References

Bradley, R. 1990. *The Passage of Arms: An Archaeological Analysis of Prehistoric Hoards and Votive Deposits*. Cambridge: Cambridge University Press.

Levy, J.E. 1992. Review of *The Passage of Arms* by Richard Bradley. *American Anthropologist*, 94: 207. doi: 10.1525/aa.1992.94.1.02a00470

JANET E. LEVY
University of North Carolina at Charlotte, USA

doi 10.1017/eaa.2017.30

David Anthony, Dorcas Brown, Aleksandr Khokhlov, Pavel Kuznetsov and Oleg Mochalov, eds. *A Bronze Age Landscape in the Russian Steppes. The Samara Valley Project* (Monumenta Archaeologica 37. UCLA Cotsen Institute of Archaeology Press, 2016, 511pp., 198 figs, 152 tables, hbk, ISBN 978-1-938770-05-0)

The programme of fieldwork and excavation reported in detail in this volume took place from 1995–2002 in the valley of the Samara river, an east flowing tributary of the Volga. Its principal aim was to elucidate the complex social and economic changes that occurred in the middle Volga region at the beginning of the Late Bronze Age between 1900 and 1700 BC. Before this crucial transition period, the Early and Middle Bronze Age communities of the region were mobile steppe pastoralists who probably lived in wagons or tent camps and buried their elite in funerary mounds (kurgans). But from *c.*1900 BC the appearance of large numbers of permanent settlements implied that a new sedentary life style was being widely adopted. From the Samara oblast the figures are impressive. Some 150 settlements of Late Bronze Age date have been identified compared with only ten pottery scatters representing camps in the preceding Middle Bronze Age. While this could be interpreted simply as an increase in population, the fact that the number of kurgans remained more or less the same (fifty in the Early and Middle Bronze Age and sixty in the Late Bronze Age) suggests that the sudden appearance of permanent settlements was due to major changes in life style.

The Samara valley was well chosen as the focus for survey. It lies at the eastern limit of the Pontic-Caspian steppe, where the steppe narrows between the northern edge of the deserts of the Caspian Depression and the southern end of the Urals, providing a convenient west-east route linking the western steppe and the eastern steppe of Central Asia. It also lies more or less along the boundary between the steppe proper to the south and the forest steppe to the north. This crucial position, on two divides, greatly enhances the significance of the region for research. The Samara oblast has another attraction—it inherits a strong tradition of detailed archaeological research inspired by I.B. Vasiliev of the Samara State Pedological Institute. By choosing the Samara valley as their study area, David Anthony and his team were able to build on a sound archaeological database and to work in close collaboration with Russian colleagues who had a deep knowledge and understanding of the local archaeology.

The programme of work, spread over seven seasons, involved extensive fieldwork involving the collection of pollen cores

from bog deposits and the excavation of four different Late Bronze Age sites: the settlement site of Krasnosamarskoe, three kurgans from a nearby cemetery, and two herding camps at Peschanyi Dol about 20 km from the settlement. The excavations were accompanied by programmes to retrieve pollen, macrobotanical remains, phytoliths, and animal bones, all of which were reported in detail, while the human remains recovered from the excavation were incorporated into wider surveys. A subsidiary project—the Samara Ancient Metals Project—was developed in parallel to examine the production, circulation, and consumption of metalwork in the region. During the course of this work evidence of copper mining dating to the fifteenth century BC was discovered in the Kamyshla district in the north east of the Samara region. All this carefully focussed effort has, inevitably, produced a mass of new data which is fully reported here in eighteen chapters involving twenty-one authors. To present so much data in an easily comprehensible and accessible manner is no easy task but the editors and authors have managed this in an exemplary way. Each of the contributions stands on its own and follows its own logic but all work together as a cohesive whole.

