Local Creation for Global Use in the Information Age: Accessing Malay Indigenous Information at ATMA via the Portal *www.malaycivilization.com*

DING CHOO MING

ABSTRAK

Bermula dengan sebuah pangkalan data, PADAT, pada 1999, kini ATMA sudah mempunyai enam buah pangkalan data yang mempersembahkan ke-pelbagaian maklumat dan bahan di www.malaycivilization.com. Kesemua pangkalan data ini akan diperkembangkan terus-menerus dengan objektif untuk memperdalam dan memperluaskan penyelidikan tentang Alam Melayu. Kita percaya dan menggunakan IT pada ketika penggunaan IT dan penerimaannya sudah meningkat di kalangan penyelidik. Perkembangan itu bukan sahaja membawa perubahan besar kepada penyelidikan dan komu-nikasi antara sarjana, tetapi juga akan mempengaruhi kewujudan diri institusi penyelidikan. Tetapi, di era maklumat ini, daya saing yang berkekalan tidak lagi bergantung pada teknologi semata-mata, malahan ditentukan peng-aksesan sarjana dan penyelidik kepada maklumat dan bahan-bahan yang dikehendaki. Untuk membincangkan itu, kertas kerja ini dibahagikan kepada tiga bahagian. Bermula dengan huraian mengenai definisi tentang maklumat pribumi Melayu, ia disusuli perbincangan tentang usaha dan strategi ATMA mengeluarkan sebanyak mana pangkalan data yang termampu untuk mem-perkasakan kepelbagaian bahan yang berkaitan dengan pengajian Dunia Melayu. Kertas kerja ini diakhiri dengan memperkatakan rancangan kami untuk menjadikan projek itu sara dan urus kendiri untuk suatu tempoh masa yang mendatang.

Kata kunci: Maklumat pribumi, pengetahuan pribuni, komuniti Melayu, portal, pembangunan koleksi, peribahasa, PADAT, Pantun baba, karya Jawi, kamus Melayu, Koleksi N. A. Halim

ABSTRACT

Starting out with one database in 1999, named PADAT, there are today six databases offering a respectable array of information and materials via www.malaycivilization.com. These databases are continuously expanded with the objective of broadening and deepening research on Malay world studies during a time when the increasing use of IT and its widespread acceptance among researchers have not only brought massive changes to scholarly

research and communication, but also affected the very survival of research institutes themselves. In this context, we place great value and trust in science and technology, believing that IT and Internet hold immense possibilities to facilitate research through 'one-to-many', 'many-to-one' and 'many-to-many' communication. This represents a paradigm shift from the conventional blanket collection development practised in libraries throughout the world. In this information age, sustainable competitive advantage is no longer based on technology alone, but also on the accessibility of information and materials. This paper is divided into three parts. First, we have a condensed definition of Malay indigenous information, followed by a section on the ATMA's strategies and efforts to create one database after another to increase the diversity of materials relating to Malay world studies. We concluded with our diversification plan to make these projects self-financing and self-sustaining for a foreseeable future.

Key words: Indigenous information, indigenous knowledge, Malay commu-nity, portal, collection development, proverbs, PADAT, Pantun baba, Jawi works, Malay dictionaries, N. A. Halim's Collection

MALAY INDIGENOUS INFORMATION

In his book, *Malay Society in the Late 19th Century*, J. M. Gullick (1987) noted that there was a Malay world in which a sense of Malayness created a cultural unity despite the absence of political unity. Historically, this Malay world embraces what is now Malaysia, Singapore, Indonesia, Brunei, the Southern Philippines, Madagascar, Cape Town (Cape Africa) and Pattani (in South Thailand). In this world, a number of separate communities or states shared a common language, religion, way of life, agricultural economy and political culture (in terms that the presence of a Malay *raja* – the situation of *kerajaan* – was indispensable). But, the term *Malay world* used at ATMA is broader, going beyond the Malaysian constitutional definition of Malay as a person who speaks the Malay language, practise the religion of Islam and habitually dresses and lives as a Malay. When we think about the history and identity of Malays on the Malay Peninsular, for example, we do not start with the capture of Malacca by the Portuguese and Dutch in the 16th century, or worse, the occupation of Malaya by the British or Japanese in the 18th and 19th centuries, but consider the continuous activity by the Malays in adapting and interacting to Islamic, Indian, Chinese, Japanese, British and Western influences over a period of two thou-sand years. Adaptation and interaction have become the core processes that Malays had undergone, objectively and subjectively, externally and internally. This long process makes for an intriguing study of how such a balance could be found in the past between adaptation to "foreign influences" and identification with indigenous culture.

