On the Road to Reconstructing the Past

Computer Applications and Quantitative Methods in Archaeology (CAA)

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Preface

This volume, presenting the papers of the Proceedings of the 2008 CAA Conference, offers readers a truly content-rich book. The volume contains 54 printed studies, while the attached CD contains the full material (84 papers) delivered at the Congress, chosen by the peer reviewers during the lively, sometimes controversial selection process. This collection of papers, along with the framework in which it was produced, provides an accurate image of the current relationship between archaeology and computer sciences. It is important, therefore, to analyse the nature of this image. What are the main tendencies, the difficulties involved and the potential perspectives? The committees entrusted with the task of analysing the above questions and the researchers wishing to comment on these issues will no doubt present their views, and if so, both the conference and the book have fulfilled one of their most important tasks. While the editors can hardly undertake this duty, they felt the need to review the certain elements of the work they were involved in while organising the conference and while editing the present volume.

Let us first address the question of who we, the organisers of the Budapest conference, are, how we handled this task, what were our main goals and our ideas in general about the goals of the CAA community. What was special in Budapest as the venue of a CAA conference?

The idea of CAA was conceived in Birmingham in the early 1970s, an era generally regarded as the birth of computer techniques which also had an impact on our discipline. Few people in Hungary thought at the time that we would ever get involved in CAA. András Mócsy, one of the most respected Hungarian scholars, must definitely be mentioned in this respect because he was the first to use a computer in his onomastic research from the 1970s onward. At that time, operators were still needed to mediate between scholars and computer applications. Sadly, he never saw the huge advances brought to research by the spread of personal computers.

In the age of IBM clones, C language and dBase, computer techniques became widespread in Hungary too, calling for a meaningful dialogue between computer mathematicians and archaeologists. Thanks to the cooperation between the programmers and archaeologists, this dialogue opened exciting new perspectives for archaeology. Initially, new advances were made in the field of statistical analyses, but soon the visual and graphic potentials were also explored and developed. We experienced minor victories day by day when computer scientists finally understood what archaeologists wanted, while archaeologists and historians learnt how to formulate their requests to programmers. In the early 1990s, we organised the first scientific session addressing this issue in the Institute of Archaeology of the Hungarian Academy of Sciences. Our partner institutes, who contributed to the organisation of the current CAA congress in Budapest, were all there at the time. One logical outcome of the first national muster in this field was that we began following the activities of CAA in Hungary. With the help of some pioneering colleagues, we ventured beyond Hungary’s borders and, with the generous assistance of Gary Lock, Hans Kamermans and others, we presented our work in Leiden, Ravello and Leicester.

CAA, which had been confined to Great Britain in the first decade of its activity, eventually felt that it had outgrown the British Isles and that Europe was ready to compete with the best minds in the USA. After joining this work, we were surprised to see that we could regard ourselves as part of the international mainstream regarding the standard of our research, the questions we raised and the possible solutions we suggested. Our research results were on par with the European, as well as the American state of research, despite the fact our research environment was in no way comparable to theirs. However, we already felt that the question of “whither?” had been raised in the field of international research. This occurred in the 1990s, when there was a major shift in trend directions. The innovative period of individual software declined with the birth of large, new software families which were all capable of performing what the smaller ones knew and a great deal more. Finally, we must note that during the years while the publication of this volume was prepared, the Swedish and, also, the Hungarian branch of CAA was established, both part of CAA’s development.

One of the major issues was to determine in which direction a CAA conference should proceed at this point. Should it head towards the newest challenges of archaeology or should it take the path where it was led by the science of computer technology? I am sure that during the selection process preceding the publication of CAA conference volumes many peer-reviewers rejected some papers or downgraded others on the grounds that even though they presented major archaeological achievements – achievements that could only have been
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attained through the use of quantitative methods – they were not considered sufficiently innovative as computer techniques. At the same time, other papers presented issues which more resembled exciting computer games rather than technologies that would be useful to archaeological research.

Thus, while preparing for the 2008 Budapest CAA conference, the Hungarian researchers who were entrusted with suggesting the main theme of the congress attempted to organise a conference around the basic question of what were the most important challenges faced by archaeology in our country which could only be adequately answered by employing various computer applications at the beginning of the 21st century.

Following a series of exciting debates, we finally agreed that following the political changes of the late 20th century, the main challenge to Hungarian and Eastern European archaeology in general was resolving the immense task posed by the region’s infrastructural underdevelopment: the organisation and conduction of large-scale salvage excavations, as well as the documentation and presentation of this archaeological work. We had to deal with extensive areas, masses of finds and enormous expenses that caught the attention of the general public. Any solution to these problems could only be reached by resorting to the most recent advances in information technology. This, then, would be the topic of the Budapest conference. At the same time, we also believed that if we chose the theme of the conference from this field, we would direct attention to the most pressing problems of archaeology faced not only by Hungary, but also by the neighbouring and other more eastern countries.

