

Themata 3

E-learning Archaeology, Theory and Practice

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02

E-learning in archaeological heritage. An example of 'Archaeological heritage in contemporary Europe' a distance learning course *Arkadiusz Marciniak*

Introduction

Archaeological heritage constitutes finite and non-renewable cultural resources of humanity. Its preservation, management, and conservation is an indispensable element of international and national heritage politics. Hence, any decision undertaken in this sensible domain needs to be solidly grounded and well informed. This is particularly important considering the range of vital changes experienced over the last few decades. The upsurge in infrastructure development and urban expansion across Europe and intensive agriculture have brought about the large scale destruction of numerous archaeological sites and landscapes. Awareness of these threats to the substance of our archaeological heritage and the fast pace of its destruction is now much more common than two decades ago and archaeologists themselves are more aware of their own responsibility to protect this heritage (see Kobylński 2001a). Further developments comprised the internationalization and standardization of archaeological heritage management as manifested by the adoption of international standards and regulations such as e.g. the Valletta Convention or later the European Landscape Convention and its implementation in national legal regulations. Consequently, much of the attention has been shifted towards landscapes and planning. It became clear that archaeological heritage management should become integrated in planning (Fairclough & Grau Møller 2008).

These changes resulted in the move to development funding projects and have brought new concern for professional standards and accountability to archaeology. Taking management decisions based on argued presentations

and justifications has also led to important changes in the way we see archaeological data and the manner of assessing their significance and value. The dynamic development of rescue archaeology has significantly shaped the character of European archaeology in the form of the commercialization of the archaeological profession. The emergence of private archaeological firms working on rescue projects has led to the rapid creation of quite a new professional group on the market. It is characterized by a high efficiency in conducting long excavation work on a large scale. Consequently, doing archaeology is now seen by many archaeologists as a public enterprise that draws attention to the social role of their work and the relationship between the producer and consumer of archaeological data. The protection and management of archaeological data is no longer a matter of concern to the academic community but to the general public (see Kobylński 2001b; Holtorf 2005; Marciniak 2006, 2010).

The last two decades are also marked by the use of archaeological evidence for the creation of collective memories of local communities but in a way different from the past when archaeology was aimed at justifying nationalistic claims. The public is becoming recognized as a stakeholder in the decision-making process of heritage management and its role as a consumer of the products of archaeological activity is getting apparent. Advances in information technology have also enforced a greater openness of archaeological activities and resulted in the breakdown of the dominant elitist attitudes of the professional milieu.

One way of dealing with the challenges posed by recent developments is education. The need of developing and upgrading vocational skills in the sector of the protection and management of archaeological heritage as well as the final users, decision-makers and experts at different levels is a must taking into account the current state of the heritage sector across Europe. This is further strengthened by the increased scope of co-operation that increased dramatically but did not facilitate easy access to all available resources including EU-funded projects (Marciniak 2010).

Doubtless to say, the very nature and consequences of these rapid changes in almost all domains of archaeological heritage, including its theoretical foundations and practical regulations, are not sufficiently known among people professionally responsible for the protection and management of archaeological heritage in particular countries. This refers in particular to archaeologists with decades of experience who completed their academic

training some decades ago. Needless to say, these developments increased the demand for properly trained professionals. This makes it possible to identify emerging challenges and to be able to protect and manage the archaeological heritage in a more efficient way.

The Leonardo da Vinci project *E-learning as a tool of knowledge transfer in the field of protection and management of archaeological heritage* arose due to the perception of an unsatisfactory dissemination of newly emerged archaeological heritage issues among practitioners in the field across Europe. Hence, its explicit objective was to exchange the best practices and innovative solutions in this field. Consequently, the project was aimed at supporting participating countries' policies and actions to equip those of a limited access to the newest knowledge and whose qualifications need updating in addition to students who have no qualifications. As such, it can be regarded as a case study in which European standards and regulations were taught in a peculiar context of protection and management of the archaeological heritage sector in participating countries. The project was then intended to consolidate European co-operation in education and training in the sector. In particular, its major purpose was to design, develop, test, assess and implement innovative solutions in developing and upgrading vocational skills in this sector at the European level.