Following such an awakening and reaffirming of their own culture, an increasing number of young Malay intellectuals are now seeking their cultural roots in *peribahasa*, architecture, dancing, singing and many other fields. They have gone to various Malay villages to do fieldwork, teach their mother tongue, trace the migration and the origins of the Malay people and their language, reconstruct clan lineage histories, collect myths and legends, and study traditional music and dance. All these materials will one day be integrated in ATMA's portal. This will mean more than only the opening of a channel for the transmission of Malay culture to the next generation. The courageous acts of these vigorous individuals are some of the most inspiring and moving sights in the ongoing construction of contemporary culture. In it, we see self-awareness growing from the tribulations of the Malays in the face of Western culture. They believe that as global culture grows, local culture must not be neglected, but instead encouraged to grow.

Malay indigenous information is basically all the knowledge developed by this group of people in their physical environment and through interaction with other peoples who have inhabited the Malay world. It is also called local information because it is unique to the local culture or society. In the past, indigenous information formed the basis for local-level decision-making in agriculture, health care, food preparation, education, natural-resource management, and a host of other activities. Essential to their survival and development process, indigenous information is of particular relevance for the following sectors and strategies:

i.   agriculture and animal husbandry,
ii. use and management of natural resources,
iii. primary health care,
iv. medical and psychosocial care,
v.   saving and lending,
vi. community development,
vii. poverty alleviation.

Having survived for centuries in economically and socially sustainable ways, Malays have gained an extremely rich, extensive and wide-ranging knowledge about local and regional environments. This complex and sophisticated information system is not only vital for ensuring the continuation of their culture and identity, but is also a valuable resource in sustaining development. Malay indigenous information refers to a complex set of information and knowledge around the specific conditions of Malay communities in the Malay world, covering all of Indonesia, Malaysia, Brunei, Singapore in particular, so-called core Malay indigenous geographic areas, and Pattani in South Thailand, as well as Campa in Cambodia. Irrespective of their legal status, this group of people who are part of the Malay Polynesian family, has retained most of, if not the

entire indigenous information about its own social, economic, cultural and political institutions from time immemorial.

To understand Malay indigenous information better, it is necessary to understand how Malays acquire them through their direct contact with their environment, both physical and social, over the generations. The stages involved in its development have been identified as:

i.   Observation (of the environment leading to insight);
ii.   Experimentation;
iii.   Validation (through results);
iv.   And its utilization goes through various stages;
v.   Awareness (of a particular phenomenon);
vi.   Perception (of the phenomenon as a problem);
vii.   Motivation (to seek a solution);
viii. Evidence (arising from a specific approach employed to bring about a solution);
ix.   Utilization (of a tried and tested approach).

In this way, indigenous information and knowledge is the selection of the best of a culture. They are now the basis for local-level decision-making in agriculture, health care, food preparation, education, natural-resource management, and a host of other activities within the communities. In short, it is holistic information and knowledge of 'worldview' that parallels the scientific disciplines of ecology and environmental studies. We need to know too how this knowledge is embedded in a dynamic, multidimensional universe in which cultural, economic, environmental and political factors intersect and influence one another. This information and knowledge is very wide-ranging, including an intimate and detailed understanding of plants, animals and natural phenomena, the development and use of appropriate technologies for hunting, fishing, agriculture and forestry. In short, Malay indigenous knowledge is the sum of experience and knowledge of the Malay community, which forms the basis for decision-making related to familiar and unfamiliar problems and challenges (Warren & Cashman 1998). This definition emphasizes the notion that Malay indigenous knowledge is what they hold to be true. As the Malays in the past grew close to nature – land, plants, seas and rivers – they have a rich knowledge of plants and soils not only through cumulative experience, but also through direct experience. Malay land use, for example, is a systematic procedure carried out in order to create an enabling environment for sustainable development. They assess the physical, socio-economic and other potentials that empower them to make decisions about the use of land resources. Such a process involves the activation of local communities, so that their knowledge can be used to develop adequate solutions. It is necessarily dynamic, developing as the collective experience of a special social group in interaction with their envi-

