

# Masters of the Steppe: the Impact of the Scythians and Later Nomad Societies of Eurasia

Proceedings of a conference held at  
the British Museum, 27-29 October 2017

Edited by  
Svetlana V. Pankova and St John Simpson





ARCHAEOPRESS PUBLISHING LTD

Summertown Pavilion

18-24 Middle Way

Summertown

Oxford OX2 7LG

[www.archaeopress.com](http://www.archaeopress.com)

ISBN 978-1-78969-647-9

ISBN 978-1-78969-648-6 (e-Pdf)

© Archaeopress and the individual authors 2020

Cover illustration: Petroglyphs from the post-Scythian period at Moiseikha mountain on the right bank of the Yenisey, Minusinsk Basin (photograph: E. Miklashevich)

All rights reserved. No part of this book may be reproduced, or transmitted, in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of the copyright owners. This book is available direct from Archaeopress or from our website [www.archaeopress.com](http://www.archaeopress.com)



Representation of a mounted Scythian based on a description by Herodotus: engraving from Abraham de Bruyn, *Divesarum gentium armatura equestris: Ubi fere Europæ Asiæ atqu; Africæ equitandi ratio propria expressa est*, Cologne 1577 (private collection).

# List of Contents

<b>List of Figures</b> .....	V
<b>Foreword</b> .....	xviii
Hartwig Fischer	
<b>Foreword</b> .....	xix
Mikhail Piotrovsky	
<b>Preface and acknowledgements</b> .....	xx
Svetlana V. Pankova, St John Simpson	
<b>Introduction</b> .....	1
<b>The Sasanian and Gupta empires and their struggle against the Huns</b> .....	16
Hans T. Bakker	
<b>Supersize me: political aspects of monumental tomb building in early steppe empires</b> .....	30
Thomas J. Barfield	
<b>Saka ‘Animal Style’: the ‘mysterious picture’ on a carved bone container from central Kazakhstan</b> .....	43
Arman Z. Beisenov	
<b>A Scythian treasure in the lands of the Getae: considerations regarding the hoard of Stâncești</b> .....	51
Alexandru Berzovan	
<b>Interactions between mobile pastoralists and settled agricultural societies in central Asia: examples from the work of the Eurasia Department of the German Archaeological Institute (DAI)</b> .....	64
Nikolaus Boroffka	
<b>The Arzhan-2 ‘royal’ funerary-commemorative complex: stages of function and internal chronology</b> .....	79
Konstantin V. Chugunov	
<b>Scythian archers of the 4th century BC: a new archaeological study of excavated bows, arrows and quivers from the northern Black Sea region</b> .....	103
Marina Daragan	
<b>Fabergé and the gold making tradition in Russia</b> .....	125
Caroline de Guitaut, LVO	
<b>Scythians, Persians, Greeks and horses: reflections on art, culture, power and empires in the light of frozen burials and other excavations</b> .....	134
Henri-Paul Francfort	
<b>Textiles, dyes and pigments of the European Scythians: preliminary analyses of materials from southern Ukraine</b> .....	156
Margarita Gleba, Ina Vanden Berghe, Marina Daragan	
<b>Scythian gold from 19th century private collections in the Department of the Ancient World in the State Hermitage Museum</b> .....	167
O. Gorskaya	

<b>Scientific study of the etching process used on ancient carnelian beads</b> .....	176
Clément Holé, Aude Mongiatti, St John Simpson	
<b>Trade, community and labour in the Pontic Iron Age forest-steppe region, c. 700–200 BC</b> .....	198
James A. Johnson	
<b>The predator scene in Scythian ‘Animal Style’ as a socio-political indicator</b> .....	210
Vladimir A. Kisel	
<b>‘Animal Style’ art: influences and traditions in the nomadic world</b> .....	216
Elena Korolkova	
<b>To accompany and honour the deceased: the horses from the graves of the Pazyryk culture</b> .....	227
Sébastien Lepetz, K. Debue, D. Batsukh	
<b>The royal *<i>gaunaka</i>: dress, identity, status and ceremony in Achaemenid Iran</b> .....	248
Lloyd Llewellyn-Jones	
<b>Scythian archery</b> .....	258
Mike Loades	
<b>A priestly burial from the Taksai-1 cemetery</b> .....	268
Yana Lukpanova	
<b>The Okunev culture: a unique Siberian civilisation and its links with Scythian and later cultures</b> .....	281
Leonid S. Marsadolov	
<b>Scientific analyses of some glass beads from Scythian and later sites in southern Siberia</b> .....	296
Andrew Meek, Nikolai N. Nikolaev, St John Simpson	
<b>Petroglyphs of the Scythian period in the Oglakhty mountains (Republic of Khakassia, Russia): new materials and problems of attribution</b> .....	302
Elena Miklashevich	
<b>Scythian and Sarmatian weapons with gold decoration</b> .....	320
Raphael S. Minasyan	
<b>Gold of Peter the Great: Scythian goldsmithing techniques</b> .....	327
Aude Mongiatti, Elena Korolkova	
<b>Life and death in the Scythian world of southern Siberia: a social bioarchaeological study of the mobile pastoralists from Aymyrlyg</b> .....	355
Eileen Murphy, Yuri Chistov	
<b>Pazyryk horse masks of Gorny Altai</b> .....	367
Maria Ochir-Goryaeva	
<b>Mummies and mannequins from the Oglakhty cemetery in southern Siberia</b> .....	373
Svetlana V. Pankova	
<b>Textile finds from the central burials of the Arzhan-1 barrow in Tuva</b> .....	397
Svetlana V. Pankova, Elena A. Mikolaychuk, Lyudmila S. Gavrilenko, Leonid S. Marsadolov	
<b>The Sarmatian conquest of the northern Pontic region: the state of the art of the problem</b> .....	431
Sergei Polin	

<b>The royal Scythian Alexandropol kurgan based on new research data of 2004–2009</b> .....	444
Sergei Polin, Marina Daragan	
<b>New investigations of Scythian kurgans and their periphery in the lower Dnieper region: non-destructive measurements and archaeological proof</b> .....	472
Sergej Polin, Marina Daragan, Kseniia Bondar	
<b>The formation of the early Scythian cultural complex of the Kelermes cemetery in the Kuban region of the north Caucasus</b> .....	483
Tatyana V. Ryabkova	
<b>The results of new scientific analyses of gold bracelets from Taksai-1 and an iron sword from Issyk in the National Museum of the Republic of Kazakhstan</b> .....	498
A. K. Satubaldin, S. A. Yarygin, A. Mongiatti, D. O’Flynn, J. Lang	
<b>Secrets of Achaemenid production of personal ornaments and vessels</b> .....	509
Ekaterina A. Shablavina	
<b><i>Jiang Yuan</i> and north Chinese nomads</b> .....	520
Daniil P. Shulga	
<b>Mysterious transformations of the Scythian cultures in the 6th and 3rd centuries BC</b> .....	522
P. I. Shulga	
<b>Etched or bleached? Traded or copied? Comments on the dating and distribution of a distinctive type of decorated carnelian bead found from India to Eurasia from the early 1st millennium BC to the early medieval period</b> .....	525
St John Simpson	
<b><i>In hoc signo vinces</i>: the victory of the Scythians over the offspring of their slaves as a manifestation of divine providence (Herodotus, <i>The Histories</i> 4.1 [3], 3, 4)</b> .....	544
Nikolay Yu. Smirnov	
<b>Testing Herodotus: leather species identification of Scythian quivers using new scientific methods</b> .....	551
Luke Spindler, Margarita Gleba, Marina Daragan, Matthew Collins	
<b>Saddles of the Hun-Sarmatian period</b> .....	561
Elena V. Stepanova	
<b>The wooden comb of the ‘golden lady’: a new battle image from the Taksai-1 kurgan (western Kazakhstan)</b> .....	588
Lâtife Summerer, Yana Lukpanova	
<b>Finds from the Noin-Ula kurgans at an exhibition in Berlin in 1929 (based on materials from the archive of the Russian Academy of Sciences, Institute of the History of Material Culture)</b> .....	605
Natalia A. Sutiagina, Daria A. Kukina	
<b>The Scythian empire: reassessing steppe power from western and eastern perspectives</b> .....	616
Timothy Taylor, Christine M. Havlicek, Christopher I. Beckwith	
<b>Antennae of Scythian <i>akinakai</i>: from abstraction to realism, there and back again</b> .....	627
Denis Topal	
<b>Settled rather than saddled Scythians: the easternmost Sakas</b> .....	643
Burzine Waghmar	

<b>'Steppe Style' in southeast Gansu province (China) in the 4th and 3rd centuries BC</b> .....	650
Raphael Wong	
<b>Conclusions</b> .....	660
<b>The contributors</b> .....	680
<b>Bibliography</b> .....	687
<b>Index</b> .....	761

# List of Figures

Signage at the entrance to the exhibition <i>Scythians: warriors of ancient Siberia</i> .....	xviii
Aerial photograph of the Winter Palace .....	xix

## Introduction

Figure 1. Marketing poster advertising the exhibition, Waterloo station, 19th September 2017.....	2
Figure 2. Gold, watercolours and engravings reconstruct St. Petersburg and the artistic response to the discovery of the Siberian Collection of Peter the Great .....	3
Figure 3. Displaying objects from the Siberian Collection of Peter the Great with original watercolour drawings.....	4
Figure 4. Examining a gold belt plaque under high magnification in the Department of Scientific Research at the British Museum .....	4
Figure 5. The choral ensemble <i>Russian Souvenir</i> sing traditional songs in front of a digital projection of watercolours of Siberia.....	4
Figure 6. Exhibition model made by British Museum 3D designer Jon Ould.....	5
Figure 7. Visitors are entranced by the rich variety of horsegear and other paraphernalia .....	6
Figure 8. Creating a sympathetic ambience is essential to any exhibition.....	6
Figure 9. The VIP tour on the opening night stops to admire frozen cheese found at Pazyryk .....	7
Figure 10. The Scythian lifestyle was not always hardship: evidence for feasting, communal eating and getting high on hemp..	7
Figure 11. Essential accessories for the afterlife: fur bag, leather and horn containers and polished metal mirrors .....	8
Figure 12. Visitors stop in front of pole top ornaments and a felted pendant .....	8
Figure 13. Painting by Viktor Vasnetsov (1848–1926), <i>Battle of the Scythians with the Slavs</i> , oil on canvas, 1881 .....	9
Figure 14. Modern postage stamps issued by the Republic of Khakassia entitled <i>Russian archaeological heritage</i> and illustrating Scythian and other bronzes .....	9
Figure 15. Promotional marketing for <i>The Last Warrior</i> .....	10
Figure 16. Visitors realising that the label graphic shows a CT-scan of the man's head beneath the plaster mask in the centre	10
Figure 17. A family on a community preview realises that this reconstructed log cabin is an original tomb .....	11
Figure 18. The exhibition shop .....	11
Figure 19. Curators and conservators from the State Hermitage, National Museum of Kazakhstan and the British Museum gather on the museum front steps during de-installation.....	12
Figure 20. Curators and conservators from the State Hermitage and the British Museum pause briefly during condition checking.....	12
Figure 21. Installing objects requires teamwork as well as good design.....	13
Figure 22. Pinning gold lion appliques onto a display panel takes time, skill and patience.....	13
Figure 23. Some of the participants at the conference gather for a group photograph .....	14
Figure 24. The conference encompassed archaeologists and curators from many countries: this group includes participants from Russia, Ukraine, Kazakhstan and Britain .....	14

## H. T. Bakker: **The Sasanian and Gupta empires and their struggle against the Huns**

Figure 1. Scyphate gold coin of king Kidara from Tepe Maranjan .....	17
Figure 2. Sealing of Lord Uglarg .....	18
Figure 3. Silver coin of the Alchon king Khiṅgila (G44), Gandhāra.....	20
Figure 4. Common coinage of four Alchon kings: a. Lakhana, b. Mehama, c. Javukha, d. Khiṅgila .....	21
Figure 5. Silver bowl from Swat .....	22
Figure 6. Bird decorating the inner ring of the Swat bowl and ceiling decoration Ajanta Cave 1.....	22
Figure 7. Silver bowl from Chilek .....	23
Figure 8. Medallion, bowl from Chilek and Medallion, bowl from Swat .....	23
Figure 9. The four hunters of the Swat bowl .....	24
Figure 10. The inscription punched on the Swat bowl .....	25
Figure 11. The upper rim of the bowl is difficult to punch .....	25
Figure 12. Legends of silver and copper coins of Khiṅgila .....	25
Figure 13. The rule of the Alchon quadrumvirate .....	27

## T. J. Barfield: **Supersize me: political aspects of monumental tomb building in early steppe empires**

Figure 1. Monumental Scythian-type burial mounds near Salbyk in Khakassia, southern Siberia.....	31
--------------------------------------------------------------------------------------------------	----

## A. Z. Beisenov: **Saka 'Animal Style': the 'mysterious picture' on a carved bone container from central Kazakhstan**

Figure 1. Location map of the Bauke-2 cemetery .....	44
Figure 2. The plan of the Bayke-2 cemetery .....	45
Figure 3. Burial in kurgan 7 .....	45
Figure 4. Grave-goods from kurgan 7.....	46
Figure 5. The decorated bone container from the Bayke-2 cemetery .....	46
Figure 6. Drawing of the bone container.....	46
Figure 7. Details of some individual figures: feline predators, 'hare' and goat.....	47
Figure 8. Other finds from Saka kurgans in the Bayke-2 cemetery .....	49



Figure 9. Vitreous paste beads from kurgan 3.....	50
---------------------------------------------------	----

**A. Berzovan: A Scythian treasure in the lands of the Getae:  
considerations regarding the hoard of Stâncești**

Figure 1. Getae forts in the east Carpathian area (5th–3rd centuries BC). Republic of Moldova.....	52
Figure 2. The twin forts of Stâncești: general plan.....	53
Figure 3. Ditches and ramparts of the Stâncești forts.....	54
Figure 4. The context of discovery: 1, plan of dwelling no. 10 where the hoard was found; 2, part of the inventory of dwelling 10; 3, the large golden appliqué during its removal.....	55
Figure 5. The hoard of Stâncești.....	57
Figure 6. The hoard of Stâncești.....	58
Figure 7. Boar and fish imagery in Scythian art.....	59
Figure 8. Vulture, fish and boar (or rabbit) in Getian and Scythian art.....	62

**N. Boroffka: Interactions between mobile pastoralists and settled agricultural societies in central Asia:  
examples from the work of the Eurasia Department of the German Archaeological Institute (DAI)**

