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Practical Methods in Digital Archiving of Rare Books

貴重書デジタルアーカイブの実践技法―HUMIプロジェクトの実例に学ぶ』 / 樫村雅章. －東京：慶應義塾大学出版会株式会社，2011. 278. ISBN-978-4-7664-1733-3

The book *Practical Methods in Digital Archiving of Rare Books – Examples from the HUMI Project* (樫村雅章 2011：『貴重書デジタルアーカイブ実践技法―HUMI プロジェクトの実例に学ぶ』、慶應義塾大学出版会) was first published by Keio University in Japan (Keio Gijuku Daigaku) in 2010 and received a second edition a year later. The author, Masaaki Kashimura[1], involved in the HUMI project, explores the subject of the creation of digital archives of rare world heritage books and the further managing of the images obtained.

The HUMI project was initiated in 1996 when Keio University received a copy of the famous Gutenberg Bible[2] and was envisaged to be an organization which would place this and

[1] The author of the book, Masaaki Kashimura was born in 1965 in the Shinagawa Prefecture in Japan. He completed his master studies at the Science and Engineering Department of Keio University and in 1997 became one of the researchers involved in the HUMI Project. In 2006 he became the technical director and coordinator of this important project. His papers have been published in scientific journals and the book which is the subject of this review is a collection of the papers for which he was given the 32nd Award for Published Research by the Technological Institute of Informatics. These papers were published in the journal of the Institute from April 2006 to March 2007 and were primarily aimed at researches working in the field of library and information science.

[2] Gutenberg is thought to have published between 180 and 200 Bibles in the 15th century. The books were printed in two volumes and it is rare to find a complete set. However, even individual volumes are counted as a copy. The book owned by Keio University is incomplete, containing only one volume. The book has about 1300 pages and was written in Latin. The text was printed in two columns per page, each containing 42 lines. It is considered an invaluable cultural treasure, not only for the fact that it is most likely the oldest printed book in Europe, but also because of the beauty of the printing and binding. This was the reason why some copies were dismantled and sold as individual sheets or folios and as such can still be found in auctions.

other rare books at the disposal of researchers; an aim which was to be achieved with the help of digital technologies. The name of the project carries two meanings: firstly, it is a partial acronym of the Humanities Media Interface Project, and secondly, it is connected to several Japanese characters pronounced /humi/ (「文」 「史」 「籍」 「書」), all of which mean "book, manuscript". From its very inception, the HUMI project was to engage experts in various fields: philology, literature, natural sciences and technology, informatics, etc. The first phase involved a lot of experimental research and the establishing of a methodology and practices. The second phase was initiated in 2001 and it entailed the practical application of the results acquired in the first phase of the project.

Keio University first started considering the possibility of making the invaluable cultural heritage in its possession available to a wider audience, researches in particular, in the mid 1990s. The treasures in question are foreign publications, medieval manuscripts, the first printed books, Japanese prints, old maps and other valuable manuscripts, collected for decades by this prestigious academic institution. The advent of digital photography made possible the undertaking of concrete steps in this direction. At the same time (in 1995), the Japanese Ministry of Education and Science announced their desire to "aid in the preservation of the environment by encouraging the main university centers to found their own museums in the approaching 21st century". These would, amongst other things, facilitate access to the treasures stored in their libraries. For this reason the Ministry gave funding to the HUMI project on two occasions.[3]

The principal difference between the HUMI project and other similar endeavors which involve the gathering of experts from different fields with the aim of developing a single idea is that it gives a modern embodiment to the deeply established and almost metaphysically profound Japanese love of tradition and the drawing on from the past in order to create a future, so characteristic of this nation. Namely, the wealthy government of modern-day Japan was not the first to lend its support to these kinds of projects. There exists a more ancient basis for this type

[3] The HUMI project received state funding as "The Initiative for Digital Library Research". It officially adopted the name HUMI in June 1996. In 2001 the Ministry gave the project five-year funding through the newly-established Digital Archive Research Center (DARC). Three of the four research projects initiated by DARC were entrusted to HUMI and they concerned the digitalization of the Gutenberg Bibles kept in Europe, the digitalization of the oldest books in the principal British libraries, as well as the digitalization of the illustrated scrolls from the Nara period, housed in European libraries. After the five-year period, Keio University requested and was subsequently given a further three-year's funding for "The Integrated Establishing of a Digital Humanities Archive". This added a further dimension to the results achieved by HUMI.

of endeavor, although the author of the book points to it only on several occasions. It is thought that only 48 copies of the Gutenberg Bible are still in existence, only one of which is in possession of an non-Western institution, Keio University. The University's copy was a gift from the Maruzen company, which in 1987 purchased it for a record price in an auction in the US. What kind of company gives such a precious gift and for what reason? The Maruzen company, which was established in 1869, supplies books and other scientific material from abroad to Japanese readers. It is hard to believe that in this day and age there is such a company, which has, furthermore, managed to survive for the past 150 years. In accordance with its traditional policies, this company decided that such a valuable book should be in the possession of a scientific center, where it would be given a more meaningful existence and where it could become the object of scientific inquiry. To this aim, Keio University was selected, and with the establishing of the HUMI project this institution proved itself a worthy beneficiary.