ronment. It is related to the entire culture of the Malay people, influencing its identity, spiritual and religious beliefs. Like indigenous peoples elsewhere, Malays developed their own information and knowledge in all fields of human endeavour: languages, culture, spiritual, health care, diseases, housing, law, science, medicine and technology. It consists of intangible and tangible aspects of the whole body of cultural practices, resources and knowledge system, developed, nurtured and refined by the Malays and passed on by them as expressions of their cultural identity. It is a living one since it consists also of elements that will contribute to new creations in the future. This means that any definition of indigenous cultural and intellectual property should be flexible enough to reflect the notions of the particular indigenous group and the fact that this may differ from group to group and may change over time.

ATMA'S PORTAL: *WWW.MALAYCIVILIZATION.COM*

ATMA promotes inter-disciplinary, or as it is sometimes called, cross-disciplinary research. This is mainly due to the fact that scholarship on the Malay world has moved ever more into science and technology, and is no longer confined to social sciences, while the inherent interdisciplinary nature of subjects such as sociology and anthropology is continuously reinforced. Another striking trend in Malay studies is the spread of interdisciplinary work into the corners of virtually every discipline within the humanities. One can find articles on the Malay World not only in journals and other publications devoted to Malay studies, but also disciplines that have nothing to do with Malay studies. This means that the traditional demarcation of subject specialization has become blurred. It is general knowledge that to serve researchers well, any research collection must expand systematically to include as much material in as many sources as possible. The crux of the problem is how to balance growth with accessibility. There are innumerable difficulties in providing materials to an expanding and diversifying clientele. The evolution towards easy and quick access demands a new approach in collection development and management, besides heightened cooperation between libraries. The persisting problems in finding materials easily and quickly, in PATMA at UKM, Dewan Bahasa dan Pustaka and PNM (Perpustakaan Negara Malaysia) in Kuala Lumpur, Koleksi Za'ba at University of Malaya as well as USM (Universiti Sains Malaysia) in Penang or at the Special Collection at Kedah State Library in Alor Star, all of them have enviable collections on Malay studies, prompt us to develop *PADAT*, a database of individual articles relevant to Malay world studies. We attempt to extract and repackage, within a five-year period, some 50,000 articles scattered now in different locations, formats, sources, forms and in different languages and sizes, from published books, journals, databases and the Internet to flimsily bound, oddly shaped and quasi-published items that do not seem to fit into any

of the usual publication categories. Eventually, this proposed collection will have more material than the individual Malay World library collections in UKM, UM, DBP, PNM or USM. Nevertheless, this "new" collection cannot be seen to be seeem, in Brainin's words (2000: 25) as "de-centering" any libraries, but should be understood as a complement to them. Pooling together library resources scattered in various publications and departmental libraries will also gain big advantages over a departmental or branch library in providing researchers with wider exposure. This proposed broad-based core collection of extensive material will satisfy the needs of the majority of researchers in a way no single institution can do at the moment.

The idea to develop PADAT in April 1999 came from the innovative development of individual-articles-delivery in CD-ROM and other on-line databases that we then marvelled at. The method of document delivery referred to is an improvement over the on-demand publishing system adopted by UMI (University Microforms International) and BLID (British Library Lending Division). Being aware of the insufficient resources and of upset and angry scholars looking for information about the Malay World scattered in different locations all over the world, we came to believe strongly that we must invest in the future by setting up this database to be sure of being able to provide materials, both new and old, instead of growing dependence on commercial databases with pre-designed products, which can only fulfil part of research requirements. In other words, we could not drift into the future and leave collection development to the publishers of commercial databases. Similarly, we could not drift into an uncertain future by relying increasingly on electronic information that we do not own (Lesk 1997). The key issue in database building, as in collection building, is to amass as much of the relevant material as possible in the face of the proliferation of publications. We believe strongly in IT for its increasing power in storage, retrieval and dissemination, and in the strength of the size of the research collection. Taking one step forward, with a good collection and appropriate management and retrieval technology, we can provide better and faster access to any specific items in *PADAT*.

