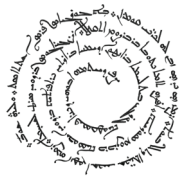
Information Technology and Egyptology in 2008



Bible in Technology

Supplement 1

Information Technology and Egyptology in 2008

Proceedings of the meeting of the Computer Working Group of the International Association of Egyptologists (Informatique et Egyptologie), Vienna, 8–11 July 2008

Edited by
Nigel Strudwick

Gorgias Press
2008

First Gorgias Press Edition, 2008

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Published in the United States of America by Gorgias Press LLC, New Jersey

978-1-60724-068-6

Gorgias Press
180 Centennial Ave., Suite 3, Piscataway, NJ 08854 USA
www.gorgiaspress.com

Library of Congress Cataloging-in-Publication Data
IAE Computer Working Group. Meeting (2008 : Vienna, Austria)
Information technology and Egyptology in 2008 : proceedings of the Meeting of the Computer Working Group of the International Association of Egyptologists (Informatique et Egyptologie), Vienna, 8-11 July, 2008 / edited by Nigel Strudwick. -- 1st Gorgias Press ed.
p. cm. -- (Bible in technology. Supplement ; 1)
1. Egyptology--Information technology--Congresses. 2. Egyptology--Data processing--Congresses. I. Strudwick, Nigel. II. Title.
DT60.I34 2008
025.06'932--dc22

2008051347

The paper used in this publication meets the minimum requirements of the American National Standards.

Printed in the United States of America

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INTRODUCTION

Nigel Strudwick

At the closing session of the 2006 Oxford meeting of the Computer Working Group of the International Association of Egyptologists (Informatique et Egyptologie, I&E) an invitation was extended to the group by Regina Hölzl to hold the next meeting at the Kunsthistorisches Museum in Vienna (KHM) in 2008. Those present accepted this offer with alacrity, and the conference of which the present volume is the proceedings is the result.

I should, on behalf of the group, like to thank Dr Wilfried Seipel, Director of the KHM, for his generosity and hospitality in agreeing that the meeting could take place in his museum. The organisation of the meeting was undertaken by Regina Hölzl and her colleagues in the Egyptian Department of the KHM, and I and all the participants are deeply appreciative of the welcome and excellent facilities extended to us.

BACKGROUND TO THE PRESENT PUBLICATION

Throughout the 1980s and into the early 1990s, it proved possible to publish the proceedings of the meetings in print through the good offices of founding members of the group Nicolas Grimal and Dirk van der Plas. The last proceedings to appear in this way were those of the 1994 meeting in Bordeaux. The publication of subsequent meetings has been erratic, with some papers appearing independently, and only the papers from the 2002 Pisa meeting saw the systematic light of day via a CD ROM.

Publication via electronic media seems very appropriate for a group whose interests lie in the possibilities of Information Technology in Egyptology. Nonetheless, it cannot be denied that there is still considerable

prejudice against, or suspicion of, such publications within the subject. The manner in which such works are collected and catalogued within Egyptology is still a little unreliable, and the rather fragile aspects of the Internet, particularly the ease with which sites come and go, is still very much an issue.

For whatever reason, a print publication still seems more likely to come to the attention to colleagues, and has potential advantages in raising the profile of I&E. Thus I was delighted to be approached by Katie Stott, Production Editor of Gorgias Press, with the offer of publishing these papers. I am very grateful to Gorgias for taking on this task. It is likely that, with the agreement of the publishers, some of the papers in this volume may also appear electronically on the web-sites of individual contributors.

CONTENTS OF THIS VOLUME

A total of sixteen papers was presented at the meeting, arranged into four broad groups. The first, **Modelling and Animation**, produced an excellent introduction by Robert Vergnieux to the processes and issues of modelling in 3D. The world of 3D has much to offer Egyptologists in terms of reconstructing ancient worlds, and a particular example of it was presented by Elaine Sullivan with a very informative and elaborate model of the temples of Karnak. The paper of Raine and Symons introduced to I&E the subject of Complex Systems, and the modelling or simulation of social processes in ancient societies. Such modelling may seem doomed to failure in ancient Egypt due to the very skewed nature of surviving data, but careful application of the principles in conjunction with full understanding of the data can produce interesting results. Most importantly of all, it brings further techniques to the attention of Egyptologists.