A sensible vocational training in the field of archaeological heritage management requires a set of new educational tools to be available in an easily accessible form to various categories of users. E-learning solutions is a perfect tool supporting the didactic process. The basic advantage of e-learning is that training can take place at any time and in any place. Such solutions satisfy directly the needs of the target groups as well as other potential users. To my best knowledge, the training in the field of protection and management of archaeological heritage was never carried out with the application of e-learning solutions. Hence, there is no frame of reference as regards the methodology of e-learning training in this domain. Accordingly, the project developed and implemented new methodology including a transfer of knowledge from the conventional to the e-learning format and the elaborated training methodology. The project eventually resulted in the production of a multimedia e-learning course composed of fifteen interrelated modules.

The project was conducted by institutions representing six EU member states including Germany, Latvia, the Netherlands, Poland, Sweden, and the

United Kingdom. It was co-ordinated by the Instytut Prahistorii and Wydział Matematyki i Informatyki Uniwersytetu im. Adama Mickiewicza w Poznaniu and the partnership comprised also Amsterdams Archeologisch Centrum, Universiteit van Amsterdam; Institutionen för arkeologi, Göteborgs universitet; Latvijas Universitāte, Vestures un filozofijas fakultāte; Institut für Prähistorische Archäologie, M.-Luther-Universität Halle-Wittenberg; and English Heritage. The partners ensured transnational co-operation from a different and complementary institutional and cultural background. All of them have extensive experience in the field of archaeological heritage education and vocational training as well as e-learning implementation solutions.

The projects objectives

The project aimed to implement e-learning solutions in vocational training in the field of archaeological heritage protection and management. The entire didactic process was focused upon the presentation of a range of vital aspects of archaeological heritage taking into consideration on the one hand the particular character of solutions in different countries and on the other hand a need for their standardization in the light of European integration. Consequently, this will eventually render the possibility for the universities to elaborate graduate curricula which will ensure access to knowledge, the quality of scope of which will correspond to full time studies. A well defined and described methodology of the application e-learning solutions in the educational process will render the possibility to modify curricula in particular subjects and change the number of periods and relations between classes, lectures, workshops and consultations. By applying e-learning, the barrier connected to time restrictions and students dispersion will be eliminated.

The project led to the elaboration of a cohesive methodology of e-learning course production in the field of archaeological heritage protection and management (see J. Marciniak in this volume). This formed a basis for conducting test training among end users. It made possible the production of fifteen multimedia e-learning modules covering the most significant issues in this field and their distribution between the partners. Eventually, a test training was carried out in all participating countries. Their content was distributed in the form of web based training using the e-learning platform for internet training at Adam Mickiewicz University in Poznan.

The training was followed by a systematic evaluation of the usefulness and efficiency of e-learning solutions in the field among different target groups in

participating countries considering its peculiarity and different experiences. According to the results of this survey, the training substantially increases knowledge, experience and the qualifications of people and institutions who jointly work on the project (see Marciniak & Chwieduk; Śnie in this volume).

The projects trainees

The main and direct target group in the project were professionals in the sector of archaeological heritage protection and management as well as graduate and extramural students interested in this field of expertise from participating countries. Other specialists working in the archaeological sector or people somehow related to this sector, such as contract archaeologists, planners, architects, forest rangers, etc. supplemented this group. Since this is a largely dispersed group, the internet has provided the most efficient application for communication and high quality vocational knowledge distribution.

