

# Archaeology in current society. A Central European perspective

Martin Gojda\*

## Introduction

In recent years, Central Europe has experienced an unprecedented acceleration in social development (especially due to the demise of the communist regimes), in streams of thought (for example the post-modern vision of truth and the relativity of scientific knowledge) and, above all, in the availability of new information and communication technologies. Like every discipline, archaeology has been obliged not only to react to the contemporary dynamic but also to adapt to it in a positive — i.e. creative — way. Among the resultant trends to be noted in the Czech Republic are a decreasing interest in a single general theoretical paradigm, coupled with an increasing demand for the conservation and mitigation of sites threatened by development and looting. As a possible consequence of these developments, the past two decades have seen a shift in the agenda of archaeological researchers towards landscape and a realignment of the discipline away from the humanities and towards environmental and geographical considerations.

## Paradigms

In the past few decades, theoretical debate has had a considerable impact on the development of archaeology and its relationship to more established disciplines — even more so in the Anglo-American environment than in Central Europe. Re-evaluating the significance of the theoretical and empirical components of the discipline at the turn of the millennium, we may encounter a certain disappointment that the entry of theoretical discourse into archaeology since the 1960s has not had the impact that it might have done. One reason is perhaps that theory tends to be discussed in a ‘theoretical forum’, i.e. separate from practical research: the two components are treated as somewhat autonomous, operating independently of one another. As a result, theoretically-oriented archaeologists mainly communicate amongst themselves (cf. Barrett 1995: 3–5).

It is also said that the more time and effort the academic archaeological community has invested in theoretical topics, the further away they have pushed it from reality. It has been suggested that archaeology should be embedded in empirical field research and practiced by professionally established and generally recognised procedures, thus providing data for reconstructing the lives of human societies of the past, independent of any theoretical basis (Bintliff 2000: 6–7). It also seems that during archaeology’s previous development, changes in paradigm came most frequently from *inside* the discipline. By contrast, current archaeology is, to a large extent, influenced by impulses coming from *outside* the scientific

\* Department of Archaeology, University of West Bohemia, Sedlackova 15, Plzen 306 14, Czech Republic  
(Email: martin.gojda@seznam.cz)

community (cf. contributions by Central European archaeologists in Kobylíński 2001). Pre-eminent among these outside pressures are those relating to the conservation and rescue of threatened sites (see below).

A certain slowdown in development of the theoretical component of present-day archaeology, however, also comes from a quite different source. In the Czech Republic, financial support for short to medium term research projects is allocated through a state funding system and the effective operation, and indeed existence, of most academic institutions relies largely on money from this source. The need to gain the necessary funding means that grant applications are aimed mostly at activities likely to attract support, usually those related to field research and its processing. The need for each institution to produce an adequate number of publications following this agenda each year, leads to a corresponding reduction in interest in conducting theoretical studies.

Three factors are today inducing a paradigm shift in archaeology, in the sense used by Kuhn (1962). First, is the need to respond to damage to the archaeological resource (as mentioned above); second, the development of new technology; and third, consequent on the other two, is the movement of the archaeological agenda closer to that of geography and the natural sciences, in some ways realigning with the previous post-war thinking of processual archaeology. These areas of influence will be briefly considered in what follows.

## Conservation: responses to building and looting

The demise of the European communist regimes has resulted, among other things, in extensive interventions in the landscape. Non-stop building activity has markedly changed the contemporary mission of archaeology in the area of field research. The priority given to saving archaeological heritage is a pan-European phenomenon that came to archaeology in the 1970s, giving rise to both 'rescue archaeology' and 'contract archaeology'. These circumstances have forced archaeology to start dealing seriously with the strategy of rescue research; planning the most effective ways of responding to the limited opportunities afforded by individual building operations. Noticeably, the excavation of imminently threatened sites has begun to apply selectivity (sampling), aimed at obtaining the maximum representative knowledge of a particular site with the minimum expenditure of time and money. Attention has increasingly been paid to calculating the sample areas to be excavated or, more precisely, the intensity of research in the individual segments of the area endangered by the irreversible removal of the original terrain and deposits.

