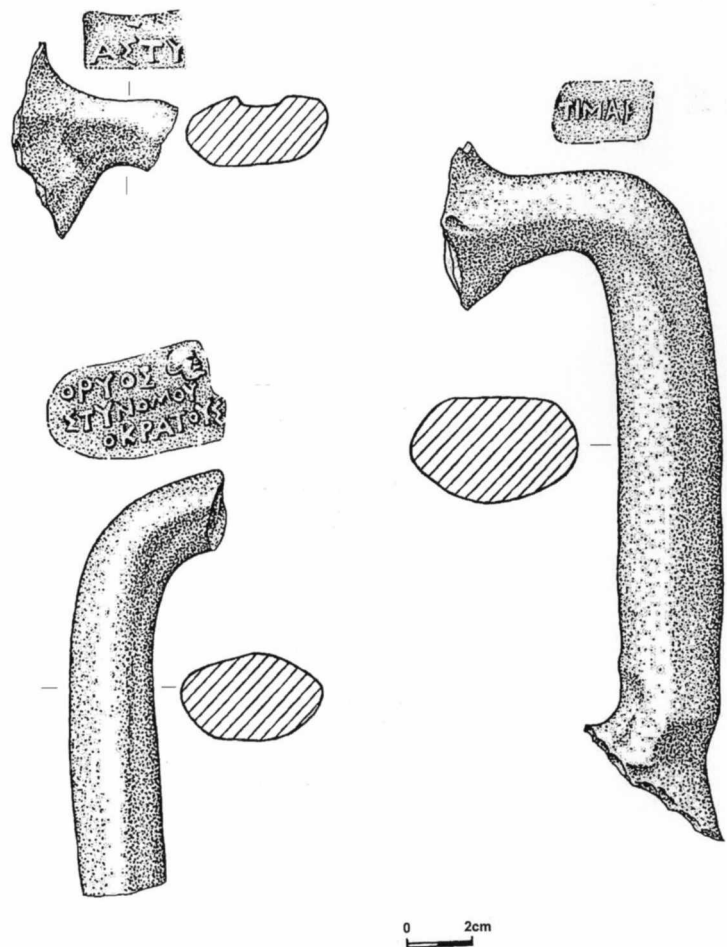


Figure 1. Amphorae from the second tomb of Solokha barrow. After Monakhov 1999, fig. 98

Figure 2. Amphora stamps from Chertomlyk barrow. After Rolle et al. 1998, vol. 2, pl. 1



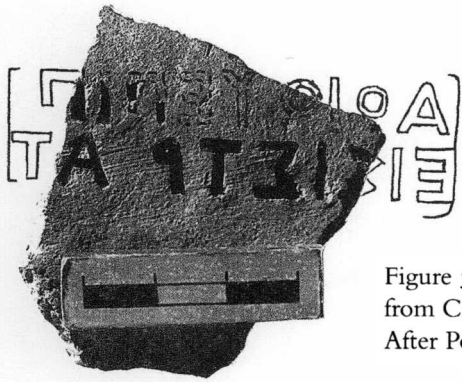


Figure 3. Amphora stamp from Chertomlyk barrow. After Polin 1998, pl. 15:4

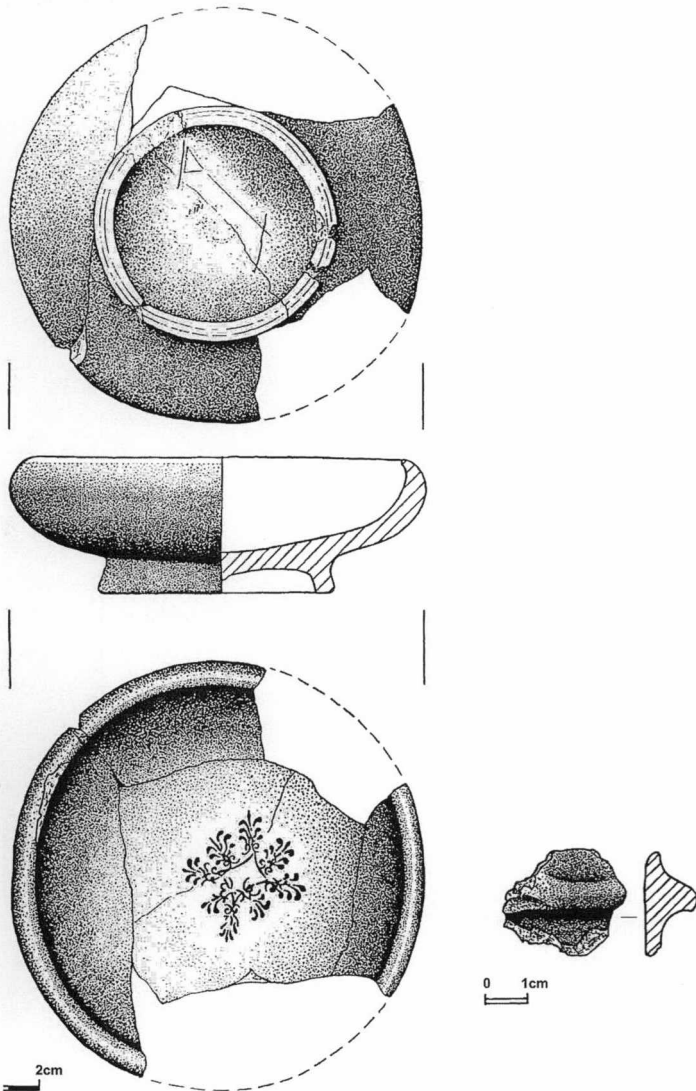


Figure 4. Ceramics from Chertomlyk barrow. After Rolle et al. 1998, vol. 2, pl. 43

the whole with the traditional chronology.¹⁰ There are twelve radiocarbon dates for Solokha: the combined carbon date for the first grave is 2332 ± 27 B.P., or 400–386 B.C. (1 σ) and 406–370 B.C. (2 σ); the combined date for the second grave is 2333 ± 19 B.P., or 398–389 B.C. (1 σ) and 402–383 B.C. (2 σ). Furthermore, our investigations allow us to define the terminus post quem for the Chertomlyk, Oguz, and Alexandropol barrows as ca. 350 B.C.¹¹

SCYTHIAN DYNASTIC HISTORY

After the Persian expedition to Scythia and the Scythians' success under King Idanthyrsus in the late sixth century B.C., a new "royal" dynasty appeared in Scythia. Although we know only a few events in Scythian history, we can construct a tentative genealogy of the ruling family on the basis of Herodotus and the archaeological data. According to Herodotus, King Ariapeithes had three wives: an Istrian woman by whom he had Scyles, his heir; a Scythian woman named Opoea, who bore him a son named Oricus; and a daughter of the Thracian chief Teres, who was mother to a son called Octamasades.¹² Ariapeithes was killed outside Scythia sometime between ca. 475 and 460 B.C., and Scyles succeeded him to the throne. In a subsequent dynastic conflict, Octamasades slew Scyles and became king.

We do not know where Ariapeithes was buried; at the time of his death, none of the great royal barrows had been erected. Scyles was killed about 450 B.C., but his period of rule occurred in the first half, probably the second quarter, of the fifth century B.C., to judge by coins on which he was named.¹³ Another object that bears the name of Scyles is a seal ring (fig. 6) found near the Danube in the 1930s; according to Herodotus, Octamasades killed Scyles somewhere in Thrace, near the Danube, and the discovery of the ring supports this story. Another name on the ring—Argotas—led I. G. Vinogradov to suggest that an uncle or grandfather of Scyles was referred to.¹⁴ Octamasades came to power about the middle of the fifth century

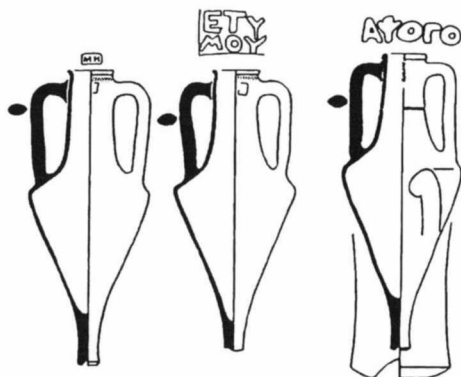


Figure 5. Amphorae from Alexandropol barrow. After Monakhov 1999, pl. 189

B.C.; we do not know how long he ruled or how old he was when he died. If he had been born no earlier than the 470s B.C., he and his younger brother Oricus could have been buried sometime during the late fifth to early fourth century B.C., about the time that the first great barrow—Solokha—appeared on the steppes.

The next known king is Atheas, whose political activity began in the 360s B.C. He was probably not a true king but rather chief of a large group of Scythians in the southwest region of Scythia.¹⁵ Atheas had a son of whom we know nothing; the king was killed in a battle with Philip II of Macedon in 339 B.C.¹⁶

From 339 to 310 B.C., written sources mention only unnamed Scythian kings. One such ruler must have led the Scythians who warred with the Bosphoran king Paerisades.¹⁷ (The ruler of the Scythians who dominated the area around the Bosphoran kingdom was probably buried at Kul' Oba.) This conflict took place after Atheas' death but before 328 B.C.

Around 329 B.C., during the military campaigns of Alexander the Great in Central Asia, delegations of European Scythians twice visited the Macedonian ruler.¹⁸ The first visit took place in late summer or early autumn of 329/328 B.C. The Greeks were friendly toward the Scythians, although Alexander ordered some officers to return with the delegation, apparently to gather



Figure 6. Seal ring with the name of Scyles. After I. Vinogradov 1980, fig. 2

information about the tribe's size and military equipment. Quintus Curtius Rufus mentioned the name of the Macedonian ambassador—Berdes.¹⁹ In the time between the two embassies, the Scythian king (let us call him unnamed king 2) died, and his brother (unnamed king 3) came to the throne.²⁰ A final Scythian king—Agarus—is named in connection with the events of the Bosphoran civil war in 309 B.C.²¹

SCYTHIAN DYNASTIC CHRONOLOGY
Paradoxically, the traditional dynastic history of the Scythians disagrees with the chronology of the great barrows. For the fifth century B.C., we know three kings, two of whom died during this time, but the first great barrow was erected only in the last decade of the fifth century. There are two possible explanations for this.

On the one hand, it is possible that the tradition of erecting massive kurgans on the steppes arose late in the course of Scythian history; thus, the tombs of kings such as Ariapeithes and Scyles should perhaps be sought among the rich but not very impressive steppe barrows of the first half of the fifth century B.C., such as the Baby barrow, or barrow 13, near the village of Great Znamenka. The height of these mounds is about 3.5 to 4 meters; in contrast, the first barrow at Solokha is 15 meters high. On the basis of Greek ceramics and stamped

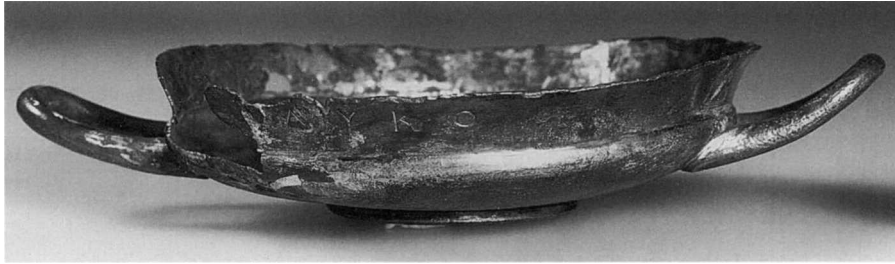


Figure 7a. Silver vessel with the inscription ΑΥΚΟ from Solokha barrow. Photo: State Hermitage, Saint Petersburg

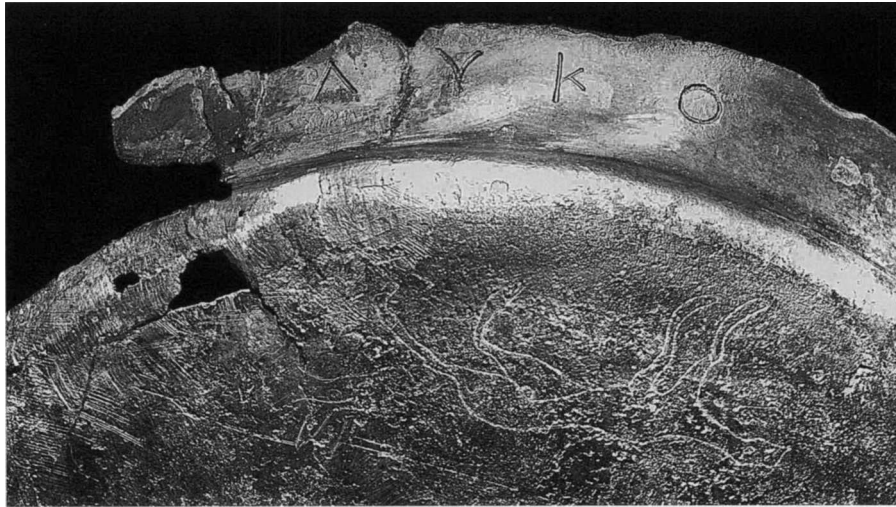
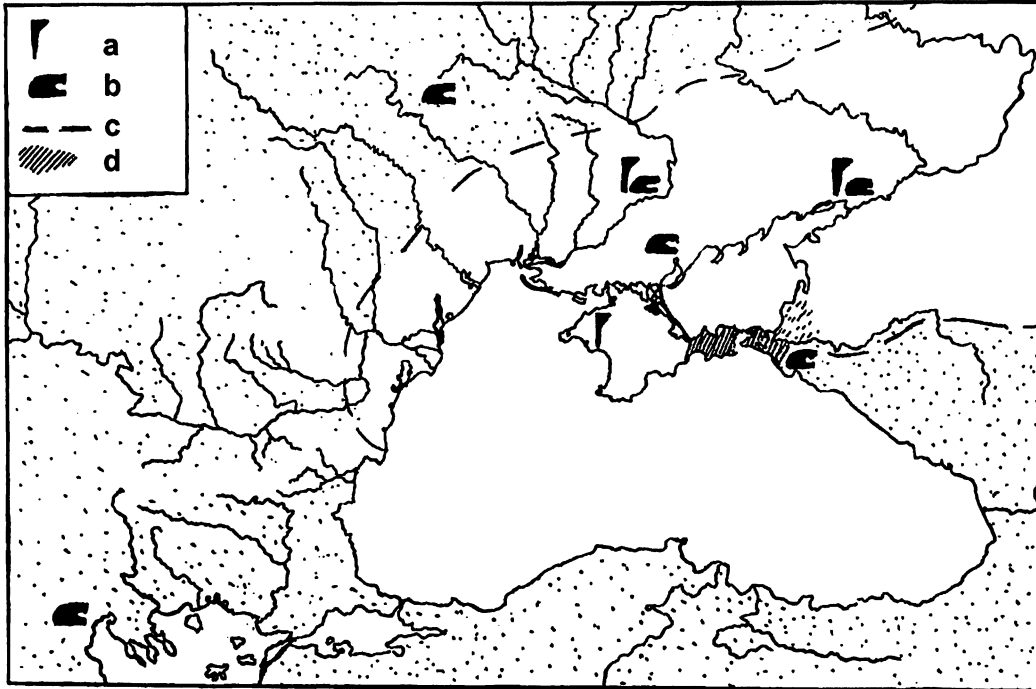


Figure 7b. Silver vessel with the inscription ΑΥΚΟ from Solokha barrow. Photo: State Hermitage, Saint Petersburg



Figure 8. Gold comb with battle scene (detail), from second burial at Solokha, ca. 430–390 B.C. After New York 2000–2001, no. 156, pp. 218–23



amphorae, the small barrows date to the second quarter and the mid-fifth century B.C., a plausible period for the burials of Ariapeithes and Scyles.²²

On the other hand, the kings in question may simply not have been buried in Scythia. Herodotus' mention of the circumstances of their deaths outside Scythia can be seen as favoring such an explanation.

If we correlate all the available archaeological and literary evidence with the chronology of the two periods of ca. 430–390 B.C. and ca. 340–300 B.C., we arrive at the results displayed in Table 1.

The first and oldest Solokha burial may have belonged to Oricus. His name may be derived from the Scythian word **varka*, “wolf.” The word ΛΥΚΟ (genitive form of the Greek ΛΥΚΟΣ, “wolf”) was scratched on a silver vessel in this burial (fig. 7a–b).²³

The rich second burial at Solokha may belong to Octamasades, who would have outlived Oricus. The figures represented on the famous gold comb dated ca. 430–390 B.C. (fig. 8) and found near the head of the king in this burial may depict the dynastic conflict

Figure 9. Dissemination of the Trojan-group objects: (a, b) *gorytoi* and scabbards; (c) borders of the steppes; (d) the Bosphoran kingdom. After Shcheglov and Katz 1991, fig. 30

Table 1. Scythian kings and “royal” barrows of the fifth to fourth century B.C.: Possible chronology

Date B.C.	Scythian King	Scythian Royal Barrow	Date B.C.
470/460	Ariapeithes		
450/440		Baby, 13 Great Znamenka	ca. 450
ca. 440	Scyles	1 Zavadskaia, Malaia Tsymbalka	ca. 425
440–400	Oricus	Solokha 1	ca. 410
	Octamasades	Solokha 2, Kul' Oba 1	390/380
		Berdianskii, Dvugorbaia Mogila	ca. 375
		Chmyreva, Gaimanova Mogila	350
339	Atheas	Tolstaia Mogila, Tsymbalka	340
	Unnamed 1	Kul' Oba 2, 3 (?)	
329/328	Unnamed 2	Chertomlyk 1, Oguz	ca. 330
	Unnamed 3	Alexandropol 1	325
309	Agarus	Chertomlyk 2, Alexandropol 2, 3	300

among the sons of King Ariapeithes; the warrior wearing a Thracian helmet and fighting on foot beside his slain horse may portray the unfortunate Scyles, who had fled to Thrace in the aftermath of Octamasades' coup.²⁴ In Scythia, this subject may also have been regarded as a reflection of a Scythian (and wider Iranian) epic or myth.²⁵

As for associating the central burial at Chertomlyk with the unnamed king 2, who according to Arrian died during the Scythian embassy to Alexander the Great, one object from that grave may illustrate such a connection: the gold Persian short sword, usually dated to the late sixth or early fifth century B.C.²⁶ This sword could have been a gift from Alexander to the Scythian king, in exchange for the gifts sent from Scythia.²⁷ According to Evgenii Chernenko, the sword had been booty that the Scythians captured from the Persians during the latter's invasion of the steppes at the end of the sixth century B.C.²⁸ On the steppes, the sword was apparently fitted with a new blade to accommodate the gold-covered sheath in which it was found. On the other hand, from the viewpoint of those scholars who interpret the Scythian embassies mentioned in Arrian as referring to Saka tribes rather than European Scythians, the sword could have been a Scythian heirloom that somehow made its way from Persia in the fifth century B.C.

The golden sheath for the Persian sword and a gold *gorytos* cover from Chertomlyk (see figs. 1 and 2 in the essay by Ann Farkas, p. 212) belong to the so-called Trojan group, named after the battle scenes on the sheath coverings. Similar objects were discovered in a number of Scythian tombs, including Il'inty in the forest-steppes, Chertomlyk and Melitopol' on the steppes, Chaian in the Crimea, the eighth Five Brothers kurgan on the lower Don, and Karagodeuashkh on the Taman Peninsula, to which must be added a gold-covered *gorytos* excavated in the so-called tomb of Philip II at Vergina in Macedonia. Although the king buried in this tomb is today considered to be Philip III

Arrhidaeus, the stepbrother of Alexander, we can at least be sure that the deceased was a Macedonian ruler of the second half of the fourth century B.C.²⁹ Since the time of Philip II's war with the Scythians, Macedonia had been concerned with the western regions of Scythia and inevitably with the Bosporan kingdom as well.

All the Trojan-group objects are distributed around the Bosporan kingdom (fig. 9) and all of them were made between ca. 350 and 325 B.C.³⁰ The *gorytoi* and scabbards could have been gifts sent by the Bosporan king Paerisades to the rulers, mostly Scythian but in one case Macedonian, whose good will toward the Bosporan kingdom it was important to secure.

In summary, the central burial of Chertomlyk was probably constructed in the winter of 329/328 B.C.,³¹ which gives us a firm date on which to base the historical and archaeological chronology of the Pontic steppe region in the second half of the fourth century B.C.

1. Meliukova 1989.
2. This essay summarizes recent research in Scythian archaeology; see A. Alekseev 1986, 1987, 1996; Rolle et al. 1998.
3. See Marchenko and Vinogradov 1989, pp. 806–8; A. Alekseev 1992, pp. 103–12.
4. A. Alekseev 1996, p. 103; Monakhov 1995–96, p. 33; Monakhov 1999, p. 243.
5. A. Alekseev 1992, pp. 146–48; Monakhov 1999, pp. 362–69; Rolle et al. 1998, vol. 1, pp. 107–8; Polin 1998, p. 160.
6. Boltrik and Fialko 1991.
7. A. Alekseev 1986; A. Alekseev 2000a, p. 303.
8. For dates, see Debidour 1988, and Avram and Poenaru-Bordea 1988, p. 28.
9. A. Alekseev 1996, p. 104.
10. This research is supported by INTAS, project 97-20362, "A Comparative Chronology of the Scythian Monuments of the Forest-Steppe and Steppe Zones of Eurasia, Based on Archaeological and Radiocarbon Dating." The work has been carried out by partners from Russia, Ukraine, England, the Netherlands, and Sweden. A few hundred radiocarbon dates have been obtained. See Zaitseva et al. 1997.

11. The first two carbon dates for Filippovka kurgan 1 (Gröningen laboratory) are both interesting and strange. For a fifth-century B.C. date, see Korolkova (Chezhina) 1992. For an early-fourth-century B.C. date, see Pshenichniuk 2000, p. 29. Samples for radiocarbon analyses were wooden fragments taken from the inside bases of the deer sculptures. The results show different ranges (GrA-15860: 2940±50 B.P.; GrA-15862: 2320±50 B.P.). The later date agrees with the archaeological evidence, but the earlier date, in the late second millennium B.C., may indicate that the wood sample was taken from the central part of the tree trunk. The combined carbon date of 2630±35 B.P. (2σ) is earlier than the archaeological date of the site.
12. Herodotus, *The Persian Wars* 4.78–80.
13. Karyshkovskii 1987, p. 67.
14. I. Vinogradov 1980.
15. Strabo, *Geography* 7.3.18; Justin, *Epitome of the Philippic History* 9.1.9, 9.2.1–16, 9.3.1–3; Polyaeus, *Strategica* 7.44.1; Orosius, *Seven Books Against the History of the Pagans* 3.13.4–7; Lucian, *Makrobii* 10; Clement of Alexandria, *Stromateis* 5.5.31.
16. Justin, *Epitome of the Philippic History* 9.2.4.
17. Demosthenes, *Against Phormio* 34.8.
18. Arrian, *Anabasis Alexandri* 4.1, 4.15; Quintus Curtius Rufus, *History of Alexander the Great* 7.6.12, 8.1.1–10.
19. Quintus Curtius Rufus, *History of Alexander the Great* 7.6.13, 8.1.7.
20. Arrian, *Anabasis Alexandri* 4.15.
21. Diodorus Siculus, *Library of History* 20.24.
22. A. Alekseev 1987; Monakhov 1999, pp. 105–11.
23. See Mantsevich 1987. Abaev 1979, p. 307, suggested that the name Oricus is derived from the Scythian word *vara, “ram, lamb.”
24. New York 2000–2001, no. 156, pp. 218–23.
25. Raevskii 1977, p. 117.
26. New York 2000–2001, no. 163, p. 233.
27. D. A. Machinskii, oral communication.
28. Chernenko 1984, pp. 48–50.
29. Andronikos 1990.
30. Shcheglov and Katz 1991, pp. 115, 117, figs. 30–31.
31. I do not discuss the suggestion by Boltrik and Fialko 1991 that Atheas was buried in this grave in 339 B.C.

17. Royal Tombs and Hill Fortresses: New Perspectives on Scythian Life

During the seventh century B.C., mounted Scythian warriors advancing from the east, Central Asia, and the near southeast occupied the steppes north of the Black Sea (fig. 1). Apart from their predecessors, the Cimmerians, these Scythians are the first people of the steppes of eastern Europe and even of Eurasia known to us by name. These warriors rode horses and were armed with bows and arrows; the importance of the horse was immense, and the Scythians lived as nomads or seminomads. They are thought to have spoken an Old Iranian language closely related to ancient Ossetic, itself related to Old Persian and Avestan. Contemporaries of, and culturally related to, the Celts of Central Europe, they can be divided into several “tribes,” namely the “Royal Scythians,” the “Nomadic Scythians,” and the “Farming Scythians.”

Scythian art and culture form one of the most fascinating chapters of the archaeology of eastern Europe and Central Asia.¹ The history of the Scythians reaches into Central Asia, where they originated and with which they maintained close contacts. From the turn of the eighth to the seventh century B.C. onward, successful Scythian military cam-

paigns into the Near East, which were continued for about one and a half centuries, opened a land bridge across the Caucasus for cultural influences from the south. Thus, the classical Scythian culture of the seventh to fourth century B.C. was influenced by and reflected the great civilizations of the Near East such as Assyria, Media, and Urartu.

SCYTHIAN POWER ON THE STEPPES

The first center of Scythian power emerged in the northern Caucasus. A little later, during the sixth century B.C., the main power shifted toward the Dnepr, the ancient Borysthenes. This river formed the extended watery axis of the center of the Scythian region, stretching from the Danube in the west toward the Don in the east, from the coast of the Black Sea in the south to the woodlands in the north. Today's Ukraine thus encloses the central regions of ancient Scythia. Kiev, Ukraine's modern capital, is situated near where the northern border of ancient Scythia may have been.

Today, almost all of the very fertile black soil covering large parts of the country is under cultivation. However, 2,500 years ago Scythia consisted mainly of cool, well-irrigated grassland. For Early Bronze Age cattle breeders and, later, horse nomads, its lush vegetation offered good living conditions. The fragrance of Pontian wormwood was as much part of their daily lives as the noises produced by the large herds of cattle finding ideal pastures on this steppe in a sea of tall fescue and needle grass.

Attempts to reconstruct this landscape as it may have been in antiquity prove difficult because the ecological devastation that occurred in modern times damaged the fragile natural ecosystem. Geographically, this country can be divided into three regions—grassland steppe to the south, forest-steppe in the middle, and woodland to the north—which

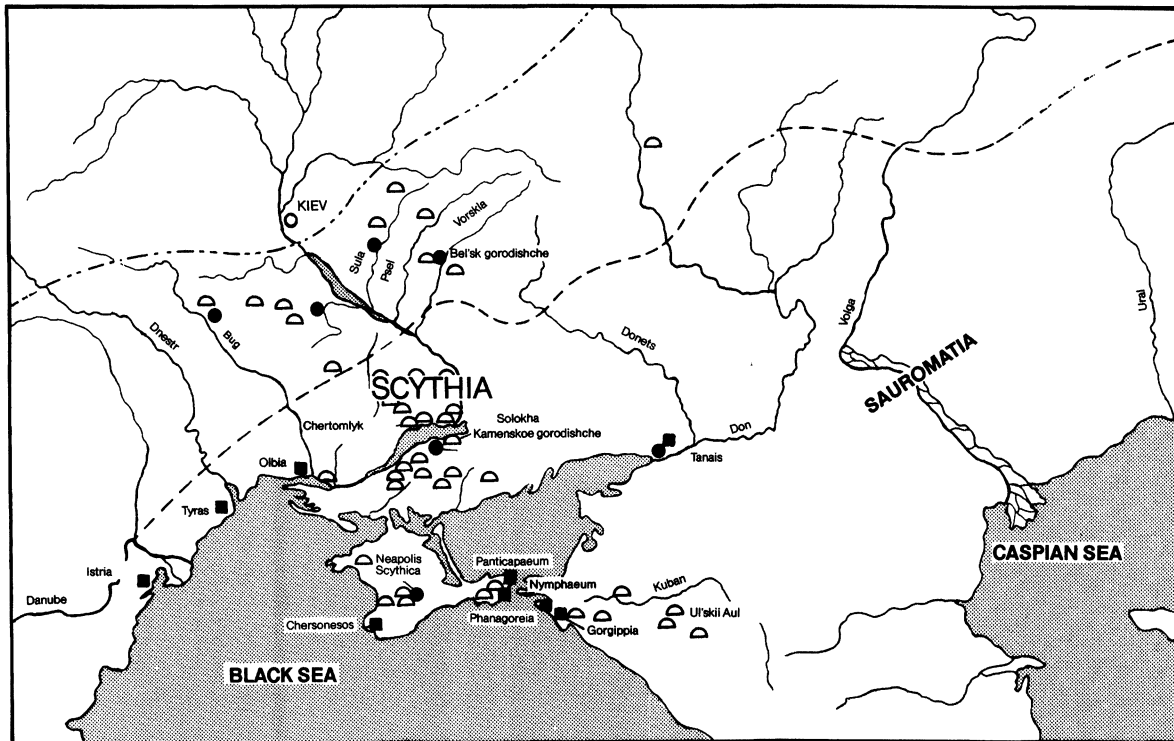


Figure 1. Map of Scythia showing the principal cultural groups

obviously influenced both economy and way of life. This diversity encouraged the political elite to unite the three regions under one rule.

SCYTHIAN KURGANS

Kurgans, or burial mounds, formed a distinctive part of the Scythian landscape (fig. 2). For centuries past, travelers were impressed by and vividly described the chainlike rows of burial mounds that had been built over the years in the steppes and forest-steppes of the northern Pontic region. Even in the later Middle Ages, the silhouettes of specific kurgans were used as landmarks; sometimes their tops were vantage points, from which it was possible to view the land for miles around. Manifold legends were woven around those kurgans; of some it was said that lights issued from them at night, or the shouts and songs of the carousing dead were heard. Golden horses and great treasures were waiting for those who dared to enter when the kurgan opened or was forced open.

Although the Scythians are mostly known as a mobile, nomadic people of mounted warriors, they were also busy builders of burial mounds.² As opposed to most other nomadic peoples, the Scythians rarely used mounds existing from the previous Eneolithic and Bronze Ages for their own secondary burials; this happened only during a period when they were settling an area.

Scythian kurgans can be externally distinguished from mounds of other periods, because the surrounding soil surface is generally intact. Therefore, they rise fairly regularly as semicircular shapes from the earth, while Bronze Age mounds, for example, are surrounded by pits and dells. Presumably, the material used for erecting these earlier mounds was dug up on the site. The Scythian mounds, on the other hand, were erected with material carried to the site, mainly rich black soil, brought sometimes from a distance of six to eight kilometers. The enormous effort put into building such kurgans suggests that

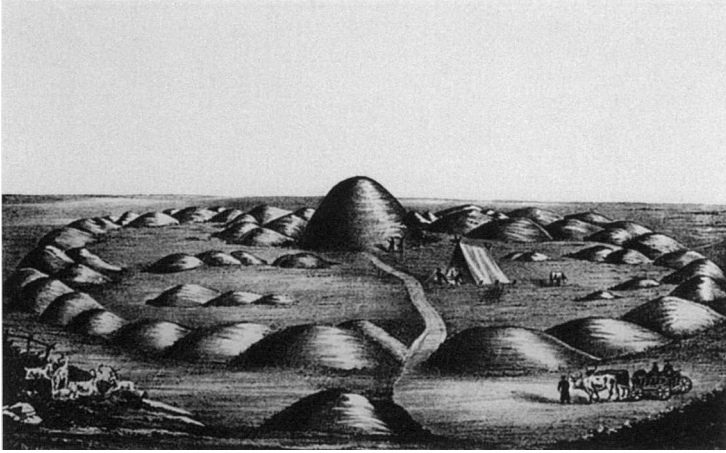


Figure 2. Group of kurgans around the Perepiatikha kurgan. After a late-nineteenth-century print

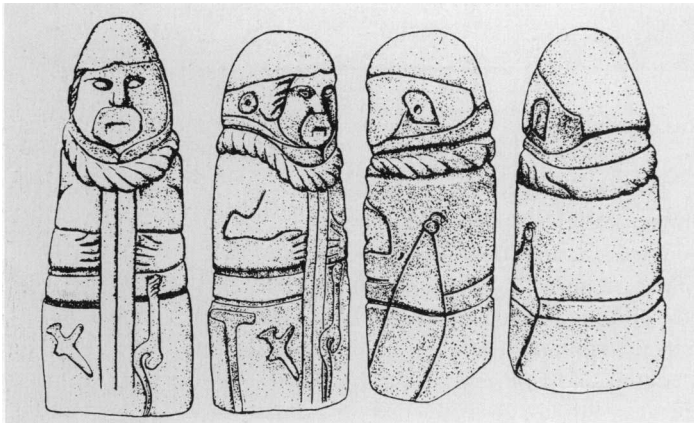


Figure 3. Scythian *kamennaia baba*, a stone figure of a warrior wearing a neck ring and helmet, armor, short sword, battle-ax, bow, and whip. Height 6.67 meters. After Takhtai 1964, p. 206

obtaining the soil for the mound was part of the burial ritual. It seems likely that the kurgans themselves, built from the soil of certain pastures, were a funerary gift to the dead.

Many kurgans fell victim to the enormous ecological damage of modern times, when even some of the largest tumuli were leveled off and disappeared without a trace. Therefore, today only a few examples can be studied in their original sites, such as the largest remaining kurgan of the Pontic steppes, the Nechaeva Mogila, boasting a present-day height of about sixteen meters. This is a rough estimate, since it was impossible for archaeologists to obtain any aerial photographs while the Soviet Union was in existence, and it is still impossible today; there is no adequate documentation of the number of kurgans, their exact locations, dimensions, and so on. Originally, there must have been several thousand burial mounds, often forming large necropoli. Among these, we can differentiate between burial grounds with a single type of mound and those with different types of mounds. In addition to the graves, there were earthen or wooden platforms used for religious ceremonies. These burial grounds must once have had an impressive religious aura. Their importance in antiquity is emphasized by the fact that they are linked with ancient road systems.

Among the old burial mounds, the Scythian upper-class kurgans, commonly called “graves of the nobles” (in Russian, *tsarskie kurgany*—“royal graves”), are the most impressive. These mounds, in the East usually called “kurgans” or *mogily*, can be of overwhelming size, sometimes reaching the height of a modern seven-story building with a diameter of more than 100 meters at the base. On the tops were once stones carved in human shapes (fig. 3). As far as we know, these lifesize standing sculptures without exception depicted men ornamented with jewelry and weapons. It is not clear whether they represented ancestors or heroes of the period. In this vast landscape characterized by vegetation of different grasses, the great kurgans were such land-

marks that they have been called the “pyramids of the steppes.” Modern research has proved that this name comes much closer to their nature than originally assumed.

The inner construction of the kurgans lies on different levels, sometimes above the original soil surface, sometimes on this surface, and sometimes deep below (fig. 4). Commonly, the mound was raised when a later burial was placed in the same mound, sometimes shifting the center of the kurgan in the process. Nevertheless, the Scythian kurgans, as opposed to the earlier Bronze Age mounds, seem to have been laid out as family graves, so that only a limited number of dead were buried in one kurgan. More often than not, the mounds were actually erected for just one person. Women and children had the same right to a mound of their own as men did.

Especially in the graves of the rich, the shafts can extend as far as sixteen meters below the original soil surface. At the bottom, passages spread sideways in all directions, reaching a length of ten to twenty meters. The burial chambers form complicated systems of caves with main and side rooms, niches for domestic objects, and treasure pits (*tainiki*) for the most precious grave goods.

Earlier excavations brought to light many finds, but only recent excavations applying modern scientific methods have produced conclusive results, transforming the kurgan itself into an object of research. Here, attention was paid not only to the burial chambers and the goods they contained, but to the entire mound. The results of these modern excavations have led to changes in the archaeological understanding of the “pyramids of the steppes” and have proved the necessity of interdisciplinary research when studying graves.

The archaeology of settlements has also produced some amazing results. For example, the interiors of fortified ramparts were shown to have proto-urban structures. Together with the results of modern archaeology of graves, this new knowledge

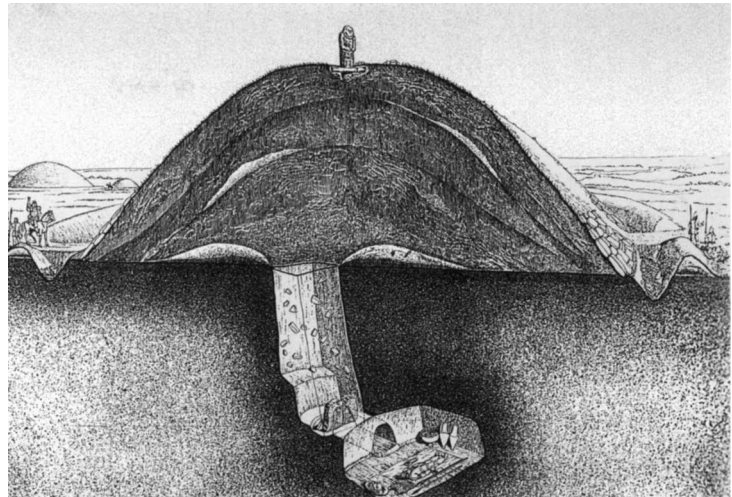


Figure 4. Schematic view of a Scythian kurgan with a catacomb grave. After Kornienko in Vienna 1993, p. 23, fig. 3



Figure 5. View of Chertomlyk kurgan from the southwest during fieldwork. The preserved segments still measure nine meters in height. Photo: Renate Rolle and Wilhelm Herz



Figure 6. Sod structure of Chertomlyk kurgan. Photo: Renate Rolle



Figure 7. Niche with housekeeping equipment—two wine amphorae, a large cauldron for horse meat (right), and a small bronze hearth with handles—found in situ during excavation of a side grave of Gaimanova Mogila. Photo: Archaeological Institute, Kiev

has changed our ideas about the culture of this amazing people of riders and warriors, the Scythians. Their history commences suddenly in the seventh century B.C. and ends just as abruptly, and for no apparent reason, about 300 B.C.

MODERN EXCAVATIONS AT CHERTOMLYK AND THEIR CONTRIBUTION TO UNDERSTANDING SCYTHIAN LIFE

The earliest excavators on the steppes focused almost exclusively on the rich burials and included only small portions of the enormous mounds in their research, leaving the major part to stand as an impressive ruin. Modern research is concerned more with the kurgan itself and its surroundings. The sheer dimensions of these mounds necessitated the use of giant earthwork machinery such as bulldozers, scrapers, and excavators, as well as compressors and cranes. During the 1981–86 excavation campaigns at the kurgan of Chertomlyk, the site sometimes took on the appearance of an open-shaft mine (fig. 5). This excavation was a cooperative project between the Soviet Union and the Federal Republic of Germany, where Boris Mozolevskii and later Viacheslav Murzin (Academy of Sciences, Kiev), Andrei Alekseev (State Hermitage, Saint Petersburg), and I worked.³

The massive grave mound had been the product of well-organized teamwork, which must have been strictly and centrally directed. Its construction must have been based on careful architectural planning. During excavation, the mystery of the homogeneously composited black soil structure was solved: the mound consisted of more than a million carefully cut pieces of grass and mud (fig. 6). After the foundation had been laid out and leveled, the sod was stacked up and, to reinforce and stabilize the interior structure, rings of mud were put in at regular intervals. This mud seems to have compressed somehow and turned almost as hard as concrete after drying. The total volume of the mound was about 80,000 cubic meters. Originally, it



Figure 8. View of a grave chamber, side grave, Tolstaia Mogila. Burial of a female chieftain with small child (center) and multiple burial of servants. Photo: Renate Rolle

must have had a pleasant silhouette with an exceptionally steep embankment and would have reached a height of twenty meters.

The mound was bordered by a stone wall—a so-called *krepis*—at its base, which seems to have been covered with stone slabs almost to the top. Approximately 8,000 cubic meters of stone must have been quarried and carried to the site from a distance of three to eight kilometers, and the overall impression of the structure would have been monumental.

Because of the specific manner of its construction, the building of a kurgan may have been carried out in a much shorter time than was hitherto believed. This construction, containing over seventy-five hectares of grassland, is a major technical achievement of nameless grave architects. Presumably, the grave goods for the noble dead included not only their personal belongings and their escort, but also perhaps the most important feature of life on earth:

an eternal pasture in the form of the pieces of sod.