Session 2 was devoted to **Text Corpora and Text Processing**. Papers by Razanajao and Grützkau presented examples of the use of XML as an open standard for the encoding of texts. The implementation of an ambitious database of Late Egyptian texts was described by Rosmorduc and Winand, a database which has a real potential as a research tool for many users. Michael Everson's paper gave a brief update on the status of the proposal for the encoding of hieroglyphs in Unicode, asked several questions of the group, and made a number of suggestions for the future. Nederhof's paper examined options for the alignment of the hieroglyphic and transliterated versions of texts, and illustrates how techniques of analysis from Computer Science can provide useful features and insights for Egyptologists.

Databases have for many years been a central feature of presentations at I&E, and new and old ones featured in Session 3. As new databases, Navrátilová & Landgrafová looked at the IT dimensions of their database of First Intermediate Period Biographical Texts, as Jurman did with his database of Late Period material from Memphis. The discussions of these papers revolved around a number of points, but particularly how such datasets might be released onto the Internet and made available for all, an issue which needs to concern I&E very much in the future. Two projects with prominent presences on the World-Wide Web completed this session, with Gülden discussing the papyrological collections of Trismegistos, and illustrating how it works, while Horst Beinlich demonstrated the SERat database at the University of Würzburg, and showed a number of features of the project which thus far have not been implemented in the online version, but which may be consulted via the department in Würzburg.

The last session was entitled **Images, Bibliography and Tools**. As for the first of these, Müller discussed how the complex vignettes of the *Book of the Dead* may be registered, while Loring presented his thoughts on the online availability of images and issues of museum copyright. The final paper was an update from Willem Hovestreydt on the *Annual Egyptological Bibliography*, to which I will return shortly.

The opportunity has been taken to include two papers not presented at the Vienna meeting. That by Serge Rosmorduc was presented originally at the Würzburg I&E conference in 2000, but never published. Since that time his system has developed, and it is highly appropriate to present it here now as a up-to-date examination of how computers might be used to begin to attempt automatic analysis of hieroglyphic texts, particularly in the context of the paper by Nederhof which appears here.

The second paper is a republication of a paper on database theory by Ernest Adams and myself presented in 1986 and published in 1990. A paper kindly contributed by Dag Bergman follows it here to help explain its inclusion and relevance. The technology may have changed but the underlying principles have not, and it would seem that although there are many Egyptologists using databases, a considerable number of them do not fully understand the underpinnings of the systems they use. As the original publication has long been unavailable, I decided to take advantage of the present volume to make it available again.

For simplicity of setting, all references in papers have been left in the formats in which they were submitted by the authors.

CONCLUDING REMARKS AND THE FUTURE OF I&E

By way of closing remarks at the Vienna meeting, I reviewed the subjects discussed, indicated any actions which the meeting should take, and looked into the future.

Two business matters should be recorded here. Michael Everson had asked in his paper for the group's opinion on the best way of encoding the transliterated Egyptological *yodh*, which apparently does not exist yet within any Unicode font. Summarising, the options were to encode it as a discrete character, or to create it from existing elements in other Unicode fonts. The meeting felt that the former course was better, recognising that it would be a longer process than creating a composite; one important reason for not preferring the composite was that it would free us from any obligation to have another font on the computer which would remain otherwise unused. Everson also enquired about the default sort order for the signs in the Unicode encoding of hieroglyphs; as there is no consistent or overwhelming way to handle all of them phonetically, it was felt best that the sort order should be that of the Gardiner list. It was stressed that I&E does not feel it has the right on its own to make such decisions on the part of the whole community, but I passed on its recommendations to the President of the International Association of Egyptologists (IAE), James P. Allen.

The response on the issue of *yodh* from the Unicode Technical Committee (UTC) which oversees Unicode proposals, has thus far not been encouraging. They seem set against the creation of new characters, preferring composites. I am in the process of making representations against this, although I am not optimistic that the views of those who actually use the characters are of particular significance to the UTC.

