

UNESCO Memory of the World Programme

Sub-Committee on Education and Research

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Foreword

by Frank La Rue

UNESCO Assistant Director-General for
Communication & Information



Photo: Angelika Jordan

UNESCO established the [Memory of the World Programme](#) (MoW) in 1992 as an international initiative to preserve and make accessible documentary heritage from all over the world. The Memory of the World Programme seeks to safeguard documentary heritage against war and social upheaval, a lack of resources, destruction, neglect and collective amnesia.

The Programme was initiated with the understanding that our common heritage comprises the history, the recorded unique knowledge of humanity that has developed over time and represents all languages, cultures and peoples. Much of the world's documentary heritage has vanished forever; much is endangered. The Programme was started in response to the parlous state of preservation of, and access to, documentary heritage in various parts of the world and the crisis that is facing many archives and libraries.

The Memory of the World Programme helps to reinforce UNESCO's action for preservation of archives not only in times of armed conflict and transition, but also against the effect of time, organized crime, theft and illicit trafficking. The two main objectives of the Programme, namely preservation of and universal access to the world's documentary heritage, are equally important and complementary in the contexts of history and memory: archives help to transfer information—and thereby sustain memory—from generation to generation and help the reconstruction of individual and collective identities and reclaiming historical memory of both, communities and individuals.

The collective memory of a nation is indispensable if we want to understand who we are, to understand where we have come from, to better comprehend where we find ourselves and where we are going. Archives are the documentary base of this collective memory, which itself is so important to maintain and strengthen national identity.

Archives complement the human memory, thereby allowing the flow of recorded knowledge of the past for future use. The effective preservation, use of, and accessibility to such recorded knowledge therefore, can greatly influence societal transformation, politically, culturally, administratively and economically.

In a fast-paced, interconnected world, and a growing resurgence of racism, xenophobia and acts of violence, notably against migrants and people of immigrant origins, peace is at risk. Internal conflicts and terrorist attacks demonstrate that the presence of peace can never be taken for granted. The strengthening of cohesion through an inclusive social fabric that is respectful of cultural diversity can significantly contribute to security and peace. The protection of cultural diversity can contribute to restoring social cohesion and to opening prospects to resolve crises, particularly in protracted conflict situations. Respect for cultural diversity is also essential for reconciliation, national dialogue and reconstruction.

We have to renew the way we protect and share heritage, promoting and harnessing cultural heritage as a source of peace and driver of dialogue and reconciliation. Engaging young people through heritage education is crucial for combating all forms of intolerance and making them participate in the construction of a society based on common values, characterized by democracy, tolerance and solidarity.

Therefore, I wish to add a third objective to Memory of the World Programme that has to be addressed: to make the content of our documentary heritage part of the historical research and education materials in order for young people to learn about the history and traditions of their own and other cultures, and learn how the international community as a whole unites to save our common heritage. Most importantly, they should discover how they can contribute to safeguarding this heritage and make themselves heard.

The Memory of the World Sub-Committee on Education and Research (SCEaR) came into being three years ago and has for a mission to work out strategies and concepts for institutionalizing education and research on documentary heritage in a sustainable manner, as well as to help develop innovative curricula in higher learning institutions and in schools. I trust the launch of the first edition of this quarterly newsletter will allow us to reach out and engage, both teachers and students, in a productive dialogue on heritage education-related issues in the classroom. We hope that the newsletter will provide, in the long run, an additional educational reference tool.

Editorial

by Lothar Jordan



Photo: Renate Pieper

Three years after its creation the Memory of the World Sub-Committee on Education and Research (SCEaR) launches a quarterly newsletter. The SCEaR Newsletter will be a tool for communicating our endeavours and that of our partners to work out strategies and concepts for institutionalizing education and research on Memory of the World, its registers and the world documentary heritage in a sustainable manner, and to help in developing innovative curricula and research on Memory of the World and/or on documents, especially in an interdisciplinary and international manner and often related to the internet. It shall be further a platform of discussion of new perspectives and aspects that might help to improve the Programme, but could as well inspire experts in different fields of scholarship and knowledge to go down new pathways.

Right from the start we knew that, beside our own efforts, we would need a multifarious ensemble of partners if we wanted to tackle the challenging and fascinating complexity of the Memory of the World Programme and of documentary heritage in general under the aspects of education and research. So we opened a Network of Cooperating Institutions and Corresponding Members, experts from the academic world, and from memory institutions such as archives, libraries, and museums. They and their activities are visible on our part of the UNESCO Memory of the World website. Now, as we have 60 partners from around the world who are inspired to work on these matters, and more are likely to join in, it seems time for a platform for exchange of information and for discussion from all over the world. This is especially needed as the interaction of Memory of the World and Education and Research is still a pioneering effort. Although their number is growing, there are still rather few publications and academic courses dedicated to the Programme and its context, at least outside some few core disciplines like archival studies, for example.

Another new aspect: The SCEaR created a Working Group Schools at the end of 2015, and opens another line of partners, “Cooperating Schools” (see Martin Porter's report in this Newsletter). The engagement of schools, teachers, and school students (between 6 and 18) in understanding of documentary heritage is as important for us as the work with memory institutions or representatives of the academic world. In a time where young people are growing up in a world of digitisation we see an urgent need that they should have a good understanding of all forms of documents, from the oldest to the newest; to learn what documents can mean for the understanding of all kinds of histories and of the present time, from the global to the individual level; where to find them, and how to make good use of them in a world that should grow together peacefully while respecting the diversity of cultures.

While Memory of the World is open to Digital Humanities and takes part in or cooperates with projects strongly based on digital-born documents (including their problems) and digitisation, on the other hand we should not forget the ‘old’ documents which are still the backbone of our world memory. We should care not only for the knowledge of how to safeguard them, but as well how to work with them, and that begins before any interpretation or analysis of documents takes place.

But education and research cannot only help to improve the safeguarding of documents, but access to them, too. Access has to mean more than being allowed to have contact with the carrier of the document, but under the aspect of Universal Access – that is, making the document, its carrier and its content, open for as many people in the world as possible – it needs to provide information that gives access to the content of each specific or local document to a global audience.