These expectations were only partially fulfilled by the conference. Many new initiatives of which we knew, were not presented at this international gathering. These problems could perhaps be addressed at roundtable discussions or could be organised as separate workshops as part of the conference programme. Despite these shortcomings and critical hindsights, the conference can be considered a success: 307 delegates (many of them students) from 36 countries attended the conference. 62 participants came from Hungary, followed by Italy with 53 delegates and the UK with 48 delegates. As earlier, the proportion of the attendance of various countries clearly depended on the geographic location of the organising country to some extent. Although the overall attendance of the Budapest meeting could not compete with the 2007 CAA record, it was quite similar (as we now know) to that of the 2009 Williamsburg Conference.

Now that the Proceedings have appeared in print, we can examine the image this complex, multidisciplinary field presented in 2008. Several possibilities for grouping the 84 papers eventually selected for publication were considered. In order to provide an easy orientation in the material, we arranged them in alphabetical order on the CD. For the printed volume, however, we decided to arrange the papers according to the different approaches to solving various archaeological problems, but without dividing the material into too many sub-sections. Thus, instead of the wide range of subjects corresponding to the conference sections, we finally grouped the studies in four large sections dedicated to Remote Sensing and Aerial Photography, Data Acquisition and Management, GIS and Intrasite Analysis and, last but not least, Virtual Reconstruction and Visualisation. This grouping also sheds light on the current interest in the application of these methods: the first section contains 7 papers, the second section 16, the third section, dedicated to GIS and related analyses, has 19 papers, while the fourth section, covering the now fashionable topic of 3D reconstructions, has 14 papers. A certain degree of subjectivity can obviously be detected in our grouping because there are a number of papers that could have been included in more than one of these sections. In these cases, we tried to consider the main focus of the research discussed in a particular paper. The studies in each section are arranged in alphabetical order.

One extra paper has not been included in any of these groups. This is explained by the fact that the paper authored by Harry Helling, Charlie Steinmetz, Eric Solomon and Bernard Frischer was not part of the 2008 conference. Due to an editorial error, it was omitted from the 2004 CAA volume and the organisers, in agreement with the authors, have included it in this volume to rectify this error.

This is where we stand now, the point from which we can move on to conquer the next heights. We have no intention of blanketing the anomalies that occurred in the course of our work, many of which are recurring problems, but neither do we want to accord them greater attention than they deserve. However, the actual publication date of this volume deserves a brief explanation. In this age of scientometrics, impact factors and quotation indexes, researchers justifiably expect that their work be published within a reasonable amount of time. Swift publication can only be overruled by one consideration: quality. One of the major causes of the delay was the linguistic quality of the papers, which called for a very thorough linguistic revision, a rather slow
process. This problem still needs to be addressed more broadly. One possible solution would be for CAA to set up formal requirements such as the acceptable quality of English in addition to the existing prerequisites of scientific content.

Whither the discipline of archaeology and the CAA community in particular is headed, however, is far more important. Is there a road ahead and if so, where will it take us? We are convinced that there is a road, which is in part paved by the tasks ahead and in part by the internal dynamics of the discipline.

The new possibilities offered by the web and the inherent democracy of these possibilities have greatly extended the field in which we work. The sources are now virtually available to everyone, far more so than even a few years ago. The free access to sources puts archaeological sites in danger, although it also provides greater opportunities for control too. The realm of the web has expanded the circle of potential contributors to an extent unimaginable earlier, and it has, at the same time, increased the responsibilities of professional science. We have to be capable of using the power of information and of exposing its misuse.

Virtual reality provides an opportunity to present historical periods more precisely and more interactively to the public, but we should not make any compromise regarding the historic truth. It is easy to take advantage of new computer applications and create various games, but it is our responsibility to make these games meaningful.

The information technology boom which provided the starting point for the Budapest CAA is far from over and has spread to other parts of the world too. We have to be aware of the fact that archaeologists play a crucial role in preserving our cultural heritage and archaeological resources for future generations. What we are unable to salvage now will be lost to them, no matter how more knowledgeable and better equipped they will be.

Our work and our understanding of our role are of decisive importance to the archaeology of the future. And, finally, the good news: the young members of CAA and those who will become members have understood this and they are already doing their job. We only have to let them do it and keep our eye on them.

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The Editors