# Mapping the Past

## From sampling sites and landscapes to exploring the 'archaeological continuum'

Proceedings of the XVIII UISPP World Congress
(4-9 June 2018, Paris, France)
Volume 8

Session VIII-1

edited by

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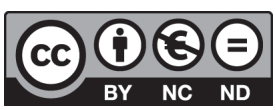

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# Foreword to the XVIII UISPP Congress Proceedings

UISPP has a long history, originating in 1865 in the International Congress of Prehistoric Anthropology and Archaeology (CIAAP). This organisation ran until 1931 when UISPP was founded in Bern. In 1955, UISPP became a member of the International Council of Philosophy and Human Sciences, a non-governmental organisation within UNESCO.

UISPP has a structure of more than thirty scientific commissions which form a very representative network of worldwide specialists in prehistory and protohistory. The commissions cover all archaeological specialisms: historiography; archaeological methods and theory; material culture by period (Palaeolithic, Neolithic, Bronze Age, Iron Age) and by continents (Europe, Asia, Africa, Pacific, America); palaeoenvironment and palaeoclimatology; archaeology in specific environments (mountain, desert, steppe, tropical); archaeometry; art and culture; technology and economy; biological anthropology; funerary archaeology; archaeology and society.

The UISPP XVIII World Congress of 2018 was hosted in Paris by the University Paris 1 Panthéon-Sorbonne with the strong support of all French institutions related to archaeology. It featured 122 sessions, and over 1800 papers were delivered by scientists from almost 60 countries and from all continents.

The proceedings published in this series, but also in issues of specialised scientific journals, will remain as the most important legacy of the congress.

L'UISPP a une longue histoire, à partir de 1865, avec le Congrès International d'Anthropologie et d'Archéologie Préhistorique (C.I.A.A.P.), jusqu'en 1931, date de la Fondation à Berne de l'UISPP. En 1955, l'UISPP est devenu membre du Conseil International de philosophie et de Sciences humaines, associée à l'UNESCO. L'UISPP repose sur plus de trente commissions scientifiques qui représentent un réseau représentatif des spécialistes mondiaux de la préhistoire et de la protohistoire, couvrant toutes les spécialités de l'archéologie : historiographie, théorie et méthodes de l'archéologie ; Culture matérielle par période (Paléolithique, néolithique, âge du bronze, âge du fer) et par continents (Europe, Asie, Afrique, Pacifique, Amérique), paléoenvironnement et paléoclimatologie ; Archéologie dans des environnements spécifiques (montagne, désert, steppes, zone tropicale), archéométrie ; Art et culture ; Technologie et économie ; anthropologie biologique ; archéologie funéraire ; archéologie et sociétés.

Le XVIII° Congrès mondial de l'UISPP en 2018, accueilli à Paris en France par l'université Paris 1 Panthéon-Sorbonne et avec le soutien de toutes les institutions françaises liées à l'archéologie, comportait 122 sessions, plus de 1800 communications de scientifiques venus de près de 60 pays et de tous les continents.

Les actes du congrès, édités par l'UISPP comme dans des numéros spéciaux de revues scientifiques spécialisées, constitueront un des résultats les plus importants du Congrès.

Marta Azarello

Secretary-General /
Secrétaire général UISPP

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# Mapping the Past

## From sampling sites and landscapes to exploring the 'archaeological continuum'

## General introductory text of the series

The last decade has seen the application of new approaches to landscape archaeology, essentially based on high-precision, high-speed, large-scale geophysical surveys along with the collection and analysis of high-resolution LiDAR data and the integration of multiple data sources based on GIS spatial tools. These approaches have proved their potential effectiveness in rural and formerly urban landscapes, suggesting the possibility of prompting the adoption of new paradigms within landscape studies.

The application of large-scale and multi-source surveys, especially at parts of countries such as Britain, Austria, Belgium, France, Germany, Italy, Norway and Sweden, has eliminated as far as possible gaps in space and time and has radically transformed archaeologists' views about almost every aspect of the past.

A crucial concept shared by all of these major surveys has been the perceived possibility of identifying what might be called the '*archaeological continuum*' within the areas concerned.

This concept can be defined as the summative evidence detected (or detectable) within the area under examination, reducing spatial and chronological gaps as far as possible through the intensive and extensive application of a wide variety of exploratory methods and analytical techniques.

Research work across Europe has already demonstrated that it is now possible to explore the whole landscape of carefully chosen areas and study them as an archaeological *continuum.*

Archaeological interpretations derived from this kind of approach can be expected to reveal differing layers of information belonging to a variety of chronological horizons, each displaying mutual physical (stratigraphic) and conceptual relationships within that horizon.