The engagement for our tasks can be realised in established disciplines, especially by those who are interested in interdisciplinarity and international cooperation, or by going really new ways, for example, by establishing Memory of the World Studies, or by creating Memory of the World Knowledge Centres, which would be institutions, based on specialized archives or libraries, that foster research and learning about MoW and documentary heritage.

I want to thank the Assistant Director-General and Head of the UNESCO Communication and Information Sector, Frank La Rue, for opening our Newsletter. My thanks go further to Roslyn Russell, Rapporteur of the SCEaR, former Chair of the MoW IAC and Chair of the Australian MoW Committee, for co-editing the SCEaR Newsletter from the other side of the globe. All authors of this No 1 Newsletter are members of the SCEaR, or of its network of Cooperating Institutions and Corresponding Members. While this network will remain the main pool for future authors, we are open to receiving proposals by other experts as well, for articles, reports, etc. as long as they keep to our tasks (see the box at the end of the Newsletter). Reactions and remarks are welcome: Communication and information are key words for us, but so are inspiration and goodwill.

How can Comparative Literature and the UNESCO Memory of the World Programme cooperate? Memory of the World in the XXI. World Congress of the ICLA

by Lothar Jordan

Literary documents play a growing – some say, still too small – role in the International Register of the Memory of the World Programme, be it documents of medieval literature, like the Georgian national epic “The Knight in the Panther's Skin“ by Shota Rustaveli, or the “Song of the Nibelungs”; or be it modern literature such as, for example the manuscripts of Goethe, H. C. Andersen, Ibsen, the annotated reference copy of the “Tales” of the Brothers Grimm, or Tolstoy’s personal library and manuscripts, photo and film collection. And with the Christopher Okigbo and the Derek Walcott collections and the Archives of the East European emigrant writers’ Literary Institute in Paris, even post-World War II-literature is included.

Comparative Literature as an academic discipline takes into its focus the international relations, the differences and the common grounds of literatures and cultural expressions in different languages, inclined to interdisciplinarity and international cooperation. Therefore it fits very well with the tasks and the spirit of UNESCO and its Memory of the World Programme. The idea suggested itself that the ICLA (International Comparative Literature Association) with its 4,000 members worldwide should become a Cooperating Institution of the SCEaR. How can this partnership be filled with life? That was the question of a section that the SCEaR could organize within the tri-annual World Congress of the ICLA which took place from 21-27 July 2016 in Vienna.

The strong interest of both parties in their cooperation was underlined by the fact that the ICLA had invited the Assistant Director-General of UNESCO and head of its Communication and Information Sector, Frank La Rue, to give a keynote speech during the opening ceremony on 21 July. Its title, “Art and Intercultural Dialogue”, evoked the bridge that both organisations want to build between cultures. The audience, about 700, in the Audimax, the biggest lecture hall of the main building of the University of Vienna, appreciated his free speech that opened hearts and minds for the work of UNESCO. It concentrated on the relevance of the diversity of cultural expressions, thus coming into a dialogue with the motto of the congress, “The Many Languages of Comparative Literature.”

The MoW section took place on 26 July, again in the Audimax, and was chaired by the President of the ICLA, Professor Hans Bertens (Utrecht) and the chair of the SCEaR, while the in-coming president of the ICLA, Professor Zhang Longxi (Hong Kong), was present. Dietrich Schüller gave an Address of Welcome in his role as the chair of the Austrian MoW Committee, putting an accent on the needs and perspectives of audiovisual archives. The section was opened by some presentations, firstly by the chair

of the SCEaR introducing some perspectives of cooperation, and by Corresponding Members of the SCEaR. As the SCEaR wants to build bridges not only between MoW and the academic world, but between the memory institutions and the academic world as well, all stakeholding institutions were represented. Achim Hölter, CEO of this congress and Professor of Comparative Literature at the University of Vienna, applied himself to Lost Memory, demonstrating how Comparative Literature can reconstruct dispersed libraries that once were collected by significant writers. The aspect of dispersed documents was the subject of David Sutton (Reading, UK, and engaged in ICA) too, when he spoke about “Diasporic Literary Archives”. Galina Alexeeva (Leo Tolstoy Museum Estate Yasnaya Polyana, Russian Federation; Chair of ICLM [International Committee for Literary Museums in ICOM]) underlined the relevance of translations for MoW and for Comparative Literature by using the example of Constance Garnett as Tolstoy's translator in England. Then Jan Bos (The Hague, Netherlands; Chair of the MoW Register Sub-Committee): gave an introduction to “The International Register of the UNESCO MoW Programme”, leading up to the following panel ”How to cooperate?”

In this panel the ICLA was represented by its president Hans Bertens and by Achim Hölter, MoW by Abdulla Al Raisi (Abu Dhabi, UAE; Chair of the MoW International Advisory Committee), Jan Bos and Lothar Jordan. They set the scene for future cooperation. Translation was a big issue for both sides, including documents of significant translations and translators, and so was Lost Memory. Criteria and key terms of the MoW Programme that are relevant for Comparative Literature, too, such as authenticity, for example, could be scrutinized by researchers. This led to the question as to how far the ICLA and its experts could take part in the nomination process for the International Register. Both parties confirmed that this would make sense in some cases and could help to objectify the results of the assessments. Finally, it was agreed the ICLA and MoW, further coordinated by the SCEaR, should work towards a concrete list of fields of cooperation.



From right to left: Abdulla Al Raisi, Jan Bos, Lothar Jordan, Achim Hölter, Hans Bertens.

Photo: Angelika Jordan

A keynote by Abdulla Al Raisi rounded off the section. The Chair of the MoW IAC concentrated on the digital aspects of the Programme, leading to Digital Humanities which is one of the perspectives of Comparative Literature too. He stressed that research should play a growing role in MoW and introduced efforts of the MoW Programme such as the PERSIST project that aims at making information on the internet sustainable, a real issue for all researchers. His audience was one of the biggest academic audiences MoW had had so far. His speech was followed by a discussion with and lecture by Herta Müller, Nobel Prize Laureate in Literature.