Figure 1. Map showing the location of the sites presented.....	65
Figure 2. Plan of Gonur North.....	66
Figure 3. Examples of steppe-type ‘incised coarse ware’ from Gonur depe.....	67
Figure 4. Mushiston, Tajikistan: landscape with exploration trenches of the Soviet period which partly cut ancient mining galleries.....	68
Figure 5. Mushiston, Tajikistan: Bronze Age mining gallery with visible greenish and yellowish minerals of copper and tin.....	68
Figure 6. Karnab, Uzbekistan: mining shaft 3-3 before excavation.....	69
Figure 7. Karnab, Uzbekistan: general view of the mining settlement.....	69
Figure 8. Baykara, Kazakhstan: virtual image of the main construction phases of the ritual building.....	70
Figure 9. Barsuchiy Log, Russia: virtual image of construction phase 1c1 of the burial mound.....	71
Figure 10. Barsuchiy Log, Russia: virtual image of construction phase 1c4 of the burial mound.....	71
Figure 11. Barsuchiy Log, Russia: virtual image of construction phase 2b2 of the burial mound.....	72
Figure 12. Zhoan Tobe, Kazakhstan: image of geomagnetic measurements on and around the burial mound.....	73
Figure 13. Zhoan Tobe, Kazakhstan: section through the stone-paved road around the burial mound.....	73
Figure 14. Zhoan Tobe, Kazakhstan: image of finds during excavation, wheel-thrown bowls with T-shaped rims.....	74
Figure 15. Kurganzol, Uzbekistan: landscape near the fortress of Kurganzol.....	74
Figure 16. Kurganzol, Uzbekistan: panorama image of the interior fortress, looking north.....	75
Figure 17. Kurganzol, Uzbekistan: plan of the fortress.....	75
Figure 18. Kurganzol, Uzbekistan: ‘fish-plates’ of Greek-inspired shapes; wheel-thrown bowls with T-shaped rims, comparable to those found in Zhoan Tobe and Issyk; bowls of Greek-inspired shapes, left – wheel-thrown with black Hellenistic slip, centre – wheel-thrown simple pottery, right – handmade local imitation.....	76

**K. V. Chugunov: The Arzhan-2 ‘royal’ funerary-commemorative complex:  
stages of function and internal chronology**

Figure 1. Plan of the Arzhan-2 funerary-memorial complex with excavations on the periphery marked.....	80
Figure 2. Plan of the Arzhan-2 barrow.....	81
Figure 3. Section FS. View from the east.....	82
Figure 4. Section AG. View from the north.....	82
Figure 5. The fence and wall in section AUB.....	82
Figure 6. Cross-section of the wall and cromlech in sections AKM, ABU and ACD.....	83
Figure 7. Sacrificial altar between the fence and the wall opposite the principal burial.....	84
Figure 8. The rebuilt fence in section ANP.....	84
Figure 9. Cross-section of the clay bank in the eastern part of the barrow.....	85
Figure 10. Grave 13: overall view of the burial.....	86
Figure 11. Grave 13: plan of the roofing slabs and cross-section.....	87
Figure 12. The pit of Grave 20 beneath the section.....	88
Figure 13. Grave 20: sketch of the covering and cross-section.....	88
Figure 14. Grave 20: overall view of the burial containing both skeletons.....	89
Figure 15. The burial in Grave 25.....	89
Figure 16. Grave 5: plan with the burial of a child behind the southeast wall of the burial chamber.....	90
Figure 17. Overall view of the horse burial in Grave 16.....	91
Figure 18. Grave 16 in section AP.....	91
Figure 19. Reconstruction of the formation of the funerary-memorial complex and the section of the barrow: first and second stages.....	93
Figure 20. Reconstruction of the formation of the funerary-memorial complex and the section of the barrow: third stage.....	93
Figure 21. Reconstruction of the formation of the funerary-memorial complex: beginning of the fourth stage.....	94
Figure 22. Reconstruction of the formation of the funerary-memorial complex and the section of the barrow: end of the fourth stage.....	94
Figure 23. Arrowhead from complexes in the Arzhan-2 barrow.....	96
Figure 24. Socketed arrowheads of the earlier and later groups.....	98
Figure 25. Tanged arrowheads of the earlier and later groups.....	98

Figure 26. Knives from complexes in the Arzhan-2 barrow .....	100
Figure 27. Gold earring with gold ferrule from Grave 5. Gold earring with bone ferrule from Grave 22 .....	101
Table 1. Correlation of types of arrowheads found in complexes of the Arzhan-2 barrow .....	97
Table 2. Relative chronology of the funerary monuments at Arzhan-2.....	101

#### M. Daragan: **Scythian archers of the 4th century BC: a new archaeological study of excavated bows, arrows and quivers from the northern Black Sea region**

Figure 1. Images of archers on the objects of Scythian toreutics.....	105
Figure 2. Burial 3, kurgan 2 of the ‘Three Brothers’ group.....	106
Figure 3. Vodoslavka, kurgan 8, burial 4: plan of the burial.....	107
Figure 4. Vodoslavka, kurgan 8, burial 4.....	108
Figure 5. Vodoslavka, kurgan 8, burial 4. Arrowheads .....	109
Figure 6. Vodoslavka, kurgan 8, burial 4 wooden bow showing its shape before pulling the bowstring .....	110
Figure 7. Vodoslavka, kurgan 8, burial 4: photographs of separate parts of bow .....	110
Figure 8. Vodoslavka, kurgan 8, burial 4, scheme of bringing the recurved Scythian bow into firing position.....	111
Figure 9. Vodoslavka, kurgan 8, burial 4: three-dimensional computed tomography scan of the middle part of the bow .....	111
Figure 10. Vladimirovka, burial 4: 1, plan; 2–3, wooden arrows and bow, drawing; 4, wooden bow, photograph .....	112
Figure 11. Brilyovka, kurgan 22, burial 2: plan and photograph .....	113
Figure 12. Brilyovka, kurgan 22, burial 2: arrowheads from the quiver 1.....	114
Figure 13. Brilyovka, kurgan 22, burial 2: arrowheads from the quiver 2.....	115
Figure 14. Ryzhanovsky kurgan: 1, arrangement of bow and quivers on the plan .....	116
Figure 15. Soboleva Mogila, burial 2 .....	117
Figure 16. Soboleva Mogila, burial 2. Bronze arrowheads .....	118
Figure 17. Painted arrows: from kurgan 8, burial 1 at Vodoslavka village; from kurgan 5, burial 2 at Bulgakovo village .....	121
Figure 18. The preserved binding, probably on the place of fletching, on an arrow from burial 2 in kurgan 5 .....	121
Figure 19. Scythian bronze arrowheads embedded in human bone.....	122
Table 1. Numbers of quivers and arrows in burials .....	123

#### C. de Guitaut: **Fabergé and the gold making tradition in Russia**

Figure 1. Lion’s Head Bracelet, Phillips Brothers and Sons, c. 1870–1880.....	127
Figure 2. Match Holder, Fabergé, St. Petersburg, before 1896, Royal Collection .....	127
Figure 3. <i>The Great Exhibition: Russia</i> : Joseph Nash (1809–1878) 1851, pencil, watercolour and bodycolour, Royal Collection .....	128
Figure 4. Punch Set, Sergei Verkhovtsev and Imperial Glass Factory, St. Petersburg, 1874, Royal Collection.....	129
Figure 5. Amphora, Fabergé, St. Petersburg, before 1896, Royal Collection.....	131
Figure 6. Terrestrial Globe, Fabergé, St. Petersburg, before 1896, Royal Collection .....	132

#### H.-P. Francfort: **Scythians, Persians, Greeks and horses: reflections on art, culture, power and empires in the light of frozen burials and other excavations**

Figure 1. Lotus flower roundels, and lions with geese in split representation: horn, Pazyryk 2 .....	135
Figure 2. Chronological chart based on published dates .....	136
Figure 3. Satyr-like face as a leather cut-out, Pazyryk 1.....	137
Figure 4. Satyr face on an Achaemenid jug found at Susa, Iran .....	138
Figure 5. Bridle, Pazyryk culture, 5th century BC, Pazyryk 1 .....	139
Figure 6. Chest-strap, Pazyryk culture .....	139
Figure 7. Burial at Ak-Alakha 3, kurgan 1: plan of horse burials .....	140
Figure 8. Burial at Ak-Alakha 3, kurgan 1: bridle ornaments of horse 4 .....	140
Figure 9. Burial at Ak-Alakha 3, kurgan 1: bridle ornaments of horse 6 .....	140
Figure 10. Burial at Ak-Alakha 3, kurgan 1: bridle ornaments of horse 5 .....	141
Figure 11. Palmette and raptor heads, bronze from Chenyangchuan.....	141
Figure 12. Palmette, raptor heads and horned lion from wood covered with tin from Berel’11, Kazakhstan.....	142
Figure 13. Lotus ornament on cloth trousers from Dzambulak Kum .....	142
Figure 14. Detail of lotus bud of the frieze bordering an audience scene on a felt hanging from Pazyryk 5.....	142
Figure 15. Lotus ornament on a bronze plaque from the temple at Ai Khanum .....	143
Figure 16. Frieze of ‘passing lions’: painting on wood, Ai Khanum temple .....	143
Figure 17. Adorsed griffin protomes on a stone column capital from Persepolis, Iran.....	144
Figure 18. ‘Royal hero’ in combat with a horned lion on a stone relief at Persepolis, Iran .....	145
Figure 19. Horned lions walking and frieze of lotus and palmettes on glazed bricks from Susa, Iran.....	145
Figure 20. Horned lion on Achaemenid stone column capital from Persepolis, Iran .....	146
Figure 21. Lions and horned lions on inlaid gold torcs from the Siberian collection of Peter the Great, 5th–4th century BC.....	146
Figure 22. Horned lion designs: saddle with horned lion face and profile on crupper, Pazyryk 5; detail of pommel with horned lion face pendant; detail of horned lion face, saddle-pendant, Pazyryk culture.....	147
Figure 23. Detail of lion head in profile, Palace of Darius, Susa.....	147
Figure 24. Horned lions: carved wooden crupper ornament with horned lion seen <i>en face</i> and in profile, Pazyryk 5; inlaid gold dagger sheath: horned lion seen <i>en face</i> and in profile, Tillya tepe burial 4.....	148
Figure 25. Lion attacking a bull: Achaemenid art at Persepolis; Treasury of the Siphnians in the sanctuary of Apollo at Delphi.....	148
Figure 26. Audience scenes: felt hanging, Pazyryk 5; Achaemenid relief, Persepolis.....	149

Figure 27. 1: Majiayuan (Gansu) reconstitution of type A chariot in burial M3-1; 2: representation of the goddess Cybele riding a chariot, gilded silver, Ai Khanum.....	150
Figure 28. Lion attacking a deer on a bone scabbard for a short sword from Takht-i Sangin, Tajikistan.....	151
Figure 29. Mashan, silk, image of chariot and hunt.....	153
Figure 30. Feline attacking a herbivore: bronze, Chenyangchuan, Ningxia, PRC .....	154
Figure 31. Greek hoplite statuette, Gongnaisi, Xinjiang, Urumqi Museum, PRC .....	154

**M. Gleba, I. Vanden Berghe, M. Daragan: Textiles, dyes and pigments of the European Scythians: preliminary analyses of materials from southern Ukraine**

Figure 1. Micrographs of textile samples nos 1–9.....	158
Figure 2. Objects and micrographs of textile samples nos 10–12.....	159
Figure 3. Painted leather finds (left) with micrographs of samples .....	163
Table 1. Summary of burials which yielded materials analysed in this study .....	157
Table 2. Summary of textile analysis results .....	160
Table 3. Summary of dye analysis results.....	161
Table 4. Summary of pigment analysis results.....	164

**O. Gorskaya: Scythian gold from 19th century private collections in the Department of the Ancient World in the State Hermitage Museum**

Figure 1. Gold plaque in the form of a seated griffin .....	168
Figure 2. Gold plaque in the form of a hare .....	168
Figure 3. Gold plaque in the form of a running hare.....	169
Figure 4. Gold plaque in the form of a recumbent lion.....	169
Figure 5. Gold plaque in the form of a youth in a 'kneeling run' position.....	170
Figure 6. Gold plaque in the form of a seated sphinx.....	171
Figure 7. Gold plaque in the form of a lion with its head reversed.....	171
Figure 8. Gold plaque in the form of a lion pouncing on a deer .....	172
Figure 9. Gold plaque in the form of a flower .....	172
Figure 10. Gold plaque in the form of the young god Dionysus .....	173
Figure 11. Gold plaque in the form of the young god Dionysus .....	173
Figure 12. Gold plaque in the form of the young god Dionysus .....	173
Figure 13. Gold plaque in the form of a rosette.....	174
Figure 14. Hilt of a Scythian sword .....	174
Figure 15. The hilt of the Scythian sword .....	175

**C. Holé, A. Mongiatti, St J. Simpson: Scientific study of the etching process used on ancient carnelian beads**

Figure 1. Etched carnelian beads from the BM collections of various colours and of various shapes .....	180
Figure 2. Etched carnelian beads from the BM collections classified following Beck's groups.....	180
Figure 3. Etched carnelian beads from the BM collection with white or yellowish-brown designs .....	181
Figure 4. Etched carnelian beads from the BM collection with degraded patterns and showing an almost continuous central threading hole.....	181
Figure 5. Typical features of mis-aligned central perforations on beads from the BM collection .....	181
Figure 6. Drilling marks and edges of threading holes on beads from the BM collection .....	182
Figure 7. (a) Photomicrographs and (b) SEM images of marks resulting from degradation processes .....	183
Figure 8. Scratches most likely resulting from wear on etched and unetched areas of beads from the BM collections .....	184
Figure 9. Etched areas of beads from the BM collections, showing clear signs of weathering or degradation .....	184
Figure 10. SEM BSE image of bead showing a network of fine pores in the etched area.....	184
Figure 11. Photomicrographs of micrometric fractures at the interface between the etched and unetched areas on beads .....	185
Figure 12. Peak attribution on the Raman spectrum of modern carnelian, selected as reference spectrum in this study .....	185
Figure 13. Raman spectra acquired on uncleaned surfaces of various archaeological beads.....	186
Figure 14. SE image of the unpolished cross-section of a bead: top: etched area, bottom: plain carnelian.....	187
Figure 15. Elemental maps of an etched area of bead .....	187
Figure 16. High-resolution and high-magnification BSE and SE images of the calcium-rich grains observed in the microstructure of the etched areas of the sampled archaeological bead .....	188
Figure 17. BSE image of the polished cross-section of the sampled archaeological bead showing pores in the etched area, increasing in number and size closer to the surface, and numerous cracks .....	188
Figure 18. Carnelian beads fired at 450°C for 15 minutes: one non-fractured homogeneously coloured bead and one partially broken bead with a lighter-coloured centre .....	190
Figure 19. Micrometric fractures at the interface between the etched and unetched areas on two different experimental samples .....	191
Figure 20. BSE images of experimentally etched areas with an etching paste made of sodium alginate/washing soda and made of sodium alginate/washing soda .....	191
Figure 21. Photomicrographs of the thin non-porous transparent surface layer covering etched areas .....	192
Figure 22. BSE images of transparent surface layers covering etched areas.....	192
Figure 23. Raman spectra of the plain carnelian, the porous etched area and the non-porous surface layer showing the peaks attributed to the phases of moganite and quartz.....	193