The legendary Scythian “Valley of Kings” was to be found in a hidden landscape called Gerrhos, according to Herodotus.⁴ To this place, a solemn trail of carts took the embalmed ruler for his funeral after a last journey around his country; here, the pompous and somber funerary ceremonies were held. One year after the construction of the kurgan, so Herodotus says, fifty of the most beautiful servants and horses were killed. Their corpses were then preserved and set up around the foot of the mound on wooden trestles. Again, this was accompanied by complicated rituals. Although for a long time Herodotus provided the only source for this custom, his description inspired many highly imaginative reconstructions, but also raised doubts as to his reliability. In 1983, however, at the Chertomlyk kurgan, remnants of this “death-rider” arrangement were documented

in situ during an excavation campaign directed by Murzin and myself. At frequent intervals, skeletal remains of humans and horses lay around the base of the mound. Whether this sinister ritual was meant to deter potential plunderers or whether there were religious beliefs behind it is unknown so far. Plunderers were just as daring and cunning in ancient Scythia as they were in ancient Egypt.

To a certain extent, these burials are mirrors of life, reflecting the sunken world of the Scythian riders and warriors. This is particularly true for the graves of nomadic elite, because they represent the lifestyle of those buried here but also demonstrate the seemingly boundless will of a whole people to work in the service of the cult of the dead.

The customary killing of escorts at a funeral was described by several ancient

authors, first by Herodotus.⁵ In the archaeological findings, too, the following have been documented in the grave chambers: concubines or favorite wives, brothers-in-arms and squires, servants, horses and their grooms, carts and their charioteers, carpets and textiles, kitchen equipment (fig. 7) and rich tableware, large quantities of wine, and much more. Of importance are so-called hiding places containing particularly precious goods.

The people killed during the funeral to serve their lord or lady beyond death often have certain distinctive attributes of dress and are associated with weapons and tools showing both their social status and their appointed tasks in the hereafter (fig. 8). In several instances, the corpses of servants were found in those chambers that presumably recalled their responsibilities in this world, such as the wine cellar, “stables,” cloakroom, and kitchen. It seems likely that these persons were not killed before entering the catacombs, but rather died in the place appointed for them. Some corpses still bore marks of violence, and in two cases the hands clutching the earth were an archaeological clue that rigor mortis occurred in the grave and was then accidentally preserved by the prevailing soil conditions.

Although settlement archaeology has achieved major results in the research of hill fortresses and urban structures in the land of the Scythians, and although our image of this “warrior-horsefolk” has undergone transformation again and again, it is still the graves that create archaeological sensations. Gold and silver artifacts, rescued from underground burial chambers, are the source of particular fascination. Their subjects are often dynamic animal designs (fig. 9). Some pieces portray narratives in the so-called Greco-Scythian style. These allow us to look at the Scythians’ complicated imaginary world and their cultural-historical milieu, as well as their lifestyle and human-animal relationships.

Their ethnographic-realistic style visualizes the world of the Scythians in a true-to-life manner. Mirrored by these golden artifacts, however, was first the material culture



Figure 9. Gold phiale with horse ornament (detail), from Bratoliubovka kurgan. After Schiltz 1994, p. 69

of those in power, because this style was invented for them and was restricted to their social class. Up to the present day, it remains an unsolved mystery who the master craftspeople and creators of this style were and where they worked. The fact that they lived close to animals, especially horses, is expressed in art. This proximity is demonstrated in the story of one ruler of the Scythians, the aged Atheas, who, while giving an audience to the ambassador of Philip II of Macedonia, father of Alexander the Great, continued to comb his favorite horse, to the astonishment of the Macedonians.

The particular characteristics of the Scythians as depicted on the objects were their horsemen's garb, long hair, elaborate hairstyles with well-groomed hair and beard, and jewelry. The expressiveness of works of art by the Greco-Scythian masters reaches such an intensity that the people of the fourth century B.C. almost seem to speak to us.

Various written sources such as Herodotus and Pseudo-Hippocrates offer a glimpse into the world of the Scythians, but only archaeology provides a corresponding corrective and adds new information to the messages of the ancient authors. For example, the position of women and the importance of children in Scythian society are barely touched on by written sources. Therefore, most of our knowledge is the result of archaeological research. Based on these findings, women appear to have been fairly equal to men. Often, their graves verify their social status to have been high, perhaps even in a ritual context. We also know them as warriors from manifold findings: female warrior graves (fig. 10) contained a large number of weapons, both offensive and defensive (armor). All the legends about Amazons find their concrete archaeological manifestation here. From our excavations at the necropolis of Chertomlyk, we found six "Amazons." Two examples have interesting details: in the skull of one young woman was found a bronze arrowhead that caused her death, and in the left arm of another young woman a baby was placed.

Archaeology also provides completely new ideas about the weapons and armor of the Scythian warriors. Not long ago, the academic world thought of the Scythians as a lightly armed warrior group on horseback, who skillfully applied the tactics of shooting forward and backward with their composite bows and cleverly combined attack and retreat. Archaeology has shown, however, that the Scythian army was backed by heavily armored troops with several variants of armor showing a noticeable inventiveness in technical design. Experimental archaeology has produced new insights into their manufacture, wear, and use in military action.

In recent years, more and more graves of iron-plated "knights" have come to light. Typical Scythian scale armor was worn by these "knights," or it was placed on their

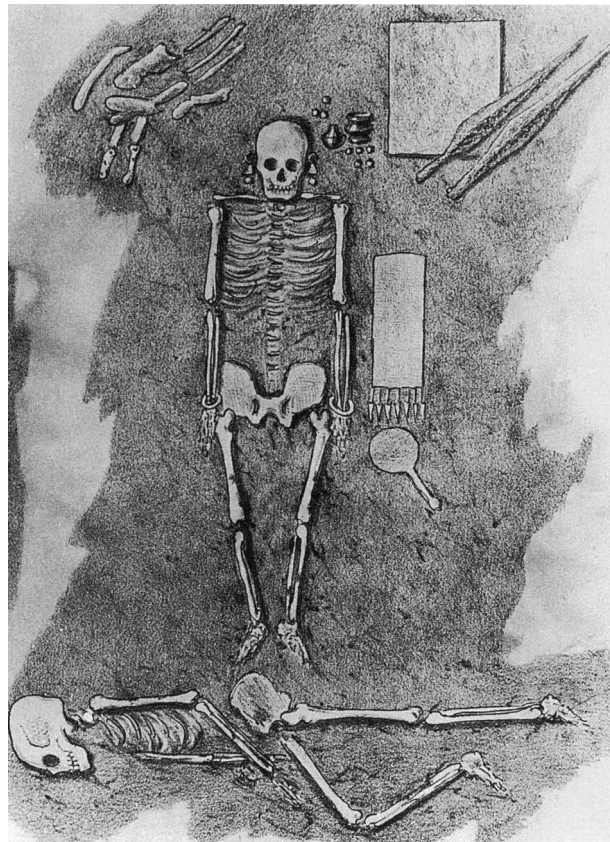


Figure 10. Grave of an armed woman, central burial, kurgan 20, Kholodnyi Yar. After Bobrinskoi 1887, pl. 23:18

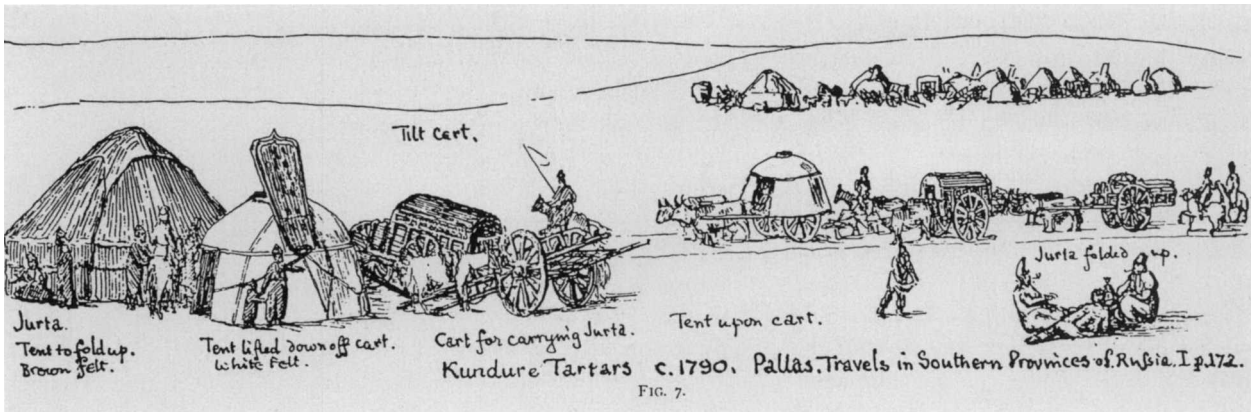
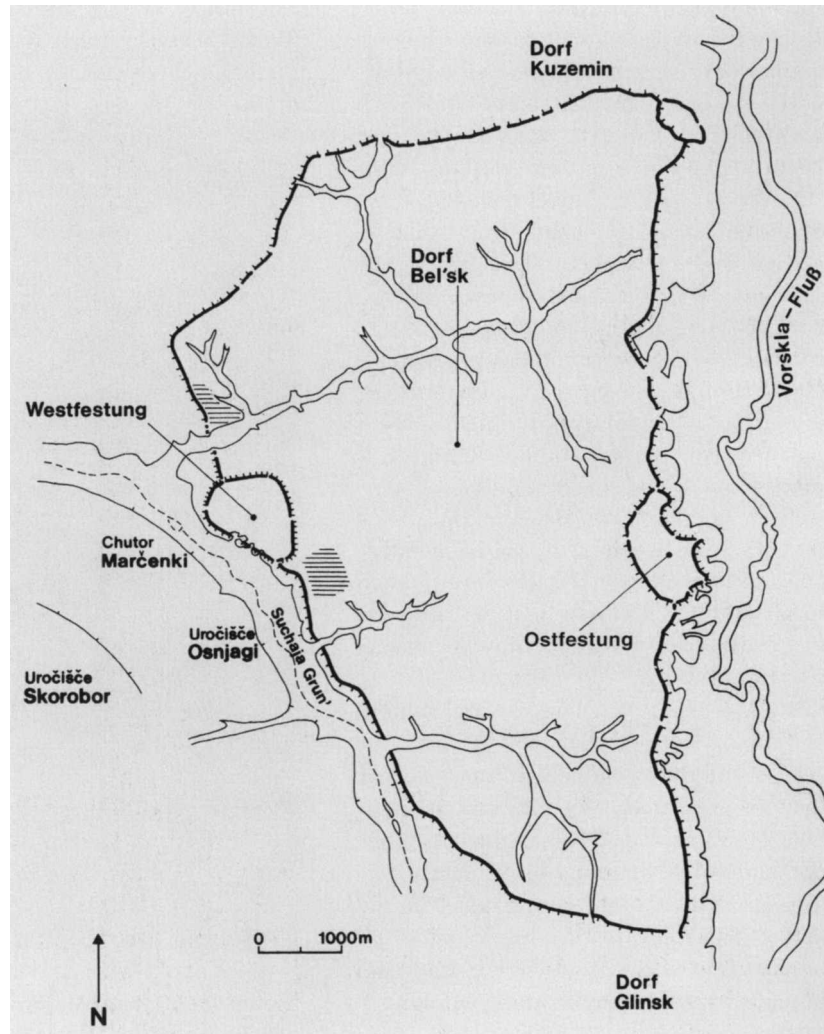


Figure 11. Group of nomads moving with wagons and yurts. After Pallas 1790; see Minns 1971, p. 52

Figure 12. Map of Bel'sk fortification system and necropolis. After Shramko 1987, p. 24



corpses in the graves. They belonged to the strongly armed heavy cavalry of the Scythian army. Naturally, fighting on horseback clad in this flexible but heavy armor demanded a particular education and discipline. These troops may have been something like Scythian “samurai” (see fig. 17). The Spartan severity of these warriors may not have allowed them to wear gold jewelry such as we know from some of the richer graves. Rather, these “knights” preferred select and exquisite ornaments.

RECENT EXCAVATIONS OF A SCYTHIAN FORTRESS

Archaeology is concerned in particular with learning more about Scythian social structures as well as their urbanlike settlements, which encompassed craft and trading centers. The burial rites of the Scythian elite and their conception of the afterworld are much better reappraised by archaeology than are questions about the related hill fortresses or residences. This is so for many reasons, not least for ideological ones.

One skill attributed to the Scythians was their mobile way of life, which required a “mobile architecture.” Herodotus described the Scythians as making the clever invention of “taking their habitation with them”; according to him, their wagons were their homes, and the major advantage of this way of life was that nobody marching against them could escape them, while on the other hand nobody could lay their hands on the Scythians unless they allowed it.⁶

Pindar, Aeschylus, Pseudo-Hippocrates, and others described the Scythians as a people who traveled with wagons drawn by pairs of oxen. A certain part of the population walked on foot during movement from one pasture to another; the warriors, however, were usually on horseback. The Scythians were not the only ancient people who practiced this “mobile-home nomadism.” A similar lifestyle is recorded among the Sarmatians, Huns, Khazars, Petchenegs, Polovtsi (Qipchaq), and Mongolians. Modern ethnographic research, however, has not been able

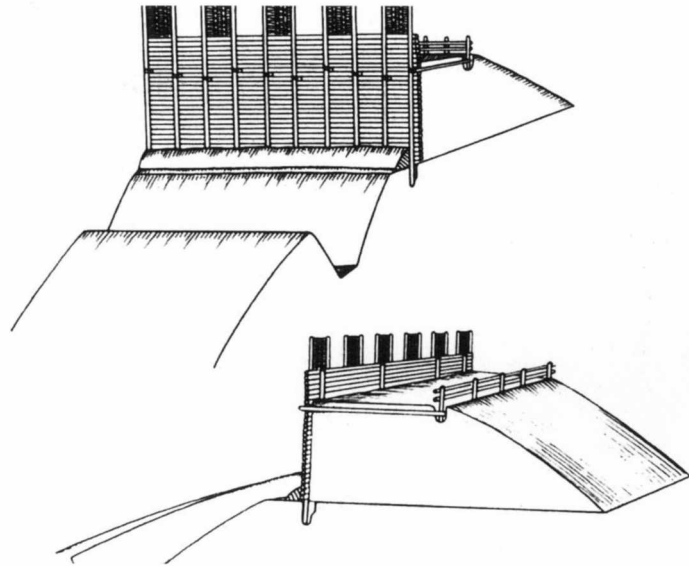


Figure 13. Bel’sk: wooden wall reconstruction of ramparts. After Shramko 1987, p. 27



Figure 14. Bel’sk: western part of fortification system from the air. Photo: ZDF (Zweites Deutsches Fernsehen)

to document this “mobile-home nomadism” lived by the Scythians. Peter Simon Pallas (1741–1811), a German scholar in the czar’s service from 1768, led scientific expeditions in Russia and Siberia and may have been one of the last observers of such nomadism (fig. 11). He described his encounter on the lower Volga with the “Kundure Tartars,” who



Figure 15. Bel'sk: computer simulation of eastern ramparts. Photo: ZDF (Zweites Deutsches Fernsehen)



Figure 16. Bel'sk: gold plaque with deer, from the necropolis. Photo: Renate Rolle

came from the region of the Kuban River and had about 1,000 mobile yurts with them.

Many reports from an early historical context describe not only the shape of mobile homes but also the way they were handled at campsites. They were cleverly installed so as to give onlookers the impression of massive, fortified, urbanlike settlements, which were formed into “cities on wheels” when it was time to set off again. The wagons belonging to persons of high social rank were distinguished by their particular splendor. Noble families owned thousands of such mobile homes. Strict rules, enforced mainly by the female members of the group, ensured a tight organization and clarity at the campsite. During the winter months, the people returned to certain regularly visited winter camps.

Nomadism in wagons by no means precludes stationary winter camps or urbanlike settlements. Rather, a semimobile way of life is conceivable. Recent research at the massive hill fortresses of the Scythians, the so-called *gorodishches*, makes it plausible that these fortresses functioned as craft and trading centers, commercial centers, and residences, ruled over by a nomadic upper class.

Such an interpretation is considered in particular for the hill fortress of Bel'sk (fig. 12). This place may have been a center of power for the Scythian kings of the seventh to fourth century B.C., with their extensive possessions of wagons and animal herds. Bel'sk is located near the southern boundary of the geographical forest-steppe zone, particularly toward the eastern steppes, where there are large areas of dense woodland. Nevertheless, there is a landscape with clear characteristics of an open steppe west of Bel'sk, and similarities to the grass steppes of the south can be found.

Situated on a plateau with steep flanks up to 60 meters high, the ramparts, with a total length of more than 34 kilometers, enclose an inner area in the shape of an irregular triangle, about 4,000 hectares in size. Two separate fortifications of roughly the same size, covering 72 and 65 hectares,

respectively, and enclosed by impressive ramparts, jut out from the main structure to the east and west as outpost citadels.

As a result of work conducted in Bel'sk since 1958, a team of archaeologists from Kharkov, directed by Boris Shramko, has clarified several important questions.⁷ They documented ramparts and moats and investigated the construction of gateways and other elements of fortification (fig. 13). Thus, the founding phase of the Bel'sk complex can be dated to the first half of the seventh century B.C., while the latest finds apparently date to the third century B.C. A layer of burned material extends through the entire complex, indicating that a military disaster occurred in an early period. Afterward, however, intensified rebuilding and renovation can be noted. During the second construction period in the sixth century B.C., the fortifications reached their final size, when both external citadels were joined by a system of ramparts to form "Great Bel'sk." During these construction measures, the surrounding rampart of the western citadel was strengthened to a height of eight meters and a thickness at the base of twenty-two meters; at the same time, the moat in front of this rampart was dug out to a depth of five meters, with a maximum width of twenty-four meters. Parts of the fortification were surrounded by a high wooden wall covered in white plaster on the outside. The numerous interior buildings in both the west and east citadels were various types of houses and indicated a resident population in these parts of the fortification.

Shramko and his team long contended, backed by weighty arguments, that Bel'sk could be identified with the town of Gelonos described by Herodotus.⁸ This town lay in the country of the Budini to the north of Scythia, and its multicultural population spoke a Greco-Scythian language.

Since 1992, a team of German and Ukrainian archaeologists has participated in binational excavations at Bel'sk, jointly conducted by the Archaeological Institute of the National Academy of Sciences in Kiev and



Figure 17. Reconstruction of two Scythian warriors with armor and typical weapons. After an illustration from Gorelik; see Rolle 1989, p. 69

the Archaeological Institute of Hamburg University.⁹ Our investigations have focused on two major aspects of the site: first, the complicated interior structures; and second, the necropolis of kurgans to the west of the complex. Up to now, we have explored two fairly large settlements in the rampart system. These settlements, situated outside the citadels but inside the rampart systems, were inhabited by craftspeople who manufactured the artifacts that form the dominant remnants of Scythian material culture (fig. 16), such as bronze cauldrons, swords, and bridle bits made from bone and decorated in Early Scythian animal style. These craftspeople must also have participated in the production of the triple-pointed Scythian arrowheads, because we found several half-finished pieces as well as fragments of molds. In these

craftspeople settlements, traces of intensive cultic rituals have come to light, consisting of ash heaps (*zol'niki*) and sacrificial deposits. There may have been a skull cult as well: two such sacrificial deposits discovered in 2000 consisted of radially arranged animal bones and two human skulls. Both belonged to young men and had been deposited without their jawbones.

The *gorodishche* of Bel'sk forms a large fortification system and belongs to a new type of urbanlike or proto-urban settlement hitherto unknown and hence of great importance for modern research (figs. 14, 15). This hill fortress was erected during a period of great historical interest, when the Scythians' Near Eastern campaigns brought them into contact with highly developed urban civilizations such as Assyria and Urartu. In addition, Bel'sk was erected at the same time that the Greek colonies on the northern shore of the Black Sea were founded. This impressive system of fortifications and ramparts was therefore already in existence as a center of power when the Greek colonies in the coastal region were still insignificant unfortified settlements. Bel'sk was the destination of Greek traders with a rich supply of goods, as can be seen in the archaeological records. The most interesting questions concern how it was possible to concentrate such a massive work output there, and who was orchestrating it.

At present, there are three different hypotheses. The first is that Bel'sk was founded by people living in the forest-steppes in Scythian times. Two allied and friendly peoples erected the eastern and western fortresses and then connected them by the system of ramparts. The second hypothesis is that Bel'sk was the work of an oligarchy with a council and an aristocracy; the possible influence of a monarchy is strictly disputed. And the third, which I find most plausible, is that a structure as magnificent and complex as Bel'sk can have been realized only under the central direction and protection of Scythian kings. Such towns of nomads existing in early historical and medieval times

and known to us from historical and archaeological sources offer comparisons.

Situated deep in the interior of Scythia, 500 to 600 kilometers away from the nearest Greek colonies on the shores of the Black Sea, Bel'sk is ideal for studying the economic and political structure of the Scythians. In view of its geographic locale, one would not expect to discover such an impressive structure there. The location of the site in relation to other centers of civilization at that time, and to contemporaneous sea and land routes, shows that Bel'sk was a town at the edge of the world. Such a structure has no place in conventional thought patterns. Nevertheless, Bel'sk was a place of intensive trade, which necessitated a well-functioning transport system by land and water, and this again requires a certain authority to guarantee and guard it.

Several different models offer themselves for discussion as to living conditions in Scythian times. What, for example, was the daily life of the Scythian elite and the kings like? Was it similar to that of Attila, king of the Huns, who, according to a record handed down from the Byzantine legate secretary Priscian (fl. ca. 500–530), camped in a tent while crossing the Hungarian lowland plain, but returned afterward to his royal seat, where there were wooden palaces and other permanent buildings? At the Battle of the Catalaunian Plains (451), Attila resided in a barricade of wagons. Another possibly comparable instance is that of the khan of the Khazars in the tenth century. Khan Josif recorded in a letter that he spent winters in various palaces in his capital town called Itil, on the lower shores of the Volga River, where there was a multiethnic population of craftspeople and traders. In spring, however, he set out, “rejoicing with joy” just like his subjects, with wagons and animal herds toward his pastures and vineyards.

Whether we consider yurts, tents, *auls*, or various wagons as “mobile homes” of the Scythians, setting them up in a logical arrangement would have required a lot of space. In addition, during the winter months,

there must have been sufficient pasture for the herds. Structures as large as Bel'sk are thus not surprising. In my opinion, it appears likely that Scythian hill fortresses such as Bel'sk were a Scythian reply to their encounter with the civilizations of the Near East. There are no precursors in the local Late Bronze Age strata. These hill fortresses, fortifications, or *gorodishches* appear as an indigenous evolution, centrally directed by Scythian kings. To maintain order at all times, the kings supported a well-armed and well-trained troop of warriors at the settlement, while they themselves were present only at certain times during the year.

In their plans, the Scythian fortresses show similarities to the oppida of the late Celtic world. They are, however, far larger and roughly 400 years older than the Celtic oppida. Perhaps *gorodishches* are evidence for the evolution of proto-urban settlements, which occurred similarly in both the Scythian and Celtic worlds, but appeared much earlier in the former.

1. See Bonn 1997; Galanina et al. 1987; Schleswig 1991.
2. Rolle 1979.
3. Rolle et al. 1998.
4. *The Persian Wars* 4.71.
5. Ibid.
6. Ibid., 4.46.
7. Shramko 1987.
8. *The Persian Wars* 4.108.
9. The Deutsche Forschungsgemeinschaft (German National Sciences Funding Corporation) supports the research, and the excavation is directed by Viacheslav Murzin and myself. See Rolle et al. 1991; Rolle 1996; and the television program "Schliemanns Erben: 1. Staffel."

18. The Filippovka Deer: Inquiry into Their North Asian Sources and Symbolic Significance



Figure 1. Stag on eroded surface, Aral Tolgoi, Mongolia, pre-Bronze Age. Photo: Gary Tepfer

Of all the finds from the Filippovka burial, the images of freestanding deer present the strangest paradox. Their scale and their armor of gold and silver are impressive, but their rendering is undeniably dry and rigid. They are the conventionalized finale to an ancient tradition of zoomorphic representation that had been founded in the taiga and steppe lands of northern Asia¹ and constantly modified as nomadic pastoralism expanded across Central Asia in the first millennium B.C.

Although our knowledge of the early Iron Age Sarmatians is incomplete, circumstantial evidence indicates that they had significant roots in the Altai uplands.² This region is familiar to many as the center of the Pazyryk culture and close to areas associated with related Early Iron Age cultures in the Minusinsk Basin, the Sayan uplands, and eastern Kazakhstan. Archaeological surveys indicate that the Altai Mountains were a major cultural hearth in the Bronze Age and earlier.³

The Filippovka deer recapitulate, condense, and fossilize a number of stylistic elements one can find in other early nomadic traditions of the first millennium B.C. These include the linear texturing of the deer bodies and the transformation of deer antlers into bird heads.⁴ The bird-headed motif and its significance within Altaic traditions is beautifully represented by the wood and leather construct of a griffin head with a stag head in its mouth, from burial 2 at Pazyryk, dated to the fifth to fourth century B.C.⁵ Within tattoos on the bodies recovered from frozen burials in the Altai Mountains associated with the Pazyryk culture, syncretic deer-horses and goat-horses carry antlers and horns that sprout bird heads.⁶

The syncretic nature of the Filippovka deer is demonstrated in still other ways. Their elongated heads, flattened snouts, and elaborately indicated mouths are not particularly deerlike, nor are their bodies. This fact

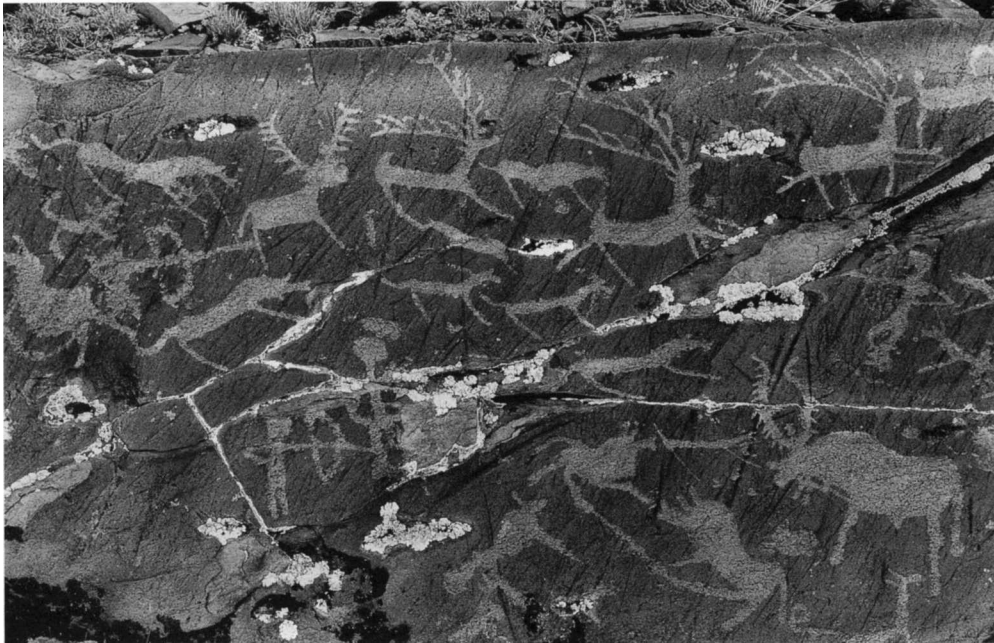


Figure 2. Detail of a composition showing a large deer hunt, Tsagaan Salaa 4, Mongolia, Bronze Age. Photo: Gary Tepfer

emerges clearly when we compare the Filippovka deer with the sixth-century B.C. stag from the Scythian burial of Kostromskaia.⁷ Here the proportions of the animal and the set of its neck and head effectively convey the essence of the True Deer.⁸ Admittedly exaggerated, the Kostromskaia deer's antlers are nonetheless far closer in visual effect to true antlers than are those of the Filippovka deer. In fact, the bodies and heads of the Filippovka deer conjure up the parts of a wolf, such as one might see in Sauromatian art, in art of the Pazyryk culture, or in objects from the unprovenanced Siberian collection of Peter the Great, such as on the plaques representing a tiger and wolf in combat.⁹ In these other and roughly contemporaneous examples, the wolves' heads are elongated and snouted. Like the Filippovka deer, their bodies are shaped with deep chests, slim waists, and heavy hindquarters.

Within the Filippovka finds, the deer image is the most repeated and elaborated pictorial element. To those who know something of the art of the Early Nomads¹⁰ and

their Bronze Age predecessors, this concentration of interest is not surprising. The image of the antlered animal is one of the oldest and most ubiquitous in Altai Mountain imagery. Indeed, it is possible to trace the ancestry of the Filippovka deer back to the pre-Bronze Age, before the second millennium B.C. In that early period, anthropomorphic figures were infrequent; when they appeared, they were usually hunters or birthing women. Deer, moose, wild cattle, and horses were represented in a style of idealized realism. In the case of the deer, the powerful bodies, elegant heads, and magnificent antlers reflect the reality of the Siberian True Deer (fig. 1). The animals are always represented in profile, either static or in decisive movement. In Altai rock art provisionally dated to the pre-Bronze Age, the deer are never attacked by predators; rather, they exist as individual animals or, occasionally, in groups suggestive of a herd.¹¹

In rock art of the Bronze Age, one finds a new focus on the lives of humans—both individuals and in collectives.¹² Among the



Figure 3. Wolves attacking two stags, Tsagaan Salaa 1, Mongolia, Bronze Age. Photo: Gary Tepfer



Figure 4. Detail of a composition showing a hunt after wild goats, Baga Oigor 4, Mongolia, Late Bronze Age or Early Iron Age. Photo: Gary Tepfer

representations of domesticated and wild animals, the frequency with which elk are represented alone and in the context of hunts suggests that they were as important as wild cattle and apparently more important than wild horses, boar, bear, or caprids. In the developed and distinctive style of the full and late Bronze Age, deer are represented

with considerable vitality: as alert, aware animals, or leaping across the surfaces of rocks, chased by predators or stalked by hunters.¹³ If Bronze Age deer images are less monumental than those of the previous period, they are still intensely rooted in observation of the real world; they are perceived as alert, graceful, and vital (fig. 2).

The Late Bronze Age of the Altai region was marked by decisive modifications of climate and environment, with resulting shifts in the larger faunal context and in the economy and shape of human communities.¹⁴ The gradual cooling and desiccation of the environment that had begun about 4,500 years before the present (B.P.) had, by about 3,000 years B.P., resulted in vegetation and fauna characteristic of the Eurasian steppe in the modern period. In mountainous regions, forests, previously extensive on north-facing slopes, retreated or disappeared, replaced by steppe vegetation; and vast grasslands increasingly covered the northern steppe zone. These changes profoundly affected the distribution of animal species, both wild and domestic. By the late second millennium B.C., the environmental and faunal shifts had decisively nudged human communities toward nomadic pastoralism—a change abetted by the acquisition of horse riding in the Late Bronze Age.

Not surprisingly, rock art of the Late Bronze Age—that is, of the late second to early first millennium B.C.—reflects those shifts in the natural and human worlds while retaining echoes of earlier cultural layers marked by animals of the earlier, more forested environment. One occasionally finds examples of deer attacked by wild animals or dogs, where the deer retain the realism and even elegance of earlier Bronze Age representations (fig. 3). In general, however, True Deer, like wild cattle, wild horses, and moose, were less often represented than had earlier been the case. In representations of the hunt, wild mountain sheep and goats occur frequently and often with a newly stylized elegance (fig. 4).

Deer do not disappear from the Late Bronze Age rock art pantheon, but they do

change—and radically. In the Mongolian Altai, we begin to see an animal having something of the spirited quality of a Bronze Age image but with a more stylized body and exaggerated antlers (fig. 5). Other images from this period, such as one from Baga Oigor 2 (fig. 6), express the stylized power we see in the Kostromskaia stag¹⁵ of the sixth century B.C., from the western end of the Eurasian steppe. The recumbent animal still recalls the heavy body of an elk, but its antlers have become magnificent waves over its spine, its head is elongated, and its legs are radically reduced in size. The dogs and hunters around the stag are puny, uninteresting things; indeed, the hunt here seems to have become peripheral in importance to the static image of the deer.

In many deer images from Mongolian Altai sites, one cannot ignore the increasingly radical stylization that seems to have emerged in the Late Bronze Age. In one image from the Upper Tsagaan Gol (fig. 7), the deer is elongated, with vestigial legs and head drawn out as if becoming the beak of a bird. Even the single round eye reminds one of a great bird. The antlers—the most striking part of these deer—sweep back over the animal's body in graceful waves. Similar images of stylized animals with exaggerated antlers, beaklike heads, and vestigial legs occur frequently throughout rock art sites in the Russian and Mongolian Altai (fig. 8) and often in such large sites as Tsagaan Salaa/Baga Oigor¹⁶ and Tsagaan Gol.¹⁷ When these deer appear together in groups (fig. 9) or with other animals, or as the intended prey of

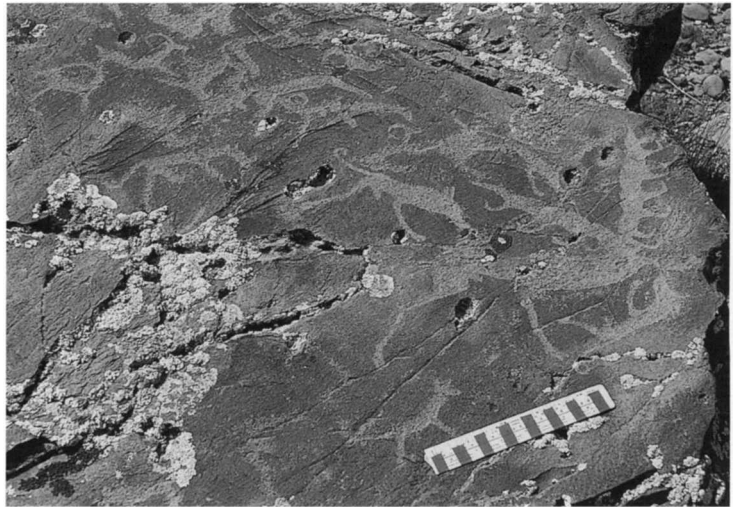


Figure 5. Wolves attacking a stag, Baga Oigor 3, Mongolia, Late Bronze or Early Iron Age. Photo: Gary Tepfer

Figure 6. Stag attacked by hunters and dogs, on a curved boulder, Baga Oigor 2, Mongolia, Late Bronze Age. Photo: Gary Tepfer

Figure 7. Stylized Late Bronze Age stag over a Bronze Age animal, Upper Tsagaan Gol, Mongolia. Photo: Gary Tepfer

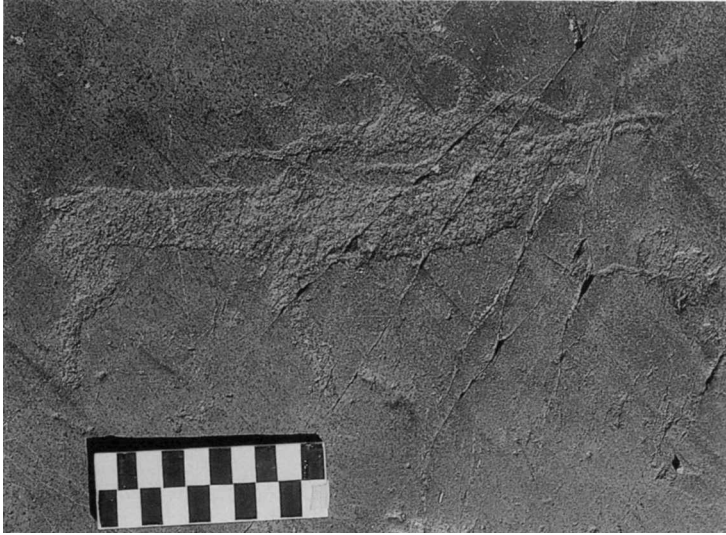


Figure 8. Stylized stag, Cheganka, Altai Republic, Late Bronze Age. Photo: Gary Tepfer

hunters, there is no psychological relationship suggested. Even when back-turned, they are strangely conventionalized, even expressionless, despite the frequent beauty of the technique with which they are rendered (fig. 10). These deer images have become static symbols, emblems of values as yet unclear.

The reason for the exaggeration in this deer imagery may be unclear, but there is one element often associated with these images that suggests another purpose. In figure 7, the deer has been deliberately pecked over another animal, a horse done in the Bronze Age. Now this kind of intrusive carving is not typical of what one finds in rock art. Throughout the Bronze Age, artists might nudge their images up close to those of an earlier age, but they would almost never infringe on the immediate space of that earlier image. With these stylized deer of the Late Bronze Age, we find traces of a

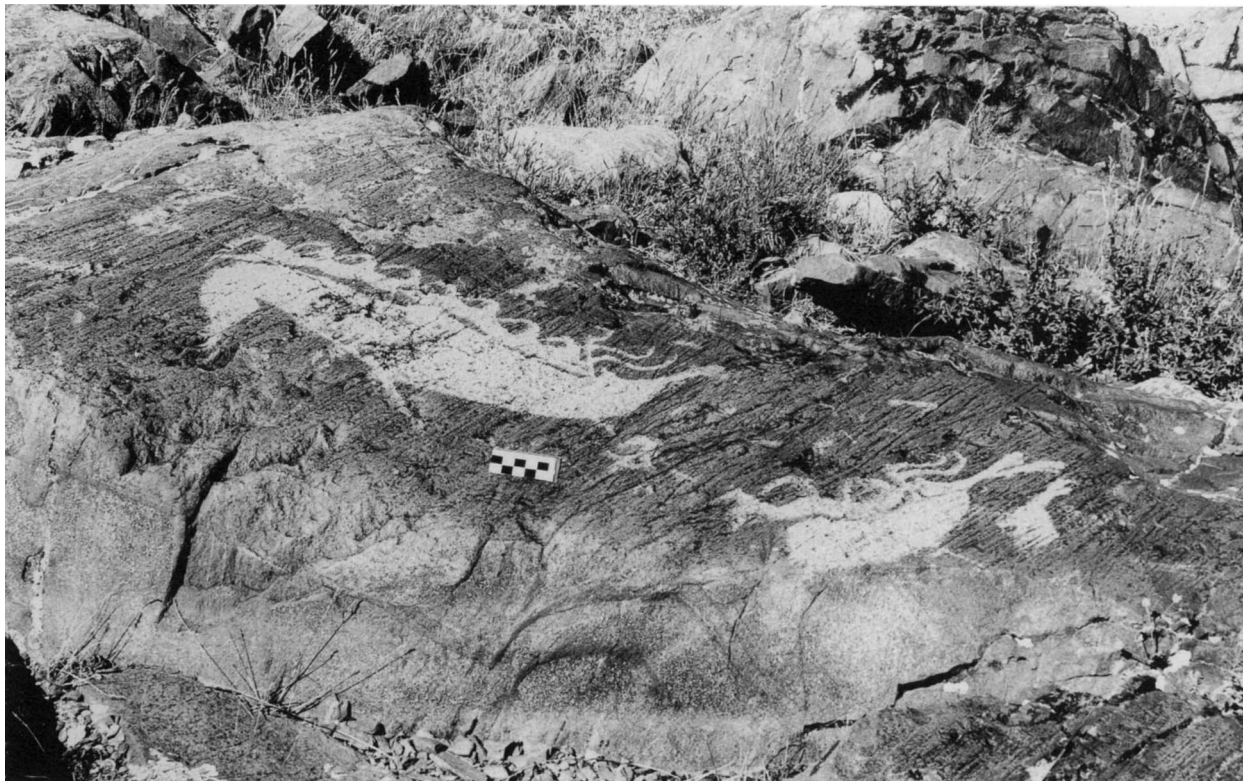


Figure 9. Stylized stag, two unfinished deer images on right, Upper Tsagaan Gol, Mongolia, Late Bronze Age. Photo: Gary Tepfer

different attitude; at times, even, the deer images appear to be aggressively asserting their right to a previously used space. A particularly graphic example also comes from the Upper Tsagaan Gol and can also be dated to the Late Bronze Age (fig. 11). A large and magnificent deer with exaggerated antlers and elongated body and head is surrounded by small figures: hunters shooting their arrows at deer, deer stuck all over with arrows, and chasing dogs. Some of the dogs seem to be working with the small hunters; others, more wolflike in type, appear to be attacking the large deer. A careful examination of parts of the composition reveals that the large deer was actually pecked right over an earlier Bronze Age hunting scene. Its hindquarters cover the upper antler of one small deer and its hind leg crosses the body of another. A small leg emerging from the large deer's belly indicates that its body



Figure 10. Mounted hunter, back-turned stag, and dogs, Upper Tsagaan Gol, Mongolia. Photo: Gary Tepfer



Figure 11. Stylized Late Bronze Age stag pecked over a Bronze Age hunt scene, Upper Tsagaan Gol, Mongolia. Photo: Gary Tepfer

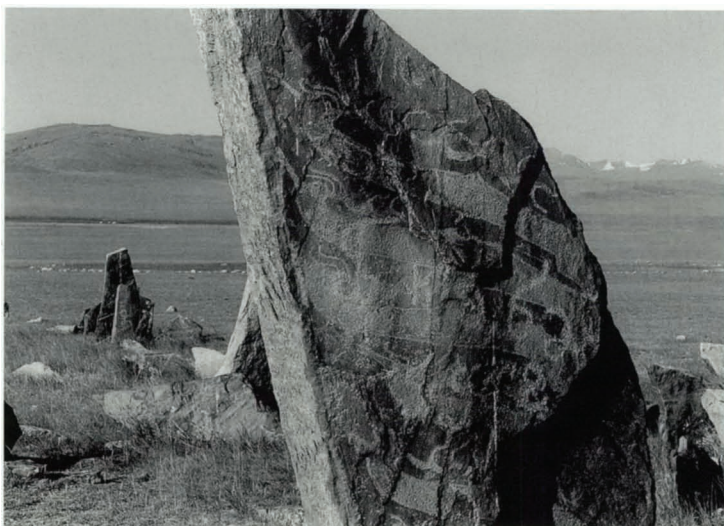


Figure 12. Detail of stylized stags on a “deer stone.” Deer stone and *khereksur* complex, Tsagaan Asgaat, Mongolia, Late Bronze Age. Photo: Gary Tepfer

covered the now-lost body of a small hunter. The large deer’s foreleg has been carved directly over the antlers and arrows of a small deer. Most striking is the figure of a dog, or—more likely—a wolf, attacking the large animal; it has been carved directly over the body of an earlier small deer. The large deer seems have been used as an emblem or identifying mark, perhaps of a new culture that came into the region and imposed its primary symbol, that of a stylized deer, on the vital, realistic hunts and sprightly animals of the earlier Bronze Age. Like the other images of stylized deer, this image has become reduced to a static sign, stylized and conventionalized, lacking the kind of integration into whole, vital compositions so characteristic of the Bronze Age.¹⁸

Where did this new deer come from, and what people brought it into the Mongolian Altai? The answer to that question is unclear, but one can discern some relevant facts. The elongated, exaggerated images of deer are actually best known through their appearances on standing stones—“deer stones”—where they are wrapped around the vertical stone, sometimes horizontally and sometimes vertically (fig. 12). In the classical formulation of the deer stone,¹⁹ the deer images are elegantly elongated, with bird-beak-like heads, wavelike antlers, and vestigial legs. They are almost always arranged one over the other, or intertwined across the stone but without any psychological interaction. First documented in the Transbaikal region of southern Siberia,²⁰ this type of deer stone has subsequently been recorded across northern and central Mongolia as far as the Mongolian Altai and beyond, into the Altai region of Xinjiang Province. The deer stones present many puzzles to modern researchers.