Discussion

Can the Memory of the World Programme Help to Make Information on Nuclear Waste Sustainable?

by Jonas Palm, in association with Claudio Pescatore

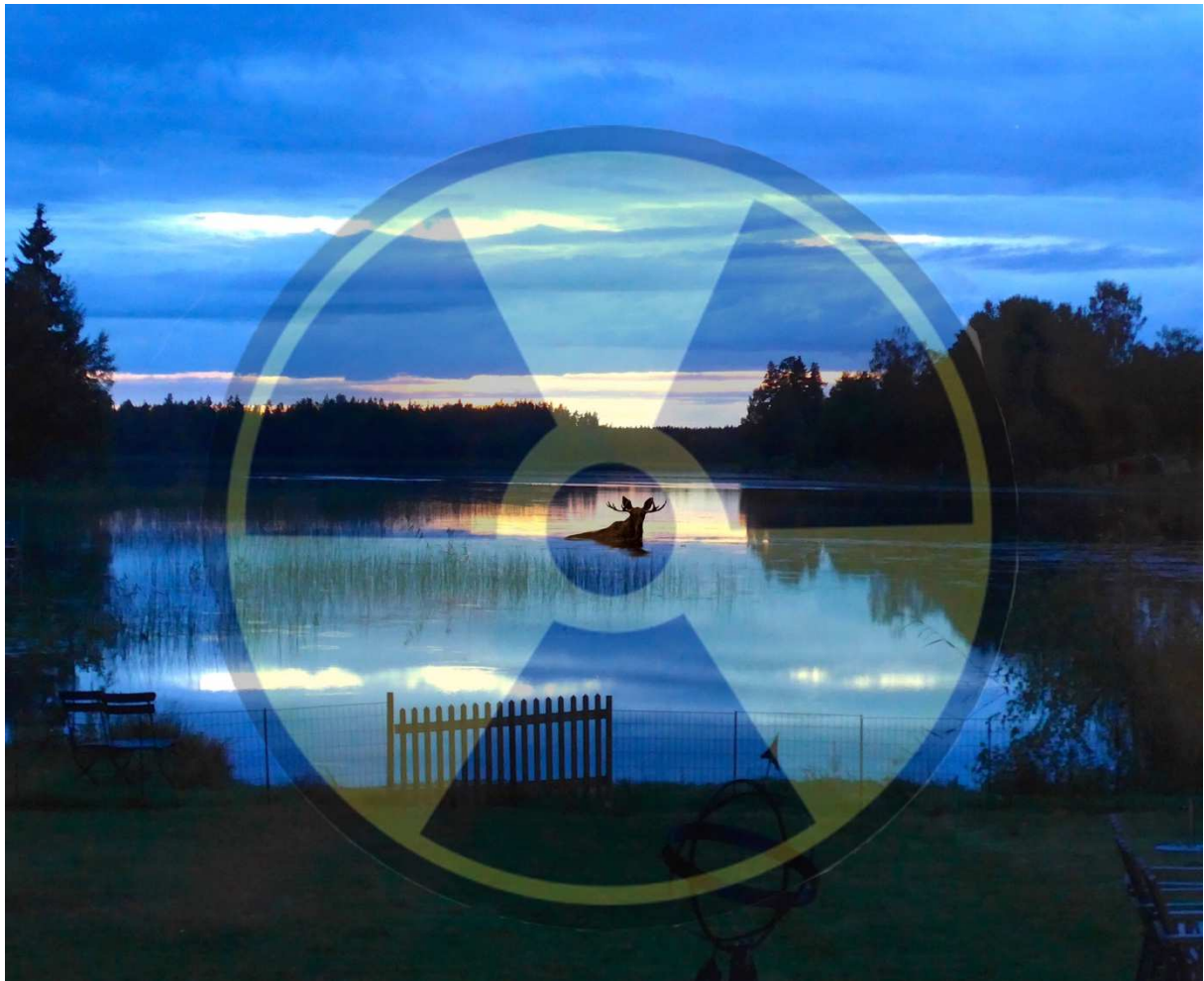


Image: Jonas Palm

The disposal of nuclear waste is one of the most relevant and most difficult problems of mankind. Especially for the most dangerous of these wastes, long time spans are necessary for continued safety and so for preserving the relevant information. Could cooperation with the UNESCO Memory of the World Programme be one way of securing this information for increased understanding, stability, and continuity?

Nuclear power

After the use of the atomic bomb at the end of the Second World War the world turned towards the possibility of making peaceful use of nuclear energy. “In the course of developing nuclear weapons the Soviet Union and the West had acquired

a range of new technologies and scientists realized that the tremendous heat produced in the process could be tapped either for direct use or for generating electricity. It was also clear that this new form of energy would allow development of compact long-lasting power sources which could have various applications, not least for shipping, and especially in submarines.”¹

In the early 1960s the first commercial nuclear plants began operating on both sides of the Iron Curtain, but from the late 1970s the use of nuclear power stagnated. In the 1990s, though, a new generation of reactors evolved, and at the beginning of the 21st century “several factors combined to revive the prospects for nuclear power. First is the realization of the scale of projected increased electricity demand worldwide, but particularly in rapidly developing countries. Secondly is awareness of the importance of energy security, and thirdly is the need to limit carbon emissions due to concern about global warming.”²

Radioactive Waste

With the development of nuclear power – but also of nuclear medicine and other nuclear-based technologies – increasing amounts of nuclear by-products (radioactive waste) have been accumulated worldwide.

In 1957 the National Research Council (NRC), the working arm of the National Academies of Sciences, Engineering, and Medicine of the United States of America, published one of the earliest reports on policy decisions related to disposal of nuclear waste: “The Disposal of Radioactive Waste on Land”. In its summary, the NRC report, “The Disposal of Radioactive Waste on Land”, states: “Unlike the disposal of any other type of waste, the hazard related to radioactive waste is so great that no element of doubt should be allowed to exist regarding safety” (NRC, 1957, p. 3). All countries have thus a radioactive waste management programme. The most advanced programmes are presently involved in siting facilities for the disposal of these wastes. There is an ethical imperative to act now to implement solutions and not to pass on the problem to future generations.³

The more dangerous radioactive waste categories – spent fuel and high-level waste – require tens to hundreds of thousands of years of isolation from Man, and will be disposed of in purpose-built repositories deep underground. While their safety is not predicated on the continued presence of Man, preserving information has obvious benefits in terms of adding extra levels of confidence in safety and providing opportunity for future generations to seek other solutions or reverse decisions made today.⁴

¹ <http://www.world-nuclear.org/info/current-and-future-generation/outline-history-of-nuclear-energy/>

² Ibid.