The project was first of all directed to professionals in the sector of archaeological heritage protection and management. They are usually employed in local branches of the heritage sector in participating countries located in provincial capitals, while their branches are placed in smaller cities. Understandably, the group is largely dispersed and is characterized by a varied access to the newest knowledge in the field. This group is professionally very active and hence methods of vocational training need to combine efficiency of the educational process with their obvious time constraints. Other segments of this group are comprised of different individuals working in the archaeological sector or otherwise related to it. A dispersal of this group is even larger than the heritage sectors employees. They are associated with archaeological heritage related issues on an irregular basis. Consequently, keeping them up-to-date with recent developments in this field is a prerequisite condition to facilitate efficient and beneficial co-operation with the archaeological heritage sector.

The second major target group is comprised of graduate and extramural students of universities from participating countries. A consequence of the old-fashioned system of archaeological education in the new EU countries, as evident in Poland and Latvia, is an almost complete lack of heritage courses in university curricula. This is particularly unfortunate as archaeological heritage is becoming the backbone of contemporary archaeology and the broadly understood heritage sector today creates the majority of

archaeological jobs. At the same time, graduate students from the old EU countries usually suffer a lack of systematic knowledge of the complexity of heritage issues in the countries that recently joined the EU, especially in these with whom share similar conditions of northern Europe and have a comparable archaeological potential.

The results of the project clearly stretched out far beyond the direct target groups. Its products can be used among employees in the sectors of protection and management of archaeological heritage in all European countries, both new and old EU members, as well as other individuals working in the archaeological sector or otherwise related to it. Other potential users might comprise graduate students interested in the protection and management of archaeological heritage at universities across Europe. They can either use the project results in languages of the project partners or translate them into their own languages.

The training content

As mentioned above, the major objective of the e-learning training was to get a group of trainees acquainted with the most appealing issues in archaeological protection and management across Europe and provide them with practical solutions in their implementation. For heritage professionals, this knowledge is meant to be efficiently implemented into their own professional practice. Students have got a body of knowledge produced by leading experts in the field in Europe making it possible to recognize the most appealing issues in the domain of protection and management of archaeological heritage across Europe. This will considerably enrich their qualifications in the job market.

The training was composed of fifteen individual modules and contributed to a better understanding of the changing nature of archaeological heritage as well as economic, social and political circumstances that shape its character. They stressed the general public as an important agent in archaeological heritage policies and discussed the diverse concerns of numerous public constituencies in the practice of heritage offices. The second major objective was to recognize the principles of mapping archaeological resources with an historical context of its development as well as get to know the basics of GIS techniques, aerial photography and geophysics in the practice of the archaeological heritage sector. The course also stressed the significance of efficient methods of the valorization of archaeological resources e.g. by the implemen-

tation of the concept of a biography of landscape in providing a better understanding of archaeological heritage by the general public. Another block of issues comprised principles of international conventions in the field of protection as well as the modern management of archaeological resources and requirements of its sustainable development. A special part of the course was devoted to discussing the challenges and pitfalls of commercial archaeology. The course also stressed the importance of communication with the public as well as presenting efficient methods of engagements, publicity and media relationships in addition to the ways of presenting heritage issues in museums and schools. Each module was prepared by one or two representatives of the participating institutions after consulting its contents among the partners. The details of the trainings constituent parts are provided in Table 1.

The first part of the course *Theory of archaeological heritage* was aimed at discussing numerous facets of cultural heritage and set its archaeological component in a broader context. It addressed its dynamic character and stressed numerous and intertwined conditions of its development in changing historical, social, and political circumstances. In particular, this part advocated a need of the explicit identification of the general public as an important agent in archaeological heritage policies and introduced the concept of a stakeholder. The plurality of the perspectives needs to be in place within archaeological heritage management to address the diverse concerns of numerous public constituencies. The major objective of this introductory part of the training was also to present the theoretical foundations of archaeological heritage as well as the mechanisms of its construction in today's dynamically changing economic, social and political circumstances. It stressed the increasing significance of public constituencies whose needs and expectations need to be identified, addressed and met in the practice of heritage offices (e.g. Chippendale et al. 1990; Skeates 2000; Fairclough 2002; Ashworth 2005; Carman 2005).