There is, however, an even deeper level to this story. The Maruzen company was founded by Hayashi Yuteki, a graduate of Keio University. The University was founded in 1858 by Fukuzawa Yukichi (1835-1901), one of Japan's foremost educational reformers. Keio University was a pioneering beacon, which spread enlightenment in Japanese society and typically for the era gave stress to the study of Western philosophy and science. Fukuzawa Yukichi himself suggested to Hayashi Yuteki that he set up a company such as Maruzen. Moreover, there exists an account of Fukuzawa seeing a book printed in 1440 during a diplomatic visit to Germany. It is thought that this book was one of the Gutenberg Bibles and that Fukuzawa was probably the first Japanese to see it. The housing of this book in the University library initiated research into the digital archiving of rare books, the volume itself becoming the object of early experiments, which were later to involve other rare books.

Initially in 1996 the digital version of all the pages of the Keio University Gutenberg Bible was made available. Later, thanks to the funding of a consortium of Japanese companies, other valuable manuscripts in the University's library were digitized. Following that, other institutions with copies of the Bible and other rare books and manuscripts were contacted, which lead to the consequent digitization of these treasures. From 2001 to 2008 around twenty trips abroad were undertaken. One of the first international contracts to be agreed was with the library of Cambridge University, which owns a complete copy of the Gutenberg Bible. Depending on the contract, copyright issues and other matters, the centers where digitization has taken place

have made the recorded material available to a lesser or greater extent, either by placing it on a network or through distribution of an official CD.

What has been achieved by the digitization of rare books? Books that are considered a heritage of humanity are sensitive to handling and are therefore difficult to be studied. For this reason they can only be read and examined in very strict conditions and for limited amounts of time. This makes it almost impossible for two or more to be simultaneously investigated through the usual methods. Digital imaging, however, not only makes them available to a wider audience but also enables them to be easily compared – even the very large volumes. This can be achieved by the development of specialized software which, for example, makes it possible to superimpose pages one on another, making the differences between the different copies easily discernible. The protection given to the books, which no longer require physical handling, need hardly be mentioned. All this also makes it possible to identify the origin of individual pages, etc. Although several issues still need to be addressed, this project has produced a body knowledge and skills which can be utilized for the digital archiving of other valuable artifacts of a different kind.

All this has been described in detail in the book which has twelve chapters. The chapters are as follows: 1) On the HUMI project, 2) On digital imaging, 3) Digital images and digital facsimiles of rare books, 4) On the equipment required for digital imaging, 5) Methods of digital imaging, 6) Imaging techniques utilized in the HUMI project (I), 7) Imaging techniques utilized in the HUMI project (II), 8) Rare book digitalization projects undertaken in collaboration with foreign libraries, 9) Procedures in rare book digital imaging, 10) The science of digital books according to the HUMI project, 11) Digital archiving of rare books and their public distribution, 12) Future perspectives.

Looking at the contents of the book one might ask the question how it is possible that what is basically a research report mainly focused on the technicalities of a project could have achieved a second edition in the space of a single year. This question is easily answered after reading the book. The author demonstrates a refined sense of measure, no doubt stemming from the traditional Japanese respect conferred to the interlocutor, reflected in his meticulous explanation of all the procedural steps that might be confusing to the reader. This book was written in order to instruct and transmit a wealth of experience in an easily comprehensible, but never condescending manner.

In the chapters dedicated to detailing the technical aspects of the project, the author starts with an explanation of the concept of a pixel, continuing on to the description of the instruments used, the cameras, lighting, scanners, etc. Aside from all the useful information, such as the recommendation that the staff involved in photographing the books be dressed in dark clothes and white gloves made of materials which do not contain wool, the author also mentions things such as how often the sensors on the cameras should be cleaned, what software was used and how it was adapted and many others. Many of the methods were improved during the actual execution of the project and the processes that took place are illustrated with practical examples. The book among other things contains a description of how the staff involved in the project came up with a design for a specialized book holder. Also described are the old and new techniques used in the archiving of books through digital imaging, the explanation of the pros and cons of each of these techniques through concrete examples and numerous illustrations. Apart from the main body of the text, the book also contains a succinct foreword, a more personal afterword by the author, a list of illustrations and an index. Additionally, the webpage http://www.keio-up.co.jp/np/isbn/9784766417333/ is regularly updated with information concerning the websites mentioned in the book.

Although the book mostly contains technical details, the author's unpretentious manner and his awareness of the need to be understood by a wider audience have produced a highly readable and surprisingly stimulating book – an opinion shared by other reviewers. For this commonsensical approach we would sincerely recommend this book to all working in the field of books, the preservation of cultural heritage artifacts and the processes of digitalization and publication of printed materials, as well as digital humanities in general.