³ http://www.oecd-nea.org/rwm/documents/FSC_moving_geological_2008_A4.pdf

⁴ <http://www.oecd-nea.org/rwm/rkm/documents/flyer-A4-rkm-collective-statement-en-2014.pdf>

Records, Knowledge and Memory: The RK&M Initiative of the OECD

In 1958 the Council of the OEEC (the predecessor of the OECD) set up the European Nuclear Energy Agency (ENEA). The Agency's name was changed in 1972 to the Nuclear Energy Agency (NEA) to reflect its growing membership beyond Europe's boundaries.

The first activities of NEA were mainly to create foundations for nuclear co-operation. Later it evolved to provide a forum for coordinating the national nuclear programmes of member countries, "as governments came under increasing pressure from their constituents to give greater priority to the environmental aspects of nuclear energy and to the safety and regulation of nuclear power plants."⁵

As the issue of nuclear waste grew, as well as demands from member countries for facilitating exchange and fostering reflection in this area, including formulating common approaches, the NEA Radioactive Waste Management Committee (RWMC) launched the initiative on the Preservation of Records, Knowledge and Memory (RK&M) across Generations in 2011. This initiative has as its focus the period of time after repository closure; another initiative, RepMet, deals with the period before closure.⁶

At present, the RK&M initiative is planned in two phases – I and II – with 17 organizations from 13 countries, representing policy makers, regulators, implementing agencies and R&D institutions, taking part in Phase II. The first phase ended in March 2014, at which time the RWMC decided to extend the initiative until 2017.

Preservation of Records, Knowledge and Memory (RK&M) across Generations

The deep geological disposal projects for radioactive waste and spent fuel are designed in such a way that safety is not to depend on human presence and intervention. However, there is no intention to forgo, at any time, records, knowledge, memory (RK&M) and awareness of the repository and the waste it contains. Besides, specific requirements may have to be fulfilled in the area of RK&M based on national legislation and regulation, e.g. in the area of preventing human intrusion, favoring retrievability of the waste, or to simply allow future generations to make their own informed decisions about the waste. Additionally, host communities and regions have indicated a strong interest in that appropriate provisions exist for preserving detailed information about the repository for as long as possible. As a result, national programmes are actively seeking to improve their understanding of the preservation of RK&M about radioactive waste across generations and to implement the necessary provi

⁵ <https://www.oecd-nea.org/rwm/rkm/>

⁶ Ibid.

sions. [...] There is no single mechanism or technique that, by itself, would achieve the preservation of RK&M over centuries and millennia. Rather, an integrated set of mechanisms and techniques – technical, administrative and societal – is needed to address the various timescales and to support one another.⁷

The necessity to maintain and preserve information about the whereabouts of nuclear waste deposits, its content and the dangers connected with it is not only a question of preserving physical documentation but also of preserving the *meaning* of the information, keeping it meaningful for centuries and, in the long run, for millennia. This is only possible through repeated activities in short-term perspectives, and not only in one area but many – the industry, cultural events and formats, archival sector etc. This is, among other things, what RK&M Phase II is assessing.

It is a huge challenge to preserve information about nuclear waste. Public opinions might influence policy. The time scales are extremely long – the attitude may become “this is in the far future and we don’t care”. Political and geographical changes will also happen.

In September 2014 an international interdisciplinary conference – “Constructing Memory” – was held in Verdun, arranged by the NEA RK&M Initiative with the support of ANDRA (Agence nationale pour la gestion des déchets radioactifs = French National Radioactive Waste Management Agency). The scope of the conference was “to present and discuss prospects and projects related to memory preservation in the domain of radioactive waste management and in other domains, such as cultural heritage, history, archaeology and archiving.”⁸ Presentations included associating waste deposits with cultural heritage as well as current challenges and experiences of preserving cultural heritage. The time scales spanned tens to thousands of years. Archival and museum curatorship face new challenges for RK&M preservation and rituals could be used as a means to preserve memory.⁹

The MoW Programme’s potential involvement in radioactive waste memory preservation

National archives and libraries generally have been given the task of preserving their holdings “forever”, meaning as long as it is physically possible; or by transferring or migrating information from media to media as the evolution of technology moves on. Some have had this longer than others.

⁷ <https://www.oecd-nea.org/rwm/rkm/>

⁸ <http://www.constructing-memory2014.org/scope-and-objectives>

⁹ In connection with this, it was discussed how archaeology could contribute to preserving the present for the future. In the past few years the Waste Management Symposium that takes place every year in Phoenix, Arizona, has held one or more sessions on memory preservation for radioactive waste disposal. A recent paper suggests the use of millennial, multi-purpose time capsules in support of national archive and other preservation efforts. See: C. Pescatore and A. van Luik, Millennial Time Capsules as a Promising Means for Preserving Records for Future Generations, *Waste Management Symposium*, Phoenix, AZ, March 2016.

In times of war or of national affirmation, libraries have often been seen as symbols of ethnicity and been subject to destruction, while archives in general have been spared as they contain important information for anyone who wants to take power and run a given region.

The Memory of the World Programme was initiated in 1992.¹⁰ The need for such an initiative was underlined by the unrest in the Balkan countries where libraries were destroyed, most notably the National and University Library of Bosnia and Herzegovina in Sarajevo.

The objectives are, in short, to facilitate preservation, to assist universal access to documentary heritage, and to increase the awareness worldwide of the existence and significance of -documentary heritage. This is exactly what is needed to ensure the longevity of information also about nuclear waste repositories for future generations.

The time span for spent fuel and high-level waste is said to be at least 100 000 years before the waste will be harmless. During the time it takes for radioactive waste to become harmless, the surface of Earth may alter significantly and, certainly, society will change countless times.

Thus the success of this long-term preservation goal is dependent on finding *many different ways* to relay information about -nuclear waste and its positions to coming generations. One of the ways to achieve this could be to co-operate with MoW – either by having documents in the MoW Register, or, by being a Cooperating Institution of one or several of the MoW sub-committees – or in a co-operation with the entire MoW Programme.

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Claudio Pescatore is Research Affiliate at the University of Calmar, Sweden (formerly with OECD).