Figure 13. Deer stone, Ushkin Uver, Hövsgöl Aimag, Mongolia. Photo: Gary Tepfer

Although they are frequently found in conjunction with large ritual altars (*kherekсур*), the altars themselves are probably much older than the deer stones, dating back to the Bronze Age (second to early first millennium B.C.). In many instances, the deer stones appear to be inserted into the *kherekсур* complex as an afterthought—or as a way of arrogating to the stones the ritual significance of the more ancient ritual site.²¹ Although the dating of the Mongolian deer stones is highly debated, the weaponry and tools carved on the surfaces of these anthropomorphic stones indicate a date no earlier than the Late Bronze Age (fig. 13). On many deer stones can be seen representations of compound bows (associated with the emergence of mounted nomadism at the end of the Bronze Age), battle-axes typical of the Tagar culture (Early Iron Age), and a kind of earring frequently found in burials from the Late Bronze to Early Iron Age.

While the deer of full Bronze Age petrolyphic panels are integrated into psychologically charged narrative scenes, deer imagery of the deer stones and related images from petrolyphic sites have been reduced to a singular emblem. This shift in imagery unquestionably reflects new cultural identities derived, perhaps, from reconfigured social groupings, within which the central visual symbol of the deer has acquired new, probably politicized signification.

The classical deer stone did not go beyond the Altai Mountains in the same form. Standing stones—still called “deer stones” despite very different treatment—are known from the area of Tuva and the Altai Republic.²² These, however, are more obviously anthropomorphic in reference. The weapons that frequently hang from their “belts” indicate a date between the sixth and fourth century B.C., that is, to the period contemporaneous with the later Scythian and Pazyryk cultures. It is clear that the stones’ anthropomorphic references, muted within the classical Mongolian formulation, became intensified as this form of deer stone was erected closer to the western borders of



Figure 14. Two stags with elaborate antlers, Upper Tsagaan Gol, Mongolia, Early Iron Age. Photo: Gary Tepfer

present-day Mongolia and then carried across to the west and northwest sides of the Altai Ridge. Why these stylistic changes occurred, we do not yet know. But they do allow us to conclude with some confidence that the Mongolian form, with its elegant stylized deer, is earlier than the clearly anthropomorphic stones of Tuva and the Altai Republic and represents the appearance of a new cultural complex in the Late Bronze Age—one that seems to have moved from east to west. The stylized deer was in some manner the emblem of that new culture, carrying a symbolic load modified from that carried by earlier deer images.²³

This is the context from which the Filippovka deer images appear to have emerged; or perhaps it would be more accurate to say that the Filippovka deer help to clarify changes in the deer image of the Mongolian Altai subsequent to the classical deer stone type. A panel from Upper Tsagaan Gol (fig. 14) includes two deer deformed by the kind of stylization already seen in figures 7 and 9. Their heads are elongated, their antlers weakened by exaggeration. The body of the deer on the right is



Figure 15. Elongated, stylized Early Iron Age stag over Bronze Age animals, Upper Tsagaan Gol, Mongolia. Photo: Gary Tepfer

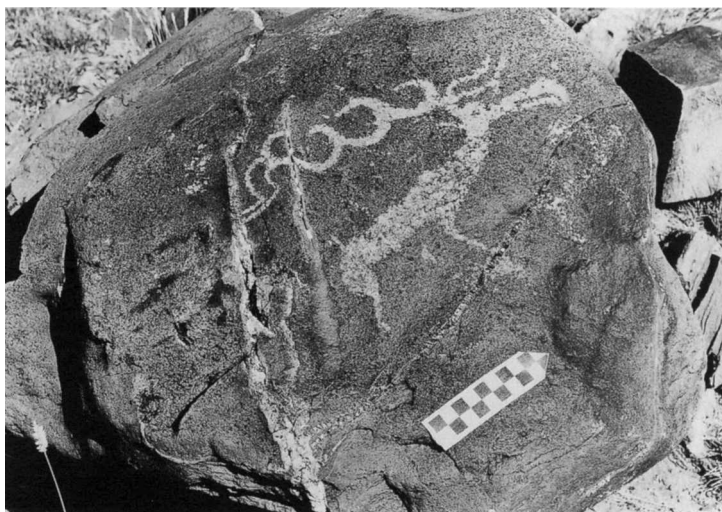


Figure 16. Stag with elaborate antlers and a beaklike head, Baga Oigor 4, Mongolia, Early Iron Age. Photo: Gary Tepfer

almost wolflike, with deep chest and crouching hindquarters. Even though paired, there is no sense of psychological interaction. On yet another panel from Upper Tsagaan Gol, a stylized deer appears to be integrated into a larger composition (fig. 15).²⁴ That appearance is somewhat illusory. As in the case of figures 7 and 11, this deer has been carved over an earlier, Bronze Age group of images,

several of which lie under the deer's forebody and head. In all three instances of overlay—the image just spoken of and those represented by figures 7 and 11—the deer is both an intruder and an emblem.

These late images occur regularly across petroglyphic sites in the Mongolian Altai. In one case, from Baga Oigor 4, the deer's head assumes the beak of a bird of prey (fig. 16). This specific element, together with the animal's extended antlers, relates it to contemporary versions of syncretic deer, as in the tattooed images from Pazyryk 2.²⁵ In other cases (e.g., fig. 17), the rendition of the animal's body, the elongated treatment of its head, and the hyperbolic meanders of its antlers support the hypothesis that the Filippovka deer have important precedents in rock art farther to the east, within the Altai uplands. How the image was carried from the Altai region to the southern Urals, and in what kinds of stages, we do not yet know. But just as so much of Sarmatian material culture, documented in the Filippovka burial, has roots in early nomadic culture of the Altai region, so, also, Sarmatian iconography appears to draw heavily from that region.

The transformation of the Altai deer image from the Late Bronze Age to the Early Iron Age and finally to the Filippovka type emerges in a comparison of the late images (figs. 14, 16, 17) and those from the Bronze Age (figs. 3, 6). In the earlier images, the deer have powerful necks and bodies; they raise their heavy antlers, as if in alarm. The "Filippovka" versions are reduced in stature and vitality, their antlers now merely ornamental. The earlier deer are frequently represented as the objects of predation or of the hunt. That is not the case with the "Filippovka" type, as represented here. The difference between the earlier and later images reflects a lapse of several hundred years. It is paralleled by another comparison from the Scythian arena, describing approximately the same period of time. We have seen that the Kostromskaia stag, dated to the late sixth century B.C., is similar to a number of Late Bronze Age images from the

Mongolian Altai. By contrast, the shield ornament in the shape of a recumbent deer from Kul' Oba, dated to the fourth century B.C., seems to have been copied from the Kostromskaia model, but it has become burdened by its own conventionalization, as well as by the Hellenized animals superimposed on its body.²⁶ These comparisons would indicate that similar processes of conventionalization shaped the deer image on both ends of the early nomadic world. In both cultural arenas, the deer ended as a vitiated sign of its former significance.

What evolving meanings lie behind the deer's transition from vital element in the hunt to frozen emblem divorced from any interaction with other animals or human figures? Lacking contemporary texts to explain the Filippovka materials, signification becomes dependent on the way the deer is related back to the larger context of art in the Late Bronze and Early Iron Ages. Here it is useful to remember that meaning must be understood as a process wherein references shift depending on social and cultural contexts. It is also important to keep in mind that the Late Bronze Age of the Altai region saw the decisive shift from an economy based on hunting supplemented by herding to one dependent primarily on pastoralism. Within this shift, old values persisted as cultural guidelines, even as they gradually lost their essential significance. Understood in this manner, the meaning of the Filippovka deer may echo values that had been central to an earlier pastoral culture but were no longer born of deep conviction. What follows is a proposal regarding the image's signification—one based on the rich treasures of rock art from the Mongolian Altai and supplemented by the more scattered materials of excavations and ethnography.

The Filippovka deer reflect the fossilization of earlier, complex processes of signification. The bodies and muzzles of the animals collapse together predator (the wolf) and prey (the deer). The antlers combine three forms of being: they refer to the rack of the animal bound to the earth and their



Figure 17. Two stags with fantastic antlers, Baga Oigor 4, Mongolia, Early Iron Age. Photo: Gary Tepfer

tines echo birds of the air; but their antlers also suggest a tree, rooted in the ground and branching into the heavens above. The standing images from Filippovka do not involve an actual scene of predation. Scenes of predation appear on smaller objects from Filippovka, and they are always conventionalized to the point of inarticulate ornament.²⁷ The animal attack is one of the most persistent motifs in Bronze Age rock art from the Mongolian Altai. In rock art from the pre-Bronze and Early Bronze Age, we never see the actual attack of predator on prey. By the Late Bronze Age, predators and prey may be juxtaposed or actually entwined; but the victims are never shown pulled down, eviscerated, or dead (figs. 3, 6). Both representational types—the potentially threatened and the actually attacked—reflect experienced reality, the visible world in which the Early Nomads lived. The Late Bronze Age pastoralists who increasingly depended on their domesticated flocks for wool, hair, milk, and meat still continued to hunt wild animals; or perhaps it would be more correct to propose that a continued pictorial concern with hunting—rooted in a much more archaic hunting dependency—actually

reflects an increasingly mythologized representation of reality. It is possible that during the pre-Bronze and Bronze Age, certain large animals most valued for their meat—animals such as deer, wild cattle, and mountain sheep—became metaphors for the source of life of the clan or lineage. Thus, down through the Early Nomadic period, representations of the animal attack or of the hunt reflected two levels of reality, the practical and the mythic. This might help to explain the constant repetition of the animal attack and of the hunt in Bronze Age art of the Altai region, but it also helps to explain why the deer were never represented as killed or dismembered.²⁸

We have seen that the Filippovka deer reflect a tradition in which the tines of deer antlers metamorphose into bird heads. As we have noted, many images from Pazyryk- and Scythian-period burials confirm this specific interconnection of deer antler and bird head. A considerable number of these images also combine that transformation with signs of animal predation. A number of the constructions of wood and leather originally mounted on horses from Pazyryk 1 make explicit the connection between predation and the transformation of the deer's antlers.²⁹ In the beautiful tattoos from the man buried at Pazyryk 2, predation is implied by the placement of the predator above a twisted prey.³⁰ The twisted animal is itself a syncretic form: it has the body and hooves of both horse and deer and the antlers of a deer; but its head has become birdlike and bird heads sprout from its neck and antlers. The animal's twisted position suggests the effect of the impact of the predator, and the sprouting of the bird heads from the antlers seems to coincide with the twist of the prey. On a wooden plaque from the Altai burial of Katanda, dated to the fifth or fourth century B.C., a bearlike creature attacks the neck of a thoroughly syncretic animal.³¹ Its body and long tail recall those of a wolf or snow leopard; its hooves, those of horses; its head has been transformed into the beak of a bird of prey; and its ear and antlers, from which

sprout bird heads, refer back to a deer. One may finally refer to the gold plaque from the Siberian collection of Peter the Great,³² understood to have been found in Verkhneudinsk, now known as Ulan-Ude, in the Transbaikal region of southern Siberia. The theme and style of the plaque indicate that originally it must have come from a Pazyryk-period burial in the Altai region. Here predation is repeated in several forms: the great bird head with the head of a ram in its beak is integrated into the body of the large animal; another raptor overlays its forebody and neck; and a feline tears at the animal's chest. Like the Filippovka deer, this one is also thoroughly syncretic, with horse hooves, the body of a horse, the tail of a wolf or feline, the eye and ear of many deer we have seen, and a tail and antlers tipped by bird heads. Both images from Katanda and Verkhneudinsk, like those mentioned from burials of the Pazyryk culture, reflect an understanding apparently central to the belief system of the Early Nomads: that the taking of life—represented so well by predation—resulted in the eruption of new life—represented by the bird heads.

In Bronze Age rock art of the Altai region, one finds the repeated motif of a deer with treelike antlers.³³ This configuration may be the result of a whimsical conventionalization of deer antlers, but it may also have been intended to refer to the conflation of deer antlers and the branches of a larch tree, generally considered by historical Siberian peoples to be the metaphor for the Tree of Life. This conflation of antler and tree emerges clearly in materials from Siberian mythic and shamanic traditions. One must, of course, exercise caution in using these materials: they have all been gathered in the last few hundred years and are therefore quite distant from Bronze Age petroglyphic images or even from the Filippovka deer. But scholars agree that Siberian traditions of belief include many ancient elements and much that has come down to the modern period is archaic in its roots.³⁴ A few relevant elements can be mentioned here.

The shamanic tradition of southern Siberia is here understood as having emerged by the Iron Age from the traditions of forest-dwelling communities, although we cannot be certain that these early traditions actually centered on a shaman figure.³⁵ According to the Siberian shamanic traditions known from later in the Iron Age, the antlered deer was considered to be the shaman's steed, by which the shaman flew to the world of the spirits.³⁶ Within the shamanic *kamleniye*, or trance-ritual, the deer steed was represented by the shaman's drum.³⁷ The rhythm with which the shaman beat the drum reflected the beating of the deer-steed's heart as it carried the shaman to the lands of the spirits. The frame of the drum was made from a specially selected and consecrated tree; since the tree represented the life of the shaman's animal, one had to cut out the wood without killing the tree.³⁸ The drum frame was usually covered with the skin of a specially consecrated deer, reindeer, or moose. Thus the drum-steed conflated the powers of the deer and the Tree of Life.³⁹

Despite the antlered conception of the shaman's deer-steed, it is clear that the animal was understood as essentially female. For example, on the drums' frames are found protuberances that refer to the deer's teats, where the shaman finds nourishment during his long and dangerous journeys.⁴⁰ The shaman's robe, also, was typically made from a deerskin, in many cases prepared only by women.⁴¹ The ornaments on the robe included elements referring to the deer's skeleton and to birds such as the eagle, the swan, and the grebe, as well as motifs indicative of the female nature of the deer-steed.⁴² Many Siberian shamans wore crowns that combined deer antlers and birds. The antlers, of course, referred to the deer-steed and alter ego of the shaman.⁴³ The birds signified many aspects of the shaman's experience; one of the most persistent Siberian shamanic traditions was the understanding that the shaman emerged from the nest of a great eagle and was raised on meat offered by its eagle parent.⁴⁴ The nest was said to be found

in a special tree—the World Tree or the Tree of Life. In many Siberian mythological systems, that tree was associated with the center of the clan lands. Its roots reached down to the underworld, which the shaman would have to penetrate to reach the Land of the Dead. Its branches extended to the heavens. In donning his robe and crown and in taking up his drum and drumstick, the shaman became conflated with a mythical deer with female powers of sustenance and with the birds that were at once a source of life and messengers from the spirits. His drum referred to the Tree of Life along whose vertical growth the shaman would travel in the course of his ritual journeys.⁴⁵

Within the most archaic level of the Evenk mythic traditions, one finds the belief that the Tree of Life grows from the body of a great female deer, recumbent in the earth. Its branches are the deer's antlers. Within this conception, the tree is bound to the concept of the deer; the deer—although antlered—is understood as female in its generative powers.⁴⁶ The position of the deer within the earth connects it to the Land of the Dead, but its antlers, within which sit the great birds that will hatch future shamans, refer to the generation of life. Thus the total conception, like that underlying the Siberian shamanic ritual and costume, conflates tree, deer, bird, and steed. It reaffirms the transformative processes of the coming of death and the consequent re-creation of life. Antlered but essentially female, a deer but with the role of a horse, earthbound but with antlers referring to the birds of the heavens: these mythic traditions may clarify the complex and syncretic nature of the images discussed in this paper. They may underlie the elaborate horse ornaments from the sixth-century B.C. Tuekta burials, where one finds repeated references to the conflation of deer, bird heads, and tree or leaflike forms, or the juxtaposition of predator feline with the bird-antler-tree motif.⁴⁷ They may also explain two surviving horse headdresses from Pazyryk I, dated to the fifth to fourth century B.C., where the sacrificed horse was

masked as a deer that carried on its head the motif of predation.⁴⁸

Within the petrographic art of the Bronze Age Mongolian Altai, there are numerous indications that the deer image could be associated with the idea of regeneration, sometimes even by its juxtaposition with birthing women.⁴⁹ These scenes suggest that without the regeneration of life, represented by the birthing women but affected by the body of the deer, the taking of game by hunters or predators would deplete the natural world. Thus the hunt required the reaffirmation of life and the re-creation of its bounty. This theme may be distantly echoed in the great hanging felt from Pazyryk 5. Dated to the fifth to fourth century B.C., the felt is covered with a repeated motif⁵⁰ of a handsome young horseman approaching a large seated woman. She sits on an elaborate, thronelike chair and is much larger than the young man. She raises one hand to her mouth as if in speech, while with her other hand she holds upright a staff whose curves and appendages suggest antler and tree motifs. As I have argued earlier, the woman may be the embodiment of a power that came to be known in Siberian mythology as the mistress who guards the road to the Land of the Dead; here she sits before the dead knight who seeks passage to the next realm.⁵¹ But her tree-staff also refers to her life-giving powers. She is a late inheritor of the southern Siberian tradition that invested the deer, the tree, and the mediating form of the antlers and birds with the power of generating life out of death. This complex association is brought down to the Sarmatian period by the Novochoerkassk crown, dated to the first century A.D.⁵² Here the deer are explicitly joined with a central tree, and beneath the tree is the bust of a female. At one time the crown had other trees, and at least two goats; two frontal birds appear on either side of the woman's image. This joining of tree/deer/woman/birds was not accidental: it was rather a deliberate reference to, or perhaps only a faint echo of, an ancient and retreating understanding of the source of

life and death in the deer, the tree, and a female generative power.

This brings us back to the Filippovka deer of the late fourth century B.C. However rigid and conventionalized they have become, they still reflect, albeit distantly, the lovely deer of the Altai Bronze Age, integrated physically and psychologically into a scene of a hunt or predation. The Filippovka deer recapitulate a powerful mythic tradition joining predator or hunter with prey, antler, tree, and bird. Their appearance here, in a burial, supports the thesis that they and the symbolic constructs they carried were essential to the funerary ritual. However faint their recollection of an earlier mythic signification, within the burial they were intended to reaffirm the absolute interconnection between death and life in the belief systems of the early Eurasian nomads.

1. In this paper, northern Asia is understood as that region of East Asia where rivers flow east or north to the sea. The Altai uplift represents the rough divide between northern and Central Asia, where rivers drain into Xinjiang and the Kazakhstan-Uzbekistan steppe.
2. Iusupov 2000; and see Yablonsky 2000.
3. See the essays by Damdensurenjin Tseevondorj and Vladimir D. Kubarev in Jacobson et al. 2001.
4. For background on the tradition of bird-headed transformations in early nomadic art, see Jacobson 1984.
5. New York 2000-2001, no. 195.
6. Polos'mak 2000, fig. 1.
7. New York 2000-2001, no. 140.
8. *Cervus elaphus*, often referred to as the Noble or Red Deer. In North America, it is known as the elk and in Russia and the former Soviet republics as *maral*.
9. Rudenko 1962, pl. VI, figs. 3, 4.
10. The term "Early Nomads" is used here to refer to Late Bronze Age populations in the region of southern Siberia and northern Mongolia who adopted a way of life more dependent on pastoralism than on hunting. Because of this economic shift and changes in climate in the late second to early first millennium B.C., the Early Nomads also became more thoroughly transhumant. In rock art, the Early Nomads typically appear herding cattle, sometimes driving carts, sometimes in combat, and wearing the clothing distinctive of the early nomadic peoples of the Eurasian steppe. The term "Early Nomads" is admittedly lacking in cultural specificity—referring

- rather to populations in a particular economic and social transition. It is possible that the Early Nomads are most closely identifiable with the late Karasuk culture.
11. See, for example, Jacobson et al. 2001, vol. 2, pl. 81.
 12. A fuller discussion of the history of rock art in the Mongolian Altai, and extensive reproductions, can be found in Jacobson et al. 2001.
 13. See, for example, Jacobson 1999, fig. 6; Jacobson et al. 2001, vol. 2, pls. 150, 164, 182, 185.
 14. See Jacobson 2000b and references; Gunin et al. 1999.
 15. New York 2000–2001, no. 140.
 16. Jacobson et al. 2001, vol. 2, pls. XI, XII, 20, 47.
 17. The publication of Tsagaan Gol is presently in preparation.
 18. Jacobson 2000a.
 19. Volkov 1981, 2002; Volkov and Novgorodova 1975; *Mongol nutag dakh' tüükh soëlyn dursgal* (Historical and Cultural Atlas of the Monuments in Mongolia) (Ulaanbaatar, 1999), pp. 66–92; Savinov 1994. These materials are reviewed in Jacobson–Tepfer 2001.
 20. Okladnikov 1954.
 21. This is clearly evident in the case of the most famous such deer stone site, that of Ushkin Uver, in Hövsgöl Aimag; see Volkov and Novgorodova 1975 for the fullest report of that site. The dating of the *khereksur* to the Bronze Age is dependent on a number of considerations that go beyond the scope of this paper. There is ample evidence, however, that they were constructed in the Bronze Age but that they continued to be used as ritual altars in the Early Iron Age. The tentative conclusion that the deer stones were inserted into the older Bronze Age *khereksur* complex is the author's and is based on extensive (unpublished) on-site observation at Ushkin Uver and other sites in Hövsgöl Aimag, as well as at Tsagaan Asgaat, in Bayan-Ölgiy Aimag, and at one other *khereksur* and deer stone site near Tsengel, Bayan-Ölgiy Aimag.
 22. Kubarev 1979; Vainshtein 1974, pp. 28–32; Savinov 1994.
 23. Jacobson 2000a.
 24. See also Jacobson et al. 2001, fig. 1172.
 25. See note 4, above.
 26. Jacobson 1995, pp. 258–60 (X.B.3, X.B.4); Piotrovskii et al. 1987, pls. 16, 213.
 27. New York 2000–2001, nos. 64, 77, 83.
 28. This understanding is elaborated in Jacobson 1993.
 29. *Ibid.*, pp. 57–74.
 30. *Ibid.*, pp. 63–64; Polos'mak 2000.
 31. Jacobson 1993, p. 61; Artamonov 1973, pl. 196.
 32. New York 2000–2001, no. 210.
 33. See, for example, Jacobson et al. 2001, fig. 529.
 34. These and related issues have been considered in Jacobson 1993, ch. 7; and see the discussion of the layering of mythic traditions in the case of the Evenk in Anisimov 1958.
 35. The debate regarding the applicability of shamanic traditions to prehistoric rock art has attracted passionate proponents on both sides. For a measured discussion of this question with reference to Central Asian petroglyphs, see Francfort 1998. The shamanic traditions drawn on here and used with reference to general principles derive from a number of peoples of southern Siberia and the Yenisei region. These include, *inter alia*, Khakassy, Selkup (formerly referred to as Ostyak), and Ket; Turkic-speaking peoples of the Altai region; and Evenk, of the Tungus peoples. Regarding the linguistic and geographical history of Siberian peoples and their cultures, see Forsyth 1992 and Levin and Potapov 1956, 1961.
 36. This association of shaman and deer is made clearly on a large stone recorded (but unpublished) by the author and originally from the Chuia steppe (now in the museum of Kokorya, Kosh-Agach Region). On this surface, a shaman, below, can be identified by his drum, while above his head leaps a fine deer.
 37. Here and in what follows, the author has drawn extensively from a variety of sources in which these issues are discussed; see, for example, Anuchin 1914; Levin and Potapov 1961; Potapov 1935, 1947, 1968; Ivanov 1955; Diószegi 1968. The verbal past tense is used here deliberately.
 38. Potapov 1968; Vainshtein 1968.
 39. Ivanov 1955, p. 180; Anisimov 1958, pp. 156, 161–63; Anisimov 1963, p. 188.
 40. See Levin and Potapov 1961, pls. 472, 477, 479.
 41. Anuchin 1914, p. 48.
 42. See Anuchin 1914; Diószegi 1968, pp. 299, 309. Many implements carried by the shaman or hanging on the drum also referred to birds—especially to eagles, swans, and grebes; see, for example, Anuchin 1914, pp. 54–57; Anisimov 1958, pp. 157–60.
 43. Eliade 1972, p. 155; Anuchin 1914, figs. 103–104; Potapov 1935, pp. 141–42.
 44. Shternberg 1925.
 45. For a review of much of this material, particularly that gathered by Anisimov (1958, 1963), see Jacobson 1993, ch. 7; and see Eliade 1972, Diószegi 1968.
 46. Jacobson 1993, pp. 191–97; Anisimov 1958, p. 156.
 47. New York 2000–2001, nos. 182–184, 180.
 48. Griaznov 1950, figs. 10, 16; see Jacobson 1993, ch. 3.
 49. Jacobson 1997.
 50. New York 2000–2001, fig. 14.
 51. Jacobson 1993, pp. 77–87.
 52. New York 2000–2001, no. 13.

19. Camel Imagery in Animal Style Art

HABITAT OF THE BACTRIAN CAMEL

The rich repertory of zoomorphic motifs in nomadic animal style art was common to the vast territory of Eurasia from Central Europe to China, but some images appeared only in regions where the animal species represented in the art were actually native. One such example of a restricted image is that of the camel *Camelus bactrianus* (fig. 1). The ancestors of camels (*Camelus probactrianus*) occupied the Eurasian steppes at a latitude of forty to fifty degrees north, and the same region was probably the native habitat of the wild Bactrian camel.¹ Nowadays, wild Bactrian camels live only in Xinjiang, around Lake Lop Nur, north of the Altyn Tagh, and in the Gobi Desert. Where the Bactrian camel was domesticated, however, is still uncertain, but one center was probably the steppes of Central Asia (modern Turkmenistan, Tajikistan, Uzbekistan, Kyrgyzstan, and Kazakhstan) and southern Siberia. Thus the domesticated two-humped Bactrian camel inhabited about the same area in antiquity as it does at present: the desert zones and arid steppes from the Ural Mountains to Central Asia and Siberia.

Archaeological data suggest that camels were domesticated in this region long before they appeared in Mesopotamia, where they are mentioned in texts dated to the end of the second millennium B.C.² Mesopotamian representations of Bactrian camels first appeared

in the art of Shalmaneser III (r. 858–824 B.C.), much later than the earliest examples of camel imagery to the north, at Ushkatty, in the Orenburg Region of the southern Urals, in the early second millennium B.C.³

Camels were also known in Iran at an early date. Wild Bactrian camels appear on pottery from Tepe Sialk III (ca. 3500–3000 B.C.), and camel bones were discovered at Shah Tepe (3000–2500 B.C.) and at the contemporary site of Anau in southern Turkmenistan.⁴ In J. Wolfgang Amschler's opinion, the Bactrian camel at Shah Tepe originated in northeastern Turkestan, the region of Central Asia from Iran to Siberia.⁵ Thus we can assume that Iran was another center for the domestication of the Bactrian camel.⁶

TYPES OF CAMEL IMAGERY IN NOMADIC ART

In the area where camel imagery occurred in nomadic art, the art displayed a variety of styles and thereby a variety of artistic principles and cultural traditions (fig. 2 [1–7]). In animal style art, typical ways of depicting the camel included single heads, standing or walking figures, figures with a rider, reclining figures, or in combat, with either two camels or a camel and a predator such as a wolf or griffin. A late version of the combat scene may be a simple representation of two opposed camels, found in Central Asia (fig. 8). Before the second century B.C., camels were never depicted in Scythian art of the northern Pontic region; apparently, it was invading Sarmatian tribes who introduced actual camels to the steppes west of the Volga River, as well as camel motifs into the art of the region.

The earliest depictions of camels in animal style art occur in the southern Ural and western Kazakhstan regions and date to the late sixth to early fourth century B.C., probably as a reflection of the common presence of the animal in these areas (figs. 3, 4 [1–11], 14).

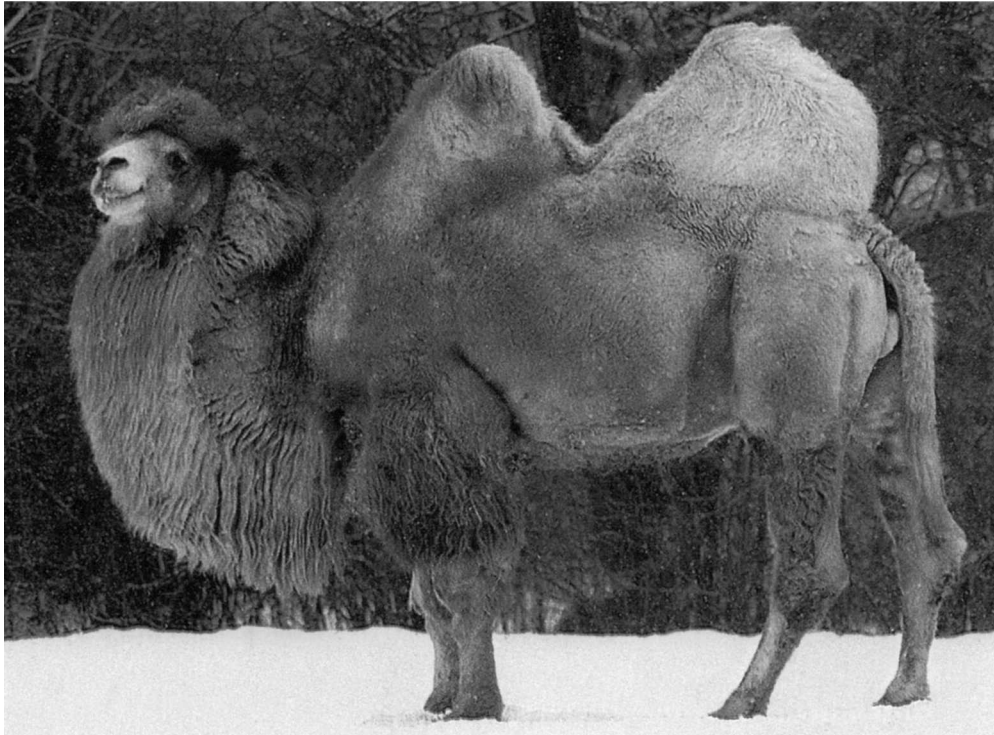


Figure 1. Bactrian camel (*Camelus bactrianus*). After Macdonald 1999, p. 512

Perhaps the greatest variety in camel imagery at a single site appears at Filippovka in the southern Ural steppes, where objects of different purposes, materials, and techniques were decorated with camels (figs. 3 [5–7], 4 [5, 8, 11, 14]). Here camels adorn gold plates once attached to wooden drinking vessels, a massive bronze horse decoration, a heavy gold hemispherical object of uncertain use, and small gold plaques perhaps used to adorn leather or other heavy materials. Although the Filippovka finds display a unique local style, some aspects of the curvilinear decoration connect Filippovka with art from southern Siberia, the Altai region, and Tuva.

A typical feature of all animal style art is the free combination of animal parts and different animals into one monstrous image (figs. 3, 4). This feature arose from a complex system of mythology and ideology, which produced amazing combinations and which may reflect the stratified social and religious systems that linked rank with spiritual

power. The ancient nomads also used animals to express their worldview in a codelike form, so that animal style art may be thought of as a system of artistic ideograms. As applied to the camel, this form of thought was expressed by showing camels with certain features of predatory animals. Camels may have jaws that look like those of predators, with large, fiercely bared teeth and a beak-shaped snout, so that the overall effect is that of a blend of camel, predator, and bird of prey (fig. 4 [1]).

Other examples of complex combined images with camels include an object from Mongolia, dated to the fourth to third century B.C., which shows a deer or elk head with an antler whose tine forms the shape of a camel forepart and the outline of two humps (fig. 4 [12]). A figure of a goose with a long bent neck and long-beaked head serves as the deer's foreleg and hoof. Another example depicts a reclining camel with deer antler, whose tines terminate in

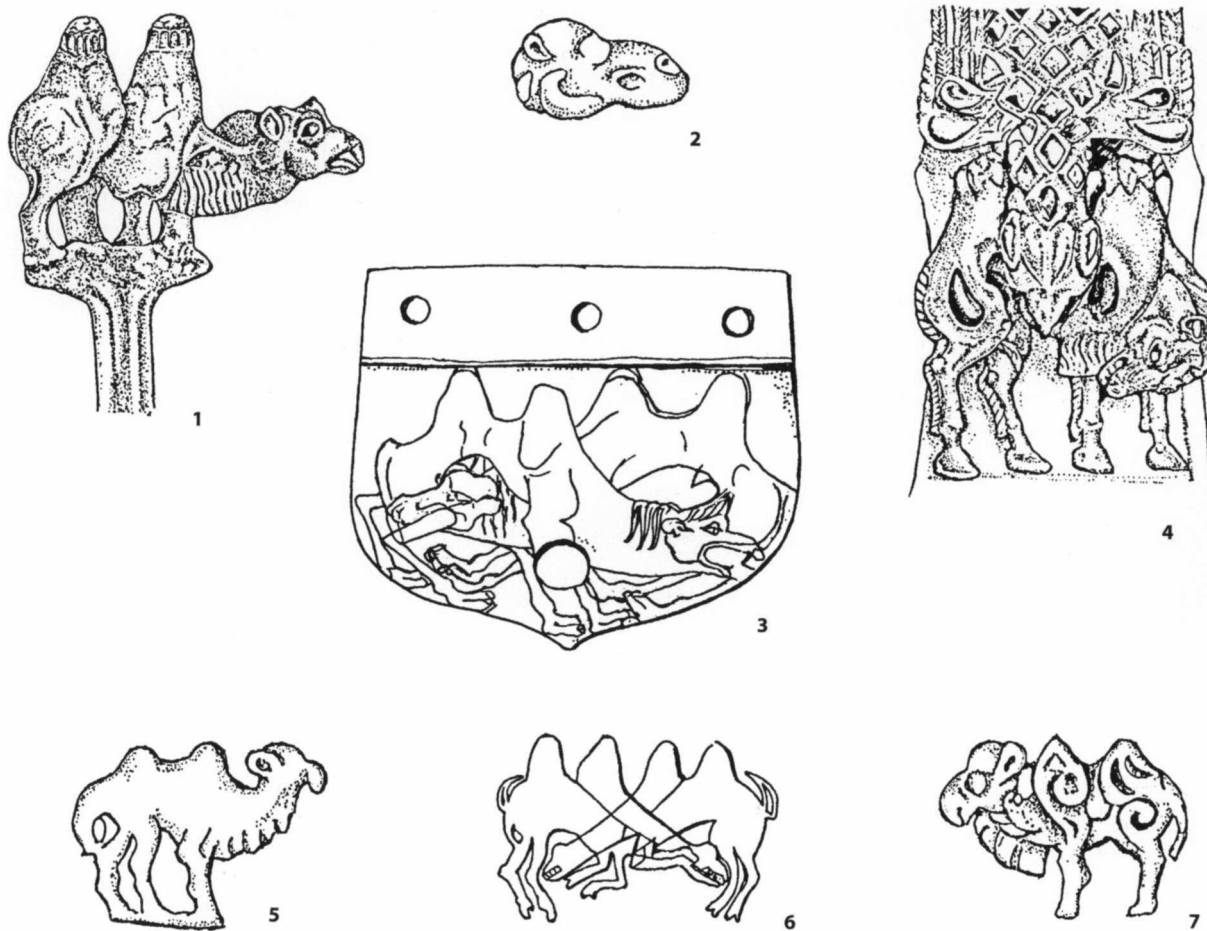


Figure 2. Images of camels

1: Standing Bactrian camel figure topping a bronze pin, from Iran, 8th–7th century B.C., Tehran Museum (after Ghirshman 1963, p. 75, fig. 99); **2:** Bronze plaque of a camel head from northern Mongolia (after Volkov 1967, fig. 20, no. 5); **3:** Bone belt plaque from Orlat cemetery, Tashkent, 2nd century B.C.–2nd century A.D. or later (after Pugachenkova 1987, p. 59); **4:** Detail of a

gold dagger handle from Azov kurgan, lower Don River, Sarmatian, 1st century A.D., Azov Regional Museum (after Bessalyi 1992, p. 187, fig. 11); **5:** Bronze plaque in the shape of a standing camel, from Mongolia (after Volkov 1967, fig. 20, no. 1); **6:** Rock drawing of fighting camels, at Khakassia, southern Siberia, medieval (?) (after Kiselev 1949, pl. 1.x); **7:** Bronze plaque in the shape of a standing camel, from Mongolia (after Volkov 1967, fig. 20, no. 3)

antelope heads (fig. 6 [2]); this gold plaque from the Altai steppes is dated to the late Scythian period.⁷

It should be noted that the earliest group of camel imagery in nomadic art, in the southern Urals and western Kazakhstan regions, has been compared with camel images from Margiana, said to be much earlier in date than the sixth to fourth century B.C. (fig. 3 [1]). A copper alloy figure of a camel from Margiana, dated to the late third to early second millennium B.C. and now in the Metropolitan Museum (Rogers Fund, 1953, 53.117.1), displays the beak-shaped snout, rounded convex cheek, mane with hair tuft on the forehead, and long fur under the neck and on the upper forelegs and humps, similar to the Ural and Kazakhstan examples. In my opinion, however, the early date of the Margiana piece is unconfirmed. Other analogies have been drawn to Luristan finds of the eighth to seventh century B.C. (fig. 2 [1]). Rather than implying cultural connections, the similarities shared by all these pieces reflect natural features of the Bactrian camel, which have been emphasized and stylized to the point of exaggeration.