By developing a big collection, besides that we can also anticipate '*just-in-case*' as well as fulfil '*just-in-time*' demands from researchers and indexing all articles by author, title, keywords, source, date and accession number and series, we can provide better access. We use the term "individual-articles-collection" to create a new look to the database, besides the point that it represents a model for collection development based on knowledge about researcher needs and expectations. Our argument, and the important issue, is that contents in *PADAT* are available in accordance with the researchers' needs for specific articles. Conversely, the conventional concept of subject specialization in a blanket collection, combined with numerous unrelated materials, is no longer novel in the new information environment that emphasizes personalized, customized and made-to-order services. Worse yet, such an 'unindexed' collection

can easily become another "grey literature collection" that would become unattractive to users. Due to copyright problems, only some articles can be available on-line. Nevertheless, all the 37,000 articles presently amassed are available in photocopies for reference at ATMA.

Collection development is not only about technology, but information management as well, and also about what research institutes can do to create content, manage it, add value to it, stretch it, recycle it and transmit it, whether through photocopying, microfilming or digitizing. So far, printed material, including photocopies, have survived many threats of extinction and their position has been enhanced with every new medium of technology. In other words, photocopies, like other printed material do not look like they will disappear. Again, preservation through constant photocopying is cheaper and more practical compared with the costly periodic migration of digital information as and when the writing, displaying, storing and retrieving technology changes. Having said so, it is only fair to mention that this semi-digital database lacks the following potential of electronic information:

i.   The ability to match speed of thought with simultaneous speed of communication,
ii. The varying and complex development of access points to information,
iii. The ability to use hyperlinks, through HTML language, to enable seamless access to information,
iv. Researchers cannot control the amount of information they want,
v.   The potentiality for remote access is limited.

Other common problems with photocopying include the deterioration of quality at each successive reproduction, as do microfilms, due to acid content in the paper and problems of wear and tear.

Following the tremendous growth in computational power, and in networking bandwidth and connectivity, and seeing the fast rising number of research institutes making information digitally available through the Internet, ATMA undertook to build and implement a metadata information system for Malay world studies. Now, metadata is a critical mechanism both in knowledge representation and data mining of archival material that is the cumulative result of digitization in the capture, compression, manipulation, storage and transmission of digital images. These technological advances have solved many problems in the retrieval of pictorial and visual information. Metadata is also used now to refer to descriptive information about electronic resources, thus providing us with a means to discover that a resource exists and with details on how it might be obtained and accessed (Turner & Brackbill 1998). We started constructing *PADAT*, our first database, as soon as Shamsul Amri Baharuddin took over the leadership of ATMA as 9th director in April 1999. With active support from the top management in UKM, he set a strategic view of the operation of ATMA and

created a clear vision of the extent and scope of change to take place. Given the opportunity to reposition ATMA, we began to design and develop databases focusing on Malay world studies. Subsequently one database after another was introduced. We at ATMA intend to roll out an increasing number of locally produced databases as part of our effort to broaden and deepen Malay world studies, and establish Malaysia's position in the R & D value chain. It has been very inspiring to oversee the development of these various databases. Priding itself as the first Malay World studies database on the Internet, the portal named *www.malaycivilization.com* caters for all tastes and presents one of the largest collection of single articles named *PADAT*. Other databases involve *Malay Proverbs, Pantun Baba/Nyonya Malaysia, Jawi Works and Malay Dictionaries*. They bloom like so many beautiful flowers in rapid succession after the rains. With more databases to be added later on, we can say that to look at the portal is to gaze into the world of Malay world studies. We develop databases that are able to reach out to and attract more researchers, scholars, students and attain critical mass at a faster rate than traditional libraries not only in developing countries that have little *infotech*, but also in advanced countries. These databases are never rivals to traditional libraries, but are superior in all important aspects. Among them are:

i.   Increased access to various relevant information and material;
ii.   More efficient use of resources in with the form of collections;
iii. More effective retrieval and use of relevant information;
iv.   Increased re-use of existing information;
v.   Better targeting of research and development, and surveillance and investigation;
vi.   Increased possibility for research in new areas and frontiers;
vii. Rapid access to broader decision-making base.