¹⁰ See Lothar Jordan: *A First Sketch of the History of the UNESCO Memory of the World Programme: Its Beginnings in 1992*. Pfaffendorf 2013.

Report

Capacity Building Workshop for Technical Staff on Preventive Conservation, Archiving and Cataloguing the Documentary Heritage in the Frame of the Memory of the World Programme (Bamako, Mali, National Library, 25-28 November 2015)

by Papa Momar Diop



Official opening ceremony with Mr Mountaga Tall, Higher Education Minister, Mr Lazare Eloundou, Head of Bamako UNESCO Office, and Mr Mamadou Demba Sissoko, chair of Malian National MoW Committee.

Photo by the author

In the framework of the Memory of the World Programme (MoW), I conducted a workshop for capacity building for technical staff (bookbinders, restorers, and digitalization operators) on preventive conservation, archiving and cataloguing the documentary heritage, from 25 to 28 November 2015, in Bamako, Mali, at the National Library.

In the margins of the workshop, I proposed to devote a day broadened to members of the Malian National Memory of the World Committee, for, on the one hand, helping to prepare a nomination project of a few Malian documentary heritage items to the MoW International Register; and, on the other hand, presenting a methodology for making a MoW National Register (paper and digital formats).

The aim of the workshop was to make Malian bookbinders, restorers, and digitalization operators from documentary institutions better understand the archivists', librarians' and museum curators' work and to contribute to the establishment of conditions for an inscription of Malian documentary heritage in 2017.

I also agreed to hire two experts, one for preparing the curriculum for training on inventorying and digitalising archives' collections, and the other on preventive

conservation. Those experts are Mr Amadou B. Sidibe, Deputy Director of the National Library, and Mr Garba Traore, head of the preventive conservation laboratory of SAVAMA-DCI (a research library).

In addition I prepared the lessons and provided training for the remaining topics: the process of the creation of archives, the methodology of developing research instruments (inventories), the filling of a nomination form for an inscription to the International Register according to the Register Companion, and the elaboration of the Malian national heritage.

Regarding the topics about the process of the creation of archives and the methodology of developing research instruments, my aim was to enable the technical staff to have a significant survey of the daily work of a custodian of documentary heritage. This comprehension may generate a team spirit and improve the safeguarding, preservation and valorisation of documentary heritage.

I visited the two institutes conserving and valorising the Timbuktu manuscripts transferred to Bamako during the terrorist attacks against Timbuktu cultural and documentary heritage in 2010: SAVAMA-DCI and IHERI Ahmed Baba. The manuscripts were courageously transferred on a makeshift boat by the staff of the institutes, risking their lives. I suggested to them that they apply for the UNESCO/Jikji Prize.

At the end of the workshop the participants expressed their satisfaction and declared that they better understand the custodian's works, consequently enhancing their ability for a synergy in daily works. For their part, the members of the national MoW Committee and SAVAMA-DCI and IHERI Ahmed Baba delegates (Dr Banzoumana Traoré and Dr Driss Traoré), promised to work together and with all the documentary heritage stakeholders present for two Malian nominations, and for another one in collaboration with Nigeria, that is, for an international nomination. They decided to continue the inventory of Malian documentary heritage around the country, for creating a national MoW Register. I think that this experience might be a good example of how to contribute to the MoW's development in Africa.

Papa Momar Diop, Vice Chair of the MoW International Advisory Committee and Corresponding Member of its SCEaR; -Associated Professor for Archival Studies at Saint-Louis University Gaston Berger (Senegal). He is a former Director of Senegal National Archives, and former Ambassador, Permanent Delegate of Senegal to UNESCO.

Research

Rediscovery of a Manuscript:

The Chinese Translation of Georgius Agricola's *De re metallica* of 1640

by Hans Ulrich Vogel

Last year a precious and unusual manuscript entitled *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior) was rediscovered that was considered to have been lost for more than 350 years. This is the Chinese version of Georgius Agricola's (1494-1555) *De re metallica* (1556), a translation from the Latin carried out during the years 1638-1640 by Johann Adam Schall von Bell (Tang Ruowang 湯若望; 1592-1666; Ill. 1), a Jesuit missionary from Cologne, on the initiative of the scholar-official and astronomer Li Tianjing 李天經 (1579-1659) and with the support of two Chinese junior officials. Studying the transmission of Agricola's mining classic (Ill. 2) to the Middle Kingdom, a historical event of tremendous importance, will promote our understanding of the development of West-East relations and intercultural encounters during the early period of globalization. While so far other sources informed us about the historical events related to the transmission and translation process, the availability of the manuscript itself opens up new exciting research prospects.

Transmission to China and Translation into Chinese

A 1556 Latin edition of Agricola's *De re metallica* came to China in the early 1620s, together with several hundred or even thousands of books collected by the Jesuit Nicolas Trigault (Jin Nige 金尼閣, 1577-1628) in Europe during the years 1614-1618. From 1696 this specimen was stored in the Beitang Library 北堂 of the Jesuits in Beijing, but is now in the possession of the National Library in China's capital. From the book inscriptions we know that it once belonged to Michael Mändl from Eissendorff, "vice city judge" of Munich, who in 1617 donated it to Georgius Locher, the then Munich "city clerk". Shortly thereafter, Locher presented it as a gift for the Jesuit China mission to Johann Terrenz (Johannes Schreck, 鄧玉函, 1576-1630), a Jesuit from Bingen in Germany, who accompanied Trigault during his book collection tour in Europe and later, in 1618, followed him to China.

What was the reason that in the years 1638-1640 *De re metallica* was rendered into Chinese, albeit most of the rulers and elite members in the Middle Kingdom had more than mixed feelings about mining? As a matter of fact, in spite of the negative and disconcerting events, such as miners' protests, agitations and uprisings, that characterized the end of the Ming period (1368-1644) and were partly caused by excessive demands made by eunuchs sent from the capital as mining supervisors and tax collectors, the Ming court eventually granted permission to Li Tianjing to have a Chinese version of Agricola's work produced. The central government hoped that mining would help alleviating the

fiscal crisis that beset the Ming dynasty, then confronted with both internal and external threats to its rule. After the Chinese version, under the title *Kunyu gezhi*, had been completed in 1640, it appears that the manuscript, and with it the issue of promoting mining, was shelved for some time. It was only in late 1643 and January 1644 that this was discussed again at court and that it was finally decided to have the *Kunyu gezhi* sent to the provinces in order to stimulate and promote mining. Yet this was too late to have any innovative impact, as only three months later the Ming dynasty collapsed under the double onslaught of domestic uprisings and the Manchu invasion.