Figure 24. Photomicrographs of a deep mark left by the interrupted drilling of the threading hole near the completed central perforation and of an etched area close to but not cut through by the drilled perforation.....	194
Figure 25. Ternary diagram of the SEM-EDX compositional analyses of calcium, silicon and phosphorus oxides in calcium- and phosphorus-rich grains and in other grains.....	195
Figure 26. High-magnification SE images of the porous etched areas of an archaeological bead and an experimental modern sample.....	196
Table 1. First stage of the experiment, testing the various sticky media .....	189

**J. A. Johnson: Trade, community and labour in the Pontic Iron Age forest-steppe region, c. 700–200 BC**

Figure 1. Map of the socio-environmental zones of Iron Age Ukraine and surrounding territories .....	199
Figure 2. Distribution map of forest-steppe 'cultural' or ethnic settlements .....	203
Figure 3. DEM of the Pontic region with assembled settlement data shown .....	206
Figure 4. Image of the Bel'sk locality .....	208

**V. A. Kisel: The predator scene in Scythian 'Animal Style' as a socio-political indicator**

Figure 1. Scenes of domination of herbivores by beasts of prey .....	211
Figure 2. Scenes of wild beasts devouring their prey.....	212
Figure 3. Scenes of animals fighting .....	214
Figure 4. Scenes of animals fighting .....	215

**E. Korolkova: 'Animal Style' art: influences and traditions in the nomadic world**

Figure 1. View of the Siberian Collection of Peter the Great displays in the Treasury .....	217
Figure 2. Gold belt plaque with dragons, Siberian Collection of Peter the Great, 2nd–1st century BC .....	217
Figure 3a-b. Gold belt plaques with a boar-hunting scene, Siberian Collection of Peter the Great, 2nd–1st century BC .....	219
Figure 4a-b. Gold belt plaques with animals fighting, Siberian Collection of Peter the Great, 4th–3rd century BC .....	219
Figure 5. Gold armlet, 5th century BC, Oxus Treasure.....	220
Figure 6. Late Assyrian carved stone relief panel from the Temple of Ninurta, Nimrud .....	221
Figure 7. Gold plaque, c. 5th century BC, Oxus Treasure .....	221
Figure 8. Gold torc, Siberian Collection of Peter the Great, 4th–3rd century BC.....	222
Figure 9. Gold torc, Siberian Collection of Peter the Great, 4th–3rd century BC.....	223
Figure 10. Gold aigrette, Siberian Collection of Peter the Great, 4th–3rd century BC.....	223
Figure 11. Phoenician ivory excavated at 'Fort Shalmaneser', Nimrud, 8th century BC.....	223
Figure 12. Phoenician ivory excavated at 'Fort Shalmaneser', Nimrud, 8th century BC.....	224
Figure 13. Gold eagle with cloisonné decoration, Siberian Collection of Peter the Great, 4th–3rd century BC.....	224
Figure 14. Gold belt buckle in 'Animal Style' from Sarmatian kurgan 2 in lower Volga region, Verkhnyaya Pogromnoje, 1st century BC.....	225
Figure 15. Bracelet, late 4th or early 3rd century BC .....	226
Figure 16. Lost dagger hilt, watercolour from the catalogue of drawings, 1730s, Kunstkamera .....	226

**S. Lepetz, K. Debue, D. Batsukh: To accompany and honour the deceased: the horses from the graves of the Pazyryk culture**

Figure 1. Geographical location of sites .....	229
Figure 2. Position of human bodies and horses in the main tombs of the Mongolian Altai .....	230
Figure 3. Position of human bodies and horses in the main tombs of the Mongolian Altai .....	231
Figure 4. Main characteristics of the horses for each of the tombs studied.....	232
Figure 5. Perforations on the skull of the horse of tomb 10 at Baga Tünger 6 .....	233
Figure 6. Perforations on the skull of the horse of tomb 12 at Baga Tünger 6 .....	233
Figure 7. Perforations on the skull of the horse of tomb 1 at Tsengel Khairkhan 1.....	233
Figure 8. Perforations on the skull of the horse of tomb 3 at Khatuu 1 .....	235
Figure 9. Perforations on the skull of the horse of tomb 6 at Khatuu 6 .....	236
Figure 10. The number of horses in the graves .....	237
Figure 11. Detail of the Pazyryk carpet: the gender of the horses is clearly indicated .....	238
Figure 12. Age of horses in graves .....	239
Figure 13. Position, age, sex and colour of the coat of the horses in Berel' 11.....	242
Figure 14. Bone pathology impacting the backs of horses .....	243
Figure 15. Counting bone pathologies of Mongolian grave horses.....	243
Figure 16. Position of slaughter impacts on Mongolian horses – 1 .....	245
Figure 17. Position of slaughter impacts on Mongolian horses – 2 .....	246

**L. Llewellyn-Jones: The royal \*gaunaka: dress, identity, status and ceremony in Achaemenid Iran**

Figure 1. Achaemenid royal dress: Darius I at Bisitun.....	249
Figure 2. Forms of Achaemenid dress depicted at Persepolis: coats with false sleeves, loose belted gowns and belted riding costume.....	250
Figure 3. Man wearing a coat with false sleeves in an Afghan market.....	251
Figure 4. Narrow leather false sleeve with appliqué excavated in kurgan 1 at Tuekta in the Altai mountains; 5th century BC .....	252
Figure 5. A pair of miniature gold statuettes from the Oxus Treasure showing men wearing the *gaunaka .....	252

### M. Loades: Scythian archery

Figure 1. A rare Scythian bow in extraordinarily good condition dated to the 5rd–3rd centuries BC .....	259
Figure 2. Parts of the wooden and horn core laid out before assembly and the application of sinew .....	259
Figure 3. A small gold plaque depicting two Scythian archers back-to-back from the Kul-Oba burial mound near Kerch .....	259
Figure 4. Gold drinking vessel from Kul-Oba, a 4th century BC Scythian kurgan in the Crimea .....	260
Figure 5. Author wearing replica of <i>gorytos</i> : not only does the <i>gorytos</i> balance well for the horse archer but it is equally suited for the infantry archer .....	260
Figure 6. Replica bronze Sarmatian thumb-ring, made by ‘Custom Thumb Rings’. Dated to around AD 100 .....	261
Figure 7. Athenian plate representing a Scythian archer .....	262
Figure 8. Replica Scythian arrowhead showing an example with the single barb .....	263
Figure 9. Scythian bronze arrowheads from Arzhan-2, southern Siberia, 7th century BC .....	263
Figure 10. Trilobate Scythian arrowheads from Arzhan-2, second half of the 7th century BC .....	263
Figure 11. Fragments of painted arrow shafts from the burial mound at Pazyryk 3, southern Siberia. Late 4th/early 3rd century BC .....	264
Figure 12. The author’s reconstruction of a Scythian saddle under construction .....	265
Figure 13. The author’s reconstruction of a Scythian saddle <i>in situ</i> .....	265
Figure 14. A Scythian horse archer from the 4th–5th century BC .....	266
Figure 15. Replica of four-horn Parthian style saddle: the derivation from the Scythian saddle is clear with the bolsters evolving into pronounced and sturdy horns .....	266
Figure 16. The author shooting from a Parthian style saddle .....	267

### Y. Lukpanova: A priestly burial from the Taksai-1 cemetery

Figure 1. Plan of the cemetery complex at Taksai-1 .....	269
Figure 2. Plan of kurgan 6 after excavation .....	269
Figure 3. Log roof of the central tomb with horse bridles <i>in situ</i> .....	270
Figure 4. The southern wall of the tomb pit .....	270
Figure 5. Plan of the main distribution of finds within the tomb pit .....	271
Figure 6. Plan of the finds associated with burial 3 .....	271
Figure 7. Physical reconstruction of the appearance of lady in burial 3 .....	272
Figure 8. Drawn reconstruction of the appearance of the lady in burial 3 .....	272
Figure 9. The frame of the headdress .....	273
Figure 10. Gold plaques with representations of rams .....	273
Figure 11. Gold plaques depicting the heads of mountain goats .....	274
Figure 12. Gold plaques with rotating griffin-heads in a swastika composition .....	274
Figure 13. Biconical gold clothing beads .....	274
Figure 14. Drawn reconstruction of the clothing indicating the original position of the decorative elements .....	275
Figure 15. Gold pendant earrings .....	275
Figure 16. Bronze mirror with gold overlay .....	276
Figure 17. Bronze cauldron .....	276
Figure 18. Bronze brazier .....	277
Figure 19. Poplar-wood comb .....	278
Figure 20. Gold bracelets .....	279

### L. S. Marsadolov: The Okunev culture: a unique Siberian civilisation and its links with Scythian and later cultures

Figure 1. Depictions and artefacts of Okunev culture in Khakassia .....	282
Figure 2. Artefacts of Okunev culture: .....	284
Figure 3. Cult pendant in the shape of a half-moon. Chernovaya VIII burial ground, barrow 8; stone .....	285
Figure 4. Megaliths in southern Siberia and Britain .....	288
Figure 5. Correlating depictions of Okunev culture, Scythian and Tashtyk period .....	289
Figure 6. Depictions on stone statues, artefacts and tattoos <i>Stone statues</i> : Okunev culture, 3rd millennium BC; ‘deer’ stones, 8th–7th centuries BC .....	290
Figure 7. The four principal phases of the occurrence of stone statues .....	294
Table 1. Depictions and artefacts of Okunev culture in Khakassia .....	286
Table 2. Correlation of depictions of Okunev culture, Scythian and Tashtyk periods .....	291
Table 3. Depictions on stone statues, artefacts and tattoos from the Okunev culture and Scythian period .....	292
Table 4. The four principal phases of the occurrence of stone statues .....	295

### A. Meek, N. N. Nikolaev, St J. Simpson: Scientific analyses of some glass beads from Scythian and later sites in southern Siberia

Figure 1. Objects discussed in this paper: a. blue and white ‘eye’ beads, 3rd century BC, Aymyrlыg; b. ‘amphora’-shaped beads, c. 1st century BC–1st century AD, Znamenka; c. striped beads, c. 1st century BC–1st century AD, Znamenka .....	297
Figure 2. Striped beads, c. 1st century BC–1st century AD, Znamenka .....	297
Figure 3. View of the site and environs of Znamenka .....	298
Figure 4. Glass beads, 1st century BC–1st century AD, Znamenka .....	300
Table 1. Summary of analytical results and interpretation .....	298

**E. Miklashevich: Petroglyphs of the Scythian period in the Oglakhty mountains  
(Republic of Khakassia, Russia): new materials and problems of attribution**

Figure 1. Complex of rock art sites in the Oglakhty mountains .....	303
Figure 2. Rock art of the Scythian period from various sites in Oglakhty .....	305
Figure 3. Oglakhty Sorok Zubjev. A composition with images of horses, deer and a 'Master of horses' .....	306
Figure 4. Scenes with 'marked' horses in a specific Oglakhty style, from various sites .....	307
Figure 5. First attribution of 'marked' horses of Oglakhty .....	309
Figure 6. Oglakhty, Abrashkin Log, multi-figure composition and its fragment .....	311
Figure 7. Oglakhty, Abrashkin Log, panel with a deer .....	312
Figure 8. Oglakhty, Abrashkin Log, composition with a lion-headed predator .....	313
Figure 9. Oglakhty, Badalazhkin Log: compositions with 'marked' horses, recorded in 2016 .....	314
Figure 10. Oglakhty riverside cliffs with reconstruction of a composition with 'marked' horses and a predator.....	316
Figure 11. Oglakhty riverside cliffs: depiction of an archer with bow and tiered arrowhead and a parallel for it .....	318

**R. S. Minasyan: Scythian and Sarmatian weapons with gold decoration**

Figure 1. Cast (?) iron <i>akinakes</i> with gold overlay decoration on the blade and hilt: Arzhan-2, Grave 5, 7th century BC.....	320
Figure 2. Dagger with gold hilt with gold overlay decoration on the blade. Arzhan-2, Grave 5, iron, gold, 7th century BC .....	321
Figure 3. Arrowhead with overlaid decoration. Arzhan-2, Grave 5. Iron, gold, 7th century BC.....	321
Figure 4. Details of the obverse and reverse sides of a sword blade with gold overlay decoration. Filippovka-1, mound 4, burial 2. Iron, gold, L 57.5 cm, late 5th–mid-4th centuries BC .....	323
Figure 5. Cast iron (?) pommel of a dagger: chance find near Minusinsk, southern Siberia, 7th–6th centuries BC.....	324
Figure 6. <i>Chekans</i> from the 7th–6th centuries BC.....	324
Figure 7. Hilt and cross-guard of a dagger. Iron, cast (?) .....	324
Figure 8. <i>Akinakai</i> with high-relief details on the hilts from the 7th–6th centuries BC .....	325
Figure 9. Forged iron <i>chekan</i> : Kelermes cemetery, Grave 29, 7th–6th centuries BC .....	326

**A. Mongiatti, E. Korolkova: Gold of Peter the Great: Scythian goldsmithing techniques**

Figure 1. Achaemenid-style gold tubular torc.....	329
Figure 2. (a), Seam on torc Si 1727 1/62, where the edges of the sheet curled into a tube meet in a butt-joint, (b), same horizontal butt-joint seam and vertical seam where the overlapping tubes join and have been soldered .....	330
Figure 3. (a) Top and (b) bottom views of the opening mechanism on the torc Si 1727 1/62, showing the brass rivet heads on either side, now locking the tubes in place and therefore preventing the torc from opening .....	330
Figure 4. (a) Seam where the halves composing the feline terminal have been soldered together and (b) feline features achieved by chasing. Note the turquoise inlay used to create the tiger's eye .....	331
Figure 5. Empty inlay cells on the (a) feline head and (b) tail showing the dark red resin, potentially used as adhesive for securing the now-lost inlays to the base and walls of the cell .....	331
Figure 6. Greco-Scythian tubular torc .....	332
Figure 7. (a) Seam on torc Si 1727 1/145 .....	333
Figure 8. Lion's head on torc Si 1727 1/145 most likely produced by repoussé work of two separate halves and its face features achieved by chasing.....	333
Figure 9. Decorative beaded and spiral-beaded wires and narrow strips on torc Si 1727 1/145.....	334
Figure 10. Fluted vessel .....	335
Figure 11. (a) Abdomen and front legs of a hollow feline on vessel Si 1727 1/71 .....	335
Figure 12. (a) Rivets hammered flat in the flowered-shaped base of the feline handle on vessel Si 1727 1/71.....	336
Figure 13. Gold aigrette (The State Hermitage Museum, St. Petersburg, inv. nr. Si 1727 1/131.....	337
Figure 14. (a) Burnished join on the crest of the vulture on aigrette Si 1727 1/131 .....	337
Figure 15. Cloisonné cells on the vulture's chest on aigrette Si 1727 1/131.....	338
Figure 16. Detail of the punching work on the (a) vulture's head and crest, (b) its knee joint on aigrette Si 1727 1/131 .....	338
Figure 17. (a) Front and (b) back of the vulture's left wing on aigrette Si 1727 1/131.....	339
Figure 18. Dark red resin visible (a) in the cloisonné cells of the vulture's chest and (b) in the small loops on the vulture's tail feathers' rachis on aigrette Si 1727 1/131.....	339
Figure 19. Gold bridle fitting .....	340
Figure 20. (a) Front and (b) back of the hammered gold belt plaque .....	341
Figure 21. Back of the (a) horse eye and (b) monster rear paws on plaque Si 1727 1/6 .....	341
Figure 22. Additional strip of gold soldered to the back of the sheet on plaque Si 1727 1/6.....	342
Figure 23. Cast gold belt plaques .....	342
Figure 24. Dendritic structure on the surface forming upon cooling of the metal in the mould during a casting operation.....	343
Figure 25. Cloth impressions on the reverse side of the cast belt plaques .....	344
Figure 26. Attachment loops at the back of cast belt plaques.....	345
Figure 27. Detail of the post-casting chasing work enhancing the three-dimensionality of the designs and accentuating their contours.....	346
Figure 28. Examples of inlay materials.....	346
Figure 29. Empty inlay cells on plaques .....	347
Figure 30. Surface texture of plaque Si 1727 1/162 .....	347
Figure 31. (a) Front and (b) back of the plaque in the shape of a coiled panther .....	347
Figure 32. (a) View of the reverse side of the panther head on plaque Si 1727 1/88; (b) cloisonné cells on the panther's tail made of small strips of gold cut and bent to the desired shape and soldered to the cast plaque .....	348
Figure 33. Coiled bracelet .....	348