Thus the combat scene of two male Bactrian camels appears in Iran and Bactria as well as in the southern Urals and southern Siberia (figs. 2 [3, 6], 3 [6]). The symmetrically balanced composition represents a pair of males, biting each other's haunches with their fierce-looking teeth or biting the other's hump. Some camel combats occur at Filippovka, along with standing and walking camel figures (fig. 3 [5–7]). A rare early example on a stone amulet from Central Asia, dated to the second millennium B.C., may be a fragmentary combat scene (fig. 3 [1]); this object predates the appearance of animal style art and may reflect an early prototype of nomadic camel combat scenes. In fact, combat scenes are probably the most common depictions of camels: they appear as early as the second millennium B.C. and continue well into the Middle Ages, in Central Asia, Kazakhstan,

the southern Urals, southern Siberia, and even Iran, where the subject was known as late as the art of the fourteenth to sixteenth century (fig. 2 [3, 6]), no doubt reflecting the importance of the camel as described in the Avesta.⁸

Camels in combat also appear on many nomadic belt buckles of various styles, some of which show a struggle between a camel and a tiger. One such gold buckle, of the sixth to fifth century B.C., from the Siberian collection of Peter the Great in the State Hermitage (fig. 5 [1]), is decorated in a style similar to the early group of combat scenes from the southern Urals, western Kazakhstan, and the Altai. The buckle is also comparable to imagery from Filippovka.⁹

A later nomadic bronze belt buckle, dated to the third to second century B.C. and decorated with a camel combat, originated in the Ordos region (fig. 5 [2]). Still another series of nomadic buckles consists of openwork rectangular bronze pieces schematically but expressively depicting a scene of camel and feline, perhaps tiger, combat (fig. 7). This group is dated to the second to first century B.C. and is very widespread, having been discovered from the lower Volga River in the west to the Irtysh River in Siberia in the east. Another group close to this one in style and in date originates in the territories of the lower Don River and Azov littoral (fig. 5 [8, 10, 11]), the lower Volga (fig. 5 [9]), and the Amu Dar'ya River (fig. 5 [7]).

A variant series of bronze nomadic belt buckles comes from the areas of southern Siberia, northern China, the Ordos, and Inner Mongolia and is probably contemporary with the previously discussed examples. On this group of B-shaped plaques, a recumbent camel appears (fig. 5 [3–5]). The style is typical of Sino-Siberian art, with the frame ornamented by stylized leaves. Another group of openwork rectangular belt buckles of similar date (second to first century B.C.) and perhaps later is associated with the Xiongnu nomads of southern Siberia, northern China, and Mongolia (fig. 8).

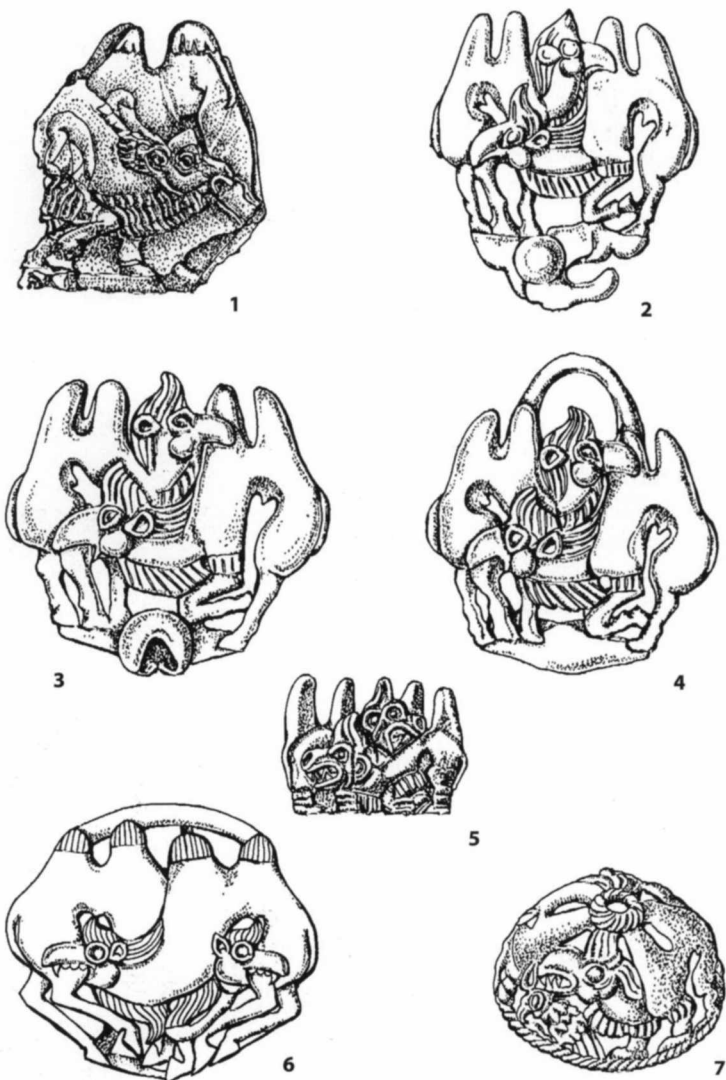
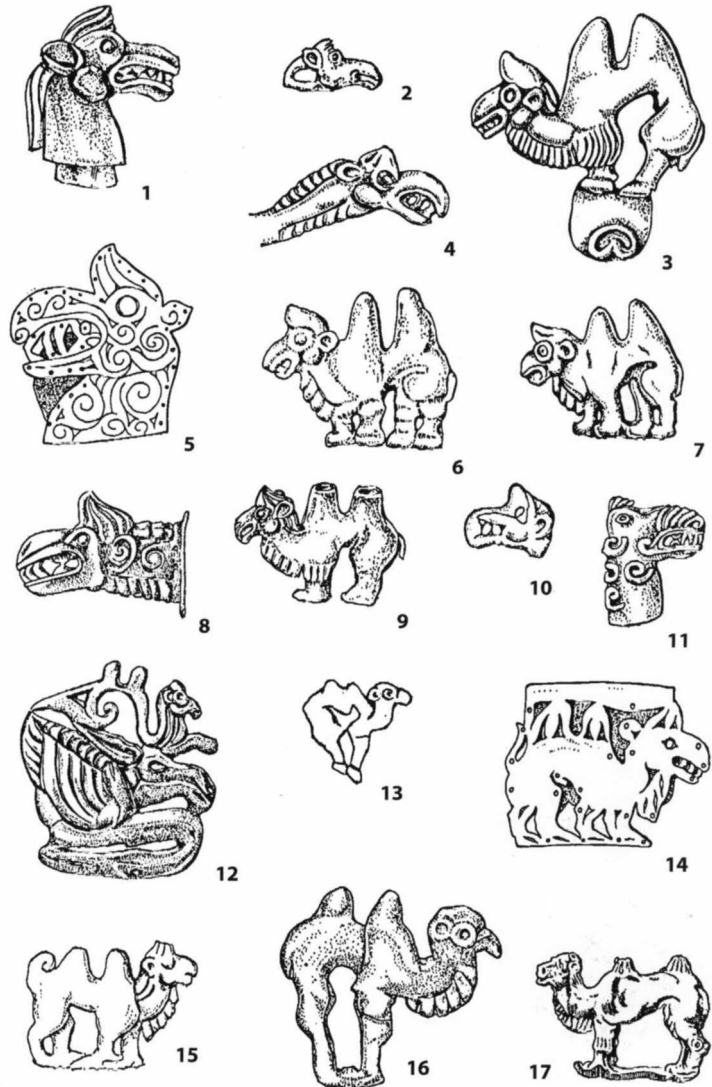


Figure 3. Camel combats

1: Stone amulet from Margiana, 2nd millennium B.C. (after Sarianidi 1989, p. 161, fig. 6); 2: Bronze plaque from Piatimary 1 cemetery, kurgan 8, southern Urals, late 6th–early 5th century B.C., Orenburg Regional Museum (after Smirnov 1964, fig. 80, no. 13); 3: Bronze plaque from Besoba, western Kazakhstan, 6th–5th century B.C., Museum of Archaeology, Alma-Ata (after Kadyrbaev 1981, no. 1); 4: Bronze plaque from Besoba, western Kazakhstan, 6th–5th century B.C., Museum of Archaeology, Alma-Ata (after Kadyrbaev 1981, no. 1); 5: Gold plaque from Filippovka, 4th century B.C., Archaeological Museum, Ufa (after New York 2000–2001, no. 98); 6: Bronze plaque (possibly a *phalera*) from Filippovka, 4th century B.C., Archaeological Museum, Ufa, no. 831/1212 (after New York 2000–2001, no. 13); 7: Gold hemispherical object from Filippovka, 4th century B.C., Archaeological Museum, Ufa, no. 831/389 (after New York 2000–2001, no. 96)

Figure 4. Single camels' heads and standing figures

1: Wooden bridle ornament, Altai culture, 6th century B.C., State Hermitage, Saint Petersburg, GE 2179/115 (after New York 2000–2001, no. 178); **2:** Bronze bridle detail, Kazakhstan, Uigarak, barrow 47, 7th–6th century B.C. (after Korolkova 2006, pl. 51, 2); **3:** Bronze plaque, Kazakhstan, Besoba, barrow 9, 5th century B.C. (after Korolkova 2006, pl. 51, 3); **4:** Bronze bridle detail, lower Volga, Khosheutovo, 5th century B.C. (after Korolkova 2006, pl. 51, 4); **5:** Gold plaque in the shape of a camel-griffin's head, Filippovka, 4th century B.C., Archaeological Museum, Ufa, no. 831/233 (after New York 2000–2001, no. 67); **6:** Bronze bridle plaque, Kazakhstan, Nagornensky, barrow 3, 5th century B.C. (after Korolkova 2006, pl. 51, 6); **7:** Bronze bridle detail, Kazakhstan, separate find, 5th century B.C. (after Korolkova 2006, pl. 51, 7); **8:** Gold handle of a wooden vessel from Filippovka, 4th century B.C., Archaeological Museum, Ufa, no. 831/240; **9:** Detail of bronze ritual vessel, Kazakhstan, 5th–3rd century B.C. (after Korolkova 2006, pl. 51, 9); **10:** Bronze plaque from Ulaangom, western Mongolia, 5th–3rd century B.C. (after Novgorodova 1989, p. 267, fig. 9); **11:** Bronze pole top from Filippovka, 4th century B.C., Orenburg Regional Museum (after Lylova and Morgunova 2000); **12:** Bronze plaque from Mongolia, 4th–3rd century B.C., Honolulu Academy of Arts (after New York 1970, no. 107, p. 127); **13:** Bronze plaque from northern Mongolia (after Volkov 1967, fig. 20, nos. 5, 1, 3); **14:** Gold camel-shaped plaque from Filippovka, 4th century B.C., Archaeological Museum, Ufa, no. 831/234–36 (after New York 2000–2001, no. 68); **15:** Bronze plaque from northern Mongolia (after Volkov 1967, fig. 20, nos. 5, 1, 3); **16:** Bronze plaque from western Inner Mongolia, 4th–3rd century B.C., Los Angeles County Museum of Art, no. 76.97.699 (after Moorey et al. 1981, pp. 150–51, no. 808); **17:** Engraving of a 4th-century B.C. gold camel figure found in Siberia, from the lost collection of Nicolaas Witsen (after New York 2000–2001, p. 278, fig. 95)



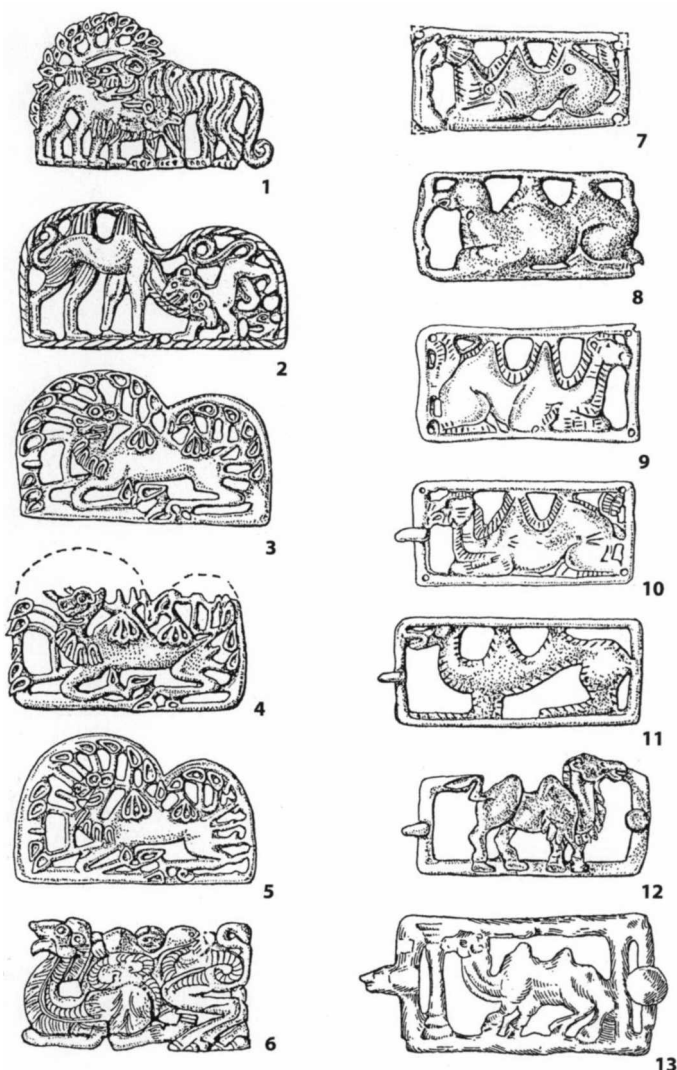
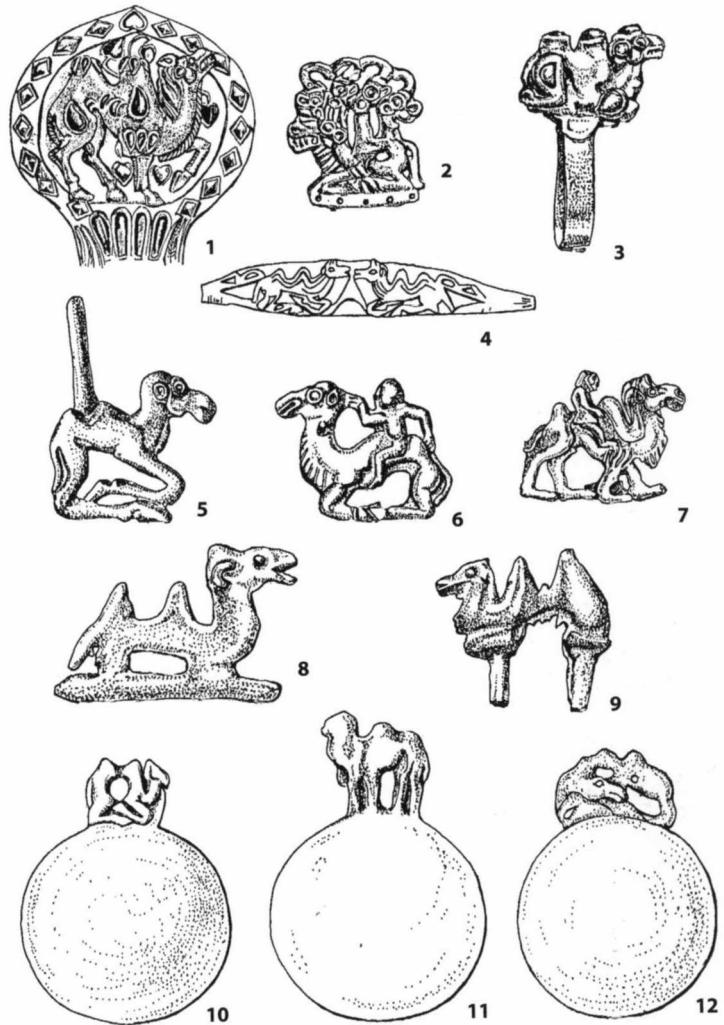


Figure 5. Belt plaques

1: Gold plaque from the Siberian collection of Peter the Great, 6th–5th century B.C., State Hermitage, Saint Petersburg, no. Si 1727 I/15 (after New York 2000–2001, no. 211); **2:** Bronze plaque from the Ordos region, 3rd–2nd century B.C. (after Artamonov 1973, fig. 201); **3:** Silver plaque from the Ordos region (after *Oriental Art* 39 [Winter 1993–94], p. 9, no. 4); **4:** Bronze plaque from the Daodunzi burial, northern China (after Varenov and Polos'mak 1989, p. 113, fig. 6); **5:** Bronze plaque from Inner Mongolia, Los Angeles County Museum of Art, no. 888 (after Moorey et al. 1981, p. 170, no. 888); **6:** Bronze plaque from Inner Mongolia, Los Angeles County Museum of Art, no. 837 (after Moorey et al. 1981, p. 157, no. 837); **7:** Belt plaque from Babashovskii burial, Turkmenistan (after Mandel'shtam 1975, p. 181, pl. 33, fig. 9); **8:** Bronze plaque from Krasnogorovka 3, kurgan 11, grave 10, lower Don River (after Korolkova 1999, p. 76, fig. 4, no. 8); **9:** Bronze plaque from Belokamenka 88, kurgan 7, grave 3 (after Korolkova 1999, p. 76, fig. 4, no. 9); **10:** Bronze plaque from Donskoi burial, kurgan 1, grave 21, lower Don River (after Korolkova 1999, p. 76, fig. 4, no. 10); **11:** Bronze plaque from a burial in Veselyi farm, Manych River, kurgan 3, grave 6, State Hermitage, Saint Petersburg, no. 1511/7; **12:** Bronze plaque from Luristan, Iran (after Ghirshman 1979, p. 190); **13:** Bronze plaque (after Vainberg 1977, pl. 13, no. 6)

Figure 6. Standing and reclining camels in nomadic art

1: Detail of the top of a gold dagger handle, Azov Regional Museum (after Bespalyi 1992, p. 187, fig. 11); **2:** Gold plaque from Karban 2 burial, Altai Mountains (after Seoul 1995, no. 123); **3:** Gold ring from Kargaly, Kazakhstan, Central Museum, Alma-Ata (after Bernshtam 1940, p. 25); **4:** Wooden diadem from Ulandryk 1 burial, kurgan 1, Altai Mountains (after Kubarev 1987, p. 115 h, fig. 45, no. 4); **5:** Bronze quiver hook, collection of C. T. Loo (after Salmony 1933, pl. 20, 7); **6:** Bronze belt buckle, collection of C. T. Loo (after Salmony 1933, pl. 29, 3); **7:** Bronze found near Beresh village, southern Siberia (after Kyzlasov 1992, p. 18, fig. 12); **8:** Bronze from a kurgan near Bolshaia Dmitrievka village, lower Volga region (after Maksimov 1957, p. 160, fig. 4); **9:** Bronze pole top, collection of C. T. Loo (after Salmony 1933, pl. 7, 2); **10:** Bronze mirror from Tytkesken 6, Altai Mountains (after Kiriushin 1989, p. 54, fig. 1, 2); **11:** Bronze mirror from Uzuntal 3 burial, kurgan 3, Altai Mountains (after Savinov 1978, p. 52, fig. 2); **12:** Bronze mirror from Maltalu 4 burial, kurgan 16, Altai Mountains (after Kubarev 1992, p. 206, pl. 49, 7)



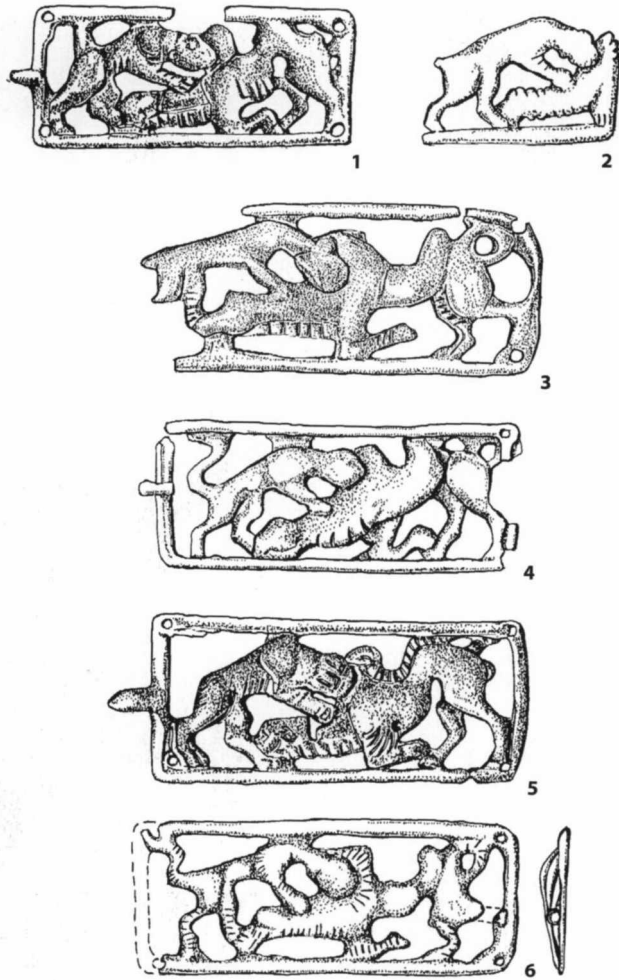
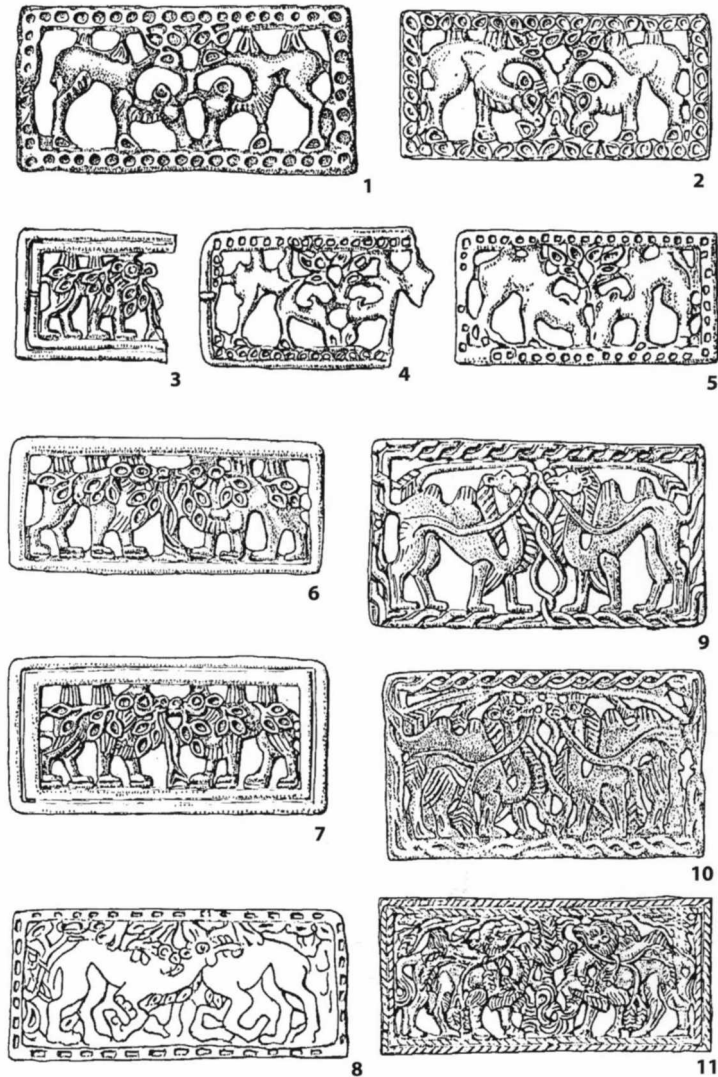


Figure 7. Rectangular openwork bronze belt buckles with scenes of feline-camel combat, 2nd–1st century B.C.

- 1:** Buckle from Tastagym, western Kazakhstan (after Akishev 1976, p. 189, fig. 2b); **2:** Buckle from Vaniushi village near Cheliabinsk, southern Urals, Ekaterinburg Sverdlovsk Regional Museum (after Smirnov 1964, p. 371, fig. 80, no. 19); **3:** Buckle from Karamurun 2, kurgan 1, western Kazakhstan, Central Museum, Alma-Ata (after Artamonov 1973, p. 33, fig. 34); **4:** Buckle from Shakhrivairon, kurgan 2, Central Asia (after Obel'chenko 1978, p. 71, fig. 1g); **5:** Buckle from Liavandak, kurgan 16, Central Asia (after Obel'chenko 1968, p. 54); **6:** Buckle from Petrunino 2, kurgan 1, grave 14, lower Volga River (after Sergatskov 1995, p. 153, fig. 4, no. 14)

Figure 8. Rectangular openwork bronze belt plaques from northern China and southern Siberia, 2nd–1st century B.C.

I: From northern China or Inner Mongolia (after Hong Kong 1990, no. 227); **2:** From the Ordos region (after Salmony 1933, pl. 18, fig. 1); **3:** From Daodunzi, northern China (after U En et al. 1990, p. 95, fig. 9, no. 3); **4:** From Kaly, southern Siberia; **5:** From Daodunzi, northern China (after U En et al. 1990, p. 95, fig. 9, no. 5); **6:** From the Ordos region (after Salmony 1933, pl. 18, fig. 2); **7:** From Inner Mongolia, Outer Mongolia, or southern Siberia, Los Angeles County Museum of Art, no. 890; **8:** From Mongolia, Zavkhan Aimag (after Volkov 1967, fig. 21:2); **9:** From the Ordos region (after Salmony 1933, pl. 18, fig. 3); **10:** From Inner Mongolia (after Korolkova 2006, pl. 56, 10); **11:** From northern China and Inner Mongolia, 2nd century B.C., Shumei family collection, no. 69



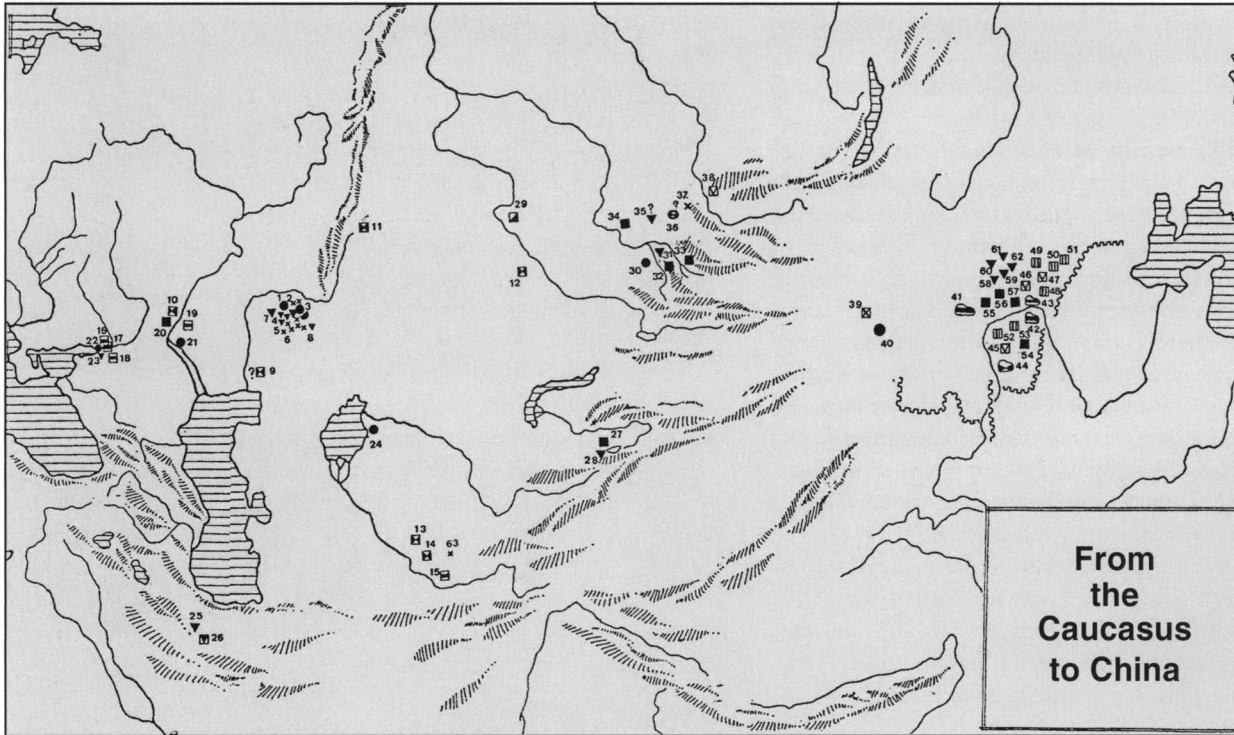


Figure 9. Locations of finds with camel imagery in Eurasia

- | | |
|-----------------------------------------------------|-----------------------------------------------------------------|
| 1–3: Filippovka, southern Urals, kurgan 1 | 25–26: Luristan, Iran |
| 4–5: Besoba, western Kazakhstan, kurgans 5, 9 | 27: Kargaly, southern Kazakhstan |
| 6: Piatimary 1, southern Urals, kurgan 8 | 28: Issyk-Kul, Kyrgyzstan, chance find |
| 7: Nagornoe, western Kazakhstan, kurgan 3, grave 14 | 29: Irtysh River region near Omsk, grave |
| 8: Western Kazakhstan, chance find | 30: Tuekta, Altai Mountains, kurgan 1 |
| 9: Tastagym, western Kazakhstan | 31: Uzuntal 3, Altai Mountains, kurgan 3 |
| 10: Petrunino 2, lower Volga, kurgan 1, grave 17 | 32: Tytkesken 6, Altai Mountains, kurgan 2 |
| 11: Vaniushi, southern Urals, chance find | 33: Ulandryk 1, Altai Mountains, kurgan 1 |
| 12: Karamurun 2, western Kazakhstan, kurgan 1 | 34: Karban 2, Altai Mountains |
| 13: Shakhrivairon, Central Asia, kurgan 2 | 35: Figure from the collection of Nicolaas Witsen |
| 14: Liavandak, Central Asia, kurgan 16 | 36: Belt plaque from the Siberian collection of Peter the Great |
| 15: Babashovskii burial, Turkmenistan, fence 14 | 37: Sulek, southern Siberia, rock painting |
| 16: Krasnogorovka 3, lower Don, kurgan 11, grave 10 | 38: Kaly, southern Siberia |
| 17: Donskoi, lower Don, kurgan 1, grave 21 | 39: Zavkhan Aimag, Mongolia |
| 18: Veselyi farm, Manych River, kurgan 3, grave 6 | 40: Northern Mongolia |
| 19: Belokamenka, lower Volga, kurgan 7, grave 3 | 41, 46–51, 55–62: Northern China |
| 20: Bolshaia Dmitrievka, lower Volga, kurgan | 42, 44–45, 52–54: Ordos region |
| 21: Khosheutovo, lower Volga | 43: Daodunzi, northern China |
| 22–23: “Dachi,” lower Don, kurgan near Azov | 63: Orlat, Miankal, Central Asia |
| 24: Uigarak, Aral region, kurgan 47 | 64: Beresh, southern Siberia |
| | 65: Matalu 4, kurgan 16, Altai Mountains |

On these buckles, the decoration usually represents a pair of opposed camels; only one example shows a camel actually fighting (fig. 8 [8]). Nevertheless, the basic theme of all these plaques probably refers to camel combat, however stylized the decoration may have become.

The presence of camel imagery in China was associated with the introduction of Bactrian camels by nomads, and the spread of camel imagery among the Xiongnu perhaps can also be ascribed to the eastward spread of the camel. A clay model used to make molds for casting belt buckles, dated to the third to second century B.C. and shown in the *Year One* exhibition at the Metropolitan Museum,¹⁰ resembles in style a reclining camel on a buckle from the Shumei family collection and a bronze plaque from Inner Mongolia in the Los Angeles County Museum of Art (figs. 8 [11], 5 [6]).¹¹ All these buckles show a strong Chinese influence and can be dated later than the second century B.C. and perhaps as late as the first century A.D.

Perhaps the most interesting example of camel imagery in nomadic art is that shown on the extraordinary gold Sarmatian short sword of the first century A.D., excavated in a royal burial on the lower Don River, a region where camel imagery and real camels were unknown before the invasions of Sarmatian tribes. The handle of the sword is adorned with walking Bactrian camels decorated with garnet and turquoise inlays (fig. 6 [1]). The obverse of the handle is covered with a stylized antler pattern. Beneath the camel on the handle is shown a griffin tearing a camel, and in this case the camel seems to be dead (fig. 2 [4]). Four rounded projections at the sides of the scabbard show a combat scene of a camel fighting a griffin. All these details are unified as a subject developed in time, in a style that is expressive and decorative at once. The gold and colored stone style may be compared to the finds from Bactrian burials at Tillya Tepe in Afghanistan of roughly the same date, although these burials held Bactrian religious figures, not nomads.¹²

CONCLUSION

The earliest examples of camel imagery in animal style art emerged in the southern Urals, western Kazakhstan, the Altai region, and perhaps the Aral Sea littoral in the sixth century B.C., regions embracing the natural habitat of the Bactrian camel. From here, the imagery spread to the west, east, and south, probably carried by successive waves of nomads. Sarmatian tribes carried camel imagery to the lower Volga and beyond. The peripheral regions where camel imagery has been discovered should be considered secondary, and later, in comparison to the Urals and Kazakhstan (fig. 9).

1. Bogoliubskii 1929.
2. Luckenbill 1926–27, vol. 1.
3. Kuz'mina 1963, p. 38.
4. Berghe 1959, p. 131, fig. 40, no. 14; Arne 1945, pp. 325–26; Duerst 1908, pp. 383–84.
5. Amschler 1939.
6. For discussion of the problem, with references, see Kuz'mina 1963. My essay deals primarily with camel images in nomadic art, although related examples from settled peoples are cited for comparison.
7. Seoul 1995, no. 123.
8. Adamova 2000.
9. New York 2000–2001, no. 24, pp. 95–98.
10. Milleker 2000, no. 108, p. 157.
11. New York–Los Angeles 1996–97, no. 69, p. 137.
12. Sarianidi 1985, nos. 4–8, figs. 157–166.

20. Afterword

Nowhere is the romance of archaeology more dramatically played out than on the Eurasian steppes. We hear of royal tombs, human sacrifices, gold treasures; of brother slaying brother; of a small band of hard-riding nomads harrying a Persian army into retreat. Although archaeology had a much longer history in Russia than commonly thought,¹ the essays in this volume demonstrate that on the Eurasian steppes one unanticipated discovery after another continues to overturn whatever we think we know about the past, and even today we experience the same astonishment and sense of disbelief with which early “archaeologists”—who were often more adventurers and grave robbers than sober researchers—confronted, for instance, a newly opened Egyptian tomb.²

For whatever reasons—the vastness of the Eurasian steppes, the mobile herding lifestyle of the steppe peoples, the rarity of stratified sites, the lack of written languages, not to mention the ambiguity and paradox of the very fact of studying the past—our picture of the nomadic steppe cultures is puzzling, full of unanswered questions, fragmentary, and elusive, as were the nomads themselves. I want to mention two issues that emerged from the exhibition *The Golden Deer of Eurasia*,³ the associated symposium, and the essays in this collection—not necessarily the most important issues,

certainly not the only ones, but good illustrations of the problems archaeologists face in reconstructing the past: the origins of the Siberian collection of Peter the Great and the western ties of Filippovka and Scythia.

THE PUZZLE OF THE TREASURE OF PETER THE GREAT

Where did the gold objects come from? When were they made? In 1763, after General Mel'gunov's discovery of the Scythian kurgan that still bears his name, Catherine the Great requested an academician, G. F. Miller (as a member of the Imperial Academy of Sciences, founded in 1725), to study the material and identify it. Miller had earlier concerned himself with clarifying archaeological techniques and in 1733–43 had led an expedition to Siberia; he no doubt turned to Herodotus and other classical authors for information about the inhabitants of ancient Scythia. The gold objects discovered in Siberia, however, were not immediately studied by scholars. The value of the gold was their primary attraction, and the objects were summarily labeled as coming from Tartar graves.⁴

According to Sergei Rudenko, the first person to be interested in the Siberian gold objects for their own sake was not a Russian scholar but a Dutch traveler: Nicolaas Witsen (1641–1717), who, in 1664, at the age of twenty-three, had accompanied the Dutch legation to Russia, where he spent a year making maps of Russia and gathering material for a study of the country.⁵ For almost 200 years, Witsen's engravings of his personal collection of Siberian gold were the only known published examples of such pieces, aside from those in the Peter the Great treasure. Witsen was probably the first person to speculate about the makers of these objects, when he wrote in a letter of the contrast between the people who had made the gold

objects and the present inhabitants of Siberia, who, he claimed, did not know how to work metals.⁶

In the late seventeenth and early eighteenth centuries, when these gold objects were being discovered in Siberia, there were no academicians; the Imperial Academy was created only in 1725. There was little scholarly interest in the past—Peter’s concern in establishing his *Kunstkammer* seems to have been more a matter of his interest in oddities and curiosities, although his actions did lay the groundwork for the great imperial collections that followed. But even if the first people who dealt with the gold objects had some notion of how old the pieces really were, the classical sources would scarcely have helped them identify the early inhabitants of Siberia. Herodotus, for instance, described the ancient inhabitants of the area of modern Siberia as Arimaspians, “one-eyed people,”⁷ and stated that these Arimaspians were known only by hearsay, from the Issedones who lived to the west of them. Chinese sources were no more helpful. Thus it is not surprising that information about the people who had been buried with the gold objects has come to light only recently. Even if eighteenth-century scholars had interested themselves in identifying those in whose graves the pieces were discovered, they could not have got very far by turning to the Greek classics.

When scholars began serious study of the Peter the Great treasure, they speculated about precisely where the gold had come from, when the pieces had been made, and the identity of the people buried with them. Although there were some indications of the locations of the rich tombs ravaged by robbers, no more gold objects were excavated until the excavations in the Sargat culture area, between the Urals and the mid-Irtysh River, began in the mid-1980s. Here for the

first time, archaeologists unearthed tombs with gold objects like those in Peter’s treasure.⁸ As Liudmila Koryakova has speculated, many graves of this culture must have been among the burials pillaged by late-seventeenth- and eighteenth-century scavengers searching for gold. Some of the Sargat graves had indeed been robbed, and one rich tomb with goldwork was discovered hidden beneath later burials. Archaeologists had solved one part of the puzzle—they had located one of the regions with rich tombs that robbers had ransacked for gold objects.

At the same time, however, they had revealed another puzzle—Dr. Koryakova has concluded that the recently discovered gold pieces were imported into the Sargat culture, which had no local sources of gold and left no evidence of goldworking. Any number of ideas can be proposed to explain the finds: traveling goldsmiths and traders, diplomatic exchange or overlordship, exchange of women—the only limit is one’s ingenuity. The facts of the Sargat culture, however, neither confirm nor contradict any of these ideas. Although archaeologists have partly solved the question of the Peter the Great treasure by locating one region in which graves held gold similar to pieces in the treasure, we still do not know where the objects were made or how and why they were transmitted to the Sargat culture at the very northeastern fringes of the steppes.⁹ The Sargat culture discoveries have produced more questions than answers.