The second part entitled the *Mapping of archaeological heritage resources* aimed at presenting methods of recognizing and recording archaeological resources as well as managing and analyzing spatial data for the needs of archaeological heritage protection and management. It began by presenting the impact of different archaeological paradigms on the recognition and valorisation of archaeological resources as well as strategies of protection and management of archaeological heritage. Changes in archaeology determined

Course parts	E-learning courses
Theory of archaeological heritage	Theorizing cultural heritage Mentalities and perspectives in archaeological heritage management
Mapping of archaeological heritage resources	Concepts of understanding – spatial valorization of archaeological heritage resources Aerial survey in archaeological protection and management systems Geographic Information System as a method of management of spatial data Geophysical prospection in archaeological protection and management systems
Valorization of archaeological heritage	Images of the past Cultural biography of landscape
Protection and management of archaeological heritage	International conventions and legal frameworks Sustainable development in the archaeological heritage sector Management cycle and information systems in the archaeological heritage sector Commercial archaeology
Politicizing archaeological heritage	A single voice? Archaeological heritage, information boards and public dialogue Methods of engagement, publicity and media relationships Public outreach – museums, schools, services

the development of methods applied to protect and manage archaeological heritage resources and it is widely assumed that the development of academic archaeology has significantly influenced our views on archaeological heritage and the methods applied in this field (Hodder 1992).

A major objective of this part of the training was to present methods of collecting, transferring and analyzing spatial data. It focused in particular on

the systematical discussion of non destructive methods of recognizing archaeological resources, such as aerial photography and geophysical prospection, and the evaluation of their usefulness in archaeological heritage protection and management. The effectiveness of aerial photos depends on their integration with other methods. This mostly implies compounding aerial photos with various geophysical surveys. In the process of integrating different methods in the studies of archaeological sites, all of them should be treated as complementary to each other. Any differences in the results obtained via different methods provide a stimulus for reflection on the reasons for differences, on the site condition, and its preservation and stratification processes (Wilson 2002; Gaffney, Gater 2003).

A separate module was aimed at providing a brief discussion of GIS in the context of its use in heritage management practice, as well as to present a background and solid introduction to the applications and types of information for which a GIS is well suited. It further discussed the limitations of GIS applications in particular contexts. It stressed that the role of GIS in any given project must be well defined to become its useful component, and issues such as accuracy and resolution of a data set must be taken into account when performing analyses and interpreting results (Conolly & Lake 2006; Mehrer & Wescott 2006).

The third part of the course *Valorization of archaeological heritage* was aimed at discussing how images of the past are created and valorized by using elements of archaeological heritage. These images are further used in creating and maintaining local and regional identities. Accordingly, archaeological heritage was presented as being a real fact and invention at the same time. The interest in the study of landscape has increased over the last few decades. In order to serve the value of sustainable development, a strategic approach is called for in the field of planning. For that, it is essential to disseminate knowledge on the history of landscape and landscape elements (Bender 1998; Edgeworth 2006).

In this respect, a biography of landscape as an invented image of the past and a useful tool of analysis, created and carefully maintained, was presented and discussed at length. The metaphor refers to the life history of landscape and as such is a personification. It became recently a tool for sustainable development. The biography approach can be very appealing in its narrative quality, but its selective character can have negative aspects. A good alternative approach could be the Historic Landscape Characterization as developed

recently by English Heritage. It is seen as an important tool for achieving the goals of the European Landscape convention, as it has a more holistic and integrated approach to management and understanding. This part of the course also discussed the concept of authenticity and its significance for archaeological heritage (Aldred & Fairclough 2002; van Londen 2006).