## Introduction to the volume

The session of UISPP 'Mapping the Past' has brought together several contributions reflecting on the need to develop sustainable and reliable approaches aiming to map our landscape heritage. At the same time, these communications have raised new archaeological questions and proposed alternative conservation strategies directly stimulated by the radical ideas inherent in the concept of the 'archaeological continuum' which is depicted by the landscape surveys more clearly than has been possible in the past.

This volume consists of six contributions that cover different aspects of the study of our cultural heritage, not in the form of a discrete set of sites but in the form of a continuum both spatial and temporal. In relation to the origin of the concept of the '*archaeological continuum*', our first author, S. Campana, notes that this new vision makes it possible to get rid of the traditional approach, which is based on punctual sites that translate into a 'point' distribution on a map. The archaeological site is no longer an entity characterized by a defined boundary, itself underpinned by the old

assumption that human behavior is partially confined in space. Only research on a smaller scale, that is to say at the level of the landscape (essentially based on landscape blocks), makes it possible to have the necessary perspective. As traditional tools like 'surface collection' became inadequate for this purpose, Campana proposes a new scale of study that is adapted to the archaeological questioning and not vice versa.

Wooded areas, often considered as white areas due to lack of effective prospecting systems, have recently benefited from LiDAR technology (ALS). The micro-reliefs highlighted by the article of M. Szubski allow us to view a continuum of occupation in the pristine forest of Bialowicza (Poland) over a considerable area (1500 $km^2$). It is actually part of a more comprehensive study of the biodiversity of this environment, which includes the identification of paleo-environmental features and archaeological features since the Iron Age. The challenge is the characterization of a particular type of structures (mounds), which dominates the landscape of the forest. The return to the field is always necessary to distinguish on the function and the chronology of these mounds (funerary versus production). The author shows that these mounds form a specific continuous landscape over time and space and whose morphological study by ALS could make it possible to deduce their function.

The third paper by Daniela de Matos *et al.* illustrates the construction of a cultural landscape over an even longer continuum time (since the Pleistocene) in a particular region of Angola. The continuity of traditional semi-nomadic foraging life has attracted the curiosity of anthropologists and archaeologists who were part of a large-scale geologic survey mission. If the hunters-gatherers have been shaped by the exploitation and adaptation of landforms and geological formations, the comprehension of these societies is mainly possible through the tools provided by archeology and geosciences.

A. Sarris *et al.*, describe an investigation in another type of difficult environment, namely the coastal zones. The Lechaion Harbour and Settlement Project in the vicinity of Corinth, Greece aims at studying the settlement through all his time-life. Geophysical data were massively used and proofed successfully to reveal the formation of that particular site, both from natural and anthropogenic causes. Like the previous case study in Angola, geophysical and archaeological approaches, working in tandem, were possible to reveal the interaction between natural hazards and the human habitation of the coastal landscape of Lechaion.

The case-study described by W. de Neef and F. Vermeulen in Italy (Potenza Valley Project) is a long term project that has also used numerous technics to study a temporal gap linked to the proto-historic settlements (and their catchment), which are often hindered by the numerous studies related to Roman and Late Antique times. For this purpose, numerous non-destructive technics were used and helped at filling this time and spatial gap. Practically, several micro-regions, reflecting the site catchment of the settlements, were intensively studied. This paper also addresses the challenge of the use of non-destructive techniques: detection and interpretation of ephemeral traces without ground- truthing and the problem of detectability as a function of landscape formation processes.

The last paper by T. Herbich focuses on three different sites in the Fayum Oasis, Egypt. Non-invasive methods were used resulting in the discovery of a number of buried channels suggesting the importance of water which controlled irrigation in this particular area. Together with the traces of water erosion found, which were interpreted as an explanation for settlement destruction, the paper makes a clear demonstration that landscape changes are directly related to the habitation changes.

In conclusion, the use of new and non-destructive technologies like LiDAR, GPR and other conventional technologies like magnetics, resistivity, aerial, etc. has helped us to fill some of the

spatial and time gaps encountered. These new technologies are usable in challenging environments like forests, coastal regions, desert areas and mountainous zones, which have been poorly described in the past. The complexity of data obtained in these specific areas demonstrate in fact a continuity of landscape usage that was not observable with standard tools like field surveying or aerial photos.

We should not forget that this new information lead also to a higher level of complexity in our interpretation of the archaeological data. As a consequence, we need to start focusing also on improving the quality of our interpretation in parallel to the large quantity of data collected. This new information rises an awareness about new preservation processes for our buried cultural heritage, which in turn should reflect in new preservation policies for our landscape.

M. Dabas, S. Campana, A. Sarris