The volume is divided into four parts. In Part I, 'Introduction and Overview of the Samara Valley Project 1995–2002' the project design and its implementation are explained. The author, David Anthony, uses the opportunity to explore the nature of pastoralism and traditional views on its development, introducing the new, and sometimes startling, implications resulting from the present programme. We will return to some of these issues below. Part II, 'History, Ecology, and Settlement Patterns in the Samara Oblast' sets the regional background for the study by presenting a review of the Bronze Age discoveries in the Samara valley (Chapter 4, by Paval Kuznetsov & Oleg Mochalov) and the palaeoecological evidence for vegetation and climate change in the immediate region (Chapter 5, by Laura Popova). Part III comprises three chapters devoted to 'Human Skeletal Studies' in the Volga-Ural region, including a wide ranging analysis of the Neolithic to Late Bronze Age population of the Samara valley (Chapter 7, by Rick Schulting & Michael Richards). The final section, Part IV ('Excavation and Specialist Reports for the Krasnosamarskoe Kurgan Cemetery and Settlement and the Herding Camps in Peschanyi Dol'), comprising ten chapters, presents the structural and stratigraphical evidence from the excavations with separate chapters dealing with the pollen and macrobotanical remains, the phytoliths, and the faunal remains. The results of the Samara Ancient Metals Project are summarized in Chapter 11 by David Peterson et al. In all it is a thorough piece of reporting, efficiently compartmentalized, with all the evidence needed to support the discussion and conclusions clearly laid out. The editors and authors are to be congratulated in presenting such a range of complex data in so accessible a way.

But what does it all mean? Too often field projects of this kind simply accrue data. Not so here. By carefully focussing the research questions, choosing appropriate sites, and targeting on them an array of relevant analytical techniques, the team has produced entirely new insights into the development of pastoral economies in the western Pontic-Caspian steppe and in so doing have raised wide ranging questions about pastoralism in general.

Before the project began, the widely accepted view was that pastoralism was a specialized strategy which evolved from a broader-based agropastoral economy. Further, for pastoralism to exist the community had either to be able to grow its

https://doi.org/10.1017/eaa.2017.31 Published online by Cambridge University Press

own grain, and thus be sedentary, or it had to be able to obtain grain through trade (Khanzanov, 1984). This led to what became known as dependency theory (Di Cosmo, 1994: 1093; 2002: 168–69), further elaborated by Khanzanov (2009: 120), which stated that pastoral nomads, without access to agricultural products, could exist only in conditions of extreme poverty. The reason, they argued, was that steppe pastoralism was always at the mercy of extreme weather conditions, occurring on a cyclical basis, which decimated flocks and herds. Moreover, pastoralists needed access to state economies to provide markets for their surplus animal products. Pastoralists therefore depended on neighbouring states. Dependency theory influenced the way in which the prehistory of the western steppe was interpreted and it required the assumption that the Bronze Age economy was agropastoral. The change from the mobile pastoralism of the Early and Middle Bronze Age (3300–1900 BC) to the settled life, which took place between 1900 and 1700 BC, could then be explained as the result of the widespread adoption of agriculture and an increased reliance on cattle which were better suited to a more sedentary system. It was this comprehensive and enduring model that the Samara Valley Project set out to investigate.

The surprising result of the detailed study of samples from the settlement of Krasnosamarske and the two herding camps at Peschanyi Dol, using a full suite of botanical recovery methods, was that there was no trace of cultivated grain. Moreover, the study of the human skeletons from the kurgan cemetery showed the absence of the heightened tooth decay which normally accompanies a cereal-rich diet, while the stable isotope analysis showed no signatures for a diet of cultivated grain. The inescapable conclusion must be that the settled Srubnaya communities of the Samara valley were neither producing nor importing cultivated cereals. Elsewhere in the western steppe comparable results were obtained (Lebedva, 2005). At the intensively investigated copper mining site of Gorny no cultivated grain was found, and in a survey of thirty-six Srubnaya settlements extending the length of the western steppe, based on core samples, only seven yielded one or two charred grains of millet and those were all to the west of the Volga, six of the seven being west of the Don. The conclusions, then, must be that among the Srubnaya populations of the western steppe the consumption of cultivated cereals was not a necessity for wellbeing and in those communities in which grain was consumed it was done as a cultural choice not as a necessity. Furthermore, the fact that no grain impressions have been found on Early and Middle Bronze Age pottery in the Samara region and no charred seeds have been recovered from graves of this period is sufficient to demonstrate that pastoral communities between the Volga and the Urals thrived for 2000 years without the benefit of agriculture.

The work at Krasnosamarskoe did, however, identify charred weed seeds, notably *Chenopodium* with smaller quantities of *Polygonum* and *Amaranthus*, and similar assemblages have been recovered from Kibit and Gorny. These were all plants growing wild in steppe pastures and there can be little doubt that they were deliberately collected to augment the diet. *Chenopodium*, which is both prolific and nutritious, would have been a valuable food supplement.

If there was little change in the food producing strategy between the Early and Middle Bronze Age and the Late Bronze Age (Shrubna culture) why was there a sudden shift from mobile pastoralism to sedentary pastoralism in the period

https://doi.org/10.1017/eaa.2017.31 Published online by Cambridge University Press

1900–1700 BC? The authors argue that it was a factor of climate change. A cooler and more arid climate began to set in in the Eurasian steppe in the middle of the third millennium reaching a peak between 2250 and 2000 BC. In the Samara valley the palaeoecological study showed that at this time the extent of the forest lakes and marshes was in decline while the steppe lands were increasing. The marshes and lakesides with their stands of *Phragmites*—a reed that can grow to over 7 m in height—were vital to herding communities in that the reeds provided fodder, and to some extent shelter, for animals during the harsh steppe winters. David Anthony suggests that it was the decline in this crucial resource, as the result of climatic change, that encouraged pastoralists to settle in permanent homesteads on the low terraces next to the flood plain, their physical presence claiming ownership of the nearby fodder supply.

A more settled lifestyle led to further changes. One suggestion which Anthony offers is that cooperative herding may have begun to develop at this time. He cites as evidence the variety in ceramic fabrics found at the herding camps at Peschanyi Dol, the argument being that the camps were used by herders coming from widely dispersed communities. This implies that grazing lands were shared and it is quite possible that the herds belonging to individual settlements were run together at certain times during the year. The relationship between the Samara valley settlements and the great mining centre at Kargaly, some 300 km to the east, is also discussed, the authors favouring the view that the mines were manned by seasonal labour from the settlements and that the surprisingly large number of prime-age cattle consumed at the mining camp at Gorny were provided from the valley settlements. Such an interpretation is at least feasible, and could explain the need for cooperative herd management when people were away working at the mines. The lines of argument are tenuous: interesting but unproven may be the safest conclusion.

The Samara Valley Project was, by any standards, an outstanding success. Carried out with a great efficiency of effort in the field and using carefully targeted analytical approaches, the excavations have revolutionized our understanding of Bronze Age pastoralism in the western steppe and have shown that long held theories about the nature and development of pastoral economies need to be entirely rethought. The Samara Valley Project is a milestone both in the history of the Eurasian steppe and in the study of pastoral communities.

References

Di Cosmo, N. 1994. Ancient Inner Asian Nomads: Their Economic Basis and its Significance in Chinese History. *Journal of Asian Studies*, 53(4): 1092–126.

Di Cosmo, N. 2002. *Ancient China and its Enemies: The Rise of Nomadic Power in East Asian History*. Cambridge: Cambridge University Press.

Khanzanov, A. 1984. *Nomads and the Outside World*. Madison: University of Wisconsin Press.

Khanzanov, A. 2009. Characteristics of Chalcolithic and Bronze Age Pastoralism in the Near East. In: J. Szuchman, ed. *Nomads, Tribes, and the State in the Ancient Near East: Cross-Disciplinary Perspectives*. Oriental Institute Seminars 5. Chicago: The Oriental Institute of the University of Chicago, pp. 119–28.

Lebdeva, E.Y. 2005. Archaeobotany and Study of Bronze Age Agriculture in Eastern Europe. *Opus: Mezhdistsiplinarnye Issledovaniya v Arkheologii*, 4: 50–68.

BARRY CUNLIFFE
University of Oxford, UK

doi 10.1017/eaa.2017.31