The fourth part of the course *Protection and management of archaeological heritage* was aimed at discussing issues directly connected with the protection and management of archaeological heritage. It provided a systematic overview of these international conventions and regulations that had and remain to have significant impact upon archaeological heritage and its protection and management. During the latter half of the 20th century, the number of international charters and conventions dealing with the conservation and preservation of cultural heritage was prepared and approved both by world (e.g. UNESCO or ICOMOS) or European (mainly Council of Europe) bodies. The charters and standards provided guiding principles towards defining an appropriate response to particular conservation and heritage issues. These conventions and charters had an important effect on education and practice in the domain of protection and management of culture heritage. On the political level, they proved to be important documents for the conservation of cultural property and an indication at the international level of governmental responsibility for the conservation of cultural property (e.g. Fairclough 2002; Fairclough, Rippon 2002).

Over the last few years the concept of sustainability has been translated to the cultural field. Under the pressures of globalisation and general economics it is feared that cultural diversity is under threat. If we want to keep a degree of cultural diversity we actively have to engage with the management of the landscape in a sustainable manner. This module delved into the concept of sustainability and the way in which it applies to cultural resources. This fairly new development in cultural heritage management to deal with sustainability and its affects in the archaeological practice was brought to the fore. There is always a constant balancing act between conservation and development (Cleere 1989; Willems 1998; van der Valk and Bloemers 2006; Aitchison, Edwards 2008).

This part of the training further discussed numerous facets and pitfalls of commercial archaeology (e.g. quality and standard of work, professionalism, ethics, etc.). Questions concerning which elements are of relevance for the

evaluation of the role of commercial archaeology in archaeological heritage management were also explicitly debated.

The fifth part of the course *Politicizing archaeological heritage* was aimed at discussing a range of issues related to the presentation and popularizing of archaeological heritage and communication with the general public at the site, through museums, schools, media, and the internet. All modules in this part explicitly focused upon strategies and methods of achieving these goals by a range different media. In particular, they discussed knowledge production ranging from digital field archaeology, visual representation, knowledge management, and the sociology of knowledge. It presented several projects that are concerned with the ways such processes operate in the context of archaeological information as a means of sharing diverse forms of knowledge with diverse communities. It discussed conceptions of knowledge as performance and the potential of the web as a contact zone, in which environments can be constructed that support the generation and representation of knowledge in, by, and for diverse communities (Biehl 2002, Zevans & Daly 2006).

The modules in this part stressed the importance of communication with the public, methods of engagement, publicity and media relationships. Multimedia technology and the internet have marked a new era in the way archaeology is communicated to the public. Archaeology is undergoing a revolution, with both the presentation of the practical work and theoretical questions regarding what knowledge is communicated and how is the specialist community and the public engaged in this knowledge production and knowledge transfer. This last part of the training presented a case study of a 'multimedia excavation' that also served as a training ground for young heritage management and archaeology students. As such, it outlined how multimedia can be applied to excavating, analyzing, processing and interpreting the past as well as communicating and popularizing archaeology to the public (e.g. Hamilakis 2000; Richards & Robinson 2000; Holtorf 2007).

Learning process

The course was conducted in an assisted distance training mode. This means that all training materials were provided online and the training process was supervised by a teacher. All distance learning activities in the training were provided on the e-learning platform available at www.e-archaeology.org. The e-learning platform refers to the learning management system Edumatic

available at the address above. The training process was made of lectures and practicals. It was conducted in a precisely defined timetable with a clearly specified start and completion date set up separately for each country participating in the course. The training materials were provided as multimedia and interactive e-learning modules available in the Edumatic system for each part of the training. Any auxiliary materials, in particular pdf documents, were placed in the platform in a specially allocated space 'Teacher's documents'.

Students were obliged to get acquainted with the content of each of fifteen courses according to the training timetable carefully designed for each partner. In order to activate their participation in the training they were also obliged to participate in the discussion forum. In the course 'Archaeology in contemporary Europe' there were three such discussion forums:

1. *What is heritage?* as an integral element of the first part of the course, Theory of archaeological heritage;
2. *Archaeological heritage. Fact or construction?* as an element of the third part, Valorization of archaeological heritage;
3. *Presenting the past and setting the agenda* as an element of the last part Politicizing archaeological heritage. The discussion forums were provided to the trainees according to the precisely designed training timetable.