FILIPPOVKA, SCYTHIA, AND ANATOLIA

The eastern connections of the discoveries of Filippovka have been pointed out by Anatolii Pshenichniuk,¹⁰ who has noted Central Asian and Siberian elements in the culture, and by Gernot Windfuhr,¹¹ who has proposed a bold astronomical interpretation of the Filippovka burials, associating them

with sacred events in the Khwarezmian version of the Persian calendar. In addition, scholars have noted stylistic similarities between the Filippovka goldwork and Altaian art. Yet one aspect of Filippovka remains largely unexplored and mysterious: the western, especially Anatolian, connections.¹²

Herodotus claimed that the Sauromatians, the nomads dwelling to the east of the Scythians in his time, originated from a mass alliance of Scythian youths with Anatolian Amazons who had found their way to the Pontic steppes.¹³ The later Sarmatians, who are thought to have moved westward from the eastern steppes, must then not have been descendants of the earlier Sauromatians, if Herodotus' description of them in any way reflects a reality. Yet the western elements in Filippovka suggest that the Sarmatians, if they were the people buried in the Filippovka kurgans, were not purely eastern. The nature of the connections with Anatolia is not clear, but the links are so obvious as to deserve mention.

Professor Windfuhr has mentioned similarities between Hittite funerary ritual and Filippovka, specifically the carving of wooden birds that were then overlaid with precious metal during one day of the many-day-long Hittite royal funeral.¹⁴ In a recent publication of this fragmentary Hittite text, the editor described the ritual for the thirteenth day of the Hittite king's burial ceremonies: "Thirty-five or thirty-six *lahhanzana*-birds were used, ten of wood covered with silver, five more like these with extra gold inlays on their heads, ten made of wood, and ten of dough."¹⁵ This part of the ritual also involved a so-called pig's mouth (most likely a rhyton symbolizing a well), silver cups, and *arda* birds, perhaps of wood. At the end of this phase of the ritual, the birds and cups were removed, as were the gold and silver, and the objects were broken into pieces. As at Filippovka a millennium later, gold- and silver-covered wooden figures and cups of precious metals were used during the

king's funeral, and the objects were abandoned or ritually buried afterward.¹⁶

Theo van den Hout, the editor of the newly published version of the Hittite ritual, noted a similarity with Scythian custom as well: an effigy of the Hittite king was carried around on a cart to various locations where rites were performed, for the purpose of demonstrating that the king's earthly powers continued after his death. Van den Hout suggested that the Scythian practice of having the dead king's body driven around the tribes ruled by him, as described by Herodotus,¹⁷ actually referred to an effigy of the dead king rather than his corpse.¹⁸ There is no reason to think that the Scythians were incapable of preserving a corpse—Herodotus described the Scythian method of preparing a royal corpse for its voyage to the grave,¹⁹ and other steppe tribes practiced a sort of embalming—so that van den Hout may be incorrect in suggesting the Scythians used an effigy instead of the actual body. The Scythians may simply have replaced the earlier practice of carrying about the king's effigy with the practice of transporting the preserved body.

Another similarity between steppe and Hittite customs links Anatolia with the Sarmatians of Filippovka, the Scythians, and even the Persians: according to van den Hout, the seated effigy of the Hittite king held a bow and arrow, which was a symbol of masculinity often mentioned in Hittite texts.²⁰ The use of the bow and arrow as symbols of royalty and masculinity among Scythians, Persians, and Sarmatians has been noted elsewhere.²¹ As Professor Windfuhr has shown, the Sarmatians at Filippovka may have conceived of the entire cemetery as a reflection of a vast heavenly panorama portraying the royal hunter shooting his bow. Was there a connection between the bow symbolism of the Hittites and that of the Sarmatians, Scythians, and Persians?

The similarities in the symbolism of the bow may be coincidental, or one group may have borrowed such a belief from another—perhaps Sarmatian or Sauromatian ancestors

had campaigned in Anatolia or had married women from Anatolia; perhaps Sarmatians or Sauromatians had borrowed the notion from the Scythians; or the idea may have been an Indo-European tradition that persisted among Iranian-speaking peoples.²² However the similarities in the symbolism of the bow and arrow among the Hittites, Scythians, Sarmatians, and Persians—as well as the artistic links between the Filippovka deer and earlier Anatolia and the parallels in funerary ritual shared by Hittites, Scythians, and Sarmatians—are to be explained, if these similarities are not coincidental, they point to some interchange or connection between the Iranian-speaking steppe peoples, the Persians, the Hittites, and even the Greeks, at an earlier stage than the date of the Filippovka kurgans.

Thus Herodotus' tale of the Sauromatians springing from an alliance of Scythian youths with Anatolian Amazons may be a rationalization of that connection, which extends beyond the Sauromatians to other Iranian-speaking people. Obscure as the link may be, the Sarmatians, who came from the east, had some connection with the west. In studying the Sarmatians, not to mention the Scythians, scholars may have overlooked this western connection and thereby may have misunderstood or oversimplified the nature of the cultures of these steppe nomads.²³

APPENDIX—THE BOY WITH THE BOW

Another instance of the intermingling of cultures on the Pontic steppes, as well as an example of the artistic depiction of the bow in a context associated with the Scythians, appears on the Chertomlyk gold *gorytos* cover, where at one end a youthful figure, standing on a rock or plinth, receives a bow from an older man (figs. 1, 2).²⁴ When this *gorytos* was first excavated, scholars identified the nude heroic figure depicted several times on it as Achilles and proposed that the decoration represented scenes from Greek myths—specifically the life of Achilles or Achilles on Skyros.²⁵ More recently, the

design has been interpreted as Scythian in nature, although no complete explanation of the iconography has been given.²⁶ If the decoration is indeed Scythian, it is an unusual example of a Scythian story in Greek dress. The technique used to produce the *gorytos* cover, hammering or impressing gold in several molds, is another aspect that is paralleled in Greek art, although some have thought it a purely Scythian technique.²⁷ One element of the decoration has sometimes been cited as non-Greek: the piled-up objects on which people sit. Professor Evelyn B. Harrison, however, has pointed out that these objects occur also on Greek vase paintings depicting the aftermath of war, an observation that supports the scene's interpretation as events in the life of Achilles or at least of a hero associated with war. In short, there is no real evidence that the iconography is Scythian.

In my opinion, the iconography is Greek and concerns a hero, probably Achilles, although the events in his life as depicted on the cover may not always be those customarily seen in Greek art. Furthermore, I suggest that the decoration depicts scenes from the life of Achilles as a heroic ancestor whose legend was understood by both Greeks and Scythians, but differently understood by each. The figure of a youth on a rocky prominence, perhaps meant to represent a statue, receiving a bow from an older man, may have represented the youthful Achilles to Greek observers and, to the Scythian owner of the cover, a deified ancestor, an Achilles-like hero, whose accession to power was symbolized by his receiving the bow.

The Chertomlyk cover, and three others made from the same matrix, were probably produced in a Greek workshop in the Bosporan kingdom, as Dr. Andrei Alekseev has suggested, and intended as gifts from the Bosporan ruler to four important Scythian allies.²⁸ Some scholars have argued that the creator of the piece was Scythian, in an attempt to reinterpret Greek-style Scythian goldwork as actually made by Scythians, but



Figure 1. Gold *gorytos* cover from Chertomlyk kurgan, ca. 350–325 B.C. State Hermitage, Saint Petersburg, GE Dn 1863 1/435. After New York 2000–2001, no. 162, pp. 229ff.

Figure 2. Detail of gold *gorytos* cover from Chertomlyk kurgan, ca. 350–325 B.C. State Hermitage, Saint Petersburg, GE Dn 1863 1/435



nothing in the decoration indicates that the covers were made by Scythian artisans; the style is Greek, albeit not necessarily Attic. As with the iconography, there is no convincing reason to think that the maker of the covers was Scythian, any more than it makes sense to argue that because the *gorytos* form originated among the Scythians, these gold covers must have been made by Scythians.

Furthermore, the notion of Scythians working as goldsmiths contradicts the general sense of the archaeological and textual evidence, which shows that the Scythians employed others as artisans and laborers. In fact, many of the elaborate examples of gold in Scythian tombs can be explained as “gifts” from the rulers of Greek city-states who hoped for amicable relations with the troublesome Scythians, rather than as objects made by Scythians for Scythians.²⁹

The design on the *gorytos* covers may have been created for the Bosphoran court and later reused for the gifts that the Bosphoran king presented to four nomadic

rulers.³⁰ The iconography may have depicted a story important to the Thracian rulers of the Bosporan kingdom, who wanted to associate themselves with heroic Greek ancestors in the same fashion as Alexander the Great did, perhaps because Achilles was legendarily associated with the island of Leuke and the vicinity of Olbia, where he was believed to have lived on after his death.³¹ The Thracian king no doubt knew that Scythian rulers would appreciate the iconography because the Scythians venerated an Achilles-like hero.

Ellis Minns long ago suggested that the Bosporan kingdom was the first example of a state “in which a monarch made a Greek city his capital and from it ruled a barbarous population. So the rule of the earlier Spartocids [ruling family of the Bosporan kingdom from the fifth century B.C., now known to be of Thracian origin³²] foreshadowed the Hellenistic states that arose after Alexander’s death.”³³ Did the synthesizing, Hellenizing culture typical of the later Bosporan kingdom begin as early as the fourth century B.C.?

Lucian (ca. 120–after 180) described the murals in an Oresteum somewhere in Scythia, which depicted events in the lives of Orestes and Pylades. In Lucian’s story, the Scythians of the region held these two Greek heroes sacred, as exemplars of perfect friendship, so much so that they gave the pair the name Korakoi, “which in our language is as much as to say, ‘guiding spirits of friendship.’”³⁴ Whether such an Oresteum existed or whether Lucian described an imaginary painting is unknown, but his explanation might as easily apply to the *gorytos* decoration. Achilles, associated with the Pontic region from the time that the Milesians founded Olbia, might have been so revered among the Scythians that they considered him Scythian and appropriated or reinterpreted his Greek legend for themselves, seeing him as their heroic ancestor.

An inscription on a marble statue base found in Kerch shows a strange cultural mixture.³⁵ Dated A.D. 214, the inscription, in

Greek, refers to a Bosporan king with the Thracian name of Rheskuporis, who is said to be “descendant of Herakles and Poseidon’s son Eumolpos and of kingly ancestors, son of the great king Sauromates.” Although much later than the gold *gorytos* covers, this text is evidence of a Bosporan ruler who claimed to be descended from Herakles and a Greek divinity as well as from kings. Several late Bosporan rulers carried the name Sauromates; the obvious association with one or another Sarmatian tribe does not seem far-fetched in light of the Greek inscription on another statue base, this one from Olbia, dated to the second century A.D., somewhat earlier than the previous inscription.³⁶

According to Heinz Heinen, the statue’s dedicators, the *strategoï* of Olbia, were headed by one Markos Ulpios Pyrrhos, son of Arsevachos, a gentleman with a Greek name who was a Roman citizen; his father’s name, however, is Iranian, and Heinen suggested that this person was a Sarmatian who lived in the *chora* of Olbia. The dedication, addressed to Apollo, referred to the statue of Nike, now lost, that the *strategoï* offered for the city and for themselves. The other dedicators, Olbian Greek elite, “come all or in part from Sarmatian or mixed families. Despite their ethnic affiliation, they practice the cult of the god Apollo Prostates, and they dedicate a statue of the Greek goddess of victory, Nike, thus praying for victory over the enemies of Olbia. These enemies are mostly their ethnic parents, the Sarmatians.”³⁷ If similar ethnic mixtures occurred as early as the late fourth century B.C. among the Scythians as well as the local Greeks, and if Lucian’s tale reflected Scythian familiarity with things Greek, it is possible that both Scythians and Greeks understood and accepted the *gorytoi* decoration as a Greek legend belonging to both their cultures.

There is some textual evidence of “Hellenizing” tendencies among Scythians in the Bosporan kingdom earlier than the previously mentioned inscriptions, although not so early as the gold covers. The daughter

of the second-century B.C. Bosporan king Scilorus lived in Panticapaeum as the wife of a Bosporan Greek; a Greek inscription chronicles the princess' dedication of an altar table to the Scythian goddess Dithagea.³⁸ In my opinion, the gold *gorytos* covers reflect some such context, in which Greeks and Scythians had become so familiar with each other's culture that objects made by order of a Bosporan ruler and meant as gifts for Scythian rulers could have a "bilingual" decoration complimenting the Bosporan king, the local Greeks, and the Scythian rulers, by associating the ruler who used the *gorytos* with a heroic ancestor.³⁹

I am grateful for the advice and suggestions of the following people, as well as others not named here: Andrei Alekseev, Evelyn B. Harrison, Elena Korolkova, Joan Mertens, Gernot Windfuhr. I am also grateful for the efforts of Heather Price of the Wrightstown Village Library in obtaining obscure publications.

1. The beginnings of archaeology in Russia have usually been associated with the Siberian collection of Peter the Great, amassed between 1715 and 1718 at the czar's request by Prince M. P. Gagarin, the governor of Siberia; General A. P. Mel'gunov, the regional governor, supervised the unearthing of the first Scythian kurgan in Ukraine west of the Dnepr River in 1763. Peter the Great—well in advance of his time—created the first Russian museum, his *Kunstammer*, in 1714, and in 1718 ordered that "any ancient objects . . . unusual stones, human, animal, fish, or bird bones not as today but either exceptionally large or small, as well as inscriptions on stone, iron, or copper, or any unusual gun, weapon, and all other things old or unusual" be brought to him (cited in Tsetskhladze 2001, p. ix; see also Rudenko 1962, p. 11). In 1739, the historian V. N. Tatishchev compiled a set of instructions for carrying out excavations; sometime before 1763, Mikhail V. Lomonosov, the versatile genius, as Marc Raeff (1966, p. 31) called him, asked the Imperial Academy of Sciences to help him gather information on archaeological sites and discoveries. By comparison, the first real excavation of Pompeii began in 1748; Napoleon invaded Egypt in 1799, bringing with him scholars who were to study the monuments of Egypt; Lord Elgin carried off most of the Parthenon sculpture between 1803 and 1812; and archaeology

developed from an antiquarian's pastime or grave robber's adventure into a scholarly discipline in the later nineteenth and twentieth centuries.

Glyn Daniel (1971, p. 24) discussed the origins and growth of archaeology and noted that studying the past was not always viewed as a positive effort; the British antiquary William Camden, writing in the seventeenth century, found it necessary to justify his interest in exploring ancient British remains. Furthermore, the ideas of a few scholars who argued that humans had lived much earlier than Archbishop Ussher's date of 4004 B.C. for the creation of the world were vigorously disputed by many of their colleagues until well into the nineteenth century. Western Europeans preferred to rely on the testimony of the Bible and the writings of classical authors rather than explore the physical remains of the past, which would have forced them to discard their beliefs.

2. Dominique-Vivant Denon, one of the many scholars accompanying Napoleon's Egyptian campaign, wrote of his encounter with a mummy and a papyrus: "I turned pale with anxiety. . . . [S]o much was I frightened lest I should destroy it, I dared not touch . . . the most ancient book so far known. . . . Without realizing that the script of my book was not known, . . . I imagined for a moment that I held in my hand the compendium of Egyptian literature" (*Travels in Upper and Lower Egypt, during the Campaigns of General Bonaparte* [first English publication London, 1802], cited in Daniel 1971, pp. 44–45).

One spectacular discovery occurred while this volume was in preparation. A Yahoo posting for July 11, 2001, quoting the ITAR-Tass news agency, describes the excavation of a rich fifth-century B.C. grave in Tuva near the Mongolian border; the tomb, fifteen feet belowground and overlooked by robbers, held many pieces of gold and bronze jewelry, iron weapons and armor, and textiles, as well as the remains of a nomadic chief and a woman. See Chugunov et al. 2003 for a preliminary report. I thank Dr. Elena Korolkova for providing me with this reference. See also Edwards 2003.

3. New York 2000–2001.
4. Rudenko 1962, p. 7, stated that the earliest reference to the Siberian gold objects was in 1669. In 1726, when Peter's Siberian treasure was received at the *Kunstammer*, it was still described as coming from Tartar graves and was considered valuable because of its weight (in Bakmeister's report published in 1779: "a very valuable collection of pure gold objects, among which were 250 taken from Tatar graves in Siberia, formerly their country. In order to give a good idea of the importance of this gift that has arrived, it is enough to say that the weight of this gold was 74 pounds"; cited in Rudenko 1962, p. 11). At the turn of the eighteenth century, Martha Wilmot, a young Irish woman who visited Princess Dashkova in Russia for several years, received from

her two “gold lion headed clasps taken from the golden hoards of Tartars (conquer’d many years ago by the Russians and exterminated by John the Terrible),” which were probably examples of Siberian gold, still considered Tartar and of relatively recent date. Princess Dashkova, a learned, influential, and well-connected aristocrat, was involved in Catherine the Great’s ascent to the throne; Catherine appointed her president of the Academy of Sciences in 1783. (See Wilmot 1934, p. 198: letter from Catherine Wilmot to Anna Chetwood, September 24, 1805, Troitskoe, Russia.)

5. Rudenko 1962, p. 7. Witsen’s book, *Noord en Oost Tartaryen*, was published in Amsterdam in three editions: 1692, 1705, and 1785. In the last, posthumous edition, Witsen’s collection of Siberian gold, which his agents in Russia had sent him in 1714, was illustrated on four plates that had been executed by a Dutch artist; Witsen had expected a shipment as early as 1704, but it was apparently lost at sea. After his death, the gold objects in his collection were said to have vanished; they no doubt met the same fate as that of many similar pieces in Russia, before Peter acted to stop the practice of melting them down for the gold.
6. The letter is discussed in Zavitukhina 1999, p. 103.
7. *The Persian Wars* 4.26–28.
8. See Liudmila Koryakova, “On the Northern Periphery of the Nomadic World,” chapter 10 in this collection.
9. Two groups of objects from the steppes and nearby regions and also excavated in the last decades of the twentieth century are related to the Siberian goldwork: the turquoise-inlaid gold objects unearthed by Viktor Sarianidi in the cemetery of Tillya Tepe in Afghanistan and the turquoise-inlaid gold objects accompanying the burial of a Sarmatian woman in the Azov kurgan on the Azov steppes (Sarianidi 1985; Bsepalyi 1992). Although some writers have attributed the turquoise-inlaid gold objects in Peter’s treasure to Afghanistan, the use of gold and turquoise alone does not imply that a goldsmith in Bactria made objects in the Siberian style. The Tillya Tepe pieces were locally made and are Greco-Bactrian in style; and the pieces are best dated to the third century B.C., thus later than the Sargat culture finds, which are fourth century B.C.

The Azov kurgan objects, of first century A.D. date, were probably made in the southern Urals region; the gold hilt of the short sword from this kurgan has a camel on one side and a pattern of stylized antlers in spiral form on the other, like the spirals so common at Filippovka (I owe this observation to Dr. Prudence O. Harper). Thus the Azov gold can be seen as a continuation of a local goldworking tradition; colored stones inlaid into gold also appeared at Filippovka, albeit in a less florid fashion. According to Chernykh 1992, pp. 214–51, the Urals had been an important center for metallurgy since

the second millennium B.C., and the goldsmiths of Filippovka may have continued that tradition, as did the makers of later Sarmatian goldwork. Several goldworking centers must have been scattered across the steppes at one time or another during the late first millennium B.C. and into the first millennium A.D., and there is no justification for thinking that all turquoise and gold objects came from any single center.

10. Pshenichniuk 2000.
11. See “The Stags of Filippovka: Mithraic Coding on the Southern Ural Steppes,” chapter 7 in this collection.
12. As discussed in Farkas 2000, pp. 8–10, with stylistic comparisons.
13. *The Persian Wars* 4.110–116.
14. “The Stags of Filippovka,” chapter 7 in this collection.
15. Hout 1994, pp. 66–68. The similarly constructed gold-covered wooden objects in the so-called Royal Cemetery of Ur, of the late third millennium B.C., demonstrate an old tradition of making such symbolic objects and placing them in burials of important figures. Which people, if any, invented this custom is not important in this context, but Chernykh 1992, p. 165, has noted the evidence for trade and other interchange between Mesopotamia and the Caucasus and Transcaucasus in the third millennium B.C. That the custom of making gold-covered wooden figures was known in the Transcaucasus earlier than the mention of such objects in the Hittite text is shown by a gold-covered wooden figure of a stag, with inlaid eyes and separately attached antlers, legs, and tail, from Trialeti, of the eighteenth to seventeenth century B.C. (Saarbrücken 1995, p. 30, fig. 9).
16. In some Scythian burials, valuable Greek wine vessels were broken and abandoned, apparently as part of the burial rites, a practice reminiscent of the discarded cups at Filippovka. See Shefton 1982, pp. 150–51. I owe this reference to Professor Evelyn B. Harrison.
17. *The Persian Wars* 4.71.
18. Hout 1994, pp. 60–63.
19. *The Persian Wars* 4.71.
20. Hout 1994, p. 63.
21. Farkas 2000, pp. 15–16; see also Windfuhr 2000, and Windfuhr, “The Stags of Filippovka,” chapter 7 in this collection.
22. In the *Odyssey* (21), Odysseus proved that he was king of Ithaca and husband of Penelope by stringing his powerful bow, just as Scythes, the first king of Scythia and the youngest son of Herakles and the cave-dwelling snake-woman, proved his right to be king by stringing the bow that Herakles had left for this contest (Herodotus, *The Persian Wars* 4.8–10, attributed this version of the myth of Scythian origins to the Greeks).
23. The evidence of the Scythians’ mixed ancestry and their close ties with Greeks, Thracians, and other

- neighbors is rarely discussed but worth recalling. For instance, in the Scythian myths of origin, the first Scythian ancestors are described as a heroic man and a supernatural woman who was native to the steppes, indeed rooted in or emanating from the locale, either a daughter of the Dnepr River or a snake-goddess who lived in a cave (Herodotus, *The Persian Wars* 4.5–11). According to Herodotus (*ibid.*, 4.78–80), one Scythian ruler had among his wives a Greek-speaking woman from Histria, a Greek city on the western shore of the Black Sea, and a Thracian princess. Tsatskhladze 1998, pp. 44–68, has noted the mixed nature of archaeological evidence in the cemeteries of the Pontic Greek cities and has suggested, on the basis of grave goods and names on gravestones, that Scythians intermarried with and lived and died among Greeks on Berezan and in Olbia and the Bosphoran kingdom.
24. New York 2000–2001, no. 162, pp. 229ff. For the dating of the gold covers, see Andrei Alekseev, “Scythian Kings and ‘Royal Barrows’ of the Fifth and Fourth Centuries B.C.: Modern Chronology and Interpretation,” chapter 16 in this collection. Dr. Alekseev’s dates are ca. 350–325 B.C. The Chertomlyk cover is discussed by Michael Treister (1999, p. 79), who suggested that Scythians and Greeks worked together in Bosphoran workshops. As far as I can tell, however, Treister gave no reason for deciding that Scythians were involved in the making of the covers except for the recent, and questionable, interpretation of the iconography as Scythian. For a thorough discussion of the group of *gorytos* and scabbard covers, see Shcheglov and Katz 1991.
25. Minns 1971, pp. xxxix–xl, 284–87.
26. Stähler and Nieswandt 1991–92. See also Heinen 2001, p. 15 n. 9.
27. Ødegård 1992 discussed examples of provincial Greek metalwork of the second half of the fourth century B.C., with designs made by hammering or impressing metal in a mold. Some of the bowls, perhaps all of them, were made of silver-coated tin, but the same technique also appears on Greek goldwork; thus there is no question that Greek metalsmiths were familiar with using dies to replicate decoration on gold and other metals. I owe this reference to Dr. Joan Mertens.
28. New York 2000–2001, no. 162, pp. 229ff.
29. The gold that the Scythians supposedly amassed from the grain trade may have been negligible, according to some scholars (Tsatskhladze 1994, p. 124; Tsatskhladze 1998, p. 66). Most of the grain traded is thought to have come from the agricultural land (*chora*) of the Greek city-states rather than from purchases from grain-growing peoples controlled by the Scythians. Thus the Scythians’ role as economic intermediaries, and the wealth in the form of gold accumulated by them in the course of this trade, may have been less significant than usually believed. Consequently, it makes no sense to consider all the gold found in Scythian tombs in terms of Scythians’ turning their riches into objects of use and decoration. Tsatskhladze 1998, p. 66, suggested that the Scythians did control some exports, namely iron ingots, which came from the forest-steppes to the Greek cities on the Black Sea, and this trade might have enriched some Scythian rulers.
- A recently published marble relief fragment excavated at a site on the Taman Peninsula represents, according to the scholars who studied it, Bosphoran Greek sculptors’ depiction of a Scythian battle scene, a rare instance of Bosphoran architectural decoration for a monument of unknown type. See Savostina 2001.
30. I owe this idea to Dr. Joan Mertens.
31. Hedreen 1991, pp. 329–30, reviewed the subject of the cult of Achilles in the Black Sea region and in an interesting reconstruction suggested that the origin of Achilles’ cult there was associated with “an obscure detail in poetry or legend,” about the region around Olbia having once belonged to Achilles, which the Milesian colonists might have used to justify their settling in the area. The Bosphoran rulers could have appropriated the legend and the imagery of Achilles for the same reason: to bolster their assumption of power in Panticapaeum.
- Hedreen 1991, p. 324, also discussed the fragment of a poem by Alkaios, a Milesian poet, which reads “Achilles lord of Scythia.” According to Hedreen, this phrase described Achilles as lord of Scythia not because he was literally lord of the steppes, but because he was “honored in that geographical region in cult.” He also noted that Eustathios had quoted this fragment to illustrate the argument that there were two Achilles: “one who fought at Troy and another who was king of Scythia.”
32. Archibald 1994, p. 491. The Spartocid rulers have names known from the Odrysians, a royal Thracian tribe.
33. Minns 1971, p. 363.
34. Lucian, *Toxaris, or Friendship* 6–7. Ovid (43 B.C.–A.D. 17/18, in *Epistulae ex Ponto* [Letters from the Black Sea] 3.2.29–110) had earlier reported a similar tale about the Crimean exploits of Orestes and Pylades, told to the Roman poet by an aged barbarian. “A marvel was the love of the youths: though so many years have passed, in Scythia even now they have a great name” (96–97).
35. Heinen 2001, pp. 16–22.
36. *Ibid.*, pp. 19–22.
37. *Ibid.*, p. 22.
38. Hind 1994, p. 505.
39. Although originally a Scythian form, the *gorytos*, or bow case, appeared on coinage of the Greek cities on the Black Sea, as did the Scythian bow, perhaps because the Greeks referred to the Black Sea as shaped like a Scythian bow. See Hind 2001, p. 25, and Frolova 2001.

Bibliography

- Abaev 1956.** Vasilii I. Abaev. “Skifskii byt i reforma Zoroastra” (The daily life of the Scythians and Zoroaster’s reform). *Archiv orientální* (Prague) 24, no. 1 (1956), pp. 38–45.
- Abaev 1979.** Vasilii I. Abaev. “Skifo-sarmatskie narechiia” (Scythian and Sarmatian dialects). In *Osnovy iranskogo iazykoznanii*, vol. 1, *Drevne-iranskie iazyki* (Ancient Iranian languages), pp. 272–364. Moscow, 1979.
- Ackerman 1964.** Phyllis Ackerman. “Achaemenid Seals (B) Iconography.” In *A Survey of Persian Art from Prehistoric Times to the Present*, vol. 1, *Pre-Achaemenid, Achaemenid, and Parthian Periods*, edited by Arthur Upham Pope and Phyllis Ackerman, pp. 389–93. London, 1964 (1938).
- Adamova 2000.** Adel’ T. Adamova. *Izobrazheniia bor’by dvukh verbludov v iranskom iskusstve: Chteniia pamiati V. G. Lukonina 1994–1999* (Representations of two fighting camels in Iranian art: Readings in memory of V. G. Lukonin, 1994–1999). Saint Petersburg, 2000.
- Akishev 1976.** Kemal’ A. Akishev. *Novye khudozhestvennye bronzovye izdeliia saksakogo vremeni* (New bronze objects of the Saka). Alma-Ata, 1976.
- Akishev 1978.** Kemal’ A. Akishev. *Kurgan Issyk: Iskusstvo sakov Kazakhstana* (Issyk kurgan: Art of the Saka in Kazakhstan). Moscow, 1978.
- Akishev and Kushaev 1963.** Kemal’ A. Akishev and Gaiaz A. Kushaev. *Drevniaia kul’tura sakov i usunei doliny reki Ili* (The ancient culture of the Saka and Usun of the Ili River valley). Alma-Ata, 1963.
- A. Alekseev 1986.** Andrei Alekseev. “Grecheskaia keramika iz Aleksandropol’skogo kurgana” (Greek pottery from the Alexandropol barrow). *Soobshcheniia Gosudarstvennogo Ermitazha* 51 (1986), pp. 35–37.
- A. Alekseev 1987.** Andrei Alekseev. “O datakh skifskikh kurganov Baby i Raskopana Mogila” (On the dating of the Baby and Raskopana Mogila Scythian barrows). *Soobshcheniia Gosudarstvennogo Ermitazha* 52 (1987), pp. 28–31.
- A. Alekseev 1992.** Andrei Alekseev. *Skifskaia khronika: Skify v 7–4 vv. do n.e. Istoriko-arkheologicheskii ocherk* (Scythian chronicle: Scythians in the seventh–fourth centuries B.C. Historical and archaeological review). Saint Petersburg, 1992.
- A. Alekseev 1996.** Andrei Alekseev. “Skifskie tsari i ‘tsarskie’ kurgany 5–4 vv. do n.e.” (The Scythian kings and the “royal” barrows of the fifth–fourth centuries B.C.). *Vestnik drevnei istorii*, no. 3 (1996), pp. 99–113.
- A. Alekseev 2000a.** Andrei Alekseev. “Nakonechniki strel iz Aleksandropol’skogo kurgana i ikh znachenie dlia istorii skifskikh drevnostei 4 v. do n.e.” (Significance of arrowheads from the Alexandropol barrow for the history of Scythian antiquities of the fourth century B.C.). In *Syssitia: Pamiati Iurii Viktorovicha Andreeva* (Syssitia: In memory of Iurii Viktorovich Andreev), edited by V. I. Zuev, pp. 295–303. Saint Petersburg, 2000.
- A. Alekseev 2000b.** Andrei Alekseev. “The Scythians: Asian and European.” In *New York 2000–2001*, pp. 41–47.

- V. Alekseev 1989.** Valerii P. Alekseev. *Istoricheskaia antropologiia i etnogenez* (Historical anthropology and ethnogenesis). Moscow, 1989.
- V. Alekseev and Gokhman 1984.** Valerii P. Alekseev and Il'ia I. Gokhman. *Antropologiia aziatskoi chasti SSSR* (Anthropology of the Asian part of the USSR). Moscow, 1984.
- Allen 1963.** Richard Hinckley Allen. *Star Names: Their Lore and Meaning*. New York, 1963 (1899).
- Amschler 1939.** J. Wolfgang Amschler. *Tierreste der Ausgrabungen von dem "Grossen Königshügel," Shah tepé in Nord-Iran*. Sino-Swedish Expedition Publication 9, VII, Archaeology 4. Stockholm, 1939.
- An and Yuan 1998.** An Jiayuan and Yuan Jing. 1998. "Xinjiang Hejing xian Chawuhugoukou yi san hao mudi dongwu guge yanjiu baogao" (A study of the animal bones from cemeteries 1 and 3 at the Chawuhugou pass, Hejing county, Xinjiang). *Kaogu* 7 (1998), pp. 63–68.
- Andrae 1943.** Walter Andrae. *Die Kleinfunde von Sendschirli*. Ausgrabungen in Sendschirli 5. Berlin, 1943.
- Andronikos 1990.** Manoles Andronikos. "Tsarskie grobnitsy v Vergine, iz istorii raskopok" (The royal tombs at Vergina, from the history of the excavations). *Vestnik drevnei istorii*, no. 1 (1990), pp. 107–29.
- Anisimov 1958.** Arkadii F. Anisimov. *Religiia evenkov v istoriko-geneticheskom izuchenii i problemy proiskhozhdeniia pervobytnykh verovanii* (Religion of the Evenk in a historical-genetic perspective and the problems of the origin of primordial belief systems). Moscow, 1958.
- Anisimov 1963.** Arkadii F. Anisimov. "Cosmological Concepts of the Peoples of the North." In *Studies in Siberian Shamanism*, edited by Henry N. Michael, pp. 157–229. Toronto, 1963.
- Anthony 1986.** David W. Anthony. "The 'Kurgan Culture,' Indo-European Origins, and the Domestication of the Horse: A Reconsideration." *Current Anthropology* 27, no. 4 (1986), pp. 291–313.
- Anthony 1995.** David W. Anthony. "Horse, Wagon, and Chariot: Indo-European Languages and Archaeology." *Antiquity* 69 (1995), pp. 554–65.
- Anthony 1996.** David W. Anthony. "V. G. Childe's World System and the Daggers of the Early Bronze Age." In *Craft Specialization and Social Evolution: In Memory of V. Gordon Childe*, edited by Bernard Wailes. Philadelphia, 1996.
- Anthony and Brown 1991.** David W. Anthony and Dorcas R. Brown. "The Origins of Horseback Riding." *Antiquity* 65 (1991), pp. 22–38.
- Anthony and Brown 2000.** David W. Anthony and Dorcas R. Brown. "Eneolithic Horse Exploitation in the Eurasian Steppes: Diet, Ritual, and Riding." *Antiquity* 74 (2000), pp. 75–86.
- Anthony and Vinogradov 1995.** David W. Anthony and Nikolai B. Vinogradov. "The Birth of the Chariot." *Archaeology* 48, no. 2 (1995), pp. 36–41.
- Anuchin 1914.** V. I. Anuchin. *Ocherk shamanstva u eniseiskikh ostiakov* (Shamanism among the Yenisei Ostyak). Saint Petersburg, 1914.
- Archibald 1994.** Zofia H. Archibald. "Thracians and Scythians." In *The Cambridge Ancient History*, vol. 6, *The Fourth Century B.C.*, edited by D. M. Lewis et al. 2d ed. Cambridge, 1994.
- Arne 1945.** T. J. Arne. *Excavations at Shah Tepé, Iran*. Stockholm, 1945.
- Artamonov 1966.** Mikhail I. Artamonov. *Sokrovishcha skifskikh kurganov v sobranii Gosudarstvennogo Ermitazha* (Treasures from Scythian tombs in the State Hermitage). Prague, 1966.
- Artamonov 1969.** Mikhail I. Artamonov. *Treasures from Scythian Tombs in the Hermitage Museum, Leningrad*. London, 1969.
- Artamonov 1973.** Mikhail I. Artamonov. *Sokrovishcha sakov* (Treasures of the Saka). Moscow, 1973.
- Artemenko 1986.** I. I. Artemenko et al., eds. *Arkheologiia Ukrainskoi SSR*, vol. 2, *Skifosarmatskaia i antichnaia arkheologiia* (Scytho-Sarmatian and classical archaeology). Kiev, 1986.
- Avram and Poenaru-Bordea 1988.** Alexandru Avram and Gheorghe Poenaru-Bordea. "Nouveaux timbres amphoriques thasiens de Callatis." *Dacia* n.s. 32, nos. 1–2 (1988), pp. 27–35.

- Barfield 1981.** Thomas Barfield. "The Hsiung-nu Imperial Confederacy: Organization and Foreign Policy." *Journal of Asian Studies* 41 (1981), pp. 45–61.
- Barfield 1989.** Thomas Barfield. *The Perilous Frontier: Nomadic Empires and China*. Oxford, 1989.
- Barfield 1993.** Thomas Barfield. *The Nomadic Alternative*. Englewood Cliffs, N.J., 1993.
- Barkova 1987.** Liudmila L. Barkova. "Obraz orlinogolovogo grifona v iskusstve drevnego Altaia (po materialam Bol'shikh Altaiskikh kurganov)" (The eagle-headed griffin in the art of the ancient Altai [materials of the Bol'shie Altaiskie kurgans]). *Arkheologicheskii sbornik* 28 (1987), pp. 5–29.
- Barkova and Gokhman 1994.** Liudmila L. Barkova and Il'ia I. Gokhman. "Proiskhozhdenie rannikh kochevnikov Altaia v svete dannykh paleoantropologii i analiza ikh izobrazhenii" (Origin of the early nomads of the Altai in the light of paleo-anthropological data and analysis of their depictions). In *Elitnye kurgany stepei Evrazii v skifo-sarmatskuiu epokhu* (Elite kurgans of the Eurasian steppes in Scythian-Sarmatian times), edited by Andrei Alekseev et al., pp. 24–35. Saint Petersburg, 1994.
- Barnett 1982.** Richard D. Barnett. "Urartu." In *The Cambridge Ancient History*, vol. 3, pt. 1, edited by John Boardman et al., pp. 314–71. Cambridge, 1982.
- Bashilov and Yablonsky 2000.** Vladimir A. Bashilov and Leonid T. Yablonsky. "Some Current Problems Concerning the History of Early Iron Age Eurasian Steppe Nomadic Societies." In *Kurgans, Ritual Sites, and Settlements: Eurasian Bronze and Iron Age*, edited by Jeannine Davis-Kimball et al., pp. 9–12. Oxford, 2000.
- Benecke and Driesch 2003.** Norbert Benecke and Angela von den Driesch. "Horse Exploitation in the Kazakh Steppes during the Eneolithic and Bronze Age." In *Prehistoric Steppe Adaptation and the Horse*, edited by Marsha Levine et al., pp. 60–82. Cambridge, 2003.
- Bérenger 2000.** Daniel Bérenger. "Ilse: Ein ober-rheinisches 'Ghetto' der frühen Eisenzeit an der Mittelweser?" In *Fundort Nordrhein-Westfalen*, edited by Heinz Günter Horn et al., pp. 247–49. Cologne, 2000.
- Berghe 1959.** Louis vanden Berghe. *Archéologie de l'Iran ancien*. Leiden, 1959.
- Bernshtam 1940.** Aleksandr N. Bernshtam. *Zolotaia diadema iz shamanskogo pogrebeniia po reke Kargalinke* (A gold diadem from a shaman's burial along the Kargalinka River). Moscow, 1940.
- Bernshtam 1949.** Aleksandr N. Bernshtam. *Osnovnye etapy istorii kul'tury Semirech'ia i Tian'-Shania* (Stages of the history and culture of the Semirech'e and Tian Shan regions). Moscow, 1949.
- Bernshtam 1952.** Aleksandr N. Bernshtam. *Istoriko-arkheologicheskie ocherki tsentral'nogo Tian'-Shania i Pamiro-Altai* (Historical-archaeological essays on the central Tian Shan and Pamir-Altai mountain regions). Moscow, 1952.
- Bespalyi 1992.** E. I. Bespalyi. "Kurgan sarmatskogo vremeni u g. Azova" (A Sarmatian kurgan near the town of Azov). *Sovetskaia arkheologiya* 1 (1992), pp. 175–91.
- Biel 1985.** Jörg Biel. *Der Keltenfürst von Hochdorf*. Stuttgart, 1985.
- Biruni 1979.** Muhammad ibn Ahmad Biruni. *The Chronology of Ancient Nations*. Translated by C. Edward Sachau. London, 1979 (1879).
- Bivar 1975.** A. D. H. Bivar. "Religious Subjects on Achaemenid Seals." In *Mithraic Studies I*, edited by John R. Hinnells, pp. 90–105. Manchester, 1975.
- Bivar 1998.** A. D. H. Bivar. *The Personalities of Mithra in Archaeology and Literature*. New York, 1998.
- Blavatskii and Koshelenko 1966.** Vladimir D. Blavatskii and Gennadii A. Koshelenko. *Le culte de Mithra sur la côte septentrionale de la Mer Noire*. Leiden, 1966.
- Blois 1996.** François de Blois. "The Persian Calendar." *Iran* 34 (1996), pp. 39–54.
- Blois and Sims-Williams 1996.** François de Blois and Nicholas Sims-Williams. "The Bactrian Calendar." *Bulletin of the Asia Institute* 10 (1996), pp. 149–65.
- Bobrinskoi 1887.** Aleksei A. Bobrinskoi. *Kurgany i sluchainye arkheologicheskie nakhodki bliz mestechka Smely* (Kurgans and chance archaeological finds near the town of Smela). Vol. 1. Saint Petersburg, 1887.
- Boehmer 1972.** R. M. Boehmer. *Der Kleinfunde von Boğazköy*. Berlin, 1972.