All these expected results should contribute to reduced costs, and also shorter decision-making time as well as more accurate decision-making, thus satisfying the needs of more and more researchers who are not satisfied with the existing delivery of information. Their confidence in the traditional library has been shaken because of persisting problems in retrieving the right information and material at the right time.

Our targets are researchers who are not only critical, but also wanting continual access to information through the Internet, ensuring universal seamless access to information. In short, we have to perform the challenging task of information development and product synthesis. We have to retool our skills to provide information solution, not just information. Repackaged information delivery can deliver higher quality information faster and at less cost. However, customized information cannot be cheaper, due to the cost involved in repackaging. IT amplifies our ability to produce our services. These databases,

are the culmination of 5 years of R & D, involving some RM2 million in investments, in terms of grants from UKM, IRPA and MIMOS, for salaries and equipments. Now R & D in ATMA has more than paid off, as it has given us the requisite experience to design and develop our own database to reposition ATMA strategically. Our ultimate objective is to simplify retrieval and increase the availability of cross sector information and efficiency in the use of material. Our portal *www.malaycivilization.com*, growing out of *PADAT* (Ding & Supyan 2000a; Ding 2002b), *Pantun Baba* (Ding 2002c), *Peribahasa Melayu* (Ding & Arbayeah 2002) and others, is a new information hub on Malay world studies. To roam/ wander through each database is to relive another age and culture, and be staggered by the diversity and depth of content.

THE FIRST WEB-BASED DIGITAL DICTIONARY ON MALAY PROVERBS

Created in mid-2000, this database contains 20,304 Malay proverbs which fall readily into such main categories as *peribahasa* (normally cast as a complete sentence), *simpulan bahasa* (usually with two words), *bidalan* (take the form of abstract statements), *pepatah* (comprising traditional sayings from folklore), *perbilangan* (making use of specific observations from everyday experience) and *perumpamaan* (otherwise termed metaphorical phrases). Defined as short traditional sayings, all proverbs offer valuable advices and enduring wisdom. It is this positive quality that makes proverbs memorable. The devices used to support this are rhyme and assonance, brevity and balanced form.

This digital dictionary was compiled from more than 20 printed dictionaries of Malay proverbs, published from the 1960s to 1990s. This means that they are still in current use. The width and breadth of the coverage can be gauged from the astonishing variety of these proverbs spanning a number of domains: interpersonal/social planning, decision making, problem solving, resource management and utilization, work and productivity, education and culture, health, leisure and recreation, self-regulation, civic management, wisdom, knowledge and experience and other aspects making up the cultural heritage of the Malays. These proverbs testify to experiences in all aspects of Malay society, culture, belief etc. It allows us to see the long thread of Malay culture and to have a deeper and broader understanding of issues encountered by the Malays and of how they responded to changes. The identification of constructs indigenous to the Malays is an important step towards the construction and validation of eco-culturally valid measures of the intellectual life of the Malays. While some proverbs contain vigor, others give comfort and peace to the old, and many are certainly appealing to the young. In combining them now in a digital dictionary accessible on the Internet, we make available a varied set of perspectives, wisdom, experiences and understanding. This universal openness can provide grounds for dialogue among Malaysians of different ethnic, religious and

cultural backgrounds, and new space for discussions between Malays and scholars from outside the Malay world. This dictionary is intended first and foremost as a practical reference guide. With general readers in mind, all the proverbs are given their respective meanings – sometimes more than one, depending on the different contexts they are used in – which are then categorized thematically.