In planning sampling strategies, archaeology utilises both information about specific locations gained in the long-term perspective (especially through aerial reconnaissance and surface survey) and data acquired using current methods (above all geophysical prospection) in the initial stage of research. The evaluation of this information significantly influences the selection of trenches (spatial samples) at the site in danger. One of the *alphas and omegas* of today's archaeology consists of the accurate gathering of fieldwork data (the so-called analytical approach, applied to a great extent, for example, in surface collection of artefacts, see Kuna *et al.* 2004: 324–34), particularly from areas at risk of destruction.

Ethically, however, archaeologists often find themselves in a dichotomous situation. Their mission leads them to pursue fieldwork aimed at publicising a greater understanding of the

past; but their professional principles require them to refrain from digging unthreatened, 'non-endangered' sites and to do their best to keep any knowledge of them from being made public. This painful dilemma exacerbates the frustration of a subject whose essential purpose is the scientific discovery (or more precisely the uncovering) of the material remains of the life of past societies, each unique and fascinating and of interest in its own right. This fascination/interest is enhanced by the current transformation of traditional society into industrially advanced civilisations, with automated mass-production of serially produced objects.

In addition to the problems brought about by construction, the Czech Republic has also to confront large-scale looting of the country's archaeological heritage, often the result of the uncontrolled use of sophisticated metal-detectors by organised groups of prospectors. In practice, this causes even more damage than building activity or ongoing destructive farming methods, particularly because it often takes place out of sight in remote and sparsely populated areas. If we do not wish to look for ways of how to use the morally and scientifically dubious results of the illegal activity of these prospectors to enrich our knowledge of the past (cf. the British Portable Antiquities Scheme, Bland 2005), we can expect this situation to become extreme. Archaeologists will be obliged to accept that what is not excavated by them through properly constituted field projects will be excavated (hence, destroyed and lost) by looters. It is obvious that such a situation is primarily a reflection of the inability of current society to provide efficient protection for archaeological sites. Should we accept this, we will immediately find ourselves in conflict with the Malta European Convention on the management of archaeological heritage, which strictly demands that destructive research should not be conducted on so-called 'non-endangered sites'. An alternative, pragmatic solution — starting to co-operate with reliable metal-detectorists — is gaining more support among archaeologists, mostly of the younger generation (e.g. Bland 2005; Šmejda 2007; Rundkvist 2010: 851).

It is particularly frustrating that, although the 1989 revolution brought a complete change in every other aspect of social life, the Czech Republic is still waiting for a new law on heritage management and protection (current legislation dates back to 1987). Moreover, no consensus on legislation acceptable to both sides (developers and heritage managers) has yet been achieved.

## **Field practice**

In rescue projects, limitations, in terms of both time and the area to be investigated, commonly result in selective sampling over full excavation. Non-destructive methods, which are generally able to offer high quality data faster than digging (although they cannot replace excavation completely) are therefore a good alternative. Such non-destructive methods can also offer a way forward for archaeological research projects at 'non-endangered sites'. Archaeology is now aided by sophisticated equipment, devices and software, the same as those used in civil engineering, which are, with certain modifications, suitable for research or rescue excavation. For basic as well as advanced analysis of data and their storage, archaeology makes use of digital information systems, graphics programmes and databases. The trend for employing these devices leads today's archaeology towards significant enhancement of

its methodological and technical proficiency, and towards improving its equipment base (cf. Carver 2001 for a vision of field archaeology in the twenty-first century).

As examples, we might point to geographical information systems (GIS), satellite navigation systems (GPS), satellite image data of a previously unprecedented resolution (such as QuickBird and IKONOS), hyperspectral scanners, aerial orthorectified high-resolution images covering whole regions or states (so-called orthophotos maps, see e.g. Google Earth, or [www.mapy.cz](http://www.mapy.cz) for the Czech Republic; Šmejda 2007; Gojda 2010) or laser scanners for 3D terrain modelling (ground or aerial — LiDAR; see Doneus & Briese 2006; Devereux *et al.* 2008; Crutchley & Crow 2010).

This dynamic development of sophisticated equipment, nowadays functioning mainly in the area of digital technology, also has its drawbacks. The precise locations of all the places subject to archaeological research are eventually revealed in scientific (and sometimes also popular) publications. This makes them vulnerable. Releasing locational information at different scales of accuracy (detailed maps for the profession, small-scale for the general public) is no longer an option. Using high-tech equipment, illegal metal-detectorists can pinpoint sites rapidly, reliably and accurately. Even an approximate site location still makes them easy to find.