Figure 34. Detail of the decoration on the terminals of bracelet Si 1727 1/55.....	349
Figure 35. Reverse sides of plaques: (a) Si 1727 1/11 and (b) Si 1727 1/157.....	349

**E. Murphy, Y. Chistov: Life and death in the Scythian world of southern Siberia:  
a social bioarchaeological study of the mobile pastoralists from Amyrlyg**

Figure 1. Map showing the location of Amyrlyg.....	356
Figure 2. Log house tomb VI. 6 from Amyrlyg.....	357
Figure 3. Cut-marks indicative of disarticulation at the right hip of an 18–35-year-old man from Amyrlyg (VII. 5. Sk 4).....	358
Figure 4. Anterior dislocation of the right glenohumeral joint and associated compression fracture of the humeral head in an elderly man (50+ years) from Amyrlyg (XX. 8. Sk 2).....	361
Figure 5. Battle-axe injuries in the skull of a 35–50-year-old man from Amyrlyg (B.8 Sk 1).....	363
Figure 6. The head of the man from Barrow 2 at Pazyryk: two axe-pick holes are evident and the scalp has been cut off from the top of the forehead to the back of the neck.....	364
Figure 7. Notably enlarged left eye socket in an 18–35-year-old woman from Amyrlyg (XXIII. 10. Sk 2) suggestive of the presence of a soft-tissue tumour possibly associated with the condition neurofibromatosis.....	365

**M. Ochir–Goryaeva: Pazyryk horse masks of Gorny Altai**

Figure 1. Map giving the relative location of sites of the Pazyryk culture with the western and eastern groups indicated by IV–VII and I–III respectively.....	368
Figure 2. The fifth Pazyryk barrow. Horse mask.....	368
Figure 3. First Tuekta kurgan horse mask 1.....	369
Figure 4. Berel' kurgan 11: reconstruction of the horse mask type 1.....	370
Figure 5. The first Pazyryk mound: reconstruction of the horse mask type 2.....	371

**S. V. Pankova: Mummies and mannequins from  
the Oglakhty cemetery in southern Siberia**

Figure 1. Map showing the location of the Oglakhty cemetery in the Minusinsk Basin, Altai-Sayan plateau, and other sites providing comparisons to the Oglakhty finds.....	374
Figure 2. View of the Oglakhty cemetery with its three plots.....	375
Figure 3. Oglakhty cemetery, Grave 4.....	376
Figure 4. Mannequin 1: leather, grass, fur, fabric, cremated bones (?).....	376
Figure 5. Man's face under the mask and a seam. Digital illustration based on computer tomography.....	377
Figure 6. Gypsum mask: 1, <i>in situ</i> on the man's head with a piece of silk on his mouth.....	377
Figure 7. Fur outer coat of the male mummy.....	378
Figure 8. Fur inner coat of the male mummy.....	378
Figure 9. Fur bib of the male mummy.....	379
Figure 10. Leather and silk mitten from the right hand of the male mummy.....	379
Figure 11. Leather trousers of the male mummy with straps.....	379
Figure 12. Leather footwear of the male mummy.....	380
Figure 13. Tattoos on the male mummy from Grave 4 and their parallels.....	380
Figure 14. Fur coat of the female mummy.....	381
Figure 15. Skirt fragment of the female mummy, wool, leather.....	382
Figure 16. Headrests of the dead persons.....	382
Figure 17. Head of mannequin 1. Leather, grass, woollen fabric, tendon thread, silk.....	383
Figure 18. Plait of mannequin 1 with fragment of a hairpin. Hair, wood.....	383
Figure 19. Leather footwear fragments from the left foot of mannequin 1.....	384
Figure 20. Mannequin 2. Leather, fur, grass.....	385
Figure 21. Trousers of mannequin 2 with a detail.....	386
Figure 22. Imitation bow case edged with silk. Leather, silk, wood, feather.....	387
Figure 23. Fragments of polychrome silk found next to one of the mannequins.....	388
Figure 24. Vessels from early Tashtyk graves and their parallels.....	390
Figure 25. Gorytos with containers for arrows and silk edging. Grave 8, Niya cemetery, Xinjiang. Leather, silk.....	391
Figure 26. Depictions of animals with bent paws from the Minusinsk Basin and their analogies in monuments in Xinjiang, China.....	392
Figure 27. Parallels to materials from early Tashtyk cemeteries in the Sampula cemetery.....	393
Figure 28. Wooden funerary bed, Sampula 92LS II M3.....	394
Figure 29. Models of scabbards from the Oglakhty cemetery and their parallels.....	395
Figure 30. Mask on the head of the woman from Oglakhty, Grave 4 and the painting on the face of a woman from the Zaghunluq cemetery, Grave 2, Xinjiang.....	396
Table 1. Summary of the silks found in Tomb 4 at Oglakhty.....	388

**S. V. Pankova, E. A. Mikolaychuk, Ly. S. Gavrilenko, L. S. Marsadolov:  
Textile finds from the central burials of the Arzhan-1 barrow in Tuva**

Figure 1. Arzhan-1: 1, map showing the location of the Arzhan-1 barrow in the Sayan-Altai plateau (Tuva); 2, plan of the wooden construction of the barrow; 3, the central chamber of the Arzhan-1 barrow with textile finds.....	398
Figure 2. Fragments of textile objects, Arzhan-1, Grave 1. Wool.....	401
Figure 3. Replicating the braid of fragment.....	402

Figure 4. Fragments of woollen textile from Arzhan-1, Grave 1.....	408
Figure 5. Fragment of woollen fabric with ornamental border from Arzhan-1, Grave 2 .....	410
Figure 6. Corner of woollen article of thin twill fabric with bordered sides and corner strap from Arzhan-1, Grave 4.....	411
Figure 7. Fragment of article of two fragments of twill striped fabric stitched together with hemmed edges. Arzhan-1, Grave 4. Wool .....	413
Figure 8. Fragment of two pieces of thin twill woollen fabric stitched together from Arzhan-1, Grave 4.....	414
Figure 9. Two fragments of weft-faced striped woollen fabric from Arzhan-1, Grave 4 .....	415
Figure 10. 1-4: fragment of weft-faced woollen fabric with a decorative darning from Arzhan-1, Grave 8 .....	416
Figure 11. Graduated figure pattern on cloths depicted on late Assyrian wall paintings and reliefs .....	419
Figure 12. Graduated design and crotches on woollen trousers from the Tarim Basin cemeteries .....	420
Figure 13. Pippings and ornamental bands with warp ends doubled in textile objects from the Tarim Basin cemeteries.....	421
Figure 14. Embroidery darning and lattice pattern on textile objects from Zaghunluq cemetery in the Tarim Basin .....	422
Figure 15. Examples of mass-spectrograms of dyes in multiple reaction monitoring mode (MRM) for Fragment 4 from the Arzhan-1 barrow .....	426
Table 1. Technological characteristics of fabrics, braidings, threads and fibres .....	403
Table 2. Dyes of the Arzhan textiles and their probable sources .....	424

**S. Polin, M. Daragan: The royal Scythian Alexandropol kurgan based on new research data of 2004–2009**

Figure 1. Alexandropol kurgan: view from the northwest.....	445
Figure 2. Location of Alexandropol kurgan in the north Pontic region between Scythian royal kurgans of Chertomlyk, Solokha and Oguz.....	446
Figure 3. General excavation plan of the Alexandropol kurgan 2004–2009.....	447
Figure 5. Ditch of the Alexandropol kurgan .....	448
Figure 4. Alexandropol kurgan on the eve of excavation in 2004–2009: tacheometer survey .....	448
Figure 6. Ditch of the Alexandropol kurgan near the western bridge .....	449
Figure 7. Ditch of the Alexandropol kurgan in the section near western bridge .....	449
Figure 8. Finds of gold objects in funeral feast of the Alexandropol kurgan .....	449
Figure 9. Finds of gold objects in funeral feast of the Alexandropol kurgan .....	450
Figure 10. Amphorae from the funerary feast of the Alexandropol kurgan .....	450
Figure 11. Amphorae from the funerary feast of the Alexandropol kurgan .....	450
Figure 12. Amphorae from the Alexandropol kurgan .....	451
Figure 13. Amphorae from the Alexandropol kurgan .....	452
Figure 14. Sacrificial burials in the funerary feast of the Alexandropol kurgan: burial 1.....	453
Figure 15. Sacrificial burials in the funerary feast of the Alexandropol kurgan: burial 3.....	453
Figure 16. Sacrificial burials in the funerary feast of the Alexandropol kurgan: burial 6.....	453
Figure 17. Arrowhead embedded in human bone from burial 6 .....	454
Figure 18. Central tomb of the Alexandropol kurgan: 2009 excavations .....	455
Figure 19. Central tomb of the Alexandropol kurgan: items found during the pre-investigation of 2009.....	455
Figure 20. Central tomb of the Alexandropol kurgan: items found during the pre-investigation of 2009.....	456
Figure 21. Central tomb of the Alexandropol kurgan: items found during the pre-investigation of 2009.....	457
Figure 22. Central tomb of the Alexandropol kurgan: reconstruction of the burial.....	458
Figure 23. The Alexandropol kurgan in a drawing made by Prince AA. Sibirsky, dated 10 September 1852 .....	464
Figure 24. Alexandropol kurgan. The map of the stone quarries, and their distance from the kurgan site, for the purposes of building of the retaining wall.....	465
Figure 25. Central tomb of the Alexandropol kurgan: 1, axonometric view; 2, reconstruction.....	466
Figure 26. Central tomb of the Chertomlyk kurgan: 1, axonometric view; 2, reconstruction.....	466
Figure 27. Distribution of kurgans in the Alexandropol kurgan micro-region.....	468
Table 1. Age at death of individuals found buried in the platform.....	452

**S. Polin, M. Daragan, K. Bondar: New investigations of Scythian kurgans and their periphery in the lower Dnieper region: non-destructive measurements and archaeological proof**

Figure 1. Scythian kurgans in the lower Dnieper region.....	474
Figure 2. Novokhortitsa-1: bronze pole top from the near-kurgan funeral feast.....	475
Figure 3. Yekaterinovka burial ground.....	476
Figure 4. Satellite image of Yekaterinovka burial ground .....	476
Figure 5. Yekaterinovka burial ground: magnetic anomaly maps of plots 1–3.....	478
Figure 6. Yekaterinovka burial ground: maps of archaeological features excavated on geomagnetic survey plots 1–3 .....	478
Figure 7. Yekaterinovka burial ground: burials 2 and 3 in kurgan 34.....	480
Figure 8. Novokhortitsa-1: A, composite satellite image and magnetic anomaly map of kurgan 1, Raskopanaya Mogila and kurgan 2, Novokhortitsa-1: B, digital terrain model of the Novokhortitsa-1 kurgan .....	481

**T. V. Ryabkova: The formation of the early Scythian cultural complex of the Kelermes cemetery in the Kuban region of the north Caucasus**

Figure 1. The northern part of the Kelermes cemetery with two parallel chains of mounds.....	484
Figure 2. Kelermes terminals with ball-shaped openwork bells and their prototypes .....	486
Figure 3. Kelermes, mounds 1 and 2 V. Bridle decorations and analogies .....	488



Figure 4. Kelermes, mound 1 V. Artefacts from the complex and parallels.....	489
Figure 5. Kelermes, mound 1 V. Decorations and analogies.....	490
Figure 6. Kelermes, mound 4 Sch. Artefacts from the complex and analogies.....	492
Figure 7. Kelermes, mound 3 Sch. artefacts from the complex and analogies.....	494
Figure 8. Kelermes, mound 24. Artefacts from the complex and analogies.....	496

**A. K. Satubaldin, S. A. Yarygin, A. Mongiatti, D. O'Flynn, J. Lang: The results of new scientific analyses of gold bracelets from Taksai-1 and an iron sword from Issyk in the National Museum of the Republic of Kazakhstan**

Figure 1. Map showing the location of Taksai-1 and Issyk.....	499
Figure 2. Pair of gold bracelets from Taksai-1 burial mound (Tk2-931), western Kazakhstan, 6th–5th centuries BC.....	500
Figure 3. Pair of gold bracelets from burial 4 at Filippovka-1, southern Urals, Russia, 6th–5th centuries BC.....	500
Figure 4. X-radiograph of gold bracelets Tk2-931.....	501
Figure 5. Close-up view of a casting defect (arrow) on a calf's neck.....	501
Figure 6. PGE inclusions on the omega-shaped body.....	501
Figure 7. Top view of a feline's head.....	502
Figure 8. Grooves on a feline's neck on bracelet 9241-19.....	502
Figure 9. Light coloured stone in a triangular cell on the forehead of a calf.....	502
Figure 10. Partially broken dark glassy-looking inlay in a cell on top of a calf's head.....	502
Figure 11. Light grey inlay in two of the grooves of a feline's horns.....	502
Figure 12. Modern reconstruction of 'the golden man' from Issyk.....	504
Figure 13. Iron <i>akinakes</i> with gold decoration.....	505
Figure 14. Gap (arrow) between what is most likely the scabbard and the iron blade inside it.....	505
Figure 15. Strip of chased/repoussé or stamped gold decoration in the centre of the blade/scabbard.....	506
Figure 16. Strip of gold decoration in the centre of the broken tip of the sword/scabbard.....	506
Figure 17. The brighter regions on the radiograph correspond to gold decorations on the pommel and grip of the hilt and the blade/scabbard.....	506
Figure 18. Tang of the <i>akinakes</i> , broken at the base of the blade and the internal structure made of wires of the subsequently reconstructed hand guard.....	507
Figure 19. Decorative gold strips on either side of the blade/scabbard.....	507
Figure 20. Decorative gold wire/s wound around the hilt.....	507
Table 1. Semi-quantitative XRF analysis on visually clean but non-abraded surface areas of both gold bracelets.....	503
Table 2. Semi-quantitative XRF analysis of visually clean but non-abraded surface areas of the gold decoration on the iron sword.....	508