The most apparent advantage of this digital dictionary over the printed ones is the grouping of all the related proverbs under a specific subject category. This arrangement combining the advantages of alphabetical and thematic presentation is that favoured by general readers. This means that all entries in this dictionary may be readily tracked down through meanings as well as subject categories by using the most significant words one can remember and think of. But, access to these various categories of Malay proverbs is heavily dependent on the knowledge of individual users of the relevant *peribahasa*, *simpulan bahasa*, *bidalan*, *pepatah* and *perumpamaan*.

N. A. HALIM'S COLLECTION

ATMA started to create a database from N. A. Halim's collection in mid-2002 with the eventual aim of building a portal called *www.malaycivilization.com* after being given a research grant of RM504,760.00 by the Ministry of Science, Technology and Environment, under the Demonstrator Application Grant Scheme (DAGS), and through MIMOS, NITC. This project, together with other databases already accessible and many others still under construction, will take ATMA one step forward in broadening and deepening Malay world studies.

In this project, ATMA has digitized 17,261 slides, photos, plans, drawings and sketches of Malay houses, palaces and other types of buildings taken by the late N. A. Halim from the early 1950s to the late 1990s. While digitization was undertaken by ATMA's technology partner, Paragon Automation, conforming to Z39.50 standards, physical and content description and links of each item were provided by the research team at ATMA. The latter entailed efforts to reveal what is unique in each of the photos, slides and drawings, and to make them more informative and valuable, despite the fact that each slide, drawing or plan is self-explanatory. Each item thus becomes a separate entity, with a description sufficient to establish its identity, and to differentiate it from others. To ensure accessibility to each item, either individually or in groups, searchable elements are provided, including the accession number, title, date of creation (*if available*), physical and subject description, additional notes and links (*if feasible*).

The greatest strength of the collection lies in the diversity of the subjects covered: houses, palaces, tombs, boats, moats, household utensils and many others. Though late N. A. Halim was only an amateur photographer, his photography was professional in quality. Without his indefatigable effort, unflagging

patience and time in recording and documenting Malay cultural heritage, we would not now have the photos, slides, plans and drawings to witness and to keep. While he had them in his house, the collection must have given him great satisfaction, both intellectually and emotionally. He treasured all these photos and slides so much that he had painstakingly arranged, labelled and mounted them individually for easy reference and preservation. Before his demise on 25th October 1999, he had extracted information from some of these brilliant photos and slides and used them as illustrations and examples in his numerous books and articles, which also depicted his great ability in creating and re-inventing stories in a contemporary style. However, the true value of these photographs and slides has yet to be exploited. So, it is simply a treat to witness this collection, which can indeed be considered the finest collection of recent photographs and slides on Malay architecture. He personally told us that he had rejected many offers from *National Geographic* (Washington, D. C.) to acquire the collection because he always wanted his collection to be intact and accessible to him for occasional usage.

It is indeed a delightful visual experience to have a rare glimpse of weaving, careful composition and graphically designed *kelarai* used as walls in Malay traditional houses*, keris* in different shapes, a recording of a wedding ceremony, *Mak Yong's* performance from the East Coast, contrast of light and shadow uniquely captured, image of the beauty and purity of mangrove swamps and plant life, pictures of old bridges, beautiful ornaments, children at play, Malay stilt-houses with many windows, holed carvings and slatted panels on walls, and the high thatch or clay-tile roofs and many others. Architecturally, a typical Malay house of timber has at least one raised verandah (*serambi*) attached to the house for working and relaxation, and where visitors could be entertained, thus preserving the privacy in the house, which is in turn almost always divided into two parts: *rumah ibu*, the main structure of the house, and the simpler structure kitchen annex, called *rumah dapur*. The building of a traditional Malay house involves elaborate and detailed procedures. While Peninsular Malays have single extended family houses, many of their Borneo cousins built long-houses, hosting many families, with a common veranda linking the front. In Malaccan houses, the staircase in is always beautifully moulded and colourfully tiled. In the East Coast, many houses have distinctive carved roof gable-end boards similar to those in Thailand and Cambodia.