## Archaeology and geography

The accessibility of information technology and the style of its outputs have had a considerable impact not only on data collection and processing but also on the agenda in some sub-fields within the discipline. For instance, the arrival of GIS, making use of the potential afforded by detailed and voluminous spatial data and the analytical programs applied to it, has prompted landscape and settlement archaeology to work at a different, qualitatively higher, level. Never before, even at the time that David Clarke was writing about the *geographical paradigm*, has archaeology found itself so closely linked to geography.

Of parallel importance is the close relationship between archaeology and natural science (see Beneš & Pokorný 2008 for current developments in environmental archaeology in the Czech Republic). Archaeology has no comparable partner, either among the humanities or the social sciences. This is the principal point of contention in a recent debate in the Czech Republic concerning where archaeology is to be positioned in the academic arena. The proposal is that archaeology should be removed from the group of history-related disciplines and reclassified as either a scientific or at least an anthropological discipline. This would have the effect (not altogether unrelated) of increasing state financial support for university archaeological departments by more than 50 per cent for each student.

## Focus on landscape

If the theoretical and social issues outlined above have ushered archaeology into the geographical fold and encouraged it to pursue non-destructive mapping activities, it is no surprise to find that the modern agenda includes a significant focus on *landscape*. At the turn of the millennium, the concept of landscape captured the attention of many researchers and commentators in various areas of human creative activity (science, philosophy, art and

aesthetics, fiction), for whom this phenomenon represented a multi-faceted symbol of the complexity of society and of its reflection in the natural environment, transformed by human presence. The importance of this concept for today's Europe is stressed by the European Landscape Convention, adopted by the European Council at the beginning of the twenty-first century. In the wording of the convention, landscape is treated as a social and cultural asset protected by legislative norms (Fairclough 2006). In combination with the natural sciences, archaeology in Central Europe has repeatedly demonstrated its potential for the diachronous reconstruction of landscape forms (e.g. Dreslerová & Sádlo 2000; Dreslerová & Pokorný 2004).

The integration of landscape into the archaeological agenda is shifting the perception of archaeology inside the scientific community as a whole — from a discipline devoted to the excavation of attractive or intriguing artefacts, towards one dedicated to integrating social and natural sciences on a broad scale. Centres for landscape and environmental research have been established in many archaeological institutions within the European Union. Here professional archaeologists and natural scientists work together on projects using data originating from both cultural (human) deposits and natural sediments and aimed at understanding long-term processes of continuity and change that have resulted in its present structure and image.

In the Czech Republic, landscape archaeology has been practiced since the early 1990s, most intensively at the Institute of Archaeology, Czech Academy of Sciences (Prague). This development grew from two major locally prominent disciplines — aerial reconnaissance and an analytical form of fieldwalking survey in lowland cultivated open landscapes, especially in the lower basins of large Czech rivers (such as Labe/Elbe and Ohře). The results achieved by these methods (and a few others, especially non-invasive) during the past two decades have altered our perception of landscape as a discontinuous spread of sites, towards a territory featuring long-term human presence continuous in time and space (cf. Gojda 2004a & b).

Nevertheless, the traditional idea of archaeology still flourishes in the public mind, probably thanks to television and radio programmes. These continue to feature the old themes (especially the work of Egyptologists), and have yet to discover a way of profiling the modern methods of fieldwork and data analyses, which could radically change the way archaeology is understood and appreciated by most people.

## **Conclusion**

The everyday work of most professional archaeologists in the Czech Republic, as in many former communist countries, is based in permanent rescue excavation projects carried out in advance of extensive construction and building activities. The limited number of archaeologists, and a lack of time needed for the processing of data and the production of reports, cause long delays between the excavation of a site and the availability of a professional publication. More distant still is the moment when the final publication of rescue archaeological site projects could be synthesised into problem-oriented studies, and finally 'translated' into a popular form for the wider public. In addition, the problem of looting is widespread and inhibits the publication of site locations, and thus an appreciation of what archaeology is actually achieving.