Students were also urged to prepare one collective homework. This referred to the an essay written by a group of trainees on a given subject aimed at writing an essay. The assigned essay of c. 3000 words in length was aimed to address the *Mapping of archaeological resources in the selected region*. It comprised an integral element of the second part of the course (see above). Trainees were also obliged to prepare individual homework in the form of an essay. It was entitled *How would you change / implement (inter)national legislation and policy to meet the requirements of local heritage?* and comprised an integral element of the fourth part of the course (see above).

In order to complete the course each student had to carefully study all of fifteen e-learning courses. Additionally, they also had to prepare collective and individual essays and write at least two entries into the assigned discussion forum. These entries needed to be positively evaluated by the trainer. Each activity was given a certain number of credits and the final result of each trainee was calculated as a sum of the credits for each obligatory activity.

Final remarks

The combined effects of globalization and democratization have radically altered and expanded contemporary European archaeology in terms of its

academic practices, its professionalism, involvement in archaeological heritage protection as well as its public commitments and responsibilities. Archaeologists need to be well aware of these transformations and prepare to react accordingly to these emerging challenges in archaeological academic research, archaeological heritage protection and management, public engagement in cultural heritage preservation and conservation programs. Designing, development, testing, assessment and the dissemination of innovative solutions in developing and upgrading vocational skills in the protection and management sector of archaeological heritage at the European level undertaken in the Leonardo da Vinci project *E-learning as a tool of knowledge transfer in the field of protection and management of archaeological heritage* aimed at consolidating European co-operation in education and training in the archaeology sector and meeting emerging challenges and demands in the field across Europe.

References

- Aitchison, K. and R. Edwards, 2008. *Discovering the Archaeologists of Europe. Archaeology Labour Market Intelligence: Profiling the Profession 2007/08*. Reading: Institute of Field Archaeology.
- Aldred, O. and G.J. Fairclough, 2002. *Historic Landscape Characterisation. Taking Stock of the Method*. English Heritage and Somerset County Council.
- Ashworth G., 2005. Heritage and the consumption of places. In: R. van der Laarse (ed.), *Bezeten van vroeger: Erfgoed, identiteit en musealisering*, 193 – 207. Amsterdam.
- Barford, P.M. and Z. Kobylinski, 1998. Protecting the archaeological heritage in Poland at the end of the 1990s. In: W. Hensel, S. Tabaczynski and P. Urbanczyk (eds.), *Theory and practice of archaeological research. Volume 111. Dialogue with the data. The archaeology of complex societies and its context in the 90s*, 461 – 482. Institute of Archaeology and Ethnology Polish Academy of Sciences: Warsaw.
- Bender, B., 1998. *Stonehenge. Making space*. Oxford: Berg.
- Biehl, P.F., 2002. Hypermedia and Archaeology: A Methodological and Theoretical Framework. In: F. Niccolucci (ed.), *Multimedia Communication for Cultural Heritage*. Proceedings of the Multimedia Conference in Prato, Italy 2001, 147 – 153. Florence: All' Insegna del Giglio.