- Bogoliubskii 1929.** Sergei N. Bogoliubskii. *Proiskhozhdenie verbludov* (Origin of the camel). Alma-Ata, 1929.
- Bokovenko 1996.** Nikolai A. Bokovenko. "Asian Influence on European Scythia." *Ancient Civilizations from Scythia to Siberia* 3, no. 1 (1996), pp. 97–122.
- Bokovenko and Zasetskaia 1993.** Nikolai A. Bokovenko and Irina P. Zasetskaia. "Proiskhozhdenie kotlov 'gunnskogo' tipa Vostochnoi Evropy v svete problemy khunno-gunnskikh sviazei" (Origin of the "Hun" cauldrons of eastern Europe in the light of Xiongnu–Hun connections). *Peterburgskii arheologicheskii vestnik* 3 (1993), pp. 80–89.
- Boll 1967.** Franz Boll. *Sphaera: Neue griechische Texte und Untersuchungen zur Geschichte der Sternbilder*. Hildesheim, 1967 (1903).
- Boltrik and Fialko 1991.** I.V. Boltrik and E. E. Fialko. "Der Oguz-Kurgan—Grabmal eines skythischen Königs." In *Gold der Steppe: Archäologie der Ukraine*, edited by Renate Rolle et al., pp. 177–79. Neumünster, 1991.
- Bonn 1997.** *Das Gold der Skythen und Griechen: Aus der archäologischen Schatzkammer der Eremitage in St. Petersburg*. Exh. cat. Bonn, Kunst- und Ausstellungshalle der Bundesrepublik Deutschland, February 21–May 11, 1997. Ostfildern, 1997.
- Borger 1956.** Riekele Borger. *Die Inschriften Asarhaddons, Königs von Assyrien*. Graz, 1956.
- Borger 1996.** Riekele Borger. *Beiträge zum Inschriftenwerk Assurbanipals: Die Prismenklassen A, B, C = K, D, E, F, G, H, J und T sowie andere Inschriften*. Wiesbaden, 1996.
- Boroffka et al. 2002.** N. Boroffka et al. "Bronze Age Tin from Central Asia: Preliminary Notes." In *Ancient Interactions: East and West in Eurasia*, edited by Katie Boyle et al., pp. 135–60. Cambridge, 2002.
- Bothmer 1975.** Dietrich von Bothmer. "The Vetterfelde Find." In *New York–Los Angeles 1975*, pp. 153–55.
- Boyce 1984.** Mary Boyce, trans. and ed. *Textual Sources for the Study of Zoroastrianism*. Chicago, 1984.
- Brentjes 1981.** Burchard Brentjes. *Die Stadt des Yima: Weltbilder in der Architektur*. Leipzig, 1981.
- Briant 1996.** Pierre Briant. *Histoire de l'empire perse de Cyrus à Alexandre*. Paris, 1996.
- Bromlei 1983.** I.V. Bromlei. *Ocherki teorii etnosa* (Studies of ethnos theory). Moscow, 1983.
- Brown and Anthony 1998.** Dorcas R. Brown and David W. Anthony. "Bit Wear, Horseback Riding and the Botai Site in Kazakhstan." *Journal of Archaeological Science* 25, no. 4 (1998), pp. 331–47.
- Brussels 1993.** *Splendeur des Sassanides: L'empire perse entre Rome et la Chine (224–642)*. Exh. cat. Brussels, Musées Royaux d'Art et d'Histoire, February 12–April 25, 1993. Brussels, 1993.
- Buchanan 1966.** Briggs Buchanan. *Catalogue of Ancient Near Eastern Seals in the Ashmolean Museum*. Oxford, 1966.
- Bukowski 1974.** Zbigniew Bukowski. "Charakteristik der sogenannten skythischen Funde aus Polen." *Zeitschrift für Archäologie* 8 (1974), pp. 45–66.
- Bunker 1997.** Emma C. Bunker. *Ancient Bronzes of the Eastern Eurasian Steppes from the Arthur M. Sackler Collections*. New York, 1997.
- Chaume 1997.** Bruno Chaume. "Vix, le Mont Lassois: État de nos connaissances sur le site princier et son environnement." In *Vix et les éphémères principautés celtiques*, edited by Patrice Brun and Bruno Chaume, pp. 185–200. Paris, 1997.
- Chen 1985.** Chen Ge. "Guanyu Xinjiang yuangu wenhua de jige wenti" (Several problems of the very ancient cultures in Xinjiang). *Xinjiang wenwu* 1 (1985), pp. 27–38.
- Chen 1987.** Chen Ge. "Guanyu Xinjiang xinshiqi shidai wenhua de xinrenshi" (New ideas on the Neolithic cultures in Xinjiang). *Kaogu* 4 (1987), pp. 343–51.
- Chen 1995.** Chen Ge. "Xinjiang yuangu wenhua chulun" (Preliminary research on early cultures in Xinjiang). *Zhongya xuekan* 4 (1995), pp. 5–72.
- Chen and Hiebert 1995.** Chen Kwang-tzuu and Fredrik T. Hiebert. "The Late Prehistory of Xinjiang in Relation to Its Neighbors." *Journal of World Prehistory* 9, no. 2 (1995), pp. 243–300.

- Chernenko 1968.** Evgenii V. Chernenko. *Skifskii dospekhi* (Scythian armor). Kiev, 1968.
- Chernenko 1984.** Evgenii V. Chernenko. *Skifo-persidskaia voina* (The war between the Scythians and the Persians). Kiev, 1984.
- Chernykh 1992.** Evgenii N. Chernykh. *Ancient Metallurgy in the USSR: The Early Metal Age*. Translated by Sarah Wright. New York, 1992.
- Chlenova 1967.** Nataliia L. Chlenova. *Proiskhozhdenie i ranniia istoriia plemen tagarskoi kul'tury* (Origin and early history of the tribes of the Tagar culture). Moscow, 1967.
- Chlenova 1994.** Nataliia L. Chlenova. "On the Degree of Similarity between Material Culture Components within the 'Scythian World.'" In *The Archaeology of the Steppes: Methods and Strategies*, edited by Bruno Genito, pp. 499–540. Naples, 1994.
- Chlenova 2000.** Nataliia L. Chlenova. "Znachenie nakhodok bronzovykh shlemov i medalevidnogo zerkala iz Mongolii" (Bronze helmets and a medal-shaped mirror from Mongolia and their significance). *Rossiiskaia arkheologiia* 2 (2000), pp. 149–55.
- Chugunov et al. 2003.** Konstantin V. Chugunov, Hermann Parzinger, and Anatolii Nagler. "Der skythische Fürstengrabbügel von Arzan 2 in Tuva: Vorbericht der russisch-deutschen Ausgrabungen 2000–2002." *Eurasia antiqua* 9 (2003), pp. 113–62.
- Çilingiroğlu and Salvini 2001.** Altan Çilingiroğlu and Mirjo Salvini, eds. *Ayanis 1: Ten Years' Excavations at Rusahinili Eidura-Kai, 1989–1998*. Rome, 2001.
- CIRB.** *Corpus inscriptionum Regni Bosporani*. Moscow, 1965.
- Cleuziou 1977.** Serge Cleuziou. "Les pointes de flèches 'Scythiques' au Proche et Moyen Orient." In *Le Plateau iranien et l'Asie centrale des origines à la conquête islamique*, pp. 187–99. Paris, 1977.
- Collon 1987.** Dominique Collon. *First Impressions: Cylinder Seals in the Ancient Near East*. London, 1987.
- Creel 1937.** Herrlee G. Creel. *The Birth of China*. New York, 1937.
- Cumont 1975.** Franz Cumont. "The Hunt of Mithra." In *Mithraic Studies I*, edited by John R. Hinnells, pp. 186–92. Manchester, 1975.
- Daire and Koryakova 2002.** Marie-Yvane Daire and Liudmila Koryakova, eds. *Habitats et nécropoles de l'Age du Fer au carrefour de l'Eurasie, 1: Les fouilles de 1993 à 1997*. Mémoires de la Mission Archéologique Française en Asie Centrale 11. Paris, 2002.
- Dalton 1964.** O. M. Dalton. *The Treasure of the Oxus*. 3d ed. London, 1964.
- Daniel 1971.** Glyn Daniel. *The Origins and Growth of Archaeology*. New York, 1971.
- Davis-Kimball 1997.** Jeannine Davis-Kimball. "Warrior Women of the Eurasian Steppes." *Archaeology* 50 (January–February 1997), pp. 44–48.
- Davis-Kimball 1997–98.** Jeannine Davis-Kimball. "Amazons, Priestesses, and Other Women of Status: Females in Eurasian Nomadic Societies." *Silk Road Art and Archeology: Journal of the Institute of Silk Road Studies* 5 (1997–98), pp. 1–50.
- Davis-Kimball 1999.** Jeannine Davis-Kimball. "Priestesses, Enarees, and Other Statuses among Indo-Iranian Peoples." In *Proceedings of the Tenth Annual UCLA Indo-European Conference: Los Angeles, May 21–23, 1998*, edited by Karlene Jones-Bley et al., pp. 231–59. Washington, D.C., 1999.
- Davis-Kimball and Yablonsky 1995.** Jeannine Davis-Kimball and Leonid T. Yablonsky. *Kurgans on the Left Bank of the Ilek: Excavations at Pokrovka, 1990–1992*. Berkeley, 1995.
- Davis-Kimball et al. 1995.** Jeannine Davis-Kimball, Vladimir A. Bashilov, and Leonid T. Yablonsky, eds. *Nomads of the Eurasian Steppes in the Early Iron Age*. Berkeley, 1995.
- Davis-Kimball et al. 2000.** Jeannine Davis-Kimball et al., eds. *Kurgans, Ritual Sites, and Settlements: Eurasian Bronze and Iron Age*. BAR International Series 890. Oxford, 2000.
- Davydova 1971.** Antonina V. Davydova. "K voprosu o khunnskikh khudozhestvennykh bronzakh" (Study of Hun bronzework). *Sovetskaia arkheologiia* 1 (1971), pp. 93–105.
- Debaine-Francfort 1988.** Corinne Debaine-Francfort. "Archéologie du Xinjiang des origines

- aux Han: Première partie." *Paléorient* 14, no. 1 (1988), pp. 5–29.
- Debaine-Francfort 1989.** Corinne Debaine-Francfort. "Archéologie du Xinjiang des origines aux Han: IIème partie." *Paléorient* 15, no. 1 (1989), pp. 183–213.
- Debidour 1988.** Michel Debidour. "En classant les timbres thasiens." *Bulletin de correspondance hellénique*, Supplément 13 (1988), pp. 311–34.
- Demkin and Ryskov 1995.** Vitalii A. Demkin and I. G. Ryskov. "Analysis of the Contents of the Mortuary Pottery." In Jeannine Davis-Kimball and Leonid T. Yablonsky, *Kurgans on the Left Bank of the Ilel: Excavations at Pokrovka, 1990–1992*, pp. 37–40. Berkeley, 1995.
- Derevianko and Molodin 2000.** Anatolii P. Derevianko and Viacheslav I. Molodin. *Fenomen altaiskikh mumii* (Phenomenon of the Altai mummies). Novosibirsk, 2000.
- Devlet 1980.** Marianna A. Devlet. *Sibirskie poiasnye azhurnye plastiny, II v. do n. e.–I v. n. e.* (Siberian openwork belt plaques, 2nd century B.C.–1st century A.D.). Moscow, 1980.
- Di Cosmo 1994.** Nicola Di Cosmo. "Ancient Inner Asian Nomads: Their Economic Basis and Its Significance in Chinese History." *Journal of Asian Studies* 53, no. 4 (1994), pp. 1092–1126.
- Diakonov 1981.** Igor M. Diakonov. "Les Cimmerians." *Acta iranica* 21 (1981), pp. 103–40.
- Diakonov 1985.** Igor M. Diakonov. "The Medes and Their Neighbors." In *Cambridge History of Iran*, vol. 2, *The Median and Achaemenian Periods*, edited by Ilya Gershevitch, pp. 36–148. Cambridge, 1985.
- Diakonov and Medvedskaia 1987.** Igor M. Diakonov and I. N. Medvedskaia. "The History of the Urartian Kingdom." *Biblioteca orientalis* 44, nos. 3–4 (1987), pp. 385–94.
- Diószegi 1968.** Vilmos Diószegi. "The Problem of the Ethnic Homogeneity of Tofa (Karagas) Shamanism." In *Popular Beliefs and Folklore Tradition in Siberia*, edited by Vilmos Diószegi, pp. 239–330. Bloomington, 1968.
- Dovatur et al. 1982.** Aristid I. Dovatur, Dmitrii P. Kallistov, and Irina A. Shishova. *Narody nashei strany v "Istorii" Gerodota* (The peoples of our country in the "History" of Herodotus). Moscow, 1982.
- Downs 1961.** James F. Downs. "The Origin and Spread of Riding in the Near East and Central Asia." *American Anthropologist* 63 (1961), pp. 1193–1203.
- Duerst 1908.** J. Ulrich Duerst. "Animal Remains from the Excavations at Anau." In *Explorations in Turkestan*, edited by Raphael Pumpelly, vol. 2, pp. 339–442. Washington, D.C., 1908.
- Dunlap 1997.** R. A. Dunlap. *The Golden Ratio and Fibonacci Numbers*. Singapore, 1997.
- Dyson 1963.** Robert H. Dyson, Jr. "Archaeological Scrap: Glimpses of History at Ziwiyeh." *Expedition* 5, no. 3 (1963), pp. 32–37.
- Dyson 1965.** Robert H. Dyson, Jr. "Problems of Protohistoric Iran as Seen from Hasanlu." *Journal of Near Eastern Studies* 24, no. 3 (1965), pp. 193–217.
- Echt 1999.** Rudolf Echt. *Das Fürstinnengrab von Reinheim*. Bonn, 1999.
- Edwards 2003.** Mike Edwards. "Masters of Gold." *National Geographic* (June 2003), pp. 112–29.
- Egg 1996.** Markus Egg. "Einige Bemerkungen zum hallstattzeitlichen Wagengrab von Somlóvásárhely, Kom. Veszprém in Westungarn." *Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz* 43 (1996), pp. 327–53.
- Eliade 1972.** Mircea Eliade. *Shamanism: Archaic Techniques of Ecstasy*. Translated by Willard R. Trask. Princeton, 1972.
- Erdenebaatar and Khudiakov 2000.** Diimaajav Erdenebaatar and I. S. Khudiakov. "Nakhodki bronzovykh shlemov v plitochnykh mogilakh severnoi Mongolii" (Bronze helmets from cist graves of northern Mongolia). *Rossiiskaia arkhologiiia* 2 (2000), pp. 140–48.
- Erlenmeyer 1956–57.** M.–L. Erlenmeyer and Hans Erlenmeyer. "Cervidendarstellungen auf altorientalischen und ägäischen Siegeln I, II." *Orientalia* 25 (1956), pp. 149–53; 26 (1957), pp. 321–39.
- Erzen 1988.** Afif Erzen. *Çavuştepe*, vol. 1, *Urartian Architectural Monuments of the 7th and 6th Centuries B.C. and a Necropolis of the Middle Age*. Ankara, 1988.

- Farkas 1974.** Ann Farkas. *Achaemenid Sculpture*. Istanbul, 1974.
- Farkas 2000.** Ann Farkas. "Filippovka and the Art of the Steppes." In New York 2000–2001, pp. 3–17.
- Fehling 1989.** Detlev Fehling. *Herodotus and His Sources: Citation, Invention, and Narrative Art*. Leeds, 1989.
- Ferguson and Whitehead 1992.** R. Brian Ferguson and Neil L. Whitehead, eds. *War in the Tribal Zone*. Santa Fe, N.M., 1992.
- Forsyth 1992.** James Forsyth. *A History of the Peoples of Siberia: Russia's North Asian Colony, 1581–1990*. Cambridge, 1992.
- Francfort 1997.** Henri-Paul Francfort. "Note sur les animaux composites de Tamgaly: Le cheval cornu." *Bulletin of the Asia Institute* 9 (1997), pp. 185–98.
- Francfort 1998.** Henri-Paul Francfort. "Central Asian Petroglyphs: Between Indo-Iranian and Shamanistic Interpretations." In *The Archaeology of Rock-Art*, edited by Christopher Chippindale and Paul S. C. Taçon, pp. 302–18. Cambridge, 1998.
- Francfort 1999.** Henri-Paul Francfort. "Il mausoleo ghiacciato del principe scita / The Frozen Mausoleum of the Scythian Prince." *Ligabue Magazine* 35 (1999), pp. 24–63.
- Francfort et al. 1998.** Henri-Paul Francfort, Giancarlo Ligabue, and Zainullah Samashev. "Découverte d'une tombe gelée d'époque scythe (IVe s. av. J.-C.) à Berel' dans l'Altai (Kazakhstan oriental)." *CRAI* (November–December 1998), pp. 1165–75.
- French and Kousoulakou 2003.** C. A. I. French and Maria Kousoulakou. "Geomorphological and micromorphological investigations of palaeosols, valley sediments, and a sunken-floored dwelling at Botai, Kazakhstan." In *Prehistoric Steppe Adaptation and the Horse*, edited by Marsha Levine et al., pp. 105–14. Cambridge, 2003.
- Frey and Herrmann 1997.** Otto-Herman Frey and Fritz-Rudolf Herrmann. "Ein frühkeltischer Fürstengrabbügel am Glauberg im Wetteraukreis, Hessen." *Germania* 75, no. 2 (1997), pp. 459–550.
- Frolova 2001.** Nina A. Frolova. "Finds of Coins from Ancient Gorgippia (Anapa), 1960–1989." In *North Pontic Archaeology: Recent Discoveries and Studies*, edited by Gocha R. Tsetskhladze, pp. 399–422. Leiden, 2001.
- Fuchs 1996.** Andreas Fuchs. "Die Inschrift vom İfstar-Tempel." In Riecke Borger, *Beiträge zum Inschriftenwerk Assurbanipals: Die Prismenklassen A, B, C = K, D, E, F, G, H, J und T sowie andere Inschriften*, pp. 258–96. Wiesbaden, 1996.
- Galanina 1985.** Liudmila Galanina. "K probleme vzaimootnoshenii skifov s meotami" (On Scythian relations with the Meotians). *Sovetskaia arkhologiia* 3 (1985), pp. 156–65.
- Galanina 1994.** Liudmila Galanina. "K probleme khronologii kelermesskikh kurganov" (On the chronology of the Kelermes kurgans). *Rossiiskaia arkhologiia* 1 (1994), pp. 92–107.
- Galanina 1997.** Liudmila Galanina. *Die Kurgane von Kelermes: "Königsgräber" der frühskythischen Zeit*. Moscow, 1997.
- Galanina et al. 1987.** Liudmila Galanina, Nonna Grach, Hans-Jörg Kellner, and Georg Kossack. *Skythika: Vorträge zur Entstehung des skytho-iranischen Tierstils*. Munich, 1987.
- Gening 1993.** Vladimir F. Gening. "Bol'shie kurgany lesostepnogo Pritobol'ia (IV–II vv. do n.e.): Kochevniki uralo-kazakhstanskikh stepei" (Large kurgans of the forest-steppes of the Tobol region [4th–2nd century B.C.]: Nomads of the Ural-Kazakhstan steppes). In *Kochevniki uralo-kazakhstanskikh stepei: Sbornik nauchnykh trudov* (Nomads of the Ural-Kazakhstan steppes: Collected research), edited by A. D. Tairov, pp. 72–101. Ekaterinburg, 1993.
- Genito 1994.** Bruno Genito, ed. *The Archaeology of the Steppes: Methods and Strategies*. Naples, 1994.
- Gershevitch 1959.** Ilya Gershevitch, trans. and ed. *The Avestan Hymn to Mithra*. Cambridge, 1959.
- Ghirshman 1963.** Roman Ghirshman. *Perse: Proto-Iraniens, Mèdes, Achéménides*. Paris, 1963.
- Ghirshman 1979.** Roman Ghirshman. "La ceinture en Iran." *Iranica antiqua* 14 (1979), pp. 166–96.
- Gong 1997.** Gong Guoqiang. "Xinjiang zhaoqi tongqing chulun" (A brief discussion of the early copper artifacts of the Xinjiang region). *Kaogu* 9 (1997), pp. 7–20.

- Gorelik 1987.** Mikhail V. Gorelik. "Sakskii dospekh" (Saka armor). In *Tsentral'naia Aziia: Novye pamiatniki pis'mennosti i iskusstva* (Central Asia: New monuments of writing and art), edited by Boris B. Piotrovskii and Grigorii M. Bongard-Levin, pp. 110–33, 368–73. Moscow, 1987.
- Grach 1980.** Aleksandr D. Grach. *Drevnie kochevniki v tsentre Azii* (Ancient nomads in Central Asia). Moscow, 1980.
- Grakov 1978.** Boris N. Grakov. *Die Skythen*. Berlin, 1978.
- Grakov and Meliukova 1954.** Boris N. Grakov and Anna I. Meliukova. "Ob etnicheskikh i kul'turnykh razlichiiakh v stepnykh i lesno-stepnykh oblastiakh evropeiskoi chasti SSSR v skifskoe vremia" (Ethnic and cultural differences in the steppe and forest-steppe areas of the European part of the USSR in Scythian times). In *Voprosy skifo-sarmatskoi arkheologii* (Questions of Scythian-Sarmatian archaeology), edited by Dmitrii B. Shelov, pp. 39–93. Moscow, 1954.
- Grantovskii 1960.** Edvin A. Grantovskii. *Indoiranische Kastengliederung bei den Skythen*. Moscow, 1960.
- Grantovskii 1975.** Edvin A. Grantovskii. "O vostochno-iranskikh plemenakh kushanskogo areala" (The eastern Iranian tribes of the Kushan area). In *Tsentral'naia Aziia v kushanskuiu epokhu* (Central Asia in the Kushan epoch), pp. 79–85. Moscow, 1975.
- Grantovskii 1980.** Edvin A. Grantovskii. "Problemy izucheniia obshchestvennogo stroia skifov" (Problems of studying the social structures of the Scythians). *Vestnik drevnei istorii*, no. 4 (1980), pp. 128–55.
- Grantovskii 1981.** Edvin A. Grantovskii. "O nekotorykh materialakh po obshchestvennomu stroiu skifov: 'Rodstvenniki' i 'druz'ia'" (On the social stratification of the Scythians: 'Family' and 'friends'). In *Kavkaz i Sredniaia Aziia v drevnosti i srednevekov'e* (The Caucasus and Central Asia in antiquity and the Middle Ages), edited by Boris A. Litvinskii. Moscow, 1981.
- Grantovskii 1994.** Edvin A. Grantovskii. "O khronologii prebyvaniia kimmeriitsev i skifov v Perednei Azii" (Chronology of Cimmerians and Scythians in the Near East). *Rossiiskaia arkheologiia*, no. 3 (1994), pp. 23–48.
- Green 1995.** Miranda J. Green. *Celtic Goddesses: Warriors, Virgins, and Mothers*. London, 1995.
- Griaznov 1950.** Mikhail P. Griaznov. *Pervyi pazyrykskii kurgan* (Kurgan 1 at Pazyryk). Moscow, 1950.
- Griaznov 1969.** Mikhail P. Griaznov. *The Ancient Civilization of Southern Siberia*. London, 1969.
- Griaznov 1984.** Mikhail P. Griaznov. *Der Grosskurgan von Aržan in Tuva, Südsibirien*. Munich, 1984.
- Gunin et al. 1999.** Peter D. Gunin et al. *Vegetation Dynamics of Mongolia*. Boston, 1999.
- Hall and Yablonsky 1996.** Mark E. Hall and Leonid T. Yablonsky. "Chemical Analyses of Some Sarmatian Bronzes." *Bulletin of the Ancient Orient Museum* 17 (1996), pp. 1–20.
- Hall and Yablonsky 1998a.** Mark E. Hall and Leonid T. Yablonsky. "Chemical Analyses of Sarmatian Glass Beads." *Journal of Archaeological Science* 25 (1998), pp. 1239–45.
- Hall and Yablonsky 1998b.** Mark E. Hall and Leonid T. Yablonsky. "Early Sarmatian Bronzeworking." *Eurasia antiqua* 4 (1998), pp. 365–81.
- Hall et al. 1998.** Mark E. Hall, Steven Brimmer, Li Fu-He, and Leonid T. Yablonsky. "An ICP-MS and ICP-OES Study of Some Late Sarmatian Gold Artifacts." *Journal of Archaeological Science* 25 (1998), pp. 545–52.
- Hamayon 1990.** Roberte N. Hamayon. *La chasse à l'âme: Esquisse d'une théorie du chamanisme sibérien*. Nanterre, 1990.
- Hamayon 1994.** Roberte N. Hamayon. "Shamanism: A Religion of Nature?" In *Circumpolar Religion and Ecology: An Anthropology of the North*, edited by Takashi Irimoto and Takako Yamada, pp. 109–23. Tokyo, 1994.
- Harper 1978.** Prudence Oliver Harper. *The Royal Hunter: Art of the Sasanian Empire*. New York, 1978.
- Hartner 1965.** Willy Hartner. "The Earliest History of the Constellations in the Near East and the Motif of the Lion-Bull Combat." *Journal of Near Eastern Studies* 24, nos. 1–2 (1965), pp. 1–16, pls. 1–16.

- Hartner and Ettinghausen 1964.** Willy Hartner and Richard Ettinghausen. "The Conquering Lion: The Life Cycle of a Symbol." *Oriens* 17 (1964), pp. 161–71.
- Hartog 1988.** François Hartog. *The Mirror of Herodotus: The Representation of the Other in the Writing of History*. Translated by Janet Lloyd. Berkeley, 1988.
- Harva 1938.** Uno Harva (a.k.a. Holmberg). *Die religiösen Vorstellungen der altaischen Völker*. Helsinki, 1938.
- Hauptmann 1983.** Harald Hauptmann. "Neue Funde eurasischer Steppennomaden in Kleinasien." In *Beiträge zur Altertumskunde Kleinasien: Festschrift für Kurt Bittel*, edited by R. M. Boehmer and Harald Hauptmann, pp. 251–70. Mainz, 1983.
- Hedreen 1991.** Guy Hedreen. "The Cult of Achilles in the Euxine." *Hesperia* 60, no. 3 (1991), pp. 313–30.
- Heidel 1956.** Alexander Heidel. "A New Hexagonal Prism of Esarhaddon (676 BC)." *Sumer* 12 (1956), pp. 9–37.
- Heinen 2001.** Heinz Heinen. "Greeks, Iranians, and Romans on the Northern Shore of the Black Sea." In *North Pontic Archaeology: Recent Discoveries and Studies*, edited by Gocha R. Tsetsckhladze, pp. 1–23. Leiden, 2001.
- Helms 1988.** Mary W. Helms. *Ulysses' Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance*. Princeton, 1988.
- Herzfeld 1988.** Ernst E. Herzfeld. *Iran in the Ancient East*. New York, 1988 (1941).
- Hiebert 1994.** Fredrik T. Hiebert. *Origins of the Bronze Age Oasis Civilization in Central Asia*. American School of Prehistoric Research 42. Cambridge, Mass., 1994.
- Hind 1994.** J. G. F. Hind. "The Bosporan Kingdom." In *The Cambridge Ancient History*, vol. 6, *The Fourth Century B.C.*, edited by D. M. Lewis et al., pp. 476–511. 2d ed. Cambridge, 1994.
- Hind 2001.** J. G. F. Hind. "A Sea 'Like a Scythian Bow' and Herodotus' 'Rugged Peninsula' (HIST. 4.99)." In *North Pontic Archaeology: Recent Discoveries and Studies*, edited by Gocha R. Tsetsckhladze, pp. 25–31. Leiden, 2001.
- Hong Kong 1990.** *Ancient Chinese and Ordos Bronzes*. Exh. cat. by Jessica Rawson and Emma C. Bunker. Hong Kong Museum of Art, October 12–December 2, 1990. Hong Kong, 1990.
- Hout 1994.** Theo P. J. van den Hout. "Death as a Privilege: The Hittite Royal Funerary Ritual." In *Hidden Futures: Death and Immortality in Ancient Egypt, Anatolia, the Classical, Biblical, and Arabic-Islamic World*, edited by Jan M. Bremer et al., pp. 37–71. Amsterdam, 1994.
- Hunger and Pingree 1999.** Hermann Hunger and David Pingree. *Astral Sciences in Mesopotamia*. Leiden, 1999.
- Iatsenko 1993.** Sergei A. Iatsenko. "Alanskaia problema i tsentral'noaziatskie elementy v kul'ture kochevnikov Sarmatii rubezha 1–2 vv. do n.e." (The Alanian problem and Central Asian elements in the culture of the Sarmatian nomads at the turn of the 2nd–1st centuries B.C.). *Peterburgskii arkhologicheskii vestnik* 3 (1993), pp. 60–72.
- IOSPE.** *Inscriptiones antiquae orae septentrionalis Ponti Euxini, graecae et latinae*. Edited by Basilus Latyshev. 2d ed. Petropoli, 1916.
- Itina and Yablonsky 1997.** Marianna A. Itina and Leonid T. Yablonsky. *Saki Nizhnei Syrdar'i (po materialam mogil'nika Iuzhnyi Tagisken)* (Saka of the lower Syr Dar'ya River [Materials of the South Tagisken cemetery]). Moscow, 1997.
- Iusifov 1982.** Y. B. Iusifov. "On the Scythians in Mannea." In *Societies and Languages of the Ancient Near East*, pp. 349–56. Warminster, England, 1982.
- Iusupov 2000.** R. M. Iusupov. "Paleoanthropological Characteristics of the Early Nomads of the Southern Urals: The Evidence from the Filippovka Kurgans." In *New York 2000–2001*, p. 39.
- Ivanov 1955.** Sergei V. Ivanov. "K voprosu o znachenii izobrazhenii na starinnykh predmetakh kul'ta u narodov saiano-altaiskogo nagor'ia" (The meaning of images on ancient cult objects among the peoples of the Saian-Altai uplands). *Sbornik Muzeia Antropologii i Etnografii* 16 (1955), pp. 165–264.
- Ivantchik 1993.** Askold I. Ivantchik. *Les Cimmériens au Proche-Orient*. Fribourg, 1993.
- Ivantchik 1996.** Askold I. Ivantchik. *Kimmeriitsy: Drevnevostochnnye tsivilizatsii i stepnye kochevniki v*

- VIII–VII vekakh do n.e. (Cimmerians: Ancient Near Eastern civilizations and steppe nomads in the 8th–7th centuries B.C.). Moscow, 1996.
- Ivantchik 1997.** Askold I. Ivantchik. “Das Problem der ethnischen Zugehörigkeit der Kimmerier und die kimmerische archäologische Kultur.” *Prähistorische Zeitschrift* 72, no. 1 (1997), pp. 12–52.
- Ivantchik 1999a.** Askold I. Ivantchik. “Eine griechische Pseudo-Historie: Der Pharao Sesostris und der skytho-ägyptische Krieg.” *Historia* 48, no. 4 (1999), pp. 395–441.
- Ivantchik 1999b.** Askold I. Ivantchik. “The Scythian ‘Rule over Asia’: The Classical Tradition and the Historical Reality.” In *Ancient Greeks West and East*, edited by Gocha R. Tsetskhladze, pp. 497–520. Leiden, 1999.
- Ivantchik 1999c.** Askold I. Ivantchik. “Une légende sur l’origine des Scythes (Hérodote IV, 5–7) et le problème des sources du Scythikos logos d’Hérodote.” *Revue des études grecques* 112 (1999), pp. 141–92.
- Ivantchik 2005.** Askold I. Ivantchik. *Am Vorabend der Kolonisation. Das nördliche Schwarzmeergebiet und die Steppennomaden des 8.–7. Jhs. v. Chr. in der klassischen Literaturtradition: Mündliche Überlieferung, Literatur und Geschichte. Pontus Septentrionalis* 3. Berlin and Moscow, 2005.
- Jacobson 1984.** Esther Jacobson. “The Stag with Bird-Headed Antler Tines: A Study in Image Transformation and Meaning.” *Bulletin of the Museum of Far Eastern Antiquities* 56 (1984), pp. 113–80.
- Jacobson 1993.** Esther Jacobson. *The Deer Goddess of Ancient Siberia*. Leiden, 1993.
- Jacobson 1995.** Esther Jacobson. *The Art of the Scythians*. Leiden, 1995.
- Jacobson 1997.** Esther Jacobson. “The ‘Bird Woman,’ the ‘Birthing Woman,’ and the ‘Woman of the Animals’: A Consideration of the Female Image in Petroglyphs of Ancient Central Asia.” *Arts asiatiques* 52 (1997), pp. 37–59.
- Jacobson 1999.** Esther Jacobson. “Early Nomadic Sources for Scythian Art.” In San Antonio and other cities 1999–2000, pp. 59–69.
- Jacobson 2000a.** Esther Jacobson. “Emblem Against ‘Narrative’ in Rock Art of the Mongolian Altai.” *Bulletin of the Siberian Association of Prehistoric Rock Art Researchers* 3 (2000), pp. 6–14.
- Jacobson 2000b.** Esther Jacobson. “Petroglyphs and Natural History: Sources for the Reconstruction of the Ecology of Culture.” *Archaeology, Ethnology and Anthropology of Eurasia* 1 (2000), pp. 57–65.
- Jacobson-Tepfer 2001.** Esther Jacobson-Tepfer. “Cultural Riddles: Stylized Deer and Deer Stones of the Mongolian Altai.” *Bulletin of the Asia Institute* 15 (2001), pp. 31–56.
- Jacobson et al. 2001.** Esther Jacobson, Vladimir D. Kubarev, and Damdensurenjin Tseevondorj. *Mongolie du Nord-Ouest: Tsagaan Salaa/Baga Oigor*. 2 vols. Répertoire des pétroglyphes d’Asie centrale, fasc. 6. Paris, 2001.
- Jarrige 1995.** Jean-François Jarrige. “Du néolithique à la civilisation de l’Inde ancienne: Contribution des recherches archéologiques dans le nord-ouest du sous-continent Indo-Pakistanaïs.” *Arts asiatiques* 50 (1995), pp. 5–30.
- Jarrige et al. 1979.** Jean-François Jarrige, Marielle Santoni, and Jean-François Enault. *Fouilles de Pirak*. Paris, 1979.
- Jettmar 1964.** Karl Jettmar. *Die frühen Steppenvölker: Der eurasiatische Tierstil, Entstehung und sozialer Hintergrund*. Baden-Baden, 1964.
- Jettmar 1967.** Karl Jettmar. *Art of the Steppes: The Eurasian Animal Style*. London, 1967.
- Joffroy 1954.** René Joffroy. *Le trésor de Vix (Côte-d’Or)*. Paris, 1954.
- Jones 1983.** Schuyler Jones. “In Search of the Horned Head-dress.” In *Ethnologie und Geschichte: Festschrift für Karl Jettmar*, edited by Peter Snoy, pp. 343–50. Wiesbaden, 1983.
- Juliano 1985.** Annette L. Juliano. “Possible Origins of the Chinese Mirror.” *Source: Notes in the History of Art* 4, nos. 2–3 (1985), pp. 36–45.
- Kadyrbaev 1981.** Mir K. Kadyrbaev. “Denkmäler des Sauramatenadels in Westkasachstan.” *Das Altertum* 1 (1981), pp. 29–37.
- Kaegi 1891.** Adolf Kaegi. “Die Neunzahl bei den Ostariern.” In *Philologische Abhandlungen Heinrich*

Schweizer-Sidler zur Feier des fünfzigjährigen Jubiläums, pp. 50–70. Zürich, 1891.

Karyshkovskii 1987. Petr O. Karyshkovskii. “Monety skifskogo tsaria Skila” (Coins of the Scythian king Scyles). In *Kimmeritsy i skify: Tezisy dokladov 1* (Cimmerians and Scythians: Abstracts of papers 1), pp. 66–68. Kirovograd, 1987.

Kassian, Korolev, and Sidel'stev 2002. Alexei Kassian, Andrej Korolev, and Andrej Sidel'tsev. *Hittite Funerary Ritual: Šalliš waštaiš*. *Alter Orient und Altes Testament* 228. Münster, 2002.

Kawami 1991. Trudy S. Kawami. “Greek Art and Finds at Pazyryk.” *Source: Notes in the History of Art* 10, no. 4 (1991), pp. 16–19.

Keeley 1996. Lawrence H. Keeley. *War before Civilization*. New York, 1996.

Ker Porter 1821–22. Robert Ker Porter. *Travels in Georgia, Persia, Armenia, Ancient Babylonia, &c. &c. during the Years 1817, 1818, 1819, and 1820*. 2 vols. London, 1821–22.

Kessler 1994. Adam T. Kessler, ed. *Empires beyond the Great Wall: The Heritage of Genghis Khan*. Los Angeles, 1994.

Khabdullina 1976. Maral K. Khabdullina. “Kurgan rannego zheleznoogo veka u sela Kenes” (A kurgan of the Early Iron Age near the village of Kenes). In *Proshloe Kazakhstana po arkhеologicheskim istochnikam* (The history of Kazakhstan according to archaeological sources), edited by Kemal' A. Akishev. Alma-Ata, 1976.

Khazanov 1984. Anatoly M. Khazanov. *Nomads and the Outside World*. Cambridge, 1984.

Khazanov 1994. Anatoly M. Khazanov. *Nomads and the Outside World*. 2d ed., rev. Madison, Wisc., 1994.

Khudiakov 2004. I. S. Khudiakov. “The Central Asian Ancient Bronze Helmets.” In *Essays in Honour of An Zhimin*, edited by Tang Chung and Chen Xingcan, pp. 205–9. Hong Kong, 2004.

Khudiakov et al. 2001. I. S. Khudiakov, K. S. Tabaldiev, and O. A. Soltobayev. “Helmet Findings in Kyrgyzstan.” *Archaeology, Ethnology and Anthropology of Eurasia* 1, no. 5 (2001), pp. 101–6.

Kidder 1956. J. Edward Kidder. *Early Chinese Bronzes in the City Art Museum of St. Louis*. St. Louis, 1956.

Kimmig 1983. Wolfgang Kimmig. *Die Heuneburg an der oberen Donau*. 2d ed. Stuttgart, 1983.

Kiriushin 1989. Iurii F. Kiriushin. “Skifskie pamiatniki Srednei Katuni” (Scythian monuments of the middle Katun). In *Problemy arkheologii skifo-sibirskogo mira* (Problems in the archaeology of the Scythian-Siberian world), edited by Viktor N. Dobzhanskii, vol. 1. Kemerovo, 1989.

Kiselev 1949. Sergei V. Kiselev. *Drevniaia istoriia Iuzhnoi Sibiri* (Ancient history of southern Siberia). Moscow, 1949.

Kiselev 1951. Sergei V. Kiselev. *Drevniaia istoriia Iuzhnoi Sibiri* (Ancient history of southern Siberia). 2d ed. Moscow, 1951.

Kislenko and Tatarintseva 1990. Aleksandr M. Kislenko and Nataliia Tatarintseva. “Kul'turno-khoziaistvennye komplekсы paleometalla v ishinskoi stepi” (Material remains of the paleometal period on the Ishinsk steppe). In *Arkheologiia volgo-ural'skikh stepei* (Archaeology of the Volga-Ural steppes), edited by A. G. Gavriiliuk et al., pp. 81–99. Cheliabinsk, 1990.

Klein 1976. Lev S. Klein. “Sarmatskii tarandr i vopros o proiskhozhdenii sarmatov” (The Sarmatian tarandrus and the question of the origin of the Sarmatians). In *Skifo-sibirskii zverinyi stil' v iskusstve narodov Evrazii* (Scythian-Siberian animal style in the art of Eurasian peoples), edited by Anna I. Meliukova and Marina G. Moshkova, pp. 228–34. Moscow, 1976.

Kleiss 1979. Wolfram Kleiss. *Bastam 1*. Berlin, 1979.

Kliashtornyi and Savinov 1998. Sergei G. Kliashtornyi and Dmitrii G. Savinov. “Pazyrykskaia uzda: K predystorii khunno-iuechzhiiskikh voin” (Pazyryk region: Prehistory of the Han-Yuezh wars). In *Drevnie kul'tury Tsentral'noi Azii i Sankt-Peterburg* (Ancient cultures of Central Asia and Saint Petersburg), edited by Dmitrii G. Savinov, pp. 169–77. Saint Petersburg, 1998.