Meanwhile, research has shifted from the excavation of individual sites to the identification, documentation and protection of archaeological sites and landscapes. This latter approach is typically practiced in the form of projects integrating non-invasive archaeological survey techniques, scientific procedures and advanced digital technology, each of which contributes significantly to a general understanding of past individuals and communities. It is fuelled both by large-scale state-funded national research projects and an increasing number of pan-European projects operating in EU schemes. The focus on the historic landscape is also reflected in increasing academic co-operation between archaeology, geography and the natural sciences.

## Acknowledgements

My thanks are addressed to John Bintliff for his inspiring comments on the manuscript. I also express my thanks to Alice Tihelková who translated the Czech version of this text into English, and to Chris Musson who kindly revised the translation.

## References

- BARRETT, J. 1995. *Some challenges in contemporary archaeology* (Oxbow lecture 2). Oxford: Oxbow.
- BENE, J. & P. POKORNÝ (ed.). 2008. *Bioarchaeology*. Prague: Institute of Archaeology.
- BINTLIFF, J. 2000. *Is the past 'knowable' or is its study just 'do-able'*. Leiden: University of Leiden.
- BLAND, R. 2005. A pragmatic approach to the problem of portable antiquities: the experience of England and Wales. *Antiquity* 79: 440–47.
- CARVER, M. 2001. The future of field archaeology, in Z. Kobyliński (ed.) *Quo vadis archaeologia? Whither European archaeology in the 21st century?*: 118–32. Warsaw: Institute of Archaeology and Ethnology of the Polish Academy of Sciences & Foundation Res Publica Multiethnica.
- CRUTCHLEY, S. & P. CROW. 2010. *The light fantastic: using airborne laser scanning in archaeological survey*. Swindon: English Heritage. Available at: <http://www.english-heritage.org.uk/publications/light-fantastic/light-fantastic.pdf> (accessed 1 March 2011).
- DEVEREUX, B.J., G.S. AMABLE & P. CROW. 2008. Visualisation of LiDAR models for archaeological feature detection. *Antiquity* 72: 470–79.
- DONEUS, M. & C. BRIESE. 2006. Full-waveform, airborne laser scanning as a tool for archaeological reconnaissance, in S. Campana & M. Forte (ed.) *From space to place. Proceedings of the Second International Conference on Remote Sensing in Archaeology, Rome, 4–7 December 2006* (British Archaeological Reports international series 1568): 99–105. Oxford: Archaeopress.
- DRESLEROVÁ, D. & P. POKORNÝ. 2004. Vývoj osídlení a struktury pravěké krajiny na středním Labi. Pokus o přímé srovnání archeologické a pyloanalytické. *Archeologické rozhledy* 56: 739–62.
- DRESLEROVÁ, D. & J. SÁDLO. 2000. Les jako součást pravěké kulturní krajiny. *Archeologické rozhledy* 52: 330–46.
- FAIRCLOUGH, G. 2006. Our place in the landscape? An archaeologist's ideology of landscape perception and management, in T. Mayer (ed.) *Landscape ideologies*: 177–97. Budapest: Archaeolingua.
- GOJDA, M. 2004a. Prehistoric Bohemia: landscapes and settlements in the heart of Europe. *Landscapes* 5(1): 35–54.
- (ed.) 2004b. *Ancient landscape, settlement dynamics and non-destructive archaeology*. Prague: Academia.
- (ed.) 2010. *Studies in remote sensing for archaeology*. Plzeň: University of West Bohemia.
- KOBYLIŃSKI, Z. (ed.) 2001. *Quo vadis archaeologia? Whither European archaeology in the 21st century?* Warsaw: Polish Academy of Sciences & Foundation Res Publica Multiethnica.
- KUHN, T.S. 1962. *The structure of scientific revolutions*. Chicago (IL): University of Chicago Press.
- KUNA, M. 2004. *Nedestruktivní archeologie: teorie, metody a cíle [Non-destructive archaeology: theory, methods and goals]*. Praha: Academia (in Czech with English summaries).
- RUNDKVIST, M. 2010. Prospects for Sweden. *Antiquity* 74: 848–52.
- ŠMEJDA, L. 2007. Poznámky k průzkumu lesního prostředí pomocí detektorů kovů, in P. Krišťuf & L. Šmejda & P. Vařeka (ed.) *Opomíjená archeologie*: 233–45. Plzeň: University of West Bohemia.