**E. A. Shablavina: Secrets of Achaemenid production of personal ornaments and vessels**

Figure 1. A pair of gold bracelets with turquoise inlays from Taksai-1, burial mound 6, western Kazakhstan, made using the <i>basma</i> technique and soldering, 500–450 BC.....	510
Figure 2. The identical hollow terminals on these bracelets from Taksai-1 were made using the same matrix.....	511
Figure 3. Examination of the gold bracelets from Taksai-1 reveals further technological details.....	512
Figure 4. Gold aigrette from Peter the Great's Siberian Collection.....	514
Figure 5. Gold spiral torc with zoomorphic terminals and solder seams on the surface of the folded hollow hoops and at the junctions between the terminals and the hoops.....	515
Figure 6. Details of the gold spiral torc with zoomorphic terminals.....	516
Figure 7. Gold spiral torc with winged lion terminals and solder seams on the surface of the folded hollow hoops and at the junctions of the terminals and hoops.....	517
Figure 8. Details of the gold spiral torc with winged lion terminals.....	518
Figure 9. Silver amphora from Filippovka-1, burial mound 4, Grave 4.....	519
Figure 10. Pair of gold bracelets made by lost-wax casting, Filippovka-1, mound 4, Grave 4, 5th–4th century BC.....	519

**St J. Simpson: Etched or bleached? Traded or copied? Comments on the dating and distribution of a distinctive type of decorated carnelian bead found from India to Eurasia from the early 1st millennium BC to the early medieval period**

Figure 1. Beck's classification of bleached carnelian beads.....	528
Figure 2. Early bleached carnelian beads.....	529
Figure 3. Reconstructed appearance of the female from Grave 5 at Arzhan-2.....	530
Figure 4. Plan of the excavated graves at Arzhan-2.....	531
Figure 5. Plan of Grave 12 at Arzhan-2.....	531
Figure 6. Plan of Graves 13a–13b at Arzhan-2.....	532
Figure 7. View of the double burial in Grave 13a at Arzhan-2.....	533
Figure 8. View of the burial in Grave 13b at Arzhan-2.....	533
Figure 9. Detail of the beaded necklaces in Grave 13b at Arzhan-2.....	533
Figure 10. Bleached and plain carnelian and turquoise beads worn by skeleton 2 in Grave 13a.....	534
Figure 11. Bleached carnelian beads from Arzhan-2.....	534
Figure 12. Bleached carnelian beads from the art market.....	534

Figure 13. Multiple views of bleached carnelian beads from the early 6th century BC tomb at Jubaji .....	534
Figure 14. Bleached carnelian beads from Khotan and Yotkan .....	536
Figure 15. Plan of the main layers of Grave 3 at Tillya tepe .....	537
Figure 16. Bleached carnelian beads from Grave 3 at Tillya tepe .....	537
Figure 17. Three different reconstructions of the dress of the person buried in Grave 3 at Tillya tepe .....	538
Figure 18. Bleached carnelian beads acquired in the Perm region of western Siberia and Crimea respectively .....	539
Figure 19. Bleached carnelian beads from the Merv cemetery .....	540
Figure 20. Bleached bead worn with beads of mixed materials on a child's wrist from the 1st–4th century pastoral nomad cemetery at Myntobe, southern Kazakhstan .....	542

N. Yu. Smirnov: *In hoc signo vinces: the victory of the Scythians over the offspring of their slaves as a manifestation of divine providence*  
(Herodotus, *The Histories* 4.1 [3], 3, 4)

Figure 1. Silver vessel from the barrow No 3 of the Chastye kurgany burial ground near Voronezh .....	545
-------------------------------------------------------------------------------------------------------	-----

L. Spindler, M. Gleba, M. Daragan, M. Collins: **Testing Herodotus: leather species identification of Scythian quivers using new scientific methods**

Figure 1. A warrior with a quiver hanging over his left thigh from golden helmet found in Peredriyeva Mogila kurgan 2, near Zrubne village in the Donetsk region of Ukraine, dated 4th century BC .....	552
Figure 2. Stone stele of a standing male figure holding a drinking horn, with a scabbard and sword hanging from his belt and a gorytos with bow on the left side, from Plavni kurgan 2, Odessa region, dated to the end of the 5th-early 4th century BC .....	553
Figure 3. <i>Gorytos</i> from Soboleva Mogila <i>in situ</i> .....	553
Figure 4. Images of some of the quiver leather sampled, showing different levels of fragmentation and preservation .....	556
Figure 5. SEM images of the remaining surface of three leather fragments .....	557
Figure 6. Pie chart displaying distribution of positive species identifications from the tested fragments .....	557
Figure 7. Reconstruction of location of leather fragments from Ilyinka kurgan 4, burial 3 quiver with associated species identifications for fragments analysed .....	559
Table 1. Summary of burials which yielded materials analysed in this study .....	554
Table 2. Results of ZooMS species identification .....	558

E. V. Stepanova: **Saddles of the Hun-Sarmatian period**

Figure 1. Scythian saddles of the 3rd century BC and modern reconstruction .....	563
Figure 2. The essential elements of the construction of saddle cushions on Roman (1) and Scythian (2) saddles .....	564
Figure 3. The construction of Roman and Scythian saddles .....	565
Figure 4. The depictions of Sarmatian and Parthian saddles of the Scythian type of the 2nd century BC–2nd century AD .....	566
Figure 5. Depictions of saddles of Scythian type, 3rd century BC–2nd century AD .....	567
Figure 6. The overlays for the semi-circular supports of the late Scythian saddles and saddles of the 1st–6th centuries .....	570
Figure 7. Depictions of the Roman saddles of the 1st–2nd centuries .....	571
Figure 8. The overlays for the supports of the Roman saddles .....	575
Figure 9. The depiction of pad saddles of the Scythian type on Bosporan and Rhine reliefs, 1st century, and replica of the Scythian saddle from Pazyryk kurgan 3 .....	576
Figure 10. Depictions of Sasanian saddles .....	577
Figure 11. The front bows of the saddles of the 1st–first half of the 6th centuries .....	580
Figure 12. The pad-saddle and the saddles of 3rd–5th centuries with semi-circular bows from eastern Asia .....	581
Figure 13. The saddle of the 4th century with П-shaped bows from Chaoyang .....	583
Figure 14. The saddles of Silla (Korea) with П-shaped bows of the 5th to first half of the 6th century .....	584
Figure 15. Comparison of the details of Hun and ancient Turkic saddles .....	587

L. Summerer, Y. Lukpanova: **The wooden comb of the ‘golden lady’: a new battle image from the Taksai-1 kurgan (western Kazakhstan)**

Figure 1. Map showing the location of Taksai and the boundaries of the Achaemenid empire in 6th/5th century BC .....	589
Figure 2. Plan of the Taksai-1 burial with the central tomb chamber and the secondary burials of the beheaded females, П1 and П2 .....	589
Figure 3. Plan of the burial showing the burial of the ‘golden lady’, П 3, and the position of the box with the wooden comb, marked as 6 .....	590
Figure 4. <i>In situ</i> photograph of the burial of the ‘golden lady’ .....	591
Figure 5. Detail of the burial with burnt human remains and gold jewellery .....	592
Figure 6. Reconstruction of the ‘golden lady’ .....	592
Figure 7. Findspot of the wooden comb within the hazelwood box .....	593
Figure 8. <i>In situ</i> photograph of the wooden comb .....	594
Figure 9. Reconstruction of the wooden comb .....	595
Figure 10. Drawing of the wooden comb .....	596
Figure 11. Heads of the figures of the battle scene .....	597
Figure 12. Replica of the battle scene from the Tatarlı tomb .....	599

Figure 13. Detail of the replica of the battle scene from the Tatarlı tomb .....	600
Figure 14. Original painting with the chariot of the battle scene from the Tatarlı tomb .....	600
Figure 15. The main gold chariot model from the Oxus Treasure .....	602
Figure 16. The so-called 'Darius seal' .....	603

**N. A. Sutiagina, D. A. Kukina: Finds from the Noin-Ula kurgans at an exhibition  
in Berlin in 1929 (based on materials from the archive of the Russian Academy of Sciences,  
Institute of the History of Material Culture)**

Figure 1. Details from the canopy of a chariot from the Kondratiev kurgan in the Tzurumte Pass, Noin-Ula .....	608
Figure 2. Fragment of silk fabric from kurgan 12/24 (Teploukhov's) in the Sudzunkte Pass, Noin-Ula .....	609
Figure 3. Fragments of silk fabric with embroidery from kurgan 12/24 ('Teploukhov's') in the Sudzunkte Pass, Noin-Ula .....	609
Figure 4. Fragment of silk fabric with embroidery from kurgan 12/24 ('Teploukhov's') in the Sudzunkte Pass, Noin-Ula .....	609
Figure 5. Fragment of silk fabric with embroidery from kurgan 12/24 ('Teploukhov's') in the Sudzunkte Pass, Noin-Ula .....	610
Figure 6. Amber artefact from the Balod kurgan in the Tzurumte Pass, Noin-Ula.....	610
Figure 7. Fragments of ribbons from kurgan 6 ('Upper'), Noin-Ula.....	610
Figure 8. Fragment of felt rug with silk edging from kurgan 6 ('Upper'), Noin-Ula .....	610
Figure 9. Fragment of a silk sewn item with festoons from kurgan 6 ('Upper') in the Sudzunkte Pass, Noin-Ula.....	611
Figure 10. Fragment of a silk sewn item with festoons from kurgan 6 ('Upper') in the Sudzunkte Pass, Noin-Ula.....	611
Figure 11. Fragment of silk fabric with embroidery (tiger and dragon) from kurgan 6 ('Upper') in the Sudzunkte Pass, Noin-Ula.....	611
Figure 12. Fragment of tulle with rhomboid ornament from kurgan 6 ('Upper') in the Sudzunkte Pass, Noin-Ula.....	612
Figure 13. Sewn fragments of silk fabrics with embroidery from kurgan 6 ('Upper') in the Sudzunkte Pass, Noin-Ula.....	612
Figure 14. Plait in a silk case with a small pouch from kurgan 6 ('Upper') in the Sudzunkte Pass, Noin-Ula .....	612
Figure 15. Artefact of patterned silk with a small pouch from kurgan 6 ('Upper') in the Sudzunkte Pass, Noin-Ula.....	613
Figure 16. Fragment of silk fabric from a silk artefact with a small pouch from kurgan 6 ('Upper') in the Sudzunkte Pass, Noin-Ula.....	613
Figure 17. Fragment of decorated silk fabric from kurgan 23 in the Sudzunkte Pass, Noin-Ula .....	613
Figure 18. Fragment of silk fabric with embroidery from kurgan 23 in the Sudzunkte Pass, Noin-Ula.....	613
Figure 19. Fragment of silk fabric with embroidered decoration from kurgan 23 in the Sudzunkte Pass, Noin-Ula .....	614
Figure 20. Fragment of silk fabric from kurgan 25 in the Sudzunkte Pass, Noin-Ula.....	614
Figure 21. Fragment of silk fabric from kurgan 25 in the Sudzunkte Pass, Noin-Ula.....	614
Figure 22. Fragment of silk fabric from the Kondratiev kurgan in the Tzurumte Pass, Noin-Ula.....	615
Figure 23. Pieces of harness from kurgan 49 in the Sudzunkte Pass. Excavations of Grigory Borovka in 1926.....	615

**T. Taylor, C. M. Havlicek, C. I. Beckwith: The Scythian Empire:  
Reassessing Steppe Power from Western and Eastern Perspectives**

Figure 1. The Eurasian steppe zone from west to east.....	624
-----------------------------------------------------------	-----

**D. Topal: Antennae of Scythian *akinakai*: from abstraction  
to realism, there and back again**

Figure 1. Antennae pommels on Scythian anthropomorphic sculpture and mirrors .....	629
Figure 2. Găiceana type <i>akinakai</i> and items closed to them .....	630
Figure 3. Griffin daggers and swords .....	632
Figure 4. Distribution of ornithomorphic <i>akinakai</i> in Eurasia.....	633
Figure 5. Grishchentsy type and stylised griffin daggers and swords.....	636
Figure 6. Distribution of stylised ornithomorphic <i>akinakai</i> in Eurasia.....	637
Figure 7. Solokha-type <i>akinakai</i> .....	638
Figure 8. Distribution of Solokha type <i>akinakai</i> .....	640
Figure 9. Chronology of ornithomorphic Scythian <i>akinakai</i> .....	642

**R. Wong: 'Steppe Style' in southeast Gansu province (China)  
in the 4th and 3rd centuries BC**

Figure 1. The Eurasian steppe and archaeological sites discussed in this paper.....	651
Figure 2. Drawing of a side panel from the passenger box of a chariot from Tomb 16, Majiayuan, Gansu province, China, 4th–3rd century BC.....	652
Figure 3. Drawing of a side panel from the passenger box of a chariot from Tomb 13, Majiayuan, Gansu province, China, 4th–3rd century BC.....	652
Figure 4. Drawing of a side panel from the passenger box of a chariot excavated from Tomb 16, Majiayuan, Gansu province, China, 4th–3rd century BC.....	652
Figure 5. Drawing of a chariot wheel excavated from Tomb 3, Majiayuan, Gansu province, China, 4th–3rd century BC .....	653
Figure 6. Passenger box and wheel of a chariot with decorative sheets in situ excavated from Tomb 21, Majiayuan, Gansu province, China, 4th–3rd century BC.....	653
Figure 7. Reconstruction of a chariot with iron bird figures on the draught pole excavated from Majiayuan, Gansu province, China, 4th–3rd century BC.....	654
Figure 8. Limestone relief of a royal chariot in the Achaemenid Apadana, Persepolis, Iran, 6th–4th century BC .....	654
Figure 9. Part of a gypsum door-sill excavated from the North Palace, Room 1, Door C, Kuyunjik (Nineveh), Iraq, 645 BC.....	655

Figure 10. Pile carpet excavated from kurgan 5, Pazyryk, Russia, 4th–3rd century BC.....	655
Figure 10a. Detail of the pile carpet in Figure 10 .....	655
Figure 11. Saddlecloth excavated in kurgan 5, Pazyryk, Russia, 4th–3rd century BC.....	656
Figure 12. Part of the decoration from the passenger box of a chariot excavated from Tomb 3, Majiayuan, Gansu province, China, 4th–3rd century BC .....	656
Figure 12a. Details of the square sheets showing broken repoussé lines.....	656
Figure 13. Wooden cheek piece with bird-head terminals excavated from kurgan 2, Pazyryk, Russia, 4th–3rd century BC .....	657
Figure 14. Cheek piece with bird-head terminals excavated from Majiayuan, Gansu province, China, 4th–3rd century BC .....	657
Figure 15. Drawing of the front panel of a chariot showing the textile design on the obverse and reverse excavated from the tomb complex of the First Emperor of Qin, Lintong district, Shaanxi province, China, 3rd century BC.....	658
Figure 16. Carriage with an enclosed passenger box excavated from the tomb complex of the First Emperor of Qin, Lintong district, Shaanxi province, China, 3rd century BC.....	658
Figure 16a. Interior of the passenger box in Figure 16 .....	658
Figure 17. Felt saddlecloth excavated from kurgan 5, Pazyryk, Russia, 4th–3rd century BC.....	659