Komarova 1952. M. N. Komarova. “Tomskii mogil'nik” (Tomsk cemetery). In *Materialy i issledovaniia po arkheologii Sibiri* (Materials and investigations of the archaeology of Siberia), edited by

- Sergei V. Kiselev, pp. 7–50. *Materialy i issledovaniia po arkhologii SSSR* 24. Moscow, 1952.
- Korolkova 1992.** Elena F. Korolkova (Chezhina). “O datirovke filippovskogo kurgana” (The dating of the Filippovka kurgan). In *Istoricheskie chteniia pamiati Mikhaila Petrovicha Griaznova* (Conference in memory of M. P. Griaznov), pp. 97–99. Omsk, 1992.
- Korolkova 1999.** Elena F. Korolkova. *Obrazy verbludov i puti ikh razvitiia v iskusstve rannikh kochevnikov Evrazii* (Images of camels and their development in the art of the early nomads of Eurasia). Saint Petersburg, 1999.
- Korolkova 2006.** Elena F. Korolkova. *Zverinyi stil' Evrazii: Iskusstvo plemen Nizhnego Povolzh'ia i Iuzhnogo Priural'ia v skifskuiu epokhu (VII–IV vv. do n.e.). Problemy stilia i etnokul'turnoi prinalozhnosti* (The animal style of Eurasia: Art of the lower Volga and southern Ural tribes in the Scythian period [7th–4th centuries B.C.]. Problems of style and ethnocultural affiliation). Saint Petersburg, 2006.
- Koryakova 1988.** Liudmila Koryakova. *Rannii zheleznyi vek Zauralia i Zapadnoi Sibiri* (Early Iron Age of the Trans-Urals and western Siberia). Sverdlovsk, 1988.
- Koryakova 1994.** Liudmila Koryakova. “Pogrebal'naia obriadnost' lesostepnogo naseleniia tobolo-irtyshskogo mezhdurechia” (Funeral rituals of the forest-steppe population in the Tobol and Irtysh watershed). In *Ocherki kul'turogeneza narodov Zapadnoi Sibiri* (Essays on the cultural genesis of the peoples of western Siberia), edited by Vladislav M. Kulemzin and Nadezhda V. Lukina, vol. 2, pp. 113–70. Tomsk, 1994.
- Koryakova 1997.** Liudmila Koryakova. “Social Trends in Temperate Eurasia during the Second and First Millennia BC.” *Journal of European Archaeology* 4 (1997), pp. 243–80.
- Koryakova and Daire 1997.** Liudmila Koryakova and Marie-Yvane Daire, eds. *Kul'tura zaural'skikh skotovodov na rubezhe er: Gaevskii mogil'nik sargatskoi obshchnosti. Antropologicheskoe issledovanie* (The culture of the Trans-Ural cattle and horse breeders at the turn of eras: The Gaevo burial ground of the Sargat community. Anthropological research.) Ekaterinburg, 1997.
- Koryakova and Daire 2000.** Liudmila Koryakova and Marie-Yvane Daire. “Burials and Settlements at the Eurasian Crossroads: Joint Franco-Russian Project.” In *Kurgans, Ritual Sites, and Settlements: Eurasian Bronze and Iron Age*, edited by Jeannine Davis-Kimball et al., pp. 63–75. Oxford, 2000.
- Krefter 1973.** Friedrich Krefter. “Persepolis: A propos: Beiträge zur Funktionbestimmung.” *Archäologische Mitteilungen aus Iran* N.F. 6 (1973), pp. 153–61.
- Kroll 1979.** Stephan Kroll. “Die Kleinfunde.” In Wolfram Kleiss, *Bastam 1*, pp. 151–201. Berlin, 1979.
- Kubarev 1979.** Vladimir D. Kubarev. *Drevnie izvianiia Altaia: Olennye kamni* (Ancient sculpture of the Altai: Deer stones). Novosibirsk, 1979.
- Kubarev 1987.** Vladimir D. Kubarev. *Kurgany Ulandryka* (Kurgans of Ulandryk). Novosibirsk, 1987.
- Kubarev 1991.** Vladimir D. Kubarev. *Kurgany Iustyda* (Kurgans of Iustyd). Novosibirsk, 1991.
- Kubarev 1992.** Vladimir D. Kubarev. *Kurgany Sailiugema* (Kurgans of Sailiugem). Novosibirsk, 1992.
- Kull and Stinga 1997.** Brigitte Kull and I. Stinga. “Die Siedlung Oprisor bei Turnu Severin (Rumänien) und ihre Bedeutung für die thrakische Toreutik.” *Germania* 75 (1997), pp. 551–84.
- Kuz'mina 1963.** Elena E. Kuz'mina. “Drevneishaia figurka verbluda iz orenburgskoi oblasti i problema domestikatsii baktrianov” (The oldest camel figurine from the Orenburg region and the problem of domesticating the Bactrian camel). *Sovetskaia arkhologiya* 2 (1963), pp. 38–46.
- Kuz'mina 1977a.** Elena E. Kuz'mina. “Kon' v religii i iskusstve sakov i skifov” (The horse in the religion and art of the Saka and Scythians). In *Skify i sarmaty* (Scythians and Sarmatians), edited by Alexei I. Terenozhkin, pp. 96–119. Kiev, 1977.
- Kuz'mina 1977b.** Elena E. Kuz'mina. “Les relations entre la Bactriane et l'Iran du VIIIe au IVe siècle B.C.” In *Le Plateau iranien et l'Asie centrale des origines à la conquête islamique*, pp. 201–14. Paris, 1977.
- Kuz'mina 1982.** Elena E. Kuz'mina. “On the Semantics of the Images on the Chertomlyk Vase.”

- Soviet Anthropology and Archaeology* 21, nos. 1–2 (1982), pp. 120–38. Translated from “O semantike izobrazhenii na chertomlykskoi vase,” *Sovietskaia arkheologiia*, no. 3 (1976), pp. 68–75.
- Kuz'mina 1987.** Elena E. Kuz'mina. “The Motif of the Lion–Bull Combat in the Art of Iran, Scythia, and Central Asia, and Its Semantics.” In *Orientalia Iosephi Tucci memoriae dicata*, edited by Gherardo Gnoli and Lionello Lanciotti, vol. 2, pp. 729–45. Rome, 1987.
- Kuz'mina 1994.** Elena E. Kuz'mina. *Otkuda prishli Indoarii?* (Where did the Indo–Aryans come from?). Moscow, 1994.
- Kuznetsova 1991.** T. M. Kuznetsova. *Etiudy po skifskoi istorii* (Studies in Scythian history). Moscow, 1991.
- Kyzlasov 1992.** Leonid R. Kyzlasov. *Ocherki po istorii Sibiri i Tsentral'noi Azii* (Studies on the history of Siberia and Central Asia). Krasnoiar'sk, 1992.
- Landseer 1823.** John Landseer. *Sabaeen Researches*. London, 1823.
- Lattimore 1940.** Owen Lattimore. *Inner Asian Frontiers of China*. New York, 1940.
- Lentz and Schlosser 1969.** Wolfgang Lentz and Wolfhard Schlosser. “Persepolis—Ein Beitrag zur Funktionsbestimmung.” In *Zeitschrift der Deutschen Morgenländischen Gesellschaft, Supplementa I: Vorträge*, edited by Wolfgang Voigt, vol. 3, pp. 957–83. Weisbaden, 1969.
- Lentz et al. 1971.** Wolfgang Lentz, Wolfhard Schlosser, and Gerd Gropp. “Persepolis—Weitere Beiträge zur Funktionsbestimmung.” *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 121, no. 2 (1971), pp. 253–68.
- Levin and Potapov 1956.** Maksim G. Levin and Leonid P. Potapov. *Narody Sibiri* (Peoples of Siberia). Moscow, 1956.
- Levin and Potapov 1961.** Maksim G. Levin and Leonid P. Potapov. *Istoriko-etnograficheskii atlas Sibiri* (Historical–ethnographic atlas of Siberia). Moscow, 1961.
- Levine 1999.** Marsha Levine. “Botai and the Origins of Horse Domestication.” *Journal of Anthropological Archaeology* 18 (1999), pp. 29–78.
- Levine and Kislenko 1997.** Marsha Levine and Aleksandr M. Kislenko. “New Eneolithic and Early Bronze Age Radiocarbon Dates for North Kazakhstan and South Siberia.” *Cambridge Archaeological Journal* 7, no. 2 (1997), pp. 297–300.
- Lévy 1981.** Edmond Lévy. “Les origines du mirage scythe.” *Ktèma* 6 (1981), pp. 57–68.
- Li 1999.** Li Shuicheng. “Cong kaogu faxian kan gongyuanqian liangqianji dongxifang wenhua de pongzhuang yu jiaoliu” (Cultural exchange between East and West during the second millennium B.C.: An archaeological perspective). *Xinjiang wenwu* 1 (1999), pp. 53–65.
- Li and Dang 1995.** Li Xiao and Dang Tong. “Zhunge'er pendi Zhouyuan diqu chutu tongqi chutan” (A preliminary study of copper and bronze artifacts unearthed from the surrounding regions of the Zhunge'er Basin). *Xinjiang wenwu* 1 (1995), pp. 40–51.
- Li and Liu 1982.** Li Yuchung and Liu Hongliang. “Xinjiang Turfan Aidinghu gumuzang” (Ancient cemetery at Aidinghu, Turfan, Xinjiang). *Kaogu* 4 (1982), pp. 365–72.
- Liang 1990.** Liang Yong. “Wulumuqi Banfanggou xinfaxian de liangpi tongqi” (Two groups of bronze objects recently found at Banfanggou, Ürümqi). *Xinjiang wenwu* 4 (1990), pp. 97–99.
- Liberov 1965.** Petr D. Liberov. *Pamiatniki skifskogo vremeni na Srednem Donu* (Monuments of the Scythian period on the middle Don). Moscow, 1965.
- Linduff 1995.** Katheryn M. Linduff. “Zhukaigou, Steppe Culture, and the Rise of Chinese Civilization.” *Antiquity* 69 (March 1995), pp. 133–45.
- Linduff 1998.** Katheryn M. Linduff. “The Emergence and Demise of Bronze-Producing Cultures Outside the Central Plain of China.” In *The Bronze Age and Early Iron Age Peoples of Eastern Central Asia*, edited by Victor H. Mair, vol. 2, pp. 619–43. Washington, D.C., 1998.
- Linduff 2002.** Katheryn M. Linduff. “Women's Lives Memorialized in Burial in Ancient China at Anyang.” In *In Pursuit of Gender: Worldwide Archaeological Perspectives*, edited by Sarah Milledge Nelson and Miriam Rosen–Ayalon, pp. 257–87. Walnut Creek, Calif., 2002.

- Littauer and Crouwel 1979.** Mary A. Littauer and J. H. Crouwel. *Wheeled Vehicles and Ridden Animals in the Ancient Near East*. Leiden, 1979.
- Litvinskii 1972.** Boris A. Litvinskii. "Das Kangchü—Sarmatisches Farnah." *Central Asiatic Journal* 16, no. 4 (1972), pp. 241–89.
- Litvinskii et al. 1988.** Boris A. Litvinskii et al. "Lun dong Tujuesitan sairen de zaoqi lishi" (On the early history of the Saka people in Xinjiang). *Xinjiang wenwu* 3 (1988), pp. 115–24.
- Liu Hongliang 1992.** Liu Hongliang. "Lun E'erdusi shi qingtongqi dui gudai Xinjiang de yinxiang" (On the influence of the Ordos-style bronzes in ancient Xinjiang). *Xinjiang wenwu* 2 (1992), pp. 31–34.
- Liu Li 1987.** Liu Li. "Tongfu kao" (A study of copper cauldrons). *Kaogu yu wenwu* 3 (1987), pp. 60–65.
- Liu Xuetao 1993.** Liu Xuetao. "Xinjiang diqu zaoqi tongjing ji xiangguan wenti" (Early bronze mirrors in the Xinjiang region and the relevant issues). *Xinjiang wenwu* 1 (1993), pp. 121–31.
- Livio 2002.** Mario Livio. *The Golden Ratio: The Story of Phi, the World's Most Astonishing Number*. New York, 2002.
- Livshits 1968.** V. A. Livshits. "The Khwarezmian Calendar and the Era of Ancient Chorasmia." *Acta Antiqua Academiae Scientiarum Hungaricae* 16 (1968), pp. 433–46.
- Livshits 2002.** V. A. Livshits. "Tri serebrianye chashi iz isakovskogo mogil'nika no. 1" (Three silver bowls from the first burial ground of Isakovka). *Vestnik drevnei istorii*, no. 2 (2002), pp. 43–56.
- Lü 1999.** Lü Enguo. "Chawuhu wenhua yanjiu" (A study of the Chawuhu culture). *Xinjiang wenwu* 3–4 (1999), pp. 75–86.
- Lubotsky 2001.** Alexander Lubotsky. "The Indo-Iranian Substratum." In *Early Contacts between Uralic and Indo-European: Linguistic and Archaeological Considerations*, edited by Christian Carpelan et al., pp. 301–18. Helsinki, 2001.
- Luckenbill 1926–27.** David D. Luckenbill. *Ancient Records of Assyria and Babylonia*. 2 vols. Chicago, 1926–27.
- Lylova and Morgunova 2000.** E. V. Lylova and Nina L. Morgunova. "Bronzovye navershiia iz filippovskikh kurganov" (Bronze finials from the Filippovka kurgans). In *Arkheologicheskie pamiatniki Orenburzh'ia* (Archaeological sites of Orenburg region), pp. 180–85. Orenburg, 2000.
- Macdonald 1999.** David Macdonald. *The Encyclopedia of Mammals*. New York, 1999.
- Mair 1998.** Victor H. Mair, ed. *The Bronze Age and Early Iron Age Peoples of Eastern Central Asia*. 2 vols. Washington, D.C., 1998.
- Maksimov 1957.** Evgenii K. Maksimov. "Sarmatskoe pogrebenie iz kurgana u s. Bol'shaia Dmitrievka saratovskoi oblasti" (A Sarmatian burial from a kurgan near the village of Bol'shaia Dmitrievka, Saratov oblast). *Sovetskaia arkheologiia* 1 (1957), pp. 157–61.
- Maksimova 1954.** M. I. Maksimova. "Serebriano zerkalo iz Kelermesa" (The silver mirror from Kelermes). *Sovetskaia arkheologiia* 21 (1954), pp. 281–305.
- Mallory and Mair 2000.** James P. Mallory and Victor H. Mair. *The Tarim Mummies*. New York, 2000.
- Mallory et al. 2002.** James P. Mallory, F. Gerard McCormac, Paula J. Reimer, and Leonid S. Marsadalov. "The Date of Pazyryk." In *Ancient Interactions: East and West in Eurasia*, edited by Katie Boyle et al., pp. 199–212. Cambridge, 2002.
- Mandel'shtam 1975.** Anatolii M. Mandel'shtam. *Pamiatniki kochevnikov kushanskogo vremeni v Severnoi Baktrii* (Nomadic monuments of the Kushan period in northern Bactria). Leningrad, 1975.
- Manning et al. 2001.** Sturt W. Manning, Bernd Kromer, Peter Ian Kuniholm, and Maryanne W. Newton. "Anatolian Tree Rings and a New Chronology for the East Mediterranean Bronze-Iron Ages." *Science* 294 (2001), pp. 2532–35.
- Mantsevich 1987.** Anastasiia P. Mantsevich. *Kurgan Solokha: Publikatsiia odnoi kolleksii* (The Solokha kurgan: Publication of a collection). Leningrad, 1987.
- Marazov 1998.** Ivan Marazov, ed. *Ancient Gold: The Wealth of the Thracians. Treasures from the Republic of Bulgaria*. New York, 1998.

- Marchenko and Vinogradov 1989.** Konstantin K. Marchenko and Iurii A. Vinogradov. "The Scythian Period in the Northern Black Sea Region (750–250 B.C.)." *Antiquity* 63 (1989), pp. 803–13.
- Margulan 1966.** A. K. Margulan, ed. *Drevniaia kul'tura Tsentral'nogo Kazakhstana* (Ancient culture of central Kazakhstan). Alma-Ata, 1966.
- Marsadolov 2000.** Leonid S. Marsadolov. "The Nomads of Kazakhstan, the Altai, and Tuva." In *New York 2000–2001*, pp. 49–53.
- Marsadolov et al. 1998.** Leonid S. Marsadolov et al. "Issledovaniia v Vostochnom Kazakhstane v 1997 g." (Investigations in eastern Kazakhstan in 1997). In *Otchetnaia arkhologicheskaia sessiia za 1997 god* (Report of the 1997 archaeological season), edited by I. I. Piotrovskii, pp. 7–11. Saint Petersburg, 1998.
- Martynov 1996.** Anatolii I. Martynov. *Arkheologiiia*. Moscow, 1996.
- Matiushchenko 1989.** V. I. Matiushchenko. "Pogrebenie voina sargatskoi kultury" (A warrior burial of the Sargat culture). *Izvestiia Sibirskogo otdeleniia Akademii nauk SSSR: Serii istorii, filologii i filosofii*, no. 1 (1989), pp. 40–58.
- Matiushchenko and Tataurova 1997.** V. I. Matiushchenko and Larisa V. Tataurova. *Mogil'nik Sidorovka v Omskom Priirtysh'e* (The Sidorovka cemetery in the Omsk area in the Irtysh basin). Novosibirsk, 1997.
- Matveev 1991.** Aleksandr V. Matveev. "Drevnee zoloto '60-i paralleli'" (Ancient gold of the 60th parallel). *Priroda* 9 (1991), pp. 35–41.
- Matveev and Matveeva 1987.** Aleksandr V. Matveev and Nataliia P. Matveeva. "Iuvelirnye izdeliia tutrinskogo mogil'nika: K probleme sibirskoi kolleksii Petra I" (Jewelry of the Tutrino cemetery: The problem of the Siberian collection of Peter I). In *Antropomorfnye izobrazheniia: Pervobytnoe iskusstvo* (Anthropomorphic representations: Primitive art), edited by R. S. Vasil'evskii, pp. 191–201. Novosibirsk, 1987.
- Matveev and Matveeva 1992.** Aleksandr V. Matveev and Nataliia P. Matveeva. *Tutrinskii mogil'nik* (Tutrino cemetery). Tyumen, 1992.
- Matveeva 1993.** Nataliia P. Matveeva. *Sargatskaia kul'tura na Srednem Tobole* (The Sargat culture of the middle Tobol). Novosibirsk, 1993.
- Matveeva 1994.** Nataliia P. Matveeva. *Rannii zheleznyi vek Priishim'ia* (Early Iron Age of the Ishim area). Novosibirsk, 1994.
- Maunder 1909.** E. Walter Maunder. *The Astronomy of the Bible*. London, 1909.
- McMahon 1991.** Gregory McMahon. *The Hittite State Cult of the Tutelary Deities*. Chicago, 1991.
- Medvedskaia 1982.** I. N. Medvedskaia. *Iran: Iron Age I*. BAR International Series 126. Oxford, 1982.
- Mei 2000.** Jianjun Mei. *Copper and Bronze Metallurgy in Late Prehistoric Xinjiang: Its Cultural Context and Relationship with Neighbouring Regions*. BAR International Series 865. Oxford, 2000.
- Mei 2001.** Jianjun Mei. "Copper Smelting Technologies in Iron Age Xinjiang: The Evidence from the Nulasai Site." *Bulletin of the Metals Museum* 34 (2001), pp. 22–37.
- Mei and Shell 1998.** Jianjun Mei and Colin Shell. "Copper and Bronze Metallurgy in Late Prehistoric Xinjiang." In *The Bronze Age and Early Iron Age Peoples of Eastern Central Asia*, edited by Victor H. Mair, vol. 2, pp. 581–603. Washington, D.C., 1998.
- Meliukova 1964.** Anna I. Meliukova. *Vooruzhenie skifov: Arkheologiiia SSSR* (Weapons of the Scythians: Archaeology of the USSR). Moscow, 1964.
- Meliukova 1989.** Anna I. Meliukova, ed. *Stepi evropeiskoi chasti SSSR v skifo-sarmatskoe vremia: Arkheologiiia SSSR* (Steppes of the European part of the USSR in Scythian-Sarmatian times: Archaeology of the USSR). Moscow, 1989.
- Meliukova 1995.** Anna I. Meliukova. "Scythians of Southeastern Europe." In *Nomads of the Eurasian Steppes in the Early Iron Age*, edited by Jeannine Davis-Kimball et al., pp. 27–62. Berkeley, 1995.
- Merkelbach 1984.** Reinhold Merkelbach. *Mithras*. Königstein/Taunus, 1984.
- Miho 1997.** *Miho Museum*. 2 vols. Kyoto, 1997.

- Millard 1968.** A. R. Millard. "Fragments of Historical Texts from Nineveh: Assurbanipal." *Iraq* 30 (1968), pp. 98–111.
- Milleker 2000.** Elizabeth Milleker, ed. *The Year One: Art of the Ancient World, East and West*. Exh. cat. New York, Metropolitan Museum of Art, October 3, 2000–January 14, 2001. New York, 2000.
- Miller 1881–87.** Vsevolod F. Miller. *Osetinskie etiudy* (Ossetian studies). 3 vols. Moscow, 1881–87.
- Minns 1971.** Ellis H. Minns. *Scythians and Greeks: A Survey of Ancient History and Archaeology on the North Coast of the Euxine from the Danube to the Caucasus*. New York, 1971 (1913).
- Modi 1922.** Jivanji J. Modi. *The Religious Ceremonies and Customs of the Parsees*. Bombay, 1922.
- Mogil'nikov 1972.** V. A. Mogil'nikov. "K voprosu o sargatskoi kul'ture" (On the Sargat culture). In *Problemy arkheologii i drevnei istorii ugrov* (Problems of the archaeology and ancient history of the Ugrians), edited by Aleksei P. Smirnov, pp. 66–86. Moscow, 1972.
- Mogil'nikov 1992.** V. A. Mogil'nikov. "Lesostep' Zaural'ia i Zapadnoi Sibiri: Rannii zheleznyi vek lesostepi Zapadnoi Sibiri" (The forest-steppe of the Trans-Urals and western Siberia: Early Iron Age of the western Siberian forest-steppe). In *Stepnaia polosna aziatskoi chasti SSSR v skifo-sarmatskoe vremia* (The steppe belt of the Asiatic part of the Soviet Union in Scythian-Sarmatian times), edited by Marina G. Moshkova, pp. 274–311. Moscow, 1992.
- Molleson and Blondiaux 1994.** Theya Molleson and Joel Blondiaux. "Riders' Bones from Kish, Iraq." *Cambridge Archaeological Journal* 4, no. 2 (1994), pp. 312–16.
- Molodin 2000a.** Viacheslav I. Molodin. "The Burial Complex of the Pazyrskaya Culture of Verkh-Kaktzin 1 and the Problem of the Modern Climate Warming." *Archaeology, Ethnology and Anthropology of Eurasia* 1 (2000), pp. 101–8.
- Molodin 2000b.** Viacheslav I. Molodin. *Drevnosti ploskogor'ia Ukok: Tainy, sensatsii, otkrytiia* (Antiquities of Ukok Plateau: Secrets, sensations, discoveries). Novosibirsk, 2000.
- Molodin and Polos'mak 1999.** Viacheslav I. Molodin and Natal'ia V. Polos'mak. "Pazyrskaya kul'tura na ploskogor'e Ukok: Pervye itogi i perspektivy nauchnykh issledovaniĭ" (Pazyryk culture on the Ukok Plateau: First report and overview of scholarly investigations). In *Itogi izucheniia skifskoi epokhi Altaia i sopredel'nykh territorii* (Results of the study of the Scythian era in the Altai and adjoining territory), edited by Iurii F. Kiriushin and Aleksei A. Tishkin, pp. 138–41. Barnaul, 1999.
- Molodin et al. 1998.** Viacheslav I. Molodin et al. "Paleogeneticheskii analiz genofonda naseleniia Sibiri" (Paleogenetic analysis of the genetic database of the population of Siberia). In *Integratsionnye programmy fundamental'nykh issledovaniĭ* (Integrated programs of basic research), edited by V. D. Ermikov et al., pp. 306–18. Novosibirsk, 1998.
- Molodin et al. 1999.** Viacheslav I. Molodin et al. "Paleogeneticheskii analiz naseleniia pazyrskoi kul'tury: Pervye rezultaty i interpretatsii" (Paleogenetic analysis of the population of the Pazyryk culture: First results and interpretation). In *Skify Severnogo Prichernomor'ia v VII–IV vv. do n.e. (problemy paleoekologii, antropologii i arkheologii)* (Scythians of the northern Black Sea area in the 7th–4th centuries B.C. [Problems of paleoecology, anthropology, and archaeology]), edited by Leonid T. Yablonsky, pp. 91–96. Moscow, 1999.
- Monakhov 1995–96.** Sergei I. Monakhov. "La chronologie de quelques kourganes de la noblesse scythe du IV siècle av. N. É. du littoral septentrional de la Mer Noire." *Il Mar Nero* 2 (1995–96), pp. 29–59.
- Monakhov 1999.** Sergei I. Monakhov. *Grecheskie amfory v Prichernomor'e: Kompleksy keramicheskoi tary* (The Greek amphorae in the Black Sea region: Assemblages of ceramic ware). Saratov, 1999.
- Moorey 1970.** P. R. S. Moorey. "Pictorial Evidence for the History of Horse-Riding in Iraq before the Kassite Period." *Iraq* 32 (1970), pp. 36–50.
- Moorey 1980.** P. R. S. Moorey. *Cemeteries of the First Millennium B.C. at Deve Hüyük, Carchemish*. BAR International Series 87. Oxford, 1980.
- Moorey 1986.** P. R. S. Moorey. "The Emergence of the Light, Horse-Drawn Chariot in the Near East, c. 2000–1500 B.C." *World Archaeology* 18 (1986), pp. 196–215.

- Moorey et al. 1981.** P. R. S. Moorey et al. *Ancient Bronzes, Ceramics, and Seals: The Nasli M. Heeramaneck Collection of Ancient Near Eastern, Central Asiatic, and European Art*. Los Angeles, 1981.
- Moshkova 1992.** Marina G. Moshkova, ed. *Stepnaia polosa aziatskoi chasti SSSR v skifosarmatskoe vremia* (The steppe belt of the Asiatic part of the Soviet Union in Scythian–Sarmatian times). Moscow, 1992.
- Mu et al. 1983.** Mu Shunying et al. “Jianguo yilai Xinjiang kaogu de zhuyao shouhuo” (The main results of archaeological work in Xinjiang since 1949). *XIA* (1983), pp. 1–24.
- Murphy 1998.** Eileen M. Murphy. “An Osteological and Palaeopathological Study of the Scythian and Hunno–Sarmatian Period Populations from the Cemetery Complex of Aymyrylg, Tuva, South Siberia.” Ph.D. diss., Queen’s University Belfast, 1998.
- Murzin 1986.** Viacheslav I. Murzin. “Nekotorye diskussionnye voprosy sovremennogo skifovedeniia” (Debated issues of current Scythology). In *Arkheologiia Ukraini* (Archaeology of Ukraine), vol. 2, pp. 12–21. Kiev, 1986.
- Muscarella 1973.** Oscar White Muscarella. “Excavations at Agrab Tepe, Iran.” *Metropolitan Museum Journal* 8 (1973), pp. 47–76.
- Muscarella 1988.** Oscar White Muscarella. *Bronze and Iron: Ancient Near Eastern Artifacts in The Metropolitan Museum of Art*. New York, 1988.
- Nachuzrishvili 1995.** Nikolas Nachuzrishvili. “Einige Bemerkungen zur Verwendung der 4 und 8 in der iranischen Welt.” In *Proceedings of the Second European Conference of Iranian Studies*, edited by Bert G. Fragner, pp. 497–502. Rome, 1995.
- Nelson 1993.** D. N. Nelson. “OIA Kumbakurira—“Horned Headdress.”” *Acta orientalia* 54 (1993), pp. 62–67.
- New York 1970.** “*Animal Style*” *Art from East to West*. Exh. cat. by Emma C. Bunker, C. Bruce Chatwin, and Ann Farkas. New York, Asia Society, January 15–March 15, 1970. New York, 1970.
- New York 2000–2001.** *The Golden Deer of Eurasia: Scythian and Sarmatian Treasures from the Russian Steppes. The State Hermitage, Saint Petersburg, and the Archaeological Museum, Ufa*. Exh. cat. Edited by Joan Aruz et al. New York, The Metropolitan Museum of Art, October 12, 2000–February 4, 2001. New York, 2000.
- New York–Los Angeles 1975.** *From the Lands of the Scythians: Ancient Treasures from the Museums of the U.S.S.R., 3000 B.C.–100 B.C.* Exh. cat. New York, The Metropolitan Museum of Art, April 19–July 13, 1975; Los Angeles County Museum of Art, August 6–September 4, 1975. New York, 1975.
- New York–Los Angeles 1996–97.** *Ancient Art from the Shumei Family Collection*. Exh. cat. by Dorothea Arnold et al. New York, The Metropolitan Museum of Art, June 20–September 1, 1996; Los Angeles County Museum of Art, November 17, 1996–February 9, 1997. New York, 1996.
- Novgorodova 1989.** Eleonora A. Novgorodova. *Drevniaia Mongolia* (Ancient Mongolia). Moscow, 1989.
- Obel’chenko 1968.** Oleg V. Obel’chenko. *Liavandakskaiia priazhka* (The Liavandakskaiia plaque). Tashkent, 1968.
- Obel’chenko 1978.** Oleg V. Obel’chenko. *Shakhrivaironskaia priazhka* (The Shakhrivaironskaia plaque). Ashkhabad, 1978.
- Ødegård 1992.** Knut Ødegård. “Calenian Pottery and Early Hellenistic Metalware.” *Acta ad archaeologiam et artium historiam pertinentia* (Oslo) 8 (1992), pp. 1–34.
- O’Donoghue 1990.** Diane Mellyn O’Donoghue. “Reflection and Reception: The Origins of the Mirror in Bronze Age China.” *Museum of Far Eastern Antiquities Bulletin* 62 (1990), pp. 5–183.
- Okladnikov 1954.** Aleksei P. Okladnikov. “Olennyi kamen’ s reki Ivolti” (The Ivolti River deer stone). *Sovetskaia arkheologiia* 19 (1954), pp. 207–20.
- Olbrycht 1997.** Marek J. Olbrycht. “Parthian King’s Tiara—Numismatic Evidence and Some Aspects of Arsacid Political Ideology.” *Notae numismaticae* 2 (1997), pp. 27–65.
- Olbrycht 1998.** Marek J. Olbrycht. “Die Kultur der Steppengebiete und die Beziehungen zwischen Nomaden und der sesshaften Bevölkerung (Der

- arsakidische Iran und die Nomadenvölker.” In *Das Partherreich und seine Zeugnisse*, edited by Josef Wieschöfer, pp. 11–43. Stuttgart, 1998.
- Ol’khovskii 1999.** Valerii S. Ol’khovskii. “K izucheniiu skifskoi ritualistiki: Posmertnoe pute-shestvie” (On Scythian rituals: Voyage after death). In *Pogrebal’nyi obriad: Rekonstruktsiia i interpretatsiia drevnikh ideologicheskikh predstavlenii. Sbornik statei* (Burial customs: Reconstruction and interpretation of ancient ideology. Collection of reports), edited by Valerii I. Guliaev et al., pp. 114–36. Moscow, 1999.
- Olsen 2000.** Sandra Olsen. “The Secular and Sacred Roles of Dogs at Botai, Northern Kazakhstan.” In *Dogs through Time: An Archaeological Perspective*, edited by Susan Janet Crockford, pp. 71–92. BAR International Series 889. Oxford, 2000.
- Olsen 2003.** Sandra Olsen. “The Exploitation of Horses at Botai, Kazakhstan.” In *Prehistoric Steppe Adaptation and the Horse*, edited by Marsha Levine et al., pp. 83–104. Cambridge, 2003.
- Onyshkevych 1999.** Lada Onyshkevych. “Scythia and the Scythians.” In San Antonio and other cities 1999–2000, pp. 23–35.
- Otten 1958.** Heinrich Otten. *Hethitische Totenrituale*. Berlin, 1958.
- Owen 1991.** David I. Owen. “The ‘First’ Equestrian: An Ur III Glyptic Scene.” *Acta sumerologica* 13 (1991), pp. 259–73.
- Özgen and Östürk 1996.** Ilknur Özgen and Jean Östürk. *The Lydian Treasure*. Istanbul, 1996.
- Panaino 1990.** Antonio Panaino. “Calendars.” In *Encyclopaedia Iranica*, vol. 4, fasc. 6, pp. 658–68. London, 1990.
- Panaino 1990–95.** Antonio Panaino. *Tištrya*. 2 vols. Rome, 1990–95.
- Pare 1997.** C. F. E. Pare. “La dimension européenne du commerce grec à la fin de la période archaïque et pendant le début de la période classique.” In *Vix et les éphémères principautés celtiques*, edited by Patrice Brun and Bruno Chaume, pp. 261–86. Paris, 1997.
- Paris 1975.** *Or des Scythes: Trésors des musées soviétiques*. Exh. cat. Edited by Véronique Schiltz. Paris, Grand Palais, October 8–December 21, 1975. Paris, 1975.
- Parpola 1994.** Asko Parpola. *Deciphering the Indus Script*. Cambridge, 1993.
- Pfrommer 1993.** Michael Pfrommer. *Metalwork from the Hellenized East: Catalogue of the Collections [of the Getty Museum]*. Malibu, Calif., 1993.
- Phillips 1972.** E. D. Phillips. “The Scythian Domination in Western Asia.” *World Archaeology* 4, no. 2 (1972), pp. 129–38.
- Piotrovskii 1959.** Boris B. Piotrovskii. *Vanskoe tsarstvo (Urartu)* (The Urartian kingdom). 2d ed. Moscow, 1959.
- Piotrovskii et al. 1987.** Boris B. Piotrovskii, Liudmila Galanina, and Nonna Grach. *Scythian Art*. Translated by Viacheslav Sobolev. Oxford, 1987.
- Plunket 1903.** Emmeline M. Plunket. *Ancient Calendars and Constellations*. London, 1903.
- Pogodin 1989.** Leonid I. Pogodin. “Otchet ob arkhologicheskikh issledovaniiax v nizhe-omskom i gorkovskom raionakh omskoi oblasti v 1989 g.” (Report of archaeological research in the Nizhneomsk and Gorkovskii districts of the Omsk region in 1989). Unpublished report. Omsk, 1989.
- Pogodin 1998a.** Leonid I. Pogodin. *Vooruzhenie naseleniia Zapadnoi Sibiri rannego zheleznogo veka* (Weapons of the population of western Siberia in the early Iron Age). Omsk, 1998.
- Pogodin 1998b.** Leonid I. Pogodin. “Lakovye izdeliia iz pamiatnikov Zapadnoi Sibiri rannego zheleznogo veka” (Lacquer objects from early Iron Age sites of western Siberia). In *Vzaimodeistvie sargatskikh plemen s vneshnim mirom* (Relations of the Sargat tribes with the outside world), edited by N. P. Dovgaliuk, pp. 26–38. Omsk, 1998.
- Pogodin and Trufanov 1991.** Leonid I. Pogodin and A. V. Trufanov. “Mogil’nik sargatskoi kul’tury Isakovka-3” (Sargat-culture cemetery of Isakovka 3). In *Drevnie pogrebeniia Ob’-Irtys’h’ia* (Ancient burials of the Ob-Irtys’h’ia area), edited by V. I. Matiushchenko, pp. 98–125. Omsk, 1991.
- Polin 1998.** S. V. Polin. “Zum Amphorenbestand des Çertomlyk-kurgans.” In Renate Rolle et al., *Königscurgan Çertomlyk: Ein skythischer Grabhügel*

- des 4. vorchristlichen Jahrhunderts, vol. 3, pp. 153–66. Mainz, 1998.
- Polos'mak 1988.** Natal'ia V. Polos'mak. *Baraba v ranнем zheleznom veke* (Baraba in the early Iron Age). Novosibirsk, 1988.
- Polos'mak 1994.** Natal'ia V. Polos'mak. *Steregushchie zoloto grify: Ak-alakhinskie kurgany* (Gold-guarding griffins: Ak-Alakha kurgans). Novosibirsk, 1994.
- Polos'mak 1996.** Natal'ia V. Polos'mak. "Pogrebenie znatnoi pazyrykskoi zhenshchiny" (Burial of a noble Pazyryk woman). *Vestnik drevnei istorii*, no. 4 (1996), pp. 142–67.
- Polos'mak 2000.** Natal'ia V. Polos'mak. "Tattoos in the Pazyryk World." *Archaeology, Ethnology and Anthropology of Eurasia*, no. 4 (2000), pp. 95–102.
- Polos'mak 2001.** Natal'ia V. Polos'mak. *Vsadniki Ukoka* (Horsemen of Ukok). Novosibirsk, 2001.
- Potapov 1935.** Leonid P. Potapov. "Sledy totemisticheskikh predstavlenii u altaitsev" (Traces of totemic conceptions among the Altai peoples). *Sovetskaiia etnografiia*, no. 4–5 (1935), pp. 134–52.
- Potapov 1947.** Leonid P. Potapov. "Obriad ozhivleniia shamanskogo bubna u tiurkoiazychnykh plemen Altaia" (The ritual of the enlivening of the shaman's drum among Turkic-speaking tribes of the Altai). *Trudy Instituta Etnografii* 1 (1947), pp. 159–82.
- Potapov 1968.** Leonid P. Potapov. "Shamans' Drums of Altaic Ethnic Groups." In *Popular Beliefs and Folklore Tradition in Siberia*, edited by Vilmos Diószegi, pp. 205–34. Bloomington, 1968.
- Potts 1999.** D. T. Potts. *The Archaeology of Elam*. Cambridge, 1999.
- Pritchett 1993.** W. Kendrick Pritchett. *The Liar School of Herodotos*. Amsterdam, 1993.
- Pshenichniuk 1995.** Anatolii Kh. Pshenichniuk. "Perevolchanskii mogil'nik" (Perevolchan cemetery). In *Kurgany kochevnikov Iuzhnogo Urala* (Nomadic kurgans of the southern Urals), edited by B. B. Ageev. Ufa, 1995.
- Pshenichniuk 2000.** Anatolii Kh. Pshenichniuk. "The Filippovka Kurgans at the Heart of the Eurasian Steppes." In *New York 2000–2001*, pp. 21–30.
- Pugachenkova 1987.** Galina A. Pugachenkova. *Iz khudozhestvennoi sokrovishchnitsy Srednego Vostoka* (Art treasures of the Middle East). Tashkent, 1987.
- Rabinovich 1941.** B. Rabinovich. "Shlemy skifskogo perioda" (Helmets of the Scythian period). *Trudy Otdela istorii pervobytnoi kul'tury* 1 (1941), pp. 100–128.
- Radlov 1989.** Vasilii V. Radlov. *Iz Sibiri: Stranitsy dnevnika* (From Siberia: Diary pages). Moscow, 1989 (1888–95).
- Raeff 1966.** Marc Raeff, ed. *Russian Intellectual History: An Anthology*. New York, 1966.
- Raevskii 1977.** Dmitrii S. Raevskii. *Ocherki ideologii skifo-sakskikh plemen: Opyt rekonstruktsii skifskoi mifologii* (Essays on the ideology of the Scythian and Saka tribes: An attempt to reconstruct Scythian mythology). Moscow, 1977.
- Raevskii 1993.** Dmitrii S. Raevskii. "Kul'turno-istoricheskoe edinstvo ili kul'turnyi kontinuum?" (Cultural-historical unity or cultural continuum?). In *Antichnaia arkheologiya i pamiatniki zheleznogo veka na territorii SSSR* (Ancient archaeology and monuments of the Iron Age in the USSR), edited by Irina T. Kruglikova, pp. 30–32. *Kratkie soobshcheniia Institut Arkheologii* 207. Moscow, 1993.
- Rapoport and Lapirov-Skoblo 1963.** I. A. Rapoport and M. S. Lapirov-Skoblo. "Raskopki dvortsovogo zdaniia na gorodishche Kalaly-gyr 1 v 1958 g." (Excavations of the palace at the site of Kalaly-Gyr 1 in 1958). In *Polevyie issledovaniia Khorezmskoi ekspeditsii v 1958–1961 gg.* (Field research of the Khwarezmian expedition, 1958–1961), edited by Sergei P. Tolstov and Aleksandr V. Vinogradov, pp. 141–56. Moscow, 1963.
- Ravenshaw 1856.** E. C. Ravenshaw. "On the Winged Bulls, Lions, and Other Symbolical Figures from Nineveh." *Journal of the Royal Asiatic Society of Great Britain and Ireland* 16 (1856), pp. 92–117.
- Rice 1958.** Tamara Talbot Rice. *The Scythians*. 2d ed. London, 1958.
- Richer 1994.** Jean Richer. *Sacred Geography of the Ancient Greeks: Astrological Symbolism in Art, Architecture, and Landscape*. Albany, N. Y., 1994.

- Roes 1933.** Anna Roes. *Greek Geometric Art: Its Symbolism and Its Origin*. Haarlem, 1933.
- Rolle 1977.** Renate Rolle. "Urartu und die Reiternomaden." *Saeculum* 28, no. 3 (1977), pp. 291–339.
- Rolle 1979.** Renate Rolle. *Der Totenkult der Skythen*. 2 vols. Berlin, 1979.
- Rolle 1989.** Renate Rolle. *The World of the Scythians*. Translated by Gayna Walls. London, 1989 (1980).
- Rolle 1996.** Renate Rolle. "Die Entdeckung der geheimnisvollen Stadt Gelonos." In *Schliemanns Erben*, edited by Giesela Graichen and Michael Siebler, pp. 235–75. Mainz, 1996.
- Rolle et al. 1991.** Renate Rolle, Viacheslav I. Murzin, and Boris A. Shramko. "Das Burgwallsystem von Bel'sk (Ukraine): Eine frühe stadtartige Anlage in skythischen Landesinnern." *Hamburger Beiträge zur Archäologie* 18 (1991), pp. 57–58.
- Rolle et al. 1998.** Renate Rolle, Viacheslav I. Murzin, and Andrei Alekseev. *Königskurgan Çertomlyk: Ein skythischer Grabhügel des 4. vorchristlichen Jahrhunderts*. 3 vols. Hamburger Forschungen zur Archäologie 1. Mainz, 1998.
- Root 1979.** Margaret Cool Root. *The King and Kingship in Achaemenid Art: Essays on the Creation of an Iconography of Empire*. Leiden, 1979.
- Root 1990.** Margaret Cool Root. "Circles of Artistic Programming: Strategies for Studying Creative Process at Persepolis." In *Investigating Artistic Environments in the Ancient Near East*, edited by Ann C. Gunter, pp. 115–39. Washington, D.C., 1990.
- Rosen et al. 2000.** Arlene M. Rosen, Claudia Chang, and Fedor P. Grigoriev. "Paleoenvironments and Economy of Iron Age Saka–Wusan Agro-Pastoralists in Southeastern Kazakhstan." *Antiquity* 74 (2000), pp. 611–23.
- Rostovtzeff 1969.** Michael Rostovtzeff. *Iranians and Greeks in South Russia*. New York, 1969 (1922).
- Rubinson 1985.** Karen S. Rubinson. "Mirrors on the Fringe: Some Notes." *Source: Notes in the History of Art* 4, nos. 2–3 (1985), pp. 46–50.
- Rubinson 2002.** Karen S. Rubinson. "Through the Looking Glass: Reflections on Mirrors, Gender, and Use among Nomads." In *In Pursuit of Gender: Worldwide Archaeological Perspectives*, edited by Sarah Milledge Nelson and Miriam Rosen-Ayalon, pp. 67–72. Walnut Creek, Calif., 2002.
- Rudenko 1953.** Sergei I. Rudenko. *Kul'tura naseleeniia Gornogo Altaia v skifskoe vremia* (Culture of the Altai mountain population in the Scythian period). Moscow, 1953.
- Rudenko 1960.** Sergei I. Rudenko. *Kul'tura naseleeniia Tsentral'nogo Altaia v skifskoe vremia* (Culture of the population of the central Altai in the Scythian period). Leningrad, 1960.
- Rudenko 1962.** Sergei I. Rudenko. *Sibirskaia kolleksiia Petra I* (The Siberian collection of Peter I). Leningrad, 1962.
- Rudenko 1970.** Sergei I. Rudenko. *Frozen Tombs of Siberia: The Pazyryk Burials of Iron Age Horsemen*. Berkeley, 1970.
- Rusakova 1998.** I. D. Rusakova. "The Battle Composition of the Abakano-Perevoz Pisanitza." *SAPAR Bulletin* 1 (1998), pp. 21–24.
- Saarbrücken 1995.** *Untenwegs zum goldenen Vlies: Archäologische Funde aus Georgien*. Exh. cat. Edited by Andrei Miron und Winfried Orthmann. Saarbrücken, Museum für Vor- und Frühgeschichte, May 7–August 6, 1995. Saarbrücken, 1995.
- Salmony 1933.** Alfred Salmony. *Sino-Siberian Art in the Collection of C. T. Loo*. Paris, 1933.
- Sal'nikov 1962.** Konstantin V. Sal'nikov. *Kurgan Tsarev na reke Tobol* (The Tsarev kurgan on the Tobol River). Sverdlovsk, 1962.
- Samashev 1992.** Zainullah Samashev. *Naskal'nye izobrazheniia Verkhnego Priirtysh'ia* (Petroglyphs of the upper Irtysh region). Alma-Ata, 1992.
- Samashev et al. 2000.** Zainullah Samashev, G. A. Bazarbaeva, G. S. Zhumabekova, and Henri-Paul Francfort. "Le kourgane de Berel' dans l'Altai kazakhstanais." *Arts asiatiques* 55 (2000), pp. 5–20.
- San Antonio and other cities 1999–2001.** *Scythian Gold: Treasures from Ancient Ukraine*. Exh. cat. Edited by Ellen D. Reeder. San Antonio Museum of Art, November 7, 1999–January 30, 2000; Baltimore, Walters Art Gallery, March 5–May 28, 2000; Los Angeles County Museum of Art, July 2–September 24, 2000; Brooklyn

- Museum of Art, October 13, 2000–January 21, 2001; Toronto, Royal Ontario Museum, February 18–May 6, 2001; Kansas City, Nelson–Atkins Museum of Art, June 9–August 19, 2001; Paris, Grand Palais, September 25–December 31, 2001. New York, 1999.
- Santillana and Dechend 1969.** Giorgio de Santillana and Hertha von Dechend. *Hamlet's Mill: An Essay on Myth and the Frame of Time*. Boston, 1969. German edition: *Die Mühle des Hamlet: Ein Essay über Mythos und das Gerüst der Zeit*. 2d ed. Vienna, 1995.
- Sarianidi 1983.** Viktor I. Sarianidi. *Afganistan: Sokrovishcha bezymiannykh tsarei* (Afghanistan: Treasures of anonymous rulers). Moscow, 1983.
- Sarianidi 1984.** Viktor I. Sarianidi. “Baktriiskii tsentr zlatodeliia” (A Bactrian center for gold making). *Sovetskaia arkhologiia* 1 (1984), pp. 72–83.
- Sarianidi 1985.** Viktor I. Sarianidi. *Bactrian Gold: From the Excavations of the Tillya-Tepe Necropolis in Northern Afghanistan*. Leningrad, 1985.
- Sarianidi 1986a.** Viktor I. Sarianidi. *Die Kunst des alten Afghanistan*. Leipzig, 1986.
- Sarianidi 1986b.** Viktor I. Sarianidi. “Mesopotamiia i Baktriia vo II tys. do n.e.” (Mesopotamia and Bactria in the 2nd millennium B.C.). *Sovetskaia arkhologiia* 2 (1986), pp. 34–46.
- Sarianidi 1989.** Viktor I. Sarianidi. “Protozoroastriiskii khram v Margiane i problema vozniknoveniia zoroastizma” (A proto-Zoroastrian temple in Margiana and the problem of the origin of Zoroastrianism). *Vestnik drevnei istorii*, no. 2 (1989), pp. 152–69.
- Sarianidi 1995.** Viktor I. Sarianidi. “New Discoveries at Ancient Gonur.” *Ancient Civilizations from Scythia to Siberia* 2, no. 3 (1995), pp. 289–310.
- Savinov 1978.** Dmitrii G. Savinov. “O zaver-shaiushchem etape kul'tury rannikh kochevnikov Gornogo Altaia” (On the concluding stage of the culture of the early nomads of the Altai mountains). In *Rannie kochevniki* (Early nomads), edited by Irina T. Kruglikova, pp. 48–55. Kratkie soobshcheniia o dokladakh i polevykh issledovaniiaikh Instituta Arkhologii 154. Moscow, 1978.
- Savinov 1994.** Dmitrii G. Savinov. *Olennye kamni v kul'ture kochevnikov Evrazii* (Deer stones in Eurasian nomadic culture). Saint Petersburg, 1994.
- Savostina 2001.** Elena Savostina, ed. *Bosporskii rel'ef so stsenoi srazheniia (Amazonomakhii?)* (Bosporan Battle Relief [Amazonomachia?]). Monografiia o pamiatnike 2. Moscow and Saint Petersburg, 2001.
- Sawyer 1993.** Ralph D. Sawyer, trans. and ed. *The Seven Military Classics of Ancient China*. Boulder, Colo., 1993.
- Scheftelowitz 1933.** Isidor Scheftelowitz. “Die Mithra-Religion der Indo-Skythen und ihre Beziehung zum Saura- und Mithras-Kult.” *Acta orientalia* 11 (1933), pp. 293–333.
- Schiltz 1994.** Véronique Schiltz. *Les scythes et les nomades des steppes, VIII^e siècle avant J.-C.–I^{er} siècle après J.-C.* L'univers des formes 39. Paris, 1994.
- Schleswig 1991.** *Gold der Steppe: Archäologie der Ukraine*. Exh. cat. Edited by Renate Rolle et al. Schleswig, Archäologisches Landesmuseum, 1991. Neumünster, 1991.
- Schmidt 1953.** Erich Schmidt. *Persepolis*. Vol. 1. Chicago, 1953.
- Secoy 1953.** Frank R. Secoy. *Changing Military Patterns on the Great Plains (17th Century through Early 19th Century)*. Monographs of the American Ethnological Society 21. Locust Valley, N.Y., 1953.
- Seemann et al. 1996.** Henning Seemann et al., eds. *Beiträge zur Archäologie im nördlichen Schwarzmeerraum*. Mainz, 1996.
- Seoul 1995.** *The Altai Culture*. Catalogue of an exhibition at the Seoul Museum, 1995.
- Sergatskov 1995.** Igor V. Sergatskov. “Novye dannye k khronologii rannesarmatskoi kul'tury” (New data for the chronology of Early Sarmatian culture). *Rossiiskaia arkhologiia* 1 (1995), pp. 148–57.
- Sesti 1991.** Giuseppe Maria Sesti. *The Glorious Constellations: History and Mythology*. New York, 1991.
- Shcheglov and Katz 1991.** A. N. Shcheglov and V. I. Katz. “A Fourth Century B.C. Royal Kurgan in the Crimea.” *Metropolitan Museum Journal* 26 (1991), pp. 97–122.

- Shefton 1982.** Brian B. Shefton. "The Krater from Baksy." In *The Eye of Greece: Studies in the Art of Athens*, edited by Donna Kurtz and Brian Sparkes, pp. 149–81. Cambridge, 1982.
- Shennan 1993.** Stephen J. Shennan. "After Social Evolution: A New Archaeological Agenda?" In *Archaeological Theory: Who Sets the Agenda?*, edited by Norman Yoffee and Andrew Sherratt, pp. 53–59. Cambridge, 1993.
- Sher 1992.** Jakov A. Sher. "A propos des origines du 'style animalier.'" *Arts asiatiques* 47 (1992), pp. 5–18.
- Sher 1994.** Jakov A. Sher. *Répertoire des pétroglyphes d'Asie centrale*, fasc. no. 1, *Sibérie du Sud I: Oglakhty I–III, Russie, Khakassie*. Paris, 1994.
- Sherratt 1993.** Susan Sherratt and Andrew Sherratt. "The Growth of the Mediterranean Economy in the Early First Millennium B.C." *World Archaeology* 24, no. 3 (1993), pp. 361–78.
- Shramko 1987.** Boris A. Shramko. *Bel'skoe gorodishche skifskoi epokhi: Gorod Gelon* (The Bel'sk settlement of the Scythian period: The city of Gelonus). Kiev, 1987.
- Shternberg 1925.** Lev I. Shternberg. *Kul't orla u sibirskikh narodov* (The eagle cult among Siberian peoples). Leningrad, 1925.
- Shui 1993.** Shui Tao. "Xinjiang qingtong shidai zhu wenhua de bijiao yanjiu" (A comparative study of the Bronze Age cultures in Xinjiang). *Guoxue yanjiu* 1 (1993), pp. 447–90.
- Smirnov 1964.** Konstantin F. Smirnov. *Savromaty: Ranniaia istoriia i kul'tura sarmatov* (Early history and culture of the Sarmatians). Moscow, 1964.
- Smirnov 1989.** Konstantin F. Smirnov. "Savromatskaia i rannesarmatskaia kul'tura" (Sauromatian and early Sarmatian culture). In *Stepi evropeiskoi chasti SSSR v skifo-sarmatskoe vremia: Arkheologiia SSSR* (Steppes of the European part of the USSR in Scythian-Sarmatian times: Archaeology of the USSR), edited by Anna I. Meliukova, pp. 165–77. Moscow, 1989.
- Song 1997.** Song Xinchao. "Zhongguo zaoqi tongjing jiqi xiangguan wenti" (Early copper mirrors and the relevant issues). *Kaogu xuebao* 2 (1997), pp. 147–69.
- Spindler 1971–77.** Konrad Spindler. *Magdalenenberg*. 5 vols. Villingen, Germany, 1971–77.
- Stähler and Nieswandt 1991–92.** Klaus Stähler and H. Helge Nieswandt. "Der skythische Goryt aus dem Melitopol-Kurgan." *Boreas* 14–15 (1991–92), pp. 85–108.
- Starr 1990.** Ivan Starr, ed. *Queries to the Sungod*. State Archives of Assyria, 4. Helsinki, 1990.
- Steblin-Kamenskii 1995.** I. M. Steblin-Kamenskii. "Avestan *kamčit paiti čaθrušanqm*." *East and West* (IsMEO) 45, nos. 1–4 (1995), pp. 307–10.
- Suk-Be 2000.** Suk-Be Chzhun. "O khronologii kompleksov s kinzhalami epokhi pozdnei bronzy iz severnogo Kitaya" (On the chronology of complexes with daggers from the Late Bronze Age of northern China). In *Arkheologiia, paleoekologiia i paleodemografiia Evrazii* (Archaeology, paleoecology, and paleodemography of Eurasia), edited by Valerii S. Ol'khovskii, pp. 110–37. Moscow, 2000.
- Sulimirski 1954.** Tadeusz Sulimirski. "Scythian Antiquities in Western Asia." *Artibus Asiae* 17, nos. 3–4 (1954), pp. 282–318.
- Sulimirski 1970.** Tadeusz Sulimirski. *The Sarmatians*. London, 1970.
- Sutton 1993.** J. E. G. Sutton. "Becoming Maasailand." In *Being Maasai: Ethnicity and Identity in East Africa*, edited by Thomas Spear and Richard Waller, pp. 38–60. London, 1993.
- Szemerényi 1980.** Oswald Szemerényi. *Four Old Iranian Ethnic Names: Scythian, Skudra, Sogdian, Saka*. Vienna, 1980.
- Takhtai 1964.** O. K. Takhtai. "Skif'ska statuaia z s. Ol'khovchyk Donets'koi oblasti" (A Scythian statue from the village of Ol'khovchyk, Donets'k oblast). *Arkheologiia* (Kiev) 17 (1964), pp. 205–7.
- Thompson and Mallowan 1933.** R. Campbell Thompson and M. E. L. Mallowan. "The British Museum Excavations at Nineveh, 1931–32." *Annals of Archaeology and Anthropology* (University of Liverpool) 20 (1933), pp. 71–186.
- Tilak 1893.** Bal Gangadhar Tilak. *The Orion; or, Researches into the Antiquity of the Vedas*. Poona City, 1893.

- Tolochko and Polin 1999.** P. P. Tolochko and S. V. Polin. "Burial Mounds of the Scythian Aristocracy in the Northern Black Sea Area." In *San Antonio and other cities 1999–2001*, pp. 83–91.
- Tolstov 1958.** Sergei P. Tolstov. "Raboty Khorezmskoi ekspeditsii 1949–1953 gg." (Excavations of the Khwarezmian expedition, 1949–1953). In *Arkheologicheskie i etnograficheskie raboty Khorezmskoi ekspeditsii, 1949–1953 gg.* (Archaeological and ethnographic research of the Khwarezmian expedition, 1949–1953), edited by Sergei P. Tolstov, pp. 153–59. Moscow, 1958.
- Treister 1999.** Michael Treister. "The Workshop of the Gorytos and Scabbard Overlays." In *San Antonio and other cities 1999–2001*, pp. 70–81.
- Treuer 1940.** Kamilla V. Treuer. *Pamiatniki greko-baktriiskogo iskusstva* (Masterpieces of Greco-Bactrian art). Moscow, 1940.
- Tsetsckhladze 1994.** Gocha R. Tsetsckhladze. "The Greek Penetration of the Black Sea." In *The Archaeology of Greek Colonisation: Essays Dedicated to Sir John Boardman*, edited by Gocha R. Tsetsckhladze and Franco De Angelis, pp. 111–35. Oxford, 1994.
- Tsetsckhladze 1998.** Gocha R. Tsetsckhladze. "Greek Colonisation of the Black Sea Area: Stages, Models, and Native Population." In *The Greek Colonisation of the Black Sea Area: Historical Interpretation of Archaeology*, edited by Gocha R. Tsetsckhladze, pp. 9–68. Stuttgart, 1998.
- Tsetsckhladze 2001.** Gocha R. Tsetsckhladze, ed. *North Pontic Archaeology: Recent Discoveries and Studies*. Leiden, 2001.
- Tu 1993.** Tu Cheng-sheng. "An Examination of the Animal Style and Ancient Northern Chinese Tribes." *Bulletin of the Institute of History and Philology* 64, no. 2 (1993), pp. 231–408.
- Tur 1996.** Svetlana S. Tur. *Kochevniki Kyrgyzstana sako-usun'skogo vremeni (po materialam paleoantropologicheskogo issledovaniia)* (The nomads of Kyrgyzstan in the Saka–Usun' period [Based on paleoanthropological research]). Barnaul, 1996.
- U En et al. 1990.** U En, Chzhun Kan, and Li Tszintszen. *Mogil'nik siunnu v derevne Daodunzi uezda Tongxin v Ningxia* (Xiongnu cemetery in Daodunzi, Tongxin Xian, Ningxia). Novosibirsk, 1990.
- Ünal 1982.** Vuslat Ünal. "Zwei Gräber eurasischer Reiternomaden im nördlichen Zentralanatolien." *Beiträge zur Allgemeinen und Vergleichenden Archäologie* 4 (1982), pp. 65–81.
- Vainberg 1977.** Bella I. Vainberg. *Monety drevnego Khorezma* (Coinage of ancient Khwarezm). Moscow, 1977.
- Vainberg 1979.** Bella I. Vainberg. "Pamiatniki kuusaiskoi kul'tury" (Sites of the Kuusai culture). In *Kochevniki na granitsakh Khorezma: Trudy Khorezmskoi arkheologo-etnograficheskoi ekspeditsii* (Nomads at the borders of Khwarezm: Works of the Khwarezmian archaeological-ethnographic expedition), edited by Marianna A. Itina, pp. 7–76. Moscow, 1979.
- Vainberg 1994.** Bella I. Vainberg. "The Kalali-Gir 2 Ritual Center in Ancient Khwarazm." *Bulletin of the Asia Institute* n.s. 8 (1994), pp. 67–80.
- Vainberg and Iusupov 1992.** Bella I. Vainberg and K. I. Iusupov. "Kochevniki severo-zapadnoi Turkmenii" (Nomads in northwestern Turkmenistan). In *Stepnaia polosa aziatskoi chasti SSSR v skifo-sarmatskoe vremia* (The steppe belt of the Asiatic part of the Soviet Union in Scythian-Sarmatian times), edited by Marina G. Moshkova, pp. 122–29. Moscow, 1992.
- Vainshtein 1968.** Sev'ian I. Vainshtein. "The Tuvan (Soyot) Shaman's Drum and the Ceremony of its 'Enlivening.'" In *Popular Beliefs and Folklore Tradition in Siberia*, edited by Vilmos Diószegi, pp. 331–39. Bloomington, 1968.
- Vainshtein 1974.** Sev'ian I. Vainshtein. *Istoriia narodnogo iskusstva Tuvy* (History of the folk art of Tuva). Moscow, 1974.
- van Loon 1966.** Maurits Nanning van Loon. *Urartian Art*. Istanbul, 1966.
- van Loon 1985.** Maurits Nanning van Loon. Review of W. Kleiss, *Bastam 1* (1979). *Biblioteca orientalis* 42, nos. 1–2 (1985), pp. 188–94.
- Varenov 1984.** A. V. Varenov. "In'skie shlemy i problemy boevogo ogoloviia epokhi pozdnei bronzy" (Yin helmets and the problem of battle exposure in the late Bronze Age). *Izvestiia*

Sibirskogo otdeleniia Akademii nauk SSSR: Seriya istorii, filologii i filosofii, no. 14 (1984), pp. 41–47.

Varenov 1994. A.V.Varenov. “Bronzovye shlemy na granitsakh chzhouskogo Kitaia i ikh ‘kubanskie’ analogi” (Bronze helmets on the border of China and their “Kuban” analogies). In *Drevnie kul'tury Iuzhnoi Sibiri i Severo-vostochnogo Kitaia* (Ancient cultures of southern Siberia and northeastern China), edited by Vitalii E. Larichev and Lin' Iun', pp. 86–94. Novosibirsk, 1994.

Varenov and Polos'mak 1989. A.V.Varenov and Natal'ia V. Polos'mak. *Novye obraztsy poiasnykh plastin hunskogo vremeni u mogil'nika Daodunzi v Severnom Kitaie* (New belt plaques of the Han period near the cemetery of Daodunzi in northern China). Kemerovo, 1989.

Vasil'ev et al. 1995. Igor B.Vasil'ev, Pavel F. Kuznetsov, and Alla P. Semenova. “Pamiatniki potapovskogo tipa v lesostepnom Povolzh'e” (Monuments of the Potapov type in the Volga forest-steppe area). In *Drevnie indoiranskii kul'tury Volgo-Ural'ia* (Ancient Indo-Iranian cultures of the Volga-Urals), edited by Igor B.Vasil'ev and O.V. Kuz'mina, pp. 5–37. Samara, 1995.

Vasmer 1923. Max Vasmer. *Untersuchungen über die ältesten Wohnsitze der Slaven*, vol. 1, *Die Iranier in Südrussland*. Leipzig, 1923.

Vienna 1993. *Gold aus Kiew*. Exh. cat. Edited by Wilfried Seipel. Vienna, Kunsthistorisches Museum, June 6–August 1, 1993. Vienna, 1993.

Vinogradov and Epimakhov 2000. Nikolai B. Vinogradov and Andrei V. Epimakhov. “From a Settled Way of Life to Nomadism: Variants in Models of Transition.” In *Kurgans, Ritual Sites, and Settlements: Eurasian Bronze and Iron Age*, edited by Jeannine Davis-Kimball et al., pp. 240–46. Oxford, 2000.

I. Vinogradov 1980. I. G. Vinogradov. “Persten' tsaria Skila: Politicheskaiia i dinastiinaia istoria skifov pervoi poloviny 5 v. do n.e.” (The finger ring of King Scyles: Scythian political and dynastic history in the first half of the fifth century B.C.). *Sovetskaiia arkhologiiia*, no. 3 (1980), pp. 99–109.

V. Vinogradov 1972. V. B. Vinogradov. *Tsentral'nyi i Severo-vostochnyi Kavkaz v skifskoe vremia (VII–IV veka do n.e.)* (Central and northeastern Caucasus in the Scythian period [7th–4th centuries B.C.]). Groznyi, 1972.

Vinogradova and Kuz'mina 1996. N. M. Vinogradova and Elena E. Kuz'mina. “Contacts between the Steppe and Agricultural Tribes of Central Asia in the Bronze Age.” *Anthropology and Archaeology of Eurasia* 34, no. 4 (1996), pp. 29–54.

Vishnevskaiia 1973. O. A. Vishnevskaiia. *Kul'tura sakskeikh plemen nizov'ev Syrdar'i v VII–V vv. do n.e.* (Culture of the Saka tribes of the lower Syr Dar'ya in the 7th–6th centuries B.C.). Trudy Khorezmskoi arkhologo-etnograficheskoi ekspeditsii 8. Moscow, 1973.

Volkov 1967. V.V.Volkov. *Bronzovyi i rannii zheleznyi vek severnoi Mongolii* (Bronze and Early Iron Ages of northern Mongolia). Ulaanbaatar, 1967.

Volkov 1981. V.V.Volkov. *Olennye kamni Mongolii* (Deer stones of Mongolia). Ulaanbaatar, 1981.

Volkov 2002. V.V.Volkov. *Olennye kamni Mongolii* (Deer stones of Mongolia). Moscow, 2002.

Volkov and Novgorodova 1975. V.V.Volkov and Eleonora A. Novgorodova. “Olennye kamni Ushkiin-Uvera (Mongoliya)” (Deer stones of Ushkin Uver, Mongolia). In *Pervobytnaia arkhologiiia Sibiri* (Archaeology of early Siberia), edited by Anatolii M. Mandel'shtam, pp. 78–84. Leningrad, 1975.

Wang Binghua 1981. Wang Binghua. “Xinjiang Alagou shuxue muguo mu fajue jianbao” (A brief report of the excavation of burials with wooden chambers at Alagou, Xinjiang). *Wenwu* 1 (1981), pp. 18–22.

Wang Binghua 1985a. Wang Binghua. “Xinjiang diqu qintong shidai kaogu wenhua shitan” (A preliminary analysis of the archaeological culture of the Bronze Age in the region of Xinjiang). *Xinjiang shehui kexue* 4 (1985), pp. 50–61.

Wang Binghua 1985b. Wang Binghua. “Gudai Xinjiang sairen lishi gouchen” (A historical probe into the Saka in ancient Xinjiang). *Xinjiang shehui kexue* 1 (1985), pp. 48–58.

Wang Binghua 1986. Wang Binghua. “Xinjiang dongbu faxian de jipi tongqi” (Several batches of bronzeware found in the eastern part of Xinjiang). *Kaogu* 10 (1986), pp. 887–90.

Wang Bo 1987. Wang Bo. “Xinjiang jinshinian faxian de yixie tongqi” (Copper and bronze arti-

- facts found in Xinjiang during the past ten years). *Xinjiang wenwu* 1 (1987), pp. 45–51.
- Wang Bo and Qi 1995.** Wang Bo and Qi Xiaoshan. *Sichouzhilu caoyuan shiren yanjiu* (Research on the grassland stone figures along the Silk Route). Ürümqi, 1995.
- Wang Mingzhe 1984.** Wang Mingzhe “Nileke xian gutongkuang yizhi de diaocha” (Investigation of an ancient copper mining site in Nileke county). *Zonggui kaoguxue nianjian* (1984), pp. 176–77.
- Warner 1905–25.** Arthur George Warner and Edmond Warner, trans. *The Sháhnáma of Firdausí*. 9 vols. London, 1905–25.
- Wartke 1990.** Ralf B. Wartke. *Toprakkale*. Berlin, 1990.
- Washington 1995–96.** *Traders and Raiders on China's Northern Frontier*. Exh. cat. by Jenny F. So and Emma C. Bunker. Washington, Arthur M. Sackler Gallery, November 19, 1995–September 2, 1996. Seattle, 1995.
- B. Watson 1993.** Burton Watson, trans. *Records of the Grand Historian of China*. 2 vols. Rev. ed. New York, 1993.
- W. Watson 1971.** William Watson. *Cultural Frontiers in Ancient East Asia*. Edinburgh, 1971.
- Welles 1966.** C. Bradford Welles. *Royal Correspondence in the Hellenistic Period*. Rome, 1966.
- Wells 2001.** Peter S. Wells. *Beyond Celts, Germans, and Scythians: Archaeology and Identity in Iron Age Europe*. London, 2001.
- Wiggermann 1986.** F. A. M. Wiggermann. *Babylonian Prophylactic Figures: The Ritual Texts*. Amsterdam, 1986.
- Wiggermann 1992.** F. A. M. Wiggermann. *Mesopotamian Protective Spirits: The Ritual Texts*. Gröningen, 1992.
- Wilber 1969.** Donald N. Wilber. *Persepolis: The Archaeology of Parsa, Seat of the Persian Kings*. New York, 1969.
- Wilmot 1934.** *The Russian Journals of Martha and Catherine Wilmot*. Edited by the Marchioness of Londonderry and H. M. Hyde. London, 1934.
- Windfuhr 1983.** Gernot Windfuhr. “Where Guardian Spirits Watch by Night and Evil Spirits Fail, or, Notes on the Zoroastrian Prototypical Heaven.” In *The Word of the Lord Shall Go Forth: Essays in Honor of David Noel Freedman*, edited by Carol L. Meyers and Michael O’Connor, pp. 625–45. Minona Lake, Ind., 1983.
- Windfuhr 1994.** Gernot Windfuhr. “Saith Darius: Dialectic, Numbers, Time, and Space at Behistun (DB, Old Persian version, 520 B.C.)” In *Continuity and Change*, edited by Heleen Sancisi-Weerdenburg et al., pp. 265–81. Leiden, 1994.
- Windfuhr 2000.** Gernot Windfuhr. “The Iranians and the Sarmatians: A Note on Terminology.” In *New York 2000–2001*, pp. 19–20.
- Windfuhr 2003.** Gernot Windfuhr. “Zoroastrian Myth and Constellations: Hauma and Zarathushtra.” *Orientalia suecana* 51–52 (2003), pp. 171–77.
- Windfuhr 2004.** Gernot Windfuhr. “Zoroastrian and Taoist Ritual: Cosmology and Sacred Numerology.” In *Zoroastrian Rituals in Context*, edited by Michael Stausberg, pp. 173–231. Leiden, 2004.
- Woolley and Lawrence 1921.** C. Leonard Wooley and T. E. Lawrence. *Carchemish*, vol. 2, *The Town Defences*. London, 1921.
- XAT 1987.** XAT (Xinjiang Archaeological Team, Institute of Archaeology, Chinese Academy of Social Sciences). “Xinjiang Luntai Qunbake gumuzang diyici fajue jianbao” (A preliminary report on the first excavation of ancient tombs at Qunbake, Luntai, Xinjiang). *Kaogu* 11 (1987), pp. 987–96.
- XAT 1988.** “Xinjiang Hejingxian Chawuhugoukou yihao mudi” (Cemetery 1 at Chawuhugou, Hejing county, Xinjiang). *Kaogu yu xuebao* 1 (1988), pp. 75–100.
- XAT 1990.** “Xinjiang Hejingxian Chawuhugoukou erhao mudi fajue jianbao” (The report on the excavation of cemetery II at Chawuhugou, Hejing county, Xinjiang). *Kaogu* 6 (1990), pp. 511–18.
- XAT 1991.** “Xinjiang Luntai xian Qunbake muzang diershanci fajue jianbao” (A brief report on the second and third excavations of ancient tombs at Qunbake, Luntai county, Xinjiang). *Kaogu* 8 (1991), pp. 684–703, 736.

- XIA 1983.** XIA (Xinjiang Institute of Archaeology), ed. *Xinjiang kaogu sanshinian* (Thirty years of archaeology in Xinjiang). Ürümqi, 1983.
- XIA 1985.** “Xinjiang Xinyuan Gongnaisi Zhongyangchang shiguan mu” (Stone cist tomb at Zhongyangchang, Xinyuan, Xinjiang). *Kaogu yu xuebao* 2 (1985), pp. 21–26.
- XIA 1987.** “Xinjiang Hejingxian Chawuhugoukou sihao mudi 1986 niandu fajue jianbao” (Brief report on the excavation in 1986 of cemetery IV at Chawuhugou pass, Hejing county, Xinjiang). *Xinjiang wenwu* 1 (1987), pp. 1–9.
- XIA 1988.** “Xinjiang Hejingxian Chawuhugoukou sihao mudi 1987 niandu fajue jianbao” (Brief report on the excavation in 1987 of cemetery IV at Chawuhugou pass, Hejing county, Xinjiang). *Xinjiang wenwu* 4 (1988), pp. 1–28.
- XIA 1989a.** “Hejingxian Chawuhugou erhao mudi” (Cemetery II at Chawuhugou, Hejing county). *Xinjiang wenwu* 4 (1989), pp. 12–33.
- XIA 1989b.** “Shanshan xian Yanghai gumuqun qingli jianbao” (Brief report of the examination of the ancient cemetery at Yanghai). *Xinjiang wenwu* 4 (1989), pp. 34–41.
- XIA 1992.** “Xinjiang Hejingxian Chawuhu yihao mudi” (Cemetery I at Chawuhu, Hejing county, Xinjiang). *Xinjiang wenwu* 4 (1992), pp. 11–64.
- XIA 1994.** “Jimusa’er xian Dalongkou gumuzang: (Ancient burials at Dalongkou in Jimusa’er county). *Xinjiang wenwu* 4 (1994), pp. 1–11.
- XIA 1995.** “Aheqi xian Kulansarlike mudi fajue jianbao” (Excavation report of the Kulansarak cemetery in Aheqi county). *Xinjiang wenwu* 2 (1995), pp. 20–28.
- XIA 1999.** *Xinjiang Chawuhu* (The Chawuhugou cemetery in Xinjiang). Beijing, 1999.
- Xinjiang 1999.** Yue Feng et al. *Xinjiang wenwu guji daguan / A Grand View of Xinjiang’s Cultural Relics and Cultural Sites*. Wulumuqi, 1999.
- Yablonsky 1990.** Leonid T. Yablonsky. “Burial Place of a Massagetan Warrior.” *Antiquity* 64 (1990), pp. 288–96.
- Yablonsky 1994.** Leonid T. Yablonsky. “The Early Cattle-Breeders of the South-Aral Sea Area: Culture, Craniology, Language.” In *The Archaeology of the Steppes: Methods and Strategies*, edited by Bruno Genito, pp. 359–78. Naples, 1994.
- Yablonsky 1995.** Leonid T. Yablonsky. “The Saka in Central Asia.” In *Nomads of the Eurasian Steppes in the Early Iron Age*, edited by Jeannine Davis-Kimball et al., pp. 189–252. Berkeley, 1995.
- Yablonsky 1996.** Leonid T. Yablonsky. *Saki Iuzhnogo Priaral’ia (Arkheologiya i antropologiya mogil’nikov)* (The Saka of the southern Aral Sea area [Archaeology and physical anthropology of the cemeteries]). Moscow, 1996.
- Yablonsky 1999.** Leonid T. Yablonsky. “Eshche raz o proiskhozhdenii skifskoi kul’turi po dannym antropologii” (Once again on the origin of the Scythian culture of the Black Sea area according to physical anthropological data). In *Skify Severnogo Prichernomor’ia v VII–IV vv. do n.e. (problemy paleoekologii, antropologii i arkheologii)* (Scythians of the northern Black Sea area in the 7th–4th centuries B.C. [Problems of paleoecology, anthropology, and archaeology]), edited by Leonid T. Yablonsky, pp. 123–27. Moscow, 1999.
- Yablonsky 2000.** Leonid T. Yablonsky. “‘Scythian Triad’ and ‘Scythian World.’” In *Kurgans, Ritual Sites, and Settlements: Eurasian Bronze and Iron Age*, edited by Jeannine Davis-Kimball et al., pp. 3–8. Oxford, 2000.
- Yamauchi 1982.** Edwin M. Yamauchi. *Foes from the Northern Frontier*. Grand Rapids, Mich., 1982.
- Yamauchi 1983.** Edwin M. Yamauchi. “The Scythians: Invading Hordes from the Russian Steppes.” *Biblical Archaeologist* 46 (Spring 1983), pp. 90–99.
- Yü 1967.** Yü Ying-shih. *Trade and Expansion in Han China*. Berkeley, 1967.
- Zaibert 1993.** V. F. Zaibert. *Eneolit uralo-irtyskogo mezhdurech’ia* (The Eneolithic in the Ural-Irtys river basin). Petropavlovsk, 1993.
- Zaitseva et al. 1997.** Ganna I. Zaitseva et al. “The First Radiocarbon Dates of Monuments in European Scythia.” *Radiocarbon* 40, nos. 1–2 (1997), pp. 767–74.
- Zavitukhina 1974.** Maria Zavitukhina. “Ob odnom arkhivnom dokumente po istorii sibirskoi kolleksii Petra I” (An archival document on the

history of the Siberian collection of Peter I). *Soobshcheniia Gosudarstvennogo Ermitazha* 39 (1974), pp. 120–25.

Zavitukhina 1977a. Maria Zavitukhina. “K voprosu o vremeni i meste formirovaniia sibirskoi kolleksii Petra I” (The time and place of the formation of the Siberian collection of Peter I). In *Kul'tura i iskusstvo Petrovskogo vremeni* (Culture and art in the time of Peter the Great), edited by Galina N. Komelova, pp. 63–69. Leningrad, 1977.

Zavitukhina 1977b. Maria Zavitukhina. “Sobraniiie M. P. Gagarina 1716 g. v sibirskoi kolleksii Petra I” (M. P. Gagarin’s 1716 collection in the Siberian collection of Peter I). *Arkheologicheskii sbornik Gosudarstvennogo Ermitazha* 18 (1977), pp. 41–53.

Zavitukhina 1998. Maria Zavitukhina. “Zolotaia plastina iz Zabaikal'ia v sibirskoi kolleksii Petra I” (A gold plaque from the Lake Baikal region in the Siberian collection of Peter the Great). In *Drevnie kul'tury Tsentral'noi Azii i Sankt-Peterburg* (Ancient cultures of Central Asia and Saint Petersburg), edited by Dmitrii G. Savinov, pp. 143–48. Saint Petersburg, 1998.

Zavitukhina 1999. Maria Zavitukhina. “N.-K. Vitsen i ego sobranie sibirskikh drevnostei” (Witsen and his collection of Siberian antiquities). *Arkheologicheskii sbornik* 34 (1999), pp. 101–14.

Zavitukhina 2000. Maria Zavitukhina. “Bronzes from the Minusinsk Basin and Goldwork from the Siberian Collection of Peter the Great.” In *New York 2000–2001*, pp. 277–92.

Zdanovich and Khabdullina 1987. Gennadii B. Zdanovich and Maral K. Khabdullina. “Kurgan Temir.” In *Rannii zheleznyi vek i srednevekov'e uralo-irtyshskogo mezhdurech'ia* (Early Iron Age and Middle Ages of the Ural-Irtysh river basin), edited by G. B. Zdanovich et al., pp. 45–55. Cheliabinsk, 1987.

Zgusta 1955. Ladislav Zgusta. *Die Personennamen griechischer Städte der nördlichen Schwarzmeerküste*. Prague, 1955.

Zhang and Zhao 1991. Zhang Yuzhong and Zhao Derong. “Yili hegu xinfaxian de daxin tongqi ji youguan wenti” (The new discoveries of copper artifacts in the Yili valley and their relevant problems). *Xinjiang wenuu* 2 (1991), pp. 42–48.

Zhivotovskii 1984. Lev A. Zhivotovskii. *Integratsiia poligennykh sistem v populiatsiakh (problemy analiza kompleksa priznakov)* (The integration of polygenic systems in populations [Problems of the analyses of the complex of characteristics]). Moscow, 1984.

Zhou and Liu 1995. Zhou Jingling and Liu Xuetang. “Chawuhu wenhua de wuzhi shenghuo zhi tansuo” (An analysis of the material life of the Chawuhu culture). *Xinjiang wenuu* 3 (1995), pp. 61–70.

Zürn 1970. Hartwig Zürn. *Hallstattforschungen in Nordwürttemberg*. Stuttgart, 1970.

0-300-08510-9



9 780300 085105