Importance of the Manuscript Copy

The *Kunyu gezhi* of 244 pages that was discovered in the Nanjing Library last year provides a wealth of information, not only with regard to its contents, but also its origin and preservation. For instance, at the beginning it contains the text of an interesting internal communication sent by Li Tianjing to the Sacrificial Office of the Ministry of Rites in Dec. 1643/Jan. 1644. This so far unknown document reveals the surprising news that the original manuscript of the translation of 1640 was not available anymore, but had been destroyed out of fear that it might have been copied by evildoers intending to use it for illicit purposes. Certainly, however, the specimen which had been handed over to the throne in 1640, or a copy of it, must have still existed in the imperial archives, as otherwise we indeed would not have the text anymore.

The manuscript contains an interesting note added at a later date by the scholar Yan Jie 嚴杰 (1763-1843) which makes clear that Yan had obtained the manuscript copy from Ye Menglong 葉夢龍 (1775-1832), a famous scholar, calligrapher and collector of his period. It had been part of Ye's private library, considered one of the best libraries of Guangdong province, and containing many "strange books." In the 1820s Ye Menglong had probably shown and given this manuscript to Yan Jie, his good friend. Moreover, we are informed that Ye Menglong himself had obtained the document from an unknown scholar of Fushun 富順. The *Kunyu gezhi* manuscript copy is, moreover, marked with a number of seals which show that a couple of other literati were at one or the other time owners or readers of this precious document (Ill. 3).

The Nanjing manuscript copy very probably originates from the Qianlong period (1736-1795), because instead of the character *li* 曆 ("calendar") the character *li* 歷 ("passing by" etc.) was used. The reason for this was that the first character was part of the personal name Hongli 弘曆 of the Qianlong emperor and was thus tabooed in everyday life.

Another interesting aspect of the Nanjing manuscript copy is that the usual Chinese characters for metals were all replaced by homophonous or nearly homophonous, but completely different characters, i.e. "gold" (*jin* 金) by *jin* 謹, "silver" (*yin* 銀) by *yin* 引, etc. Another note added by a reader at a later point in time mentions that during the early Qing period mining was strictly prohibited, and that therefore all the characters denoting metals had been replaced, making it difficult to recognize that this was a treatise dealing with mining and smelting.

Novel Research Prospects

With the rediscovery of the *Kunyu gezhì* the Department of Chinese and Korean Studies of Tübingen University – in close collaboration with the Department of History of Macau University and other institutions in Europe, Asia and the US – has set up a large-scale research project for investigating and translating this and other scientific, technological and medical treatises written or published in Chinese by members of the Jesuit China mission in the late Ming period. Some of the questions this project will address are as follows: How did the translators deal with Agricola’s terminology and his novel concepts and ideas in mining, geology and mineralogy? What kind of tensions did exist between the innovative theories and notions of Agricola, the Aristotelian worldview of the Jesuits, and traditional natural philosophy (e.g. *yin-yang* and Five Phases concepts) of the Chinese? It is also important to explore exactly how the translation was actually read, received and perceived on the Chinese side, and to highlight the political, social, economic, cultural and ideological reasons for the transmission of *De re metallica* to China and its translation there. Who were the actors on the European and Chinese side related to those events and what were their motives? Was the *Kunyu gezhì* used by the Jesuit missionaries as a means of convincing their Chinese counterparts of the superiority of “Western Learning” (*xixue* 西學) and thus of the Christian faith? Why did the Chinese version have no impact on the Chinese production sector, especially not with regard to a cognitive or theoretical turn? Thus, the *Kunyu gezhì* will also serve as an important case study for discussing the problem of the Great Divergence, that is, the question as to when, why, and how Europe and China drifted apart in their developmental paths, and what was the role of useful and reliable knowledge in this process.

Hans Ulrich Vogel, Professor, Chair for Chinese History and Society, Department of Chinese and Korean Studies, Institute of Asian and Oriental Studies, Faculty of Humanities, Eberhard Karls Universität Tübingen, Germany. The Department of Chinese and Korean Studies is a Cooperating Institution of the MoW SCEaR. For more information see:
<https://uni-tuebingen.academia.edu/HansUlrichVogel/Research-Project>

Attachment: Illustrations

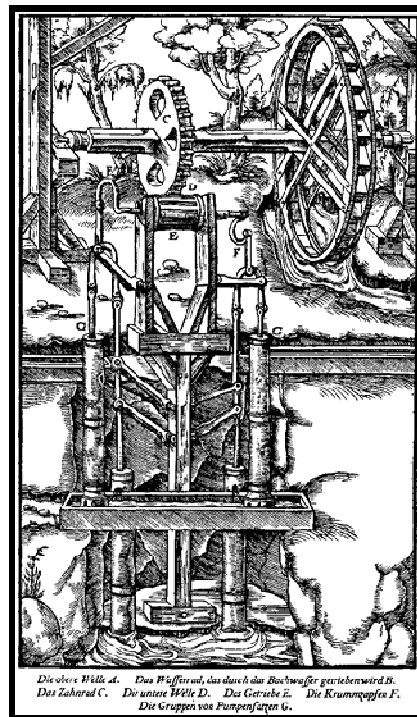
Illustration 1



Portrait of Johann Adam Schall von Bell (1592-1666) in the dress of a Chinese Mandarin, 1665

Source: Archiv des Erzbistums Köln, see <http://www.rheinische-geschichte.lvr.de/persoennlichkeiten/S/Seiten/JohannAdamSchallvonBell.aspx> (access by 2 Sept. 2015)

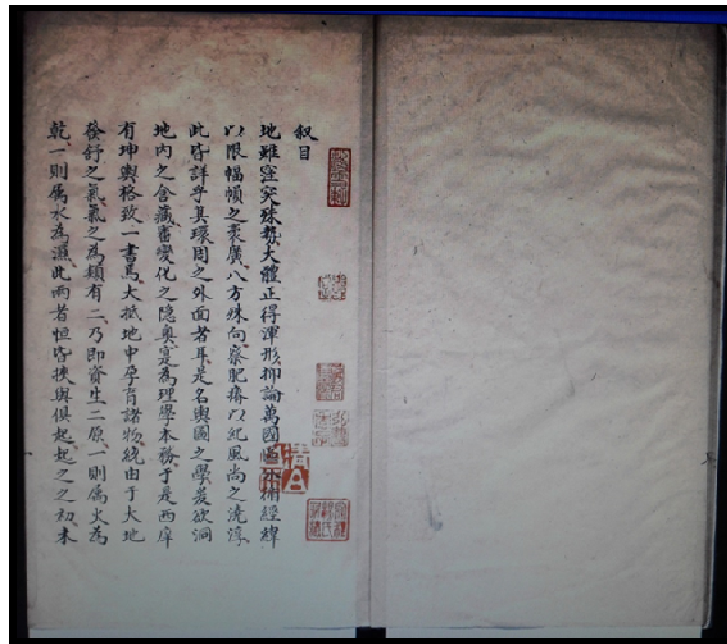
Illustration 2



Depiction of a Water Lifting Machine in *De re metallica*, 1556

Source: Georg Agricola; Carl Schiffner (ed.), *Zwölf Bücher vom Berg- und Hüttenwesen* ..., München: Deutscher Taschenbuch-Verl., 1977.

Illustration 3



Kunyu gezhi, 1640 – Preface, with Seals of Manuscript Owners and Readers

Source: Photography of Dr. Cao Jin, June 2015, by courtesy of Nanjing Library.

How to Find and Use Documents in Academic Education (1)

by Yolia Tortolero

Currently there is enormous ignorance about how to access, search and locate reliable, valid materials from among the proliferation of websites and publications of various libraries, archives and other memory institutions. The vast offering of sources has led many researchers across the disciplines to take short cuts such as cutting and pasting processed, unanalyzed information, presented in encyclopedic form from various sites. The research frequently is limited to sites such as Google, whose information is presented in a hierarchical form arranged by commercial priorities and demand for their consulting services.

This kind of undigested research challenges us to teach a methodology that includes how and where to look for sources, what kind of materials are available, and which institutions have reliable documental and bibliographical sources on line. It is important to promote the use of documentation available in the public domain and to teach researchers to know and respect copyright when using these sources for personal, academic, publication or commercial ends.

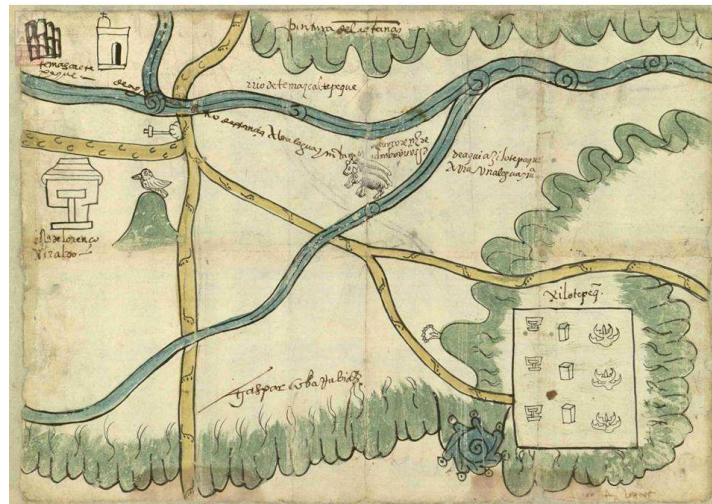
And we give high priority to sharing this information internationally, regionally and locally in order to promote didactic exercises, models and initiatives, new research methods and techniques, and the planning and design of academic projects, scholarly works and activities for teachers and institutions. With these initiatives, we hope to generate knowledge, stimulate creativity and improve professional training.

We will give examples in the coming MoW SCEaR Newsletters as to how to improve the use of documentary heritage between students, professors or other experts. For No 1 we choose a map from the collection titled “Sixteenth to eighteenth century pictographs from the maps, drawings and illustrations of the National Archives of Mexico”, inscribed in the Memory of the World Register in 2011 (see figure 1). This map was made in 1579, influenced by the ancient indigenous tradition of painting codex. However, instead of studying it independently, we now would like to compare it with a similar drawing made by Indians who live today in the Amazon (see figure 2). In this picture they represent their territory and boundaries. Amazing coincidences emerge between both images: in essence the similar worldview of the indigenous cultures that lived and continue living in Latin America. In this sense, both records represent space as seen from the air. Their content also lets us find many meanings when we analyze the disproportion of figures, people, plants, animals, rivers or mountains. Another similitude arose once I talked with some friends from Venezuela, who were in charge of the territorial planning around the Amazon. To accomplish their task, they frequently needed to work with the native

groups, who usually draw maps of their communities to give written evidence of their property in order to defend their rights to protect their land and resources.

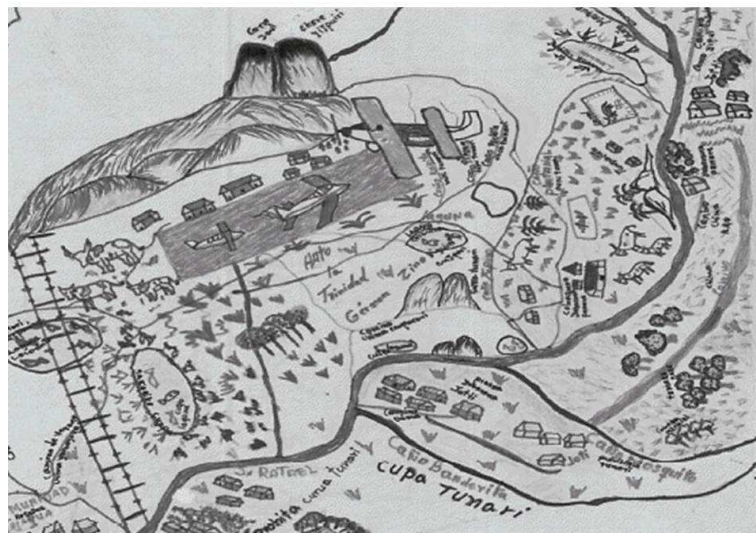
Yolia Tortolero, PhD, Historian and Archivist. History Professor in Venezuela (2011 to 2013). Currently she is in charge of the Historical Collections in the National Archives of Mexico, and is a member of the Latin American and the Caribbean Committee of the Memory of the World Programme (2015-2019) and a Corresponding Member of the SCEaR.

Figure 1



Map of *Temascaltepec* and *Xilotepec*, Estado de México. Date: 1579.
National Archives of Mexico. Inventory no. MAPILU US1868. Size: 31 x 42 cm.

Figure 2



“Territory and identity of the Yabarana ethnic group, within the context of the Venezuelan demarcation of indigenous territories.” Consulted (August 2016) in:
http://www.scielo.org.ve/scielo.php?script=sci_arttext&pid=S1315-64112009000300007

The SCEaR Working Group Schools

by Martin Porter

In November 2015, with the aim of consolidating and deepening its connections with the world's schools, the SCEaR set up a “Working Group Schools” (WGS). Its immediate aim was to establish a core group of schools with which it could work to promote the use of Memory of the World material in the teaching of school children.



1st meeting of the SCEaR WG Schools (December 2015): members, teachers from all regions, and the Dean of the Faculty (centre).

Photo: Matea Cubelic.

Already on 20th-21st December 2015, thanks to the organisational skills of Maria Liouliou of UNESCO and Jutta Ströter-Bender (Paderborn), the WGS and some of its latest recruits met for the first time in the Art School of Paderborn University. The meeting, chaired by Lothar Jordan, brought representatives of schools from Brazil, Benin, Macau, United Arab Emirates, France and Germany to discuss this aim of promoting MoW in the world's schools. Maria Liouliou explained the aims of the WGS and this meeting. Martin Porter then spoke about a variety of different activities that he has carried out in his work as a schoolteacher at the International School of Lyon, in France, be it linked to the classroom, the theatre, various other special events, as well as the use of the internet. The main meeting took place the next day. After a warm welcome speech by Volker Peckhaus, the Dean of the Faculty of Humanities at the University of Paderborn, the group settled down to examining in details ways in which this material could be made relevant to and entertaining for school children to engage with in the course of their

school education. Each speaker examined a particular national educational curriculum. The aim of each intervention was to show the different ways in which existing national educational curricula are open to the use of MoW, as well as examining ways in which MoW material could be approached in order to make it relevant to school children and the demands of their national curricula.

Having established the rich potential for the use of MoW material, not only in terms of the enhancement of national educational curricula, as well as some international educational programmes, such as the International Baccalaureate or the International General Certificate of Secondary Education (IGCSE – Cambridge University), the WGS discussed which school subjects should be designated as being the most relevant for the coming two years of work of the WGS. It was decided to concentrate on History, Literature and Art. Some best-practice examples were examined, including those which involved students visiting memory institutions (archives, libraries and museums). It was clear from these discussions that the MoW material is exceedingly rich and has enormous potential to excite the curiosity of the world's school children, and by having school children engage with it, lay the foundations of a deeper mutual understanding and an open, peaceful global dialogue around a common core of interrelated memories. It was also clear that what teachers needed would be ready made packages with detailed lesson plans and activities which they could download easily and freely, ready to use in their lessons. The idea of developing some MoW school kits was raised and discussed at length, taking in the necessity of any such pedagogical kit needing to be criteria referenced, according the standards of each national educational curriculum, and differentiated in terms of disciplines, age and ability.

On 3 June 2016 the SCEaR WGS met at the UNESCO HQ in Paris. The meeting was introduced by Iskra Panevska from UNESCO. She reported to the participants that, during the last Executive Board meeting, Member States regretted that the educational aspect of the Programme was not sufficiently taken into account, especially compared to the other UNESCO heritage programmes. In order to respond to the Member States' query, and aware of the fact that other heritage programmes benefit from more funding, the MoW Secretariat is currently working on fundraising for MoW Education. Then Maria Liouliou reported on the developments achieved by the WGS since Paderborn, leading to in-depth discussion around ideas and proposals for the creation of a MoW educational kit, its potential structure, and how its activities might encourage collaboration between schools and memory institutions. The group also examined a number of potential models and formats. It was finally agreed that a prototype would be aimed at students aged 12-18, and focused on three classic subject areas to which the MoW material could easily be related – History, Literature and Art.

Martin Porter is member of the MoW SCEaR and teacher at the International School of Lyon, France; he teaches at universities as well.

Impressum

UNESCO Memory of the World Programme. Sub-Committee on Education and Research - Newsletter.

Sub-Committee on Education and Research (SCEaR) members: Lothar Jordan (Germany), chair and editor; Roslyn Russell (Australia), rapporteur and co-editor; Helena Asamoah-Hassan (Ghana), Martin Porter (UK), John Van Oudenaren (USA).

If you would like to receive the SCEaR Newsletter, send an e-mail to its editorial addresses:

Jordan.MoW@gmx.de or ros@rrmuseumservices.com.au

The UNESCO Memory of the World Programme (MoW) was created in 1992 in order to foster the documentary heritage by facilitating its preservation, assisting universal access, and raising awareness worldwide of its significance and value. It keeps an International and other Registers of significant documents and collections, and carries out or participates in digitization projects, internet projects, workshops/conferences, publications etc.

It is steered by an International Advisory Committee (IAC), appointed by the Director General of UNESCO. The SCEaR is one of its Sub-Committees. Its tasks are to develop strategies and concepts for institutionalizing education and research on Memory of the World, its registers and the world documentary heritage in a sustainable manner in all forms of institutions of higher learning as well as in schools, and to help develop innovative curricula and research on Memory of the World and/or on documents, especially in an interdisciplinary and international manner and related to the internet. It is a specific characteristic of the SCEaR that it develops and fosters a network of 'Cooperating Institutions and Corresponding Members' that are ready and in the position to work for the tasks of the SCEaR, coming from different disciplines and regions and representing different forms of memory institutions.

Website: <http://www.unesco.org/new/en/communication-and-information/flagship-project-activities/memory-of-the-world/about-the-programme/international-advisory-committee-iac/sub-committee-on-education-and-research/>