With its availability via the Internet, historians, researchers, students, architects, media and publishers all over the world will through ATMA's website be able to gain access to a unique collection on Malay cultural heritage for the first time in history. The value of studying this collection lies not merely in its splendid account of the historically and geographically development of Malay architecture, but also in the light it sheds on other aspects of Malay history, anthropology, sociology, culture and society. This collection, as the late N. A.

Halim believed very strongly, will stimulate and enhance Malay world research, hopefully with more post-graduate theses on Malay architecture and other related studies being undertaken locally and in universities elsewhere. We are also hopeful that more books and journal articles on Malay architecture and other related areas will be published. It is our fervent hope that this non-print collection will be exploited fully. The cumulative goals of our project *www.malaycilization.com* are:

1. To empower research on Malay cultural heritage;
2. To enhance intellectual contents from Malaysia on the information highway;
3. To foster fondness for indigenous cultural heritage among Malaysians;
4. To promote ATMA as a full-fledged research institute on Malay world studies.

CONCLUSION

It is heartening to know that this portal on Malay world studies has been built in ATMA, right in the heart of the Malay world, to attract scholars and researchers from elsewhere. Developing these databases has in their own way also helped the Malay world preserve local knowledge and has opened up new space for dialogue. They also symbolize both ATMA's growing into a global information provider for Malay world studies, with a bold presence on the Internet. We reposition ourselves by taking advantages of growth opportunities in domestic, regional and global markets for information and material on Malay world studies. These opportunities have been presented to us by IT consolidation – Internet and IT. The Malay world studies portal is a world of its own, offering scholars and researchers a seamless nexus of research material that was once scattered. ATMA is now a powerhouse of Malay world studies, and is located *in* the Malay world. We hope that *www.malaycivilization.com* will not just be another landmark in an ever-changing world of information and databases in the Internet, but will instead be the pinnacle in ATMA's continuing growth, and underscores the institute's commitment to research in Malay world studies.

Until recently, the idea most of us had of Malay traditional culture was probably limited to what we have been reading from the writings of Dutch and British scholars from the colonial period. These vague and stereotyped images may well represent something less than the whole truth, just as the impression that Malays once had of the Europeans. We certainly do not wish to possess only colonial perceptions of the Malay World. These were often erroneous depictions and perhaps should not be given too much importance. Given the rich tapestry of cultures, as reflected in the diversity and similarity in terms of history, traditional crafts and traditional lifestyle between different regions, we

face a considerable challenge in constructing an integrated access mechanism capable of serving the ever demanding clientele of scholars, researchers and the general public. So, what shall and can we do? First, our attitude towards ourselves and towards indigenous knowledge must change. The Malay world must be viewed as a place of indigenous knowledge about the Malays, with the following characteristics being potential fields for multidisciplinary study:

i.   Better and unbiased scholars of the Malay world are needed to study the diversity of that world, and to develop scholarship further;
ii.   The Malay world is culturally rich;
iii. There are still many hidden resources in the Malay world;
iv.   The future of Malay world scholarship is better in the Malay world than anywhere else and much can be done with proper resources;
v.   The strategic importance of the Malay world will continue to draw tremendous global interest;
vi.   As the global culture grows, local cultures must not be neglected, but must instead be empowered to expand into new areas;
vii. If others are wise to make use of such material, we should be wise enough to lead their use.

ACKNOWLEDGEMENT

REFERENCES

Bawden, David & Robinson, Lyn. 2000. A Distant Drum? the Internet and the Printing Press. *Aslib Proceedings* 52(2): 51-57.

Bekaert, Jeroan et al. 2002. Metadata-based Access to Multimedia Architectural and Historical Archive Collections: a Review. *Aslib Proceedings* 54(6): 362-371.

Brainin, Joseph; Groen, Frances & Thorin, Suzanne. 2000. The Changing Nature of Collection Management in Research Libraries. *Library Research and Technical Services* 44(1): 23-32.

Bryant B et al. 1989. *Guide for Written Collection Policy Statements*. New York: American Library Association.

Bush, V. 1945. As We May Think. *Atlantic Monthly* 176(1): 101-108.

Byrd, Cecil K. 1991. *Percetakan awal di jajahan selat, 1806 –1858*. Kuala Lumpur: Dewan Bahasa dan Pