CONPRA PROJECT PUBLICATIONS AND THE PRACTICE OF PREVENTIVE ARCHAEOLOGY

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Preventive archaeology, in some countries also known as development-led archaeology, nowadays accounts for more than 90% of the archaeological work across Europe. In almost all European countries preventive archaeology is clearly the result of the implementation of the La Valletta Convention (1992) on the protection of archaeological heritage.

It is safe to say that, since then, the number of archaeological projects increased by 500% to 1,000%. Such an increase would not have been possible without radical changes in a number of factors that rule preventive archaeology, its concepts and practices: new legislation, introduction of preventive archaeology into spatial planning processes, a new financial principle (polluter – payer), new (digital) technologies for data retrieval and recording in field-based projects and, last but not least, a substantial increase in the number of active professional archaeologists.

With the emergence of preventive archaeology and its present dominance in the disciplinary practice,[1] the divide between academic and preventive archaeology became even more accentuated, and raised numerous discussions about the unity of the archaeological discipline and its future. While these two strands do not, and will not, differ in terms of the scientific methods and tools implemented in their research, they indeed differ in the reasons for undertaking archaeological research, and in their business and organisational contexts. Whilst these differences did not have such an influence on the nature of the archaeological discipline in the past, today, when more than 90% of projects are of a

1 For more on concepts and development of preventive archaeology in the last two decades, see Bozóki-Ernyey Katalin (2007), Guermandi and Rossenbach (2013), Novaković et al. (2016).

preventive nature, and the majority of them are funded from non-academic resources, it is very important to understand the differences and consider them when discussing the future of the archaeological discipline. Already for some time it has been very clear that by far the greatest amount of new discoveries and forms of evidence in archaeology derives from preventive research, thus rendering archaeology a 'data-driven' discipline. One could hardly find another discipline where the quantity of new data has increased by several orders of magnitude, almost without any control of what research, and where, takes place.

This situation requires serious reconsideration for the future of the archaeological discipline. On the other hand, this is not the case with disciplines traditionally considered close to archaeology, e.g. art history, history, anthropology or ethnology, where one could hardly speak of any new pieces of evidence discovered 'by chance'. In another paper (Novaković, Horňák 2016, 32), we have posed a rhetorical question – what would happen with our knowledge of ancient history, and ancient history as a discipline, if over the last two decades some 10,000 new fragments of written sources were discovered 'by chance' in the Mediterranean? The comparison is, of course, rather exaggerated, but it nevertheless illustrates the situation in archaeology today, where it is the 'chance' discoveries that sustain the discipline. In this sense, a great deal of archaeological practice is moving away from the traditional goals and disciplinary practices of the humanities and getting closer to the engineering sciences, providing a series of science-based practical services.

The discussion about whether preventive research achieves the levels, standards, and state of the art of academic research is, to some extent, misleading. It actually refers more to current practices and routines than to conceptual frameworks of both academic and preventive archaeology. The truth is that, in many situations, planning large fieldwork campaigns in preventive circumstances may not be optimal due to the lack of time, infrastructure, other resources, and funds; also, the implementation of fieldwork may be substantially conditioned by time pressure, inadequate temporary living conditions and highly stressful working conditions compared to the academic research context. But although the conditions in preventive contexts may not be optimal, this is not the key difference between the two. The essential difference is in the conceptualisation of research: whereas academic archaeology performs its fieldwork with a particular problem-oriented research design in mind, no such design is possible in preventive research, and even less in rescue and salvage situations.

But this does not necessarily diminish the potential and quality of preventive research. Instead, detailed individual problem-oriented designs should be replaced with standards against which the quality of preventive archaeology must be measured. These standards cannot include specific research questions or agendas, but, on the other hand, they can provide a suitable framework for addressing at least some of the major research issues in archaeology (e.g. adequate description of the evidence, chronology, classification of finds, stratigraphic history of sites, phasing, cross-referencing stratigraphy and finds, and a kind of 'general' interpretation of sites and finds). It is fair to say that sometimes the sampling and collection strategies, accuracy of measurements, and objects of observation would not satisfy the requirements of individual, problem-oriented research designs; but, on the other hand, the evidence acquired in preventive work would often be completely missed in academic research, and would never pose new research questions.

Indeed, what we see here is actually more the question of how to combine the research standards of preventive archaeology and various academic agendas.

The question of standards in preventive archaeology is beyond the scope of the CONPRA project and its publications, and should be addressed by national bodies responsible for heritage protection and also involve academic institutions. While most countries in Europe implement various kinds of preventive archaeology, only a few have adopted true standards which guarantee quality (e.g. the UK, the Netherlands, Slovenia). Indeed, it is difficult to overestimate the importance of standards in preventive archaeology and, for that matter, in archaeology in general. With the development of preventive archaeology, numerous new professional subjects (public and private) performing research and associated services have emerged and are competing in the market of archaeological research services. In such circumstances, it is the standards (and their fulfilment) which are the most efficient tool in securing adequate quality control.

In countries lacking standards of archaeological research, their place is, more or less implicitly, occupied by the long-standing procedures and routines practiced by top academic institutions. There are many reasons why this is not a good substitute for standards; academic institutions simply have different archaeological agenda and priorities, less experience in day-to-day fieldwork in stressful conditions, and normally do not train personnel for preventive research. Moreover, there is no assurance that, for example, one detailed academic problem-oriented excavation would adequately treat evidence not directly related to the research problem. This is not because one would consider such evidence less important, time-consuming or, even worse, too expensive regarding the allocated research budget, but simply because of a lack of standards (i.e. the necessary level of recording and treatment of data and objects). It all comes down to professional ethics. And it is here where the subjects in academic and preventive archaeology are not in equal positions. Archaeological stakeholders in preventive research need to go through a series of frequently painstaking negotiations, compromises, and improvisations in order to secure adequate working conditions, funding and appreciation of their work. The developers are not looking for the most excellent archaeology, but instead for the cheapest.

By saying this, we are not trying to widen the gap between academic and preventive archaeology, but rather to attempt to bridge it. Indeed, there are many aspects in which academics can take part in preventive archaeology. By this, we do not envisage academic institutions simply competing in the market of archaeological services in preventive contexts, which seems to be the case in countries where academic institutions have to survive serious budget cuts and personnel shortages. Instead, good knowledge and experience in organising and implementing preventive projects on different scales, strategies of heritage protection, and some sound reasoning may lead to highly effective involvement of academics in preventive practice. They may act as consultants, reviewers, or specialists for a number of different analyses; and, why not, academic institutes can be members of consortia created ad hoc for meeting the most challenging demands in preventive archaeology. There are some exemplary cases of these practices. The final result is not only more and better developed archaeology, but also the creation of more productive frameworks for facing the challenges of a highly data-driven discipline.

And there are also some great advantages of preventive over academic archaeology. First and foremost is the great coverage of different areas which, under normal conditions

and circumstances, would not be investigated to such a scale and extent by academic research alone. Let us just think of the thousands of sites and new lines of evidence discovered in urban zones. No academic research programme would have a chance to excavate even a small percentage of urban areas that are under constant pressure from land development projects. Though these urban 'windows of opportunity' are normally open for a very short period of time, it is they that have yielded extraordinary evidence for the history of our towns.

Although one could say that preventive research has little influence on the choice of locations to be examined, and hence their contribution to major scientific questions is less harmonised with academic agendas, it is in the long run that preventive archaeology demonstrates its high relevance for academic research. It does not provide quick answers to individual research problems, but by undertaking thousands of trial trenches, surveys and excavations over a decade or two, whole regions or countries are 'sampled' in an extraordinarily detailed way, with no ecological, morphological, settlement or historical area left out. A lot of the results of such continuous 'sampling' are yet to be properly evaluated, but what is already clear is that these results, though in many cases still interim and partial, generate new important research questions and influence academic research agendas. The most illustrative cases are numerous projects along motorways or similar linear features crossing large areas of space, which have brought to light so much new evidence that successfully challenged and contrasted with long-existing interpretations of demography, settlement and chronology, and that shed a completely new light on our past.

Another important outcome of the developments in preventive archaeology is the considerable increase in the number of trained professional archaeologists capable of day-to-day coping with the unprecedented amount of preventive research. The truth is that such an increase in the amount of work conducted was only possible with the increase in the number of archaeologists, but it is also true that a wider professional community could put more pressure on improving the quality of heritage protection and its practices. This is the aspect that the CONPRA project is especially focused on. The development of digital technologies for data retrieving, recording and processing, coupled with the recent developments in remote sensing techniques, non-invasive archaeological methods, and integrative powers of geographic information systems, web servers, and IT technology in general, pose a great challenge to archaeology professionals. To put it simply, if a developer hires a team of experts able to produce a final detailed building plan of a new settlement using e.g. LIDAR, aerial mapping, underground surveying, modern CAD tools, field laser scanning, 3D modelling, etc., within a period five times shorter than some ten years ago, similar is expected from preventive archaeology. The challenge can be confronted only by using the same tools as professionals in other fields and developers.

This, of course, raises the question of the education of archaeologists. It is illusory to think that students will quickly get familiar with a myriad of new technologies that emerged during their studies. Simply, there is not enough time, resources and trained teachers to promptly react to all the novelties appearing daily. New techniques and technologies also need to be properly contextualised and experimented with prior to becoming routine in archaeological practice. And, in many cases, they also have to be properly acknowledged by the professional communities and bodies responsible for protection

of the archaeological heritage. With the great increase in the number of preventive projects, it becomes even more evident that training in new techniques and procedures is a career-long endeavour, and could be implemented in a number of different ways, not all akin to academic training. Here we refer to different forms of apprenticeship, secondments, various ad hoc courses, and different forms of learning-through-work. It is important to note that a great deal of today's archaeological 'experts' in CADs, GIS, 3D scanning, 3D photogrammetry, LIDAR, geophysics, various laboratory analyses, etc., are originally archaeologists by academic training, but self-taught in the course of their careers and practice.

The initiative for the CONPRA project came, indeed, from such a self-taught population of younger professionals from private and public (academic) institutions working in preventive archaeology. The CONPRA project was primarily aimed at assisting in building capacities for facing current challenges in the practice of preventive archaeology. The project partnership is composed of two small private enterprises: Via Magna s.r.l. (Martin, Slovakia) and Terra Verita s.r.l. (Prague, Czech Republic), and two university departments of archaeology (University of Ljubljana, Slovenia and University of Belgrade, Serbia). Except Serbia, in all the other countries the market of archaeological services has developed more or less in parallel (and in association) with preventive archaeology. The development of the market of archaeological services created new situations in archaeological preventive practice which, until the 1990s, used to be completely in the domain of public institutions and negotiations between (mostly) public stakeholders of spatial development.

In observing such markets in Slovakia, Slovenia and the Czech Republic, a very important fact was identified, that of the rather locally based work of private enterprises. These enterprises mostly work close to their home base, have very few (if any) contacts with enterprises outside their country (or even their region), and cannot easily follow the developments and achievements in academic archaeology on a trans-national level; their major contacts with academia are through students they occasionally hire and occasional contacts with professors or established researchers in the case of very interesting discoveries. They are also lacking in professional associations (such as for example CIFA – the Chartered Institute of Archaeologists in the UK) which could lobby for their professional interests, develop and promote common standards and codes of conduct, analyse trends and fads in the market, and so on.

Such conditions are definitely not favourable for investing in new knowledge, skills, and equipment, if clear economic gains are not anticipated in the near future. The fact is that, in all European countries, markets of archaeological services are quite volatile. Mostly dependent on the intensity of development and spatial planning, it is archaeological markets which are the first to experience crises in the development and construction sectors. Being a 'miner's canary' (Schlanger 2010, 108) is not a favourable role for any economic enterprise. On the other hand, academic institutions in the CONPRA countries (and elsewhere as well) also suffered substantial setbacks due to the global economic crisis since 2008, which excluded them from a great deal of investments in developing and applying new technologies in archaeological research.

A large number of enterprises in preventive archaeology in the CONPRA countries fall into the category of small or micro-enterprises. Very few of them have more than 10

permanently employed professionals in archaeology and associated fields pursuing archaeological research. Most of their work is done in the field (e.g. archaeological excavation, archaeological surveys, archaeological monitoring) and also includes processing of the field data and the material evidence. In circumstances where most of the enterprises could employ only a very small number of experts, narrow specialisation for certain aspects of archaeological work is rarely the case. Quite the opposite, it seems that it is the 'general' field archaeologists for whom the demand is the greatest, those able to competently and efficiently master a large span of archaeological skills in the field and in data processing.

CONPRA publications are targeted primarily at this profile of experts and enterprises who have certain experience in conventional archaeological fieldwork, and who can considerably enrich their skills by using several new techniques and tools in their everyday work. Indeed, while it is of crucial importance that field archaeologists understand these methods and techniques, it is even more important to understand where and how their routine work can be upgraded and made more efficient or accurate, and hence more competitive.

The CONPRA project was focused mostly on the development (and transfer) of knowledge in those aspects of archaeological fieldwork which are currently among the most promising and 'prolific' in archaeological practice, and which have shown clear advantages in terms of efficiency, accuracy, and time and labour requirements. They are all strongly based on new digital technologies of data retrieval and processing, and have proved successful in various types of archaeological research, both academic and preventive. It is not by chance that most of them are well-suited for non-invasive archaeological research (various surveys, remote sensing and other types of reconnaissance) since it is these methods and techniques that are crucial for making the ultimate decision for an entire excavation. Preventive archaeology is, in the first place, about testing and sampling, and providing sound evidence for prescribing costlier actions, e.g. excavation. In a certain sense, it is successful testing and sampling that are the ultimate proof of the relevance and necessity of preventive archaeology.

The CONPRA Series comprises four volumes, which are all a result of the joint work of secondees, tutors and other experts involved in the project:

- *3D Digital Recording of Archaeological, Architectural and Artistic Heritage* (Vol. 1)
- *Using Aerial Photography and LIDAR in Archaeology* (Vol. 2)
- *Introduction to Managing Datasets in Archaeology* (Vol. 3)
- *Virtual Reconstructions and Computer Visualisations in Archaeological Practice* (Vol. 4)

It is these fields, we believe, where major improvements have been made in recent years, and which will gain in importance in the future. All four fields are strongly based on modern IT and digital technologies, and it is essential that practitioners in preventive archaeology implement them in their everyday practice. These technologies will increase the capacities of many private or semi-private SMEs and other practitioners in preventive research, not only in the sense that they could complete their tasks faster and more accurately, but also that they will be able to significantly contribute to the positive image of (preventive) archaeology as a whole, thereby increasing its relevance in modern society.

At the end of the day, it is always the question of relevance and added (social and other) values against which preventive archaeology and heritage protection are measured. Our societies do recognise heritage as a value worth protecting and enjoying. To this end, a series of legislative documents were produced and a number of public institutions established with the aim of protecting the heritage. Yet, heritage, archaeological in particular, is always challenged by spatial development. Whilst weighing the values of development and heritage, both are primarily considered as a resource, and it is in this context, especially at local levels, that heritage protection is frequently considered an obstacle to development or even an unnecessary cost. Heritage is a resource where investments bring 'profit' in the very long run, whilst a great deal of development (especially privately funded) is expected to pay off in a much shorter period of time. But let us look for a moment at the historical centres of many European towns. They all attract large masses of tourists and generate substantial income, yet this was possible only through decades of implementation of a careful protection policy and long-term efforts.

The 'frustrations' that developers are facing can be even more severe if preventive archaeological research is not done according to the highest professional standards or, even worse, if very costly excavations turn out almost 'fruitless'. As has been already said, developers would go for the cheapest archaeology, and not the highest-quality one. Unfortunately, recent evidence from many countries (e.g. Aitchison 2009; 2014, and accompanying national reports; also in Guermandi and Rossenbach 2013) shows that enterprises are willing to charge prices that barely cover their costs, just to be able to survive another season. Such a situation is increasingly worrying, since it undermines the quality of preventive archaeology in general and, to remedy this situation, the most urgent task of the relevant public bodies and legislators is to secure adequate minimum conditions for preventive research.

In the meantime, it is up to the enterprises and all other subjects acting in the field of preventive archaeology to invest in knowledge and skills, in order to make them more competitive and diversified. The CONPRA publications aim to contribute to this process.