- Carman, J., 2005. *Against Cultural Property: Archaeology, Heritage and Ownership*, London.
- Chippendale, C., P. Deveraux, P. Fowler, R. Jones, T. Sebastian, 1990. *Who Owns Stonehenge?* London.
- Cleere H. F. (ed.), 1989. *Archaeological Heritage Management in the Modern World*. London.
- Conolly, J. and M. Lake, 2006. *Geographical Information Systems in Archaeology*. Cambridge: Cambridge University Press.
- Edgeworth, M. (ed.), 2006. *Ethnographies of Archaeological Practice. Cultural Encounters, material transformations*. Lanham: Altamira Press.
- Evans, T.L. and P. Daly (eds.), 2006. *Digital Archaeology. Bridging Method and Theory*. London: Routledge.
- Fairclough, G., 2002. Europe's landscape archaeology, sustainability and agriculture, In: G. Fairclough and S. Rippon (eds.), *Europe's Cultural Landscape: Archaeologists and the Management of Change*, 1 – 12. Brussels: Council of Europe.
- Fairclough, G. and S. Rippon, 2002. *Europe's Cultural Landscape: Archaeologists and the Management of Change*, Brussels: Council of Europe.
- Fairclough, G., and P.G.P. Grau Møller (eds.), 2008. *Landscape as Heritage. The Management and Protection of Landscape in Europe, a summary by the cost A27 project 'Landmarks'*. *Geographia Bernensia* 679, Bern.
- Gaffney, C. F. and J. A. Gater, 2003. *Revealing the Buried Past: Geophysics for Archaeologists*. Stroud: Tempus Publishing Ltd.
- Hodder, I., 1992. *Theory and Practice in Archaeology*. London: Routledge.
- Hamilakis, Y., 2000. Cyberspace/Cyberpast/Cybernation: Constructing Hellenism in Hyperreality. *European Journal of Archaeology* 3(2): 241 – 264.
- Holtorf, C., 2005. *From Stonehenge to Las Vegas. Archaeology as Popular Culture*. Lanham, Altamira Press.
- Holtorf, C., 2007. Can you hear me at the back? Archaeology, communication and society. *European Journal of Archaeology* 10 (2 – 3): 149 – 166.

- Kobylnski, Z., 2001a. Quo vadis archaeologia? Introductory remarks. In: Kobylnski, Z. (ed.), *Quo Vadis Archaeologia? Whither European Archaeology in the 21st Century?*, 17 – 20. Warsaw: Institute of Archaeology and Ethnology Polish Academy of Sciences.
- Kobylnski, Z., 2001b. Archaeological sources and archaeological heritage. New vision of the subject matter of archaeology. In: Kobylnski, Z. (ed.), *Quo vadis Archaeologia? Whither European Archaeology in the 21st Century?*, 76 – 82. Warsaw: Institute of Archaeology and Ethnology Polish Academy of Sciences.
- Londen, H. van, 2006. Cultural biography and the power of image. In: W. van der Knaap, and A. van der Valk, A. (eds.), *Multiple Landscape: Merging Past and Present*, 171 – 181, Wageningen.
- Marciniak, A., 2006. Central European archaeology at the crossroads. In: R. Layton, S. Shennan and P. Stone (eds.), *A Future for Archaeology. The Past in the Present*, 157 – 171, London: UCL Press.
- Marciniak, A., 2010. Contemporary Polish archaeology in global context. In: L. Lozny, (ed.), *Comparative Archaeologies*. Springer Verlag. In press.
- Mehrer, M. and K. Wescott, 2006. *GIS and Archaeological Site Location Modeling*. London: Taylor & Francis.
- Richards, J. and D. Robinson (eds.), 2000. *Digital Archives from Excavation and Fieldwork. A Guide to Good Practice*. Oxford: Oxbow Books.
- Skeates, R., 2000. *Debating the Archaeological Heritage*, London.
- Valk, A. van der and J.H.F. Bloemers, 2006. Multiple and sustainable landscapes: Linking heritage management and spatial planning in the Netherlands, In: W. van der Knaap and A. van der Valk (eds.), *Multiple Landscape: Merging Past and Present*, 21 – 33. Wageningen.
- Willems W. J. H., 1998. Archaeology and heritage management in Europe: Trends and development. *European Journal of Archaeology*, vol.1 (3): 293 – 311.
- Wilson D.R., 2000. *Air Photo Interpretation for Archaeologists*. Stroud: Tempus Publishing Ltd, (2nd edition).