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Editorial, IANSA 1/2013

Notes from the Field

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I was delighted when Jaromír Beneš asked me to write some thoughts for this issue of IANSA. As the previous editorial piece in issue 2/2012 summarized, the joint meeting of the editorial and advisory boards in October 2012 set out a new direction for the journal that endeavours to highlight innovative method and theory between archaeology and the natural sciences within a global context while still showcasing Central European archaeology. As one of the advisory board members, that October gathering was my first opportunity to meet with the other members and to contribute to thoughts on the future direction of IANSA. It was a privilege to have been involved in this and to see the journal aimed towards encouraging a more vibrant discourse on science in archaeology.

Archaeology in the 21st century will no doubt draw ever more intently from the natural sciences as new techniques

and methods are developed and refined. Yet the integration of different disciplinary expertise to help answer questions about the past demands considerable effort and there will remain challenges to overcome on many different levels. While multidisciplinary research within archaeology has become ever more commonplace there is much room for development. This is particularly the case in field research, where disciplinary theory and scientific method come together, frequently in very sharp contrast to one another.

Furthermore, archaeology today is increasingly representative of wider global processes as scholars from very different intellectual traditions and scientific training come together through collaboration in research programmes to produce knowledge about the past. For example, as I am writing this editorial, an archaeological excavation is going on

Figure 1. Spatial variation in soil copper concentrations across the Sintashta period settlement of Stepnoye.

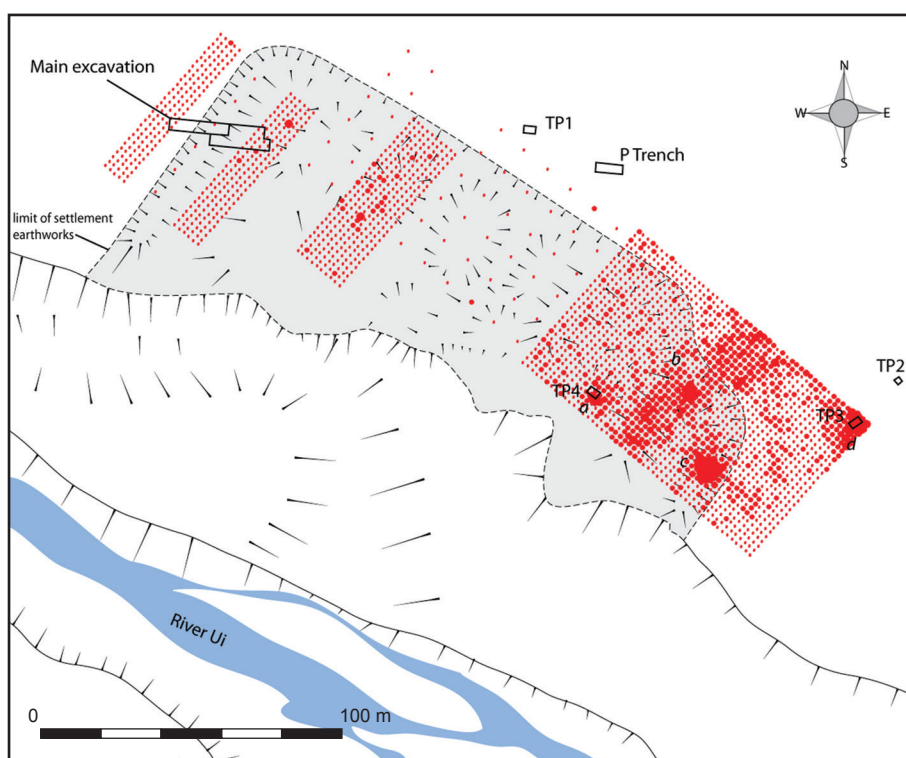




Figure 2. Peter Hommel (University of Oxford) undertaking geochemical characterization using HHpXRF at the Sintashta period settlement of Ust'ye.

around me. A team of international faculty and students have come together this summer in the Southern Ural Mountains region of Russia to complete what has been a seven year effort. Scraping sounds produced from spades and trowels and quiet conversation fill the air. Looking around at the faces of the crew it is rather startling to realize that no less than eight countries and archaeological traditions are represented by our team, including Russia, the United States, Great Britain, Peru, Bolivia, Japan, Canada, and China. In past years we also have had team members from Serbia, Croatia, and Slovenia.