## Conclusions

Figure 1. Barefoot bearded Scythian wearing an off-the-shoulder tunic and a flask slung at his side.....	660
Figure 2. Arab pastoral nomads in retreat: scene from a Late Assyrian relief in the North Palace of King Ashurbanipal at Kuyunjik, 645–640 BC.....	661
Figure 3. Okunev stelae .....	662
Figure 4. Scene of a Black Sea Scythian restraining his horse, shown on a gilt silver amphora from the Chertomlyk kurgan....	664
Figure 5. Scene of a Black Sea Scythian hobbling his horse, shown on a gilt silver amphora from the Chertomlyk kurgan .....	664
Figure 6. Graph showing horse colours based on DNA evidence from Arzhan-2 .....	664
Figure 7. Horse mannequin in full dress, including a saddle with crupper and chest strap, a shabrack with Chinese silk embroidery, a ceremonial mask and decorated bridle, Pazyryk kurgan 5.....	665
Figure 8. Kyrgyz nomads moving camp .....	666
Figure 9. Reconstruction of the appearance of the leader buried in the central grave at Arzhan-2.....	667
Figure 10. Reconstruction of the design used for the sewn-on appliqué worn by this individual .....	667
Figure 11. One of a pair of gold belt plaques from the Siberian Collection of Peter the Great showing a dead or dying male with his head resting on a female’s lap, his quiver/bowcase hanging from the tree behind.....	668
Figure 12. Black Sea Scythians represented by a Greek goldsmith in the northern Black Sea.....	671
Figure 13. Black Sea Scythians wearing all-weather riding gear, depicted on a gold vase excavated by Paul Dubrux in the Kul-Oba kurgan in 1830.....	671
Figure 14. Conversation between a Kazakh herder and Mongolian camel man, Bayan-Olgii .....	671
Figure 15. Conflict on the steppe: representation on a late 5th or early 4th century BC gold comb excavated in the Solokha kurgan by Nikolai Veselovsky in 1913.....	673
Figure 16. The bow was central: a representation on a 4th century BC gilt silver vase from kurgan 3 of the Chastye Kurgans at Podonye shows a Scythian man proffering one to a youth.....	673
Figure 17. Different types of tents and yurts were used by Eurasian pastoral nomads although there is little evidence for their appearance in early periods.....	675
Figure 18. Tagar culture kurgans clustered in the mouth of a valley at Oglakhty, Republic of Khakassia .....	676
Figure 19. Detail of rock art visible on an external slab used in the stone enclosure wall of the barrow at Barsuchiy Log.....	677
Figure 20. Rock art visible on a slab used in the construction of the stone enclosure wall of the barrow at Barsuchiy Log .....	677

# Foreword

Hartwig Fischer

It gives me great pleasure to contribute a foreword to this compendium of new research and thinking by such a vast group of authors on what it meant to be a Eurasian nomad. To most of us this is a deeply unfamiliar concept. As we are predominantly products of urban education systems our often-Eurocentric world views sometimes struggle to comprehend nomads, whether they are from Eurasia, Arabia or, indeed, modern travellers or displaced populations who have left their homes. Unconsciously we may judge these citizens of the world by our standards and try to impose levels of control on their movement which is contradictory to their roving lifestyle.

Our international museums are filled with sculptures, decorative arts and narratives of indigenous peoples, products of many of the world's cultures, both ancient and modern. However, many institutions struggle to represent the history of the nomad to its fullest extent. In an effort to better explore this history the British Museum had the privilege of working with the State Hermitage Museum to jointly develop the exhibition *Scythians: warriors of ancient Siberia*, which was on show at the British Museum from September 2017 to January 2018.

The exhibition was a revelation to many of our 130,000 visitors who were able to learn how these ancient pastoral nomads developed an efficient lifestyle so perfectly suited to their steppe environment. The Scythians were warriors indeed, but also skilled horse-breeders, wood-carvers, felt-makers, weavers and traders. The exhibition brought them back to life and restored the colour and tangible heritage to the words of Herodotus, upon whom so much weight and criticism had otherwise been placed.

I am delighted that following the conference at the British Museum in 2017 we are publishing *Masters of the steppe: the impact of the Scythians and later nomad societies of Eurasia* and that it contains the work of so many contributors from across Russia, Ukraine, Moldavia, Romania, Kazakhstan, Mongolia, China, Turkey, France, Germany, Austria, Denmark, Belgium, the Netherlands, America and Britain.

It is the responsibility of institutions such as the British Museum and the State Hermitage Museum to serve as examples of international co-operation and encourage a broader cultural understanding of world history. It is greatly encouraging therefore to develop this publication which has been authored by both rising and well-established scholars who are striving to share knowledge and understanding. The horizons and long-term sustainability of the Eurasian nomad are objectives worth contemplating today, and this volume is a testimonial to that.

Dr Hartwig Fischer  
Director, The British Museum



Signage at the entrance to the exhibition *Scythians: warriors of ancient Siberia* (photograph: The British Museum)

# Foreword

Mikhail Piotrovsky

The Scythians were an ancient people and their current image is part of the history of Russia, Russian culture and Russian national consciousness. Scythian artefacts form an important and familiar part of the Hermitage collection. The magnificent Kostroma deer is a generally recognised symbol of the Hermitage, its collections, its excavations and its academic research over the centuries. The arrival of Scythian antiquities into the Hermitage made it a universal museum and introduced the subject of the synthesis of cultures into its scientific repertoire once and for all. This subject continues to be part of ongoing academic, cultural and even political debates about Eurasian unity.

The Hermitage exhibits antiquities from Kul' Oba to Pazyryk, discovers sensational new monuments and carries out renewed explorations of previously excavated sites. The Hermitage combines the very latest technological examinations of Scythian weapons,

harness decoration and textiles with new art historical approaches to the 'Animal Style' and the chronology of Scythian kings and Scythian military campaigns. This new level of synthesis stands side by side with pioneering approaches in the field of visual exploration and ways in which the museum can display exhibits for the refined and ordinary public.

Scythology has long been an international field of study. The wonderful exhibition that this publication accompanies, a joint venture of the Hermitage and the British Museum, is an excellent example of combined research into the culture of these remarkable nomads. The results of this research and discoveries are worthy of the part played by the Scythians in world culture, and the Scythians are justifiably represented in the multi-faceted work of our two museums as we work together in friendship.

Dr Mikhail Piotrovsky  
Director, The State Hermitage Museum



Aerial photograph of the Winter Palace  
(photograph: The State Hermitage Museum,  
St. Petersburg; photograph by Igor Solovei)

# Preface and acknowledgements

Svetlana V. Pankova, St John Simpson

This conference was conceived as part of the public programme associated with the BP exhibition *Scythians: warriors of ancient Siberia* held at the British Museum from 14 September 2017 to 14 January 2018 and, like the exhibition itself, was jointly organised with the State Hermitage Museum. This is reflected in the addition of the forewords by both our directors and we are very grateful to them and their support of curatorial research.

Conferences like this are an essential part of any good exhibition, and a unique opportunity to explore related research questions and subjects which lie outside the strict exhibition narrative. However, it could not have happened without the very generous support of the ERC who supported it as part of the *Beyond Boundaries: Religion, Region, Language and the State* grant awarded to Dr Michael Willis: the organisers and participants alike are deeply grateful to them for this and for providing much-needed administrative support in the form of Serena Biondo who kindly made all the travel and accommodation booking for the participants. Given that we had over 35 speakers attending from multiple countries, including many from Russia and others also from outside the EU, this was a huge task, and we are also very grateful to Dean Baylis, then the senior administrator in the Department of the Middle East at the British Museum, for giving up a lot of his time to help with this. Additional costs were met through event ticketing and the Friends of the Middle East, a small group who very generously support the activities of the Middle East Department at the British Museum. We are very grateful to Jonathan Tubb, Keeper of this department, for kindly authorising this and supporting this volume by granting research leave and travel to Russia on several occasions. Likewise, we thank Dr Andrey Alexeev, head of the Department of Archaeology of Eastern Europe and Siberia at the Hermitage, for his support and interest.

Successful conferences also rely on good logistics and, in this case, we were fortunate as the British Museum Clore venue is well-versed to supporting events of this kind. The audiovisual technicians were always ready and presentations followed smoothly as a result. We are grateful to Freddie Matthews, head of Adult Programmes, for agreeing that this event could be included as part of the public programme, and to the British Museum Visitor Services managers, and the Box Office and Information Desk teams for facilitating

this. The conference catering was by Benugo and the coffee-breaks and evening reception were, as always, an important integral part of the three-day event. During the event, our security and visitor operations managers were always on hand to help and avert unforeseen events.

We would also like to thank here the different museums, organisations and individuals who generously supplied images: among them we should single out Rodolphe Olard for bringing our attention to the rare book from which the frontispiece is taken, and for kindly allowing us to photograph and include it. We are also particularly grateful to Dr Svetlana Adaxina, Deputy General Director, and Anastasya Miklyaeva, Head of the Rights and Reproduction Department at the State Hermitage Museum, for their kind permission and very generous waiving of reproduction costs for the numerous images we requested, some of which were taken specially. It is an act of true collaboration which we enjoyed throughout this exhibition project and a model of how great research institutions like our respective museums should work.

The editing of these papers proved a longer and harder task than even we originally anticipated, and most required translation and/or heavy editorial input. In the case of our colleagues from the Hermitage, this task was undertaken as part of the official agreement and we are indebted to Mariam Dandamaeva, Scientific Secretary of the Hermitage, for agreeing to, and kindly overseeing this process. In the case of other papers, much of the translation fell on the shoulders of Ekaterina Paronjan and Dr Georgi Parpulov, and we are very grateful to them for their hard work too. Dr Raphael Wong kindly checked the Chinese literature and citations for the bibliography. We are also hugely indebted to the numerous specialist reviewers we asked to comment individually on the different papers, introduction and conclusion, and for their candid and quick responses. They know who they are, and know that we could not have managed to do this without their great input and support.

We are delighted to report that we had four different publishers' offers to publish the proceedings of this conference, but we opted for Archaeopress Archaeology (Oxford) as we know from past experience that they are a delight to work with and invariably offer a quality product within a quick period of time. We owe David

Davison and Rajka Makjanic, and all their team at Archaeopress, our deepest thanks for the huge work they have put into making sure that this monograph is appropriately designed and produced to ensure its place on the shelves of everyone interested in Eurasian nomads.

As the editors, we thank the many contributors for their papers, the efforts they put into delivering the final versions and their immense patience while they underwent translation, editing, peer review and final production. In the final stages as we were preparing this volume for press, everyone's lives changed around

the world because of the appearance of a new virus: the loss of lives, livelihoods and personal freedoms has been a great tragedy. At the time this volume went in press we also heard with our deepest regret that our dear colleague, Dr Sergey Minyaev – a leading researcher in the field of archaeology of the Xiongnu – has passed away in St. Petersburg. He was unable to participate in our conference but his death is a huge loss for the archaeology of Eurasian nomads, and for some of the contributors personally. We dedicate this volume in his memory, hope that our world is restored to normality and that through friendship, dialogue and collaboration we remain strong and positive.





# Introduction

‘The Scythians established a rich nomadic civilisation which stretched from its homeland in Siberia to reach as far as the Black Sea and the edge of China by the fifth century BC. Mobility and mastery of local resources were central to their culture and their achievements, and they represent the first in a sequence of world-class players to emerge from this region, as they were the forerunners of the Sarmatians, the Huns, Turks and Mongols’.

This was the concept for the 2017/18 British Museum exhibition *Scythians: warriors of ancient Siberia*, sponsored by BP, which was the genesis of this volume of conference proceedings. This exhibition was the highlight of a series of cultural events organised in London to commemorate the world-changing event of the Russian Revolution a century before. Three years earlier, some of the leading museum directors in the UK discussed how it might be possible to mark this: the Royal Academy went on to mount an exhibition on the art of post-Revolutionary Russia,<sup>1</sup> the British Library focused on the history of the Russian Revolution itself,<sup>2</sup> Tate Modern showed the works of Russian graphic artists and photographers of the 20th century,<sup>3</sup> and the Royal Collection highlighted the close relations between the Romanovs and the British royal family.<sup>4</sup>

The challenge posed within the British Museum was how to create an exhibition which would complement these, yet play to our core audiences who are particularly drawn to the ancient world. The solution was equally clear: work closely with the State Hermitage Museum, develop an exhibition around the Scythians and explore part of the deep history of Russia, and this was the concept put forward by the BM co-editor of this volume. The aim was to look at one of the oldest known cultures from Russia which had a resonance with Western visitors, yet was so unfamiliar and from so remote a place that they would feel immediately intrigued and drawn into learning more. Like all successful storyboards the message was simple: bring stunning and unfamiliar objects together from a place few of our visitors will have been to, yet heard much about, and then challenge their perceptions about what that place was really like and let them emerge with a new and positive set of ideas about it, its

people and their culture. However, the aim was not just another exhibition on Scythian gold from the Black Sea region, of which there have been many in Europe and America.<sup>5</sup> We also wanted to include a wide range of spectacular organic finds from Pazyryk, including some which have never travelled before, add new curatorial insights, and embrace the latest research to illustrate the latest discussions about Scythian origins in the east as Herodotus himself stated:

‘It is claimed that when the Scythians, who were nomads at the time, living in Asia, were so hard pressed in a war with the Massagetans that they abandoned their homeland and crossed the River Araxes into the land of the Cimmerians – for the country that the Scythians currently inhabit is said, back in ancient times, to have belonged to the Cimmerians’.<sup>6</sup>

Greek and Roman authors likened the Black Sea to the shape of a Scythian bow<sup>7</sup> and, writing at the end of the first decade AD, the Roman poet Ovid described the world of the Eurasian steppe which lay beyond as the very opposite to that of the familiar farming world of the Classical world:

‘There is a place on the farthest border of icy Scythia, a gloomy and barren soil, a land without corn, without trees. Sluggish Cold dwells there and Palloor, Fear, and gaunt Famine’.<sup>8</sup>

This contrast between treeless steppe and fields lies at the heart of the dichotomy between settled and non-settled peoples. It has exercised numerous studies and led governments to impose controls on the movement of pastoralists or, in more extreme cases with the consolidation of state power in new nation-states,

<sup>1</sup> *Revolution: Russian Art 1917–1932* (11 February–17 April 2017).

<sup>2</sup> *Russian Revolution: Hope, Tragedy, Myths* (28 April–29 August 2017).

<sup>3</sup> *Red Star Over Russia: A Revolution in Visual Culture 1905–55* (8 November 2017–18 February 2018).

<sup>4</sup> *Russia, Royalty & the Romanovs* (9 November 2018–28 April 2019).

<sup>5</sup> The first and only previous exhibition in Britain was also at the British Museum (Morris 1978): it was a significantly smaller and much more traditional show although one the BM co-editor remembers well from visiting in his youth.

<sup>6</sup> Herodotus, *The Histories* 4.11; cf. also Diodorus Siculus, *Library of History* 2.43: ‘Next in order, however, we shall discuss the Scythians who inhabit the neighbouring lands. For these people at first possessed little territory for themselves; but later, having expanded gradually through fighting and courage, they acquired extensive lands, and their nation advanced to great dominion and glory. For at first they dwelt entirely along the Araxes River, small in number and despised because of their insignificance. But having one king of old who was fond of war and who excelled in military prowess, they won land for themselves in the mountainous country as far as the Caucasus, and in the plains along the ocean and Lake Maeotis [Sea of Azov] and the rest of the country all the way to the river Tanais [Don].’

<sup>7</sup> Dan 2013.

<sup>8</sup> Ovid, *Metamorphoses* 8.788–91.



Figure 1. Marketing poster advertising the exhibition, Waterloo station, 19th September 2017

enforce sedentarisation with sometimes devastating effects on social structures and the tribal economy.<sup>9</sup>

How does one actually display an alternative economy like this? The Scythians are one of the greatest nomad cultures of antiquity with strong resonances: exhibitions, like films and books, need a strong start and an equally powerful ending, yet differ as they rely on objects to support the narrative. The proposal began with an exhibition scope paper giving the concept quoted above, key messages, visit outcomes, outlining the interpretative approach and the exhibition narrative with the key objects on the 'wish list'. Regular meetings and curatorial discussions with colleagues in the State Hermitage Museum then followed, the exhibition entered the museum schedule, sponsorship sought, contracts signed, the press and marketing campaign launched, designs finalised, digital content developed, blogs posted and audio recordings made. Formative evaluation with focus groups and visitors to the museum indicated the following: for 76% of the sample, knowledge of the Scythians was zero to very limited, the idea of encountering an unknown ancient culture appealing, and many were attracted by the idea of seeing evidence for the lifestyle of a people, if possible with added experiential effects. Others added that 'Siberia is an exciting word', and 'Siberia gets across that they lived a tough life'. The message was also clear that the exhibition title should be evocative and illustrative, that it should convey a way of life and not be over-academic. Our marketing campaign combined these into a key message that we were doing an exhibition on an ancient people, they were warriors and were from Siberia: the carefully developed lead image added the nuances of a winter sunrise in the

east with a vast open flat landscape stretching behind a fierce horseman depicted in detail on gold, and the text indicated the exhibition was in collaboration with the State Hermitage Museum. This strong visual imagery was posted across the London Underground rail network, displayed on posters and banners around the museum, used on the cover of the exhibition catalogue, and adapted as a short animated film played in cinemas, on the museum website and preceding all public programme events in the lecture theatres (Figure 1).

Within the exhibition our introduction was the story of the discovery of amazing gold antiquities in kurgans in southern and western Siberia during the reign of Peter the Great, and how he was inspired by the (since disappeared) collection of the Dutch statesman and repeated mayor of Amsterdam, Nicolaas Witsen (1641–1717), to create his own. These were made over a large area, most likely spanning the Altai region, southern Urals, upper Irtysh river and northern Kazakhstan. Tobolsk was founded as a Russian fortress in 1587 and since 1708 had been a capital of the province of Siberia, so many finds were concentrated there, either bought or taken from teams of *bugrovshiks*. On 3rd August 1787, John Ledyard (1751–1789), the first American to travel across Siberia, remarked in his journal on some kurgans by the river there:

'I find near its banks those little mounds of earth, which I at first supposed, but now know to have been the dwelling places of those who inhabited it before the time of the Russians: these were the Bratskoi [Buryat] or the Calmucs. Some of these hillocks have been dug into and laid open – I suppose by some former traveller'.<sup>10</sup>

<sup>9</sup> Bocco 1990; Chatty 1996.

<sup>10</sup> Watrous ed. 1966: 148–49. Ledyard was an explorer with a short temper and died tragically early in Cairo: before travelling from St.



Figure 2. Gold, watercolours and engravings reconstruct St. Petersburg and the artistic response to the discovery of the Siberian Collection of Peter the Great (photograph: The British Museum)

Peter had already demanded that all new finds be sent to him and that looting stop: this was effectively the first piece of legislation protecting cultural heritage in Russia and was highlighted in the exhibition above prints showing the St. Petersburg of his day and opposite showcases containing spectacular pieces from his Siberian Collection (Figure 2). These objects are normally only seen by ticket in the Treasury Rooms of the Hermitage and were displayed alongside little-known 1:1 scaled watercolour drawings of the same pieces from the ‘paper museum’ of the *Kunstkamera*, which had been commissioned as the first step for an album of engravings which was never completed, and now held in the Russian Art department of the Hermitage. This was the first time the objects and drawings had been shown together, and was revelatory for all to compare the two and see the hands of individual 18th century draughtsmen (Figure 3).<sup>11</sup> But collaborative exhibitions – unlike those in commercial premises – offer many more opportunities

Petersburg to Kamchatka he was part of James Cook’s expedition to the north Pacific in 1776–80 and when in Tahiti had his hands tattooed, which partly explains a comment he wrote in a letter to Thomas Jefferson, dated 19th March 1787, where he writes intriguingly that, when at dinner one night in St. Petersburg, ‘we had a Scythian at table that belongs to the royal society of Physicians here: the moment the savage knew me & my designs he became my friend’ (Watrous ed. 1966: 124).

<sup>11</sup> None are signed but some are known to have been executed by Andrey Grekov, son of Angileos Delilo, Inspector of Peter’s Galley Fleet, who after studying painting at the newly established Academy of Sciences was appointed in 1732 to the *Kunstkamera* ‘to depict various *Kunstkamera* objects’ (Stetskevich 1997: 252); cf. also Printseva 2005: 200–201; Korolkova 2017a.

than just displaying pieces in another venue: visitors to this opening section quickly appreciated this, as we illustrated the first results of new scientific research on some of these objects, showed for the first time how they were made and should be introduced a second theme of the exhibition: the growing importance of archaeology and scientific research in the understanding of these people without writing (Figure 4).

A curving wall carried projections of late 19th century watercolour drawings by Pavel Yakovlevich Piasetsky (1843–1921) of the south Siberian landscapes crossed by the newly built Siberian Railway: the aim was to lead the visitor seamlessly into the modern era and the environment where these objects were made, used and found (Figure 5).<sup>12</sup> Non-Russians envisage Siberia as filled with negative connotations: bleakness, snow and ice, endless forest and penal colonies. Covering a vast portion of the Russian Federation and spanning many of the country’s time zones, it is rich in natural resources, and south of the vast forests there is grassy steppe punctuated by major river valleys with open woodland and the Sayan-Altai mountains. This was the world where the Eurasian nomads dominated with their mastery of the horse and ability to move herds and flocks from areas of deficit to areas of surplus according to the seasonal availability of pasture and water. Bronze Age cattle-herders had previously opened up this region and it was during the 3rd millennium BC that

<sup>12</sup> Printseva 2011.



Figure 3. Displaying objects from the Siberian Collection of Peter the Great with original watercolour drawings (photograph: Benedict Johnson)

Figure 4. Examining a gold belt plaque under high magnification in the Department of Scientific Research at the British Museum (photograph: Chloe Leighton)

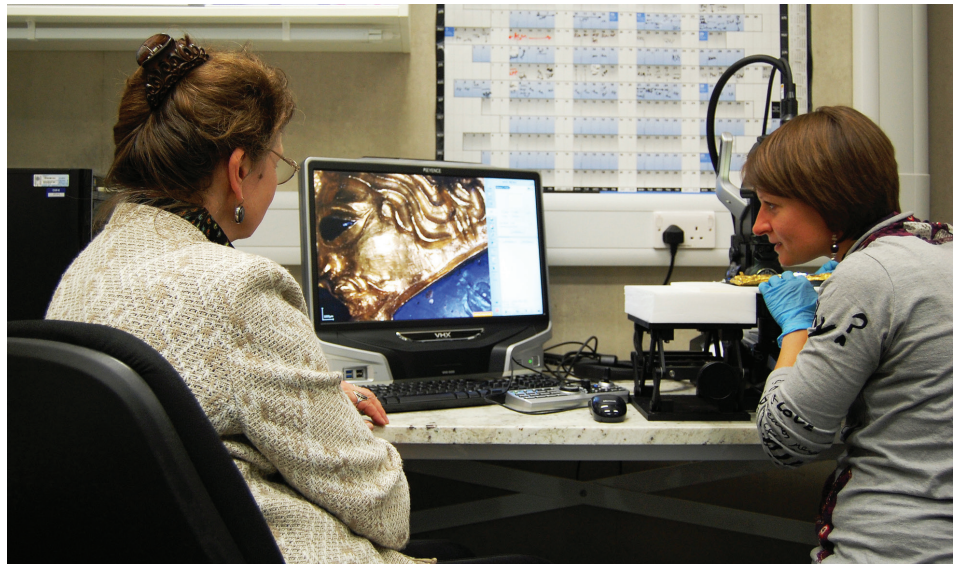


Figure 5. The choral ensemble *Russian Souvenir* sing traditional songs in front of a digital projection of watercolours of Siberia (photograph: Benedict Johnson)

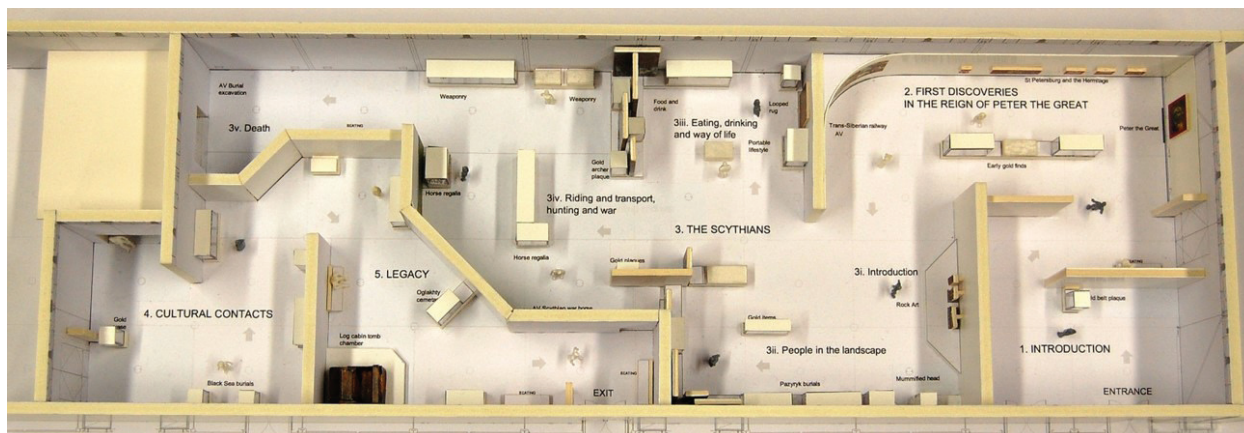


Figure 6. Exhibition model made by British Museum 3D designer Jon Ould (photograph: Chloe Leighton)

it began to act as a broad natural corridor for people, fashions and technologies to flow and connect with the agricultural oases of central Asia and other regions to their south.<sup>13</sup>

In about the 9th century BC the speed of movement and transmission was accelerated with the development of gear designed for comfortable and effective riding of horses: along with weapons and ‘Animal Style’ art, this is one of the key features of the so-called ‘Scythian triad’ which was rapidly adopted across the Eurasian steppe. This marks a critical turning point in the development of the pastoral economy and warfare of Eurasia, with rapid and lasting effects on the southern neighbours. Herodotus refers to how the Cimmerians of the north Caucasus ‘fled from the Scythians into Asia, and settled in the peninsula where the Greek city of Sinope is now established’,<sup>14</sup> and a Late Assyrian prism dated to 673 BC and excavated at Nineveh describes how Esarhaddon ‘marched triumphantly from the rising sun to the setting sun’ to confront his enemies and ‘I put to the sword Ishpaka, a Scythian, an ally who could not save himself’.<sup>15</sup> Another Assyrian document, dated only three years before, describes how the Scythian leader Bartatua requested an Assyrian princess in diplomatic marriage as part of the deal to secure a peace treaty with Esarhaddon.<sup>16</sup>

Written accounts are powerful first-hand testimonies but these are all views written by non-Scythians for their own audiences and raise other questions, as we shall see, about the implications of the events they describe. Moreover, exhibitions rely on more than texts and that is where this exhibition was like no other exhibition before on this topic. It consciously set out to explore what the salient characteristics were of Scythian life and death, how some of their

daily crafts were perfectly designed for purpose, and how various forms of ‘Animal Style’ art and ritual permeated their beliefs and even personal appearance (Figures 6–7). Separate sections explored these topics, with showcases set within a largely open space with sweeping panoramic landscape views designed to evoke the feeling of the Eurasian steppe (Figure 8). There was also the chance to emphasise their pastoral nomadic economy: a fleece found in kurgan 5 at Pazyryk, and lumps of cheese and the remains of the dyed cheetah-fur bag they were kept in from kurgan 2, the latter labelled as ‘best before 300 BC’ which drew the amused attention of visitors of all ages and occasioned an unscripted remark on English humour in one of the opening speeches (Figure 9). A reconstruction of a miniature tent found in another kurgan at Pazyryk, with the actual charred seeds of cannabis, an incense-burner, hexapod stand and felt canopy created a strong evocation of Herodotus’ remark that Scythians ‘howl with delight’ when they inhaled the smell enhanced by the confined ‘hotbox’ environment (Figure 10).<sup>17</sup> A leather purse with a full set of finger-nail clippings, probably from the final manicuring of a corpse, triggered other feelings of immediacy, especially as they were displayed alongside fur bags and mirrors, the essential accessories of antiquity (Figure 11). Items of clothing, tattooed human remains and personal tool-kits completed the sense of an archaeological ethnography. Cases of weapons illustrated warfare when competition for resources could not be brokered by dialogue. A large display of horsegear – from a comfortable padded saddle to ritual masks and other expressions of ‘Animal Style’ art in 2D and 3D – illustrated mobility and complex beliefs of the afterlife and the relationship of man to the natural and supernatural worlds (Figure 12). A log coffin from Pazyryk kurgan 1 – the heaviest and largest object in the exhibition – underlined their concern for care in the afterlife and was exhibited against a reconstruction

<sup>13</sup> Anthony 2007; Frchetti 2008.

<sup>14</sup> Herodotus, *The Histories* 4.12.

<sup>15</sup> Simpson and Pankova eds 2017: 285, cat. 191.

<sup>16</sup> Simpson and Pankova eds 2017: 284, cat. 190.

<sup>17</sup> Herodotus, *The Histories* 4.75.