The precarious situation of the *Annual Egyptological Bibliography* has long been a cause for concern in the Egyptology world. Since Vienna, major developments have taken place, and Willem Hovestreydt has authorised me to print this statement on the state of matters in January 2009:

> At the Vienna meeting I described the AEB's financial and institutional situation, which had become very difficult, especially after the University of Leiden decided to cease funding by the end of 2008. I presented several options, one of which was that the AEB should seriously explore the possibility of moving its base to a foreign institution. I am happy to say now that such a solution has indeed been found. From 1 January 2009 the AEB will be located

> in the Griffith Institute, Faculty of Oriental Studies, University of Oxford. The name *Annual Egyptological Bibliography* will change to *Online Egyptological Bibliography* (OEB). The OEB will also include Christine Beinlich-Seeber's *Bibliographie Altägypten 1822–1946*. Discussions begun in Vienna played an important role in generating the initiative for the move to Oxford.

I am sure all Egyptologists, not just participants in I&E, will wish the AEB the very best of futures, and will continue to support the project.

I was delighted to be able to announce that Jean Winand, one of only two members of the group to be present at the first meeting of I&E (the other is Robert Vergnieux), has offered the University of Liège as the venue for the 2010 meeting of the group. All members were delighted at his generosity, and we look forward to reconvening in Belgium.

The issue of the future of I&E frequently crosses my mind. In the early days of the group, it produced work widely used by the rest of the Egyptological community, notably the *Manuel de Codage* system, and the *Multilingual Egyptological Thesaurus*, as well as watching over the production of the earliest systems for writing hieroglyphs with computers.

The most important thing which I&E should do is to continue to make itself relevant to Egyptology, and encourage those who are using various innovative IT techniques to bring them to meetings so that they may become wider known and benefit from discussions with others. One such area which is becoming more frequent in Egyptology, but which has yet to make an appearance at I&E, is Geographical Information Systems (GIS).

But there are many areas which the meeting has examined before and which are as important as ever. I have already noted that fuller understanding of database concepts needs reinforcement and reiteration. Another matter which I&E has discussed and which needs further examination is that of data persistence and preservation (see my comments earlier about electronic vs print publication!). It is my belief that in this latter area I&E can help drive forward systematic approaches, and to that end, it was agreed in the closing session of the meeting that those of us interested in this topic should meet in the course of 2009 and consider how discussion on this subject should be facilitated at the Liège meeting.

The future for I&E remains exciting so long as we remain relevant and encourage our colleagues to take full advantage of the information and technological revolutions which we have observed and participated in over the past 25 years.

PAPERS PRESENTED AT THE VIENNA MEETING

Session 1 (Modelling and Animation)

Vergnieux, *L'usage de la 3D en Egyptologie*
Sullivan, *An Offering to Amun-Ra: Building a Virtual Reality Model of Karnak-Temple*
Raine & Symons, *Complex Systems: Agent based models of ancient Egypt*

Session 2 (Text Corpora and Text Processing)

Razanajao, *The Electronic Text Corpora of Ancient Egyptian: XML Treatment of Processions of Nile-Gods*
Grützkau, *Hieroglyphic Texts and XML**
Rosmorduc & Winand, *Ramsès Project*
Everson, *Yod, Unicode, and future options for Egyptian encoding**
Nederhof, *Automatic alignment of hieroglyphic and transliteration*

Session 3 (Databases)

Navrátilová & Landgrafová, *The Database of First Intermediate Period Biographical Texts**
Jurman, *Prosopography and Monument-analysis with the Memphite Late Period Database*
Beinlich, *Datenrecherche über die Internet-Version von SERat hinaus**
Gülden, *Trismegistos*

Session 4 (Images, Bibliography and Tools)

Müller, *Encoding Vignettes of the Book of the Dead*
Loring, *Sharing Images in the Internet*
Euverte, *Rosette. A computer-assistance for the student, the epigraphist, and the philologist*
Hovestreydt, *The Annual Egyptological Bibliography: Recent and Latest Developments**

Nigel Strudwick, Closing comments

* indicates that this paper was not submitted for this volume.