Our programme of study, the Sintashta Collaborative Archaeology Research Project (SCARP), is funded and supported by various agencies in the Russian Federation, Great Britain and the United States and represents an amalgamation of quite different approaches to the archaeology process. Our project has been aimed at understanding in greater detail social and economic change during the Middle Bronze Age (2100–1700 BCE) with a specific focus on early mining and copper metal production associated with the Sintashta culture. Since 2007, we have examined four Sintashta period settlements, associated cemeteries, and local catchments using pedestrian survey, geophysical and geochemical prospection, and ground truthing through excavation. While

we have pursued several important research questions, two important objectives have been to explore the scale and context of early copper metal production within settlement enclosures. Previous excavations during the Soviet Period highlighted the recovery of metallurgical furnaces, slags and other associated metal working artefacts within domestic structures, and while the significance of these is often stated much is still unknown about the specifics of metal production and the diachronic development of this technology. Our team has sought to understand the organization and technological characteristics of this industry in more detail through comparative study at several Middle Bronze Age settlements.

The goals of our project have led to the participation and expertise of numerous specialists from the fields of archaeology, geophysics, bioarchaeology, geology, paleoclimatology, zooarchaeology, archaeometallurgy and paleobotany. Our project is by no means unique in this respect. Archaeological research has increasingly become a complex multidisciplinary effort requiring new forms of technology and expertise right at the trowel's edge as well as in the laboratory. Such developments represent a wide acknowledgement of the rich information that can be gleaned from the archaeological process through interdisciplinary

study. And, as the description of our own team reflects, archaeological field research has become an increasingly global enterprise with specialists and students from many different intellectual traditions coming together in various regions of the world through funded research programmes and field schools.

The project has provided an important opportunity for a reflexive archaeology to be developed. Real time data processing has allowed day to day results to be scrutinized in the field so as to inform the next day's objectives. Working closely with Russian specialists, we also have adapted to different environmental conditions within the region. Geophysical prospection has been a vital component of our research, however, variable soil conditions have led to our methods working well in some areas and poorly in others. For example, in 2009, after poor results were produced with fluxgate gradiometry, we employed HHPXRF (hand held portable XRF) for soil chemistry across a Sintashta period settlement in order to examine elevated Cu levels potentially associated with copper metal production and/or deposition of slag artefacts. Two subsequent seasons of development of this method by Roger Doonan (project co-PI, University of Sheffield), followed with HHPXRF being employed at three other settlements with promising results. Our final season in the field this summer is focused intently on investigating these data through excavation.

Coming into our final season of the project we have succeeded on a number of different levels and produced important new data for the region. However, our team also has come to recognize something important about the *process* by which theory and scientific method come together – especially when this is represented by distinctly different intellectual traditions and methods. As we complete our last season of the project and move towards final analysis and publication of team monographs, I look forward to the

opportunity to publish not only the most important results of our team efforts but also to discuss the important *process* we have undergone as an international interdisciplinary team and what we have learned from working together. It has been a challenging but rewarding experience. It is, of course, conventional practice to publish the best results of such an endeavour but it is just as crucial to publish the twists and turns of research associated with a reflexive archaeology. I look forward to the opportunity to discuss our results in this way and to examine more critically the meeting point between our Russian, British and American field intellectual traditions and scientific methods. We have all benefited immensely from this process and I am delighted that students from all over the world have both contributed to this and taken something from it. Our project is representative of archaeology in the 21st century, an interdisciplinary relationship formed between archaeology and the natural sciences in order to build detailed understandings of the past. I am very pleased that IANSA offers an important forum for examining these issues and an outstanding opportunity for showcasing the archaeological process.

As the previous editorial last October outlined, several changes to the structure of the journal have been made so as to encourage discussion and debate along thematic lines. The new section, *thematic reviews*, is introduced in this volume by Marek Nowak through the “State of Research of the Neolithization in Poland”.

Enjoy this new issue of IANSA and please consider submitting to the journal in the near future. Open access to the journal offers an incredibly important opportunity for discussion and debate to be shared widely and for scholars from many different disciplines and intellectual traditions to benefit from this.

Now, as for me, it is time to get back to the trench and at work with the team!



Figure 3. International team excavating at the Ust'ye settlement, summer 2013.