Figure 7. Visitors are entranced by the rich variety of horsegear and other paraphernalia (photograph: Benedict Johnson)



Figure 8. Creating a sympathetic ambience is essential to any exhibition (photograph: The British Museum)

of the felt which may have been used to surround the corpse while the tomb was being constructed. A log ladder, an improvised mallet, coffin nails and a strip of birchbark used to isolate the tomb roof were exhibited to bring home the processes by which individuals were interred and how the exceptional frozen ground conditions in the high Altai preserve evidence that is missing from elsewhere. The multiple directions of interaction between Scythians and their

neighbours formed another section which illustrated how some objects are clearly imports, others are more ambiguous, but in most cases it was the artistic motif which travelled and was re-interpreted in other media on both sides of the fluid boundary between Scythians, Persians and Greeks, and yet a single tomb – whether in the Altai or the Crimea – may contain examples of each. These nomads lived in a rich and well-connected cultural environment

Figure 9. The VIP tour on the opening night stops to admire frozen cheese found at Pazyryk (photograph: Benedict Johnson)



Figure 10. The Scythian lifestyle was not always hardship: evidence for feasting, communal eating and getting high on hemp (photograph: The British Museum)

Every exhibition needs a punchy ending: without it, all the work is wasted, visitors exit through the exhibition shop with no desire to spend, and the word-of-mouth afterwards will be negative or lacklustre. There is a common tendency now for exhibitions to end by dwelling on the current resonances of the subject covered, whether by displaying contemporary art or the political context in the case of cultures in conflict zones. In both cases there is a risk of underwhelming the visitor or over-labouring the connection. Our

challenge was that the reasons why or even how the Scythians faded out of history are unclear and too diffuse for a good conclusion. Although 19th century discoveries triggered a ‘Scythian revival’ in decorative arts, just as they had for Assyria and Egypt, the number of pieces which could be borrowed was too small to have a major impact.<sup>18</sup> A reference to Scythian cannibals on the Mappa Mundi at Hereford Cathedral, the oldest

<sup>18</sup> De Guitaut, this volume; cf. Curl ed. 1994; McCall 2018.





Figure 11. Essential accessories for the afterlife: fur bag, leather and horn containers and polished metal mirrors (photograph: The British Museum)



Figure 12. Visitors stop in front of pole top ornaments and a felted pendant (photograph: Benedict Johnson)

surviving medieval map of the world and dating to c. 1300, was too complicated and negative to explore.<sup>19</sup> Napoleon’s exasperated remark about the burning of Moscow shows that they had achieved the status of ‘the other’: ‘What a terrible sight! They’re burning it themselves ... What a people! These are Scythians!’<sup>20</sup> This was not enough, nor were the opening lines of Alexander Blok’s famous poem, ‘The Scythians’, even though inspired by the October Revolution:

‘Millions are you – and hosts, yea hosts, are we  
And we shall fight if war you want, take heed.  
Yes, we are Scythians’.

Attempts to find school exercise books showing the impact of Scythians on the primary education curriculum within Russia proved unsuccessful, occasional images in Russian art or modern postage stamps were not sufficiently strong (Figures 13–14), and a brutal action-fantasy genre Russian film called *The Scythian* – released in Germany as *Rise of the Scythian*

<sup>19</sup> Arrowsmith 2015; the detail is illustrated in Cunliffe 2019: 308, fig. 11.9.

<sup>20</sup> Chateaubriand 1849/50.

Figure 13. Painting by Viktor Vasnetsov (1848–1926), *Battle of the Scythians with the Slavs*, oil on canvas, 1881 (The Russian Museum, St. Petersburg)



Figure 14. Modern postage stamps issued by the Republic of Khakassia entitled *Russian archaeological heritage* and illustrating Scythian and other bronzes

and elsewhere as *The Last Warrior* – came out a year after the exhibition closed (Figure 15).<sup>21</sup>

The answer was to bring the exhibition round full circle by returning to southern Siberia, and update the impact of the first antiquarian discoveries made during the reign of Peter the Great by introducing new archaeological and scientific research. Focusing on the southern Siberian republic of Khakassia, it showed how, after Scythian culture had mainly disappeared in about the 2nd century BC, they were replaced by new

<sup>21</sup> Directed by Rustam Mosafer and filmed in Crimea in 2016, this is a dark story of conflict, betrayal and bloody revenge between rival groups: Scythians, Kievan Rus, Turkic nomads and tree-dwelling Berendey inspired by Mad Max films. The lead character draws on his inner bear at times of rage and the last remaining Scythian tribe are portrayed as wolf-like mercenaries but are the only people not to lie: the bleak ending sees their integrity betrayed with hope buried in a folk-tale vignette within the closing credits. In the official press release, its director stated that ‘This is not a historical film in pure form, although its effect occurs about a thousand years ago [sic]. This is a fantasy based on our distant past’, and its producer Sergey Selyanov added that ‘The Slavic compound is located on the seashore, the Berendey live in a dense forest, and the Scythians live in the middle of a wasteland’.

Eurasian nomad populations, some of whom had close connections with northern China. It was this Tashtyk cultural group, known only through archaeology as they are absent from contemporary written sources, which offered the chance to leave exhibition visitors with some of their most lasting and unexpected impressions: haunting human heads covered with painted plaster masks, a funerary face veil, a model bowcase with scraps of reused Chinese polychrome silk, a repaired child’s fur coat, and the log cabin tomb-chamber in which all were discovered at Oglakhty in 1969 (Figures 16–17). The names and ethnic identity of these people are unknown, and even their absolute dating was unclear until recent radiocarbon analysis.<sup>22</sup> Isotopic analysis of hair plaits hints at the varied diet of individuals as they had evidence for fish, C3 plants (wheat and barley), meat and dairy products,<sup>23</sup> and reused scraps of Chinese silks illustrate the aesthetic

<sup>22</sup> Pankova *et al.* 2010. A further set of dates was generously financed by the British Museum’s Research Board and Department of the Middle East Friends and the results will be published separately.

<sup>23</sup> Shishlina *et al.* 2016.



Figure 15. Promotional marketing for *The Last Warrior*

offers an important case-study in the application of this approach to a pastoral nomadic society about whom we know little else.

Special exhibitions such as this are carefully developed with a curatorial vision, honed through discussion internally and with key partners, in this case curators in the State Hermitage Museum. A Baseline Assessment of the Museum’s Research in July 2017 recognised that the museum’s exhibitions and associated publications were often ground-breaking and of the highest international significance, but remarked that the number of associated publication outputs could be higher and commented on the lack of publications which discussed critically or reflected on our exhibition processes and their input. This is mainly because exhibitions contain significant investment of intellectual property which may be commercially realised in future touring versions of the exhibition: for instance, the travelling exhibition of treasures from the National Museum of Afghanistan which opened in Paris in 2007 came to the British Museum in 2011, and our design and interpretation was adopted for a fee by the next two venues in Stockholm and Trondheim.<sup>25</sup>

In the present case, it was clear from the outset that this exhibition was bespoke and would never be recreated, despite a request from another national museum. This exhibition was widely considered to be the highpoint in the arts season in London in 2017 with a huge impact on



Figure 16. Visitors realising that the label graphic shows a CT-scan of the man’s head beneath the plaster mask in the centre (photograph: Benedict Johnson)

value played by these in a world apparently otherwise dominated by fur and leather.<sup>24</sup> Scientific analyses offer huge possibilities and further research on this cemetery

<sup>24</sup> Pankova and Mikolaychuk 2020.

<sup>25</sup> Thereafter no further attempt was made to market our intellectual property and elements of the design and curatorial concept were put into the public domain through online posting and publication: Simpson 2012.

Figure 17. A family on a community preview realises that this reconstructed log cabin is an original tomb (photograph: Benedict Johnson)



Figure 18. The exhibition shop (photograph: Benedict Johnson)

the public, attracting 122,823 visitors and record sales in the exhibition shop, 15% higher than projected, with literally all stock sold by the closing weekend (Figure 18). The exhibition received unprecedented 5\* press reviews,<sup>26</sup> attracted an average live viewing audience of over 10,000 people per half-hour broadcast on Youtube Live, and was seen by others as an outstanding example of how major museums can exercise soft power in difficult political times. Unusually, it also attracted

<sup>26</sup> Adams 2017; anon. 2017; Aspden 2017; Campbell-Johnston 2017; Frankopan 2017; Hudson 2017; Januszczak 2017; Jones 2017; Kennedy 2017; Luke 2017; Maitlan 2017; Mount 2017; Pickford 2017; Richardson 2017; Sooke 2017; Whitworth 2017.

reviews in two international peer-reviewed journals.<sup>27</sup> This exhibition was the work of many and special thanks are paid here to everyone who made it this success (Figures 19–22).

Throughout the course of an exhibition such as this, there were many questions are posed by the public. Where was the gold from? Has there been any work done on the DNA of the population? What was the

<sup>27</sup> Johnson 2018; Pankova 2020a; a full report was also made on the making of the exhibition which contained the key findings from the formative and summative evaluations, as well as the label and panel copy and summaries of public programme and other events: Leighton and Simpson 2018.



Figure 19. Curators and conservators from the State Hermitage, National Museum of Kazakhstan and the British Museum gather on the museum front steps during de-installation

questioned the species identification of the stuffed felt ‘swan’ from Pazyryk kurgan 5.<sup>28</sup> They instead suggested that it represented either a conflation of species attributes, a White Pelican (*Pelecanus onocrotalus*), which is found around the northern Black Sea,<sup>29</sup> or, more likely, a migratory red-crowned crane (*Grus japonensis*) as the local Bewick swans have yellow beaks and white wing feathers.<sup>30</sup> It is easy to imagine how the choice of a crane would have resonated strongly with nomads who themselves followed a seasonal pattern of movement and had brought the embalmed body of the deceased on this cart for interment in a seasonal place of burial. Another individual suggested that a pair of bone chopsticks from Il’movaya Pad’ in Transbaikalia were actually hair pins worn in Chinese style, and went on to suggest that the accompanying burial was most likely a woman with hair piled high on her head.<sup>31</sup> Musicologists questioned the identification of a carved bone item from Aymyrlyg as a ‘Jew’s harp’ idiophone on the grounds that the central portion was too fragile and that the holes at either end suggested instead it may have been a decorative item stitched onto cloth.<sup>32</sup> Some of



Figure 20. Curators and conservators from the State Hermitage and the British Museum pause briefly during condition checking (photograph: Chloe Leighton)

status of women? Is there any evidence for gaming? What evidence is there for music? What language did the Scythians speak? What were their horses like? Occasionally, interesting and compelling suggestions were offered which differed from those published in the catalogue or written on the labels. Several birders

<sup>28</sup> Simpson and Pankova eds 2017: 252, cat. 174, following the suggestion of the excavator (Rudenko 1970: 192, pl. 166).

<sup>29</sup> Peter Ryley, pers. comm., 8th January 2018.

<sup>30</sup> Michael Banks, pers. comm., 18th October 2017, 6th January 2018; A. Naylor, 4th November 2017.

<sup>31</sup> Cf. Simpson and Pankova eds 2017: 336, cat. 247.

<sup>32</sup> Cf. Simpson and Pankova eds 2017: 340, cat. 257.

Figure 21. Installing objects requires teamwork as well as good design (photograph: Chloe Leighton)



Figure 22. Pinning gold lion appliqués onto a display panel takes time, skill and patience (photograph: Chloe Leighton)

these, as well as other points and suggestions, we could answer personally or through lectures, exhibition tours, social media, press interviews and popular articles.<sup>33</sup> Others must await publication or further research but, from the outset we insisted that a major conference be part of the public programme and, we are delighted that this was fully endorsed by both museums.

The papers which follow reflect the high level of interest: there are 45 papers by 58 contributors and co-authors from 16 countries and at different stages of their careers (Figures 23–24). The call for papers

<sup>33</sup> Long popular articles were published in five specialist archaeology and museum magazines, each offering scope to give a different angle on the historical and archaeological sources: they were the *BBC World History Magazine* (October/November 2017), *British Museum Magazine* (autumn 2017), *British Archaeology* (November/December 2017), *Current World Archaeology* (August/September 2017) and *Minerva* (September/October 2017).

was open to all and attracted a very positive response. Sadly, some individuals were unable to participate, either because of difficulties in obtaining UK visas in time or through personal, health or other reasons, but we are delighted that almost everyone, including these individuals, were able to offer their presentations for publication. This has been a long process: most had to be translated and edited, peer reviewed, repeatedly checked against the cumulative bibliography which we felt appropriate in this case, and in some cases picture rights clearance took longer than expected. We are now pleased to offer the results, highlight some of the key approaches below, and conclude this volume with a discussion of some of the key points arising.

The contributors to this volume take a wide range of approaches to the questions they ask. Many are archaeologists, some historians, others are curators or



Figure 23. Some of the participants at the conference gather for a group photograph



Figure 24. The conference encompassed archaeologists and curators from many countries: this group includes participants from Russia, Ukraine, Kazakhstan and Britain

archaeological scientists; some interpret the physical appearance of objects to suggest how they might have been made, others employ replication to test these questions and show how bows and beads were made or decorated. Most are actively working in the field, from Moldova, Romania and Ukraine in the west to southern Siberia, Kazakhstan and Mongolia in the east, and the results of their excavations, both old and new, are included here.<sup>34</sup> Some also re-analyse old collections in museums or extract new results from old data, whether through provenance study of Pontic Scythian gold clothing appliques from 19th century collections, or

dye analysis of late 9th or early 8th century BC textiles excavated between 1971 and 1974 at the famous site of Arzhan-1 in the Tuva region of southern Siberia. A so-called ‘traceological’ approach was taken by other contributors to suggest how certain metal objects were made; replication, accompanied by scientific analyses, was undertaken by another in an attempt to understand how a particular type of bleached decoration was created on carnelian beads found at Scythian and later sites. Archaeological science is a fundamental tool in the exploration of the past: there are papers with new analyses of gold from the Siberian Collection of Peter the Great, leather quivers and woven textiles. Others take an anthropological or historiographic approach to reflect on the possible socio-political meaning

<sup>34</sup> Two additional papers on the results of new investigations in Mongolia and China were delivered at the conference but sadly not submitted for publication.

behind chronological developments in 'Animal Style' art or the significance of the whip in Herodotus and the Avesta. Finally, as this conference deliberately aimed to look at periods and cultures beyond that contained within the exhibition, we have one paper examining the ethnographic perspective on traditional nomad economies, another on the dramatic effect the Hephthalite Huns had on the Sasanian and Gupta empires in Late Antiquity, and a third examining the visual impact of Scythian discoveries on 19th century European decorative arts.

These papers throw completely new light on many aspects of Eurasian nomad life but also raise many questions: the concluding part of this volume therefore attempts to set these new results within a broader research context illustrate their relevance to a wider understanding of the history, archaeology and social anthropology of the ancient nomads of Eurasia. This is a fertile field, and one with a very long and equally active area of archaeological research: this collection of papers offers a taste of what is known and the range of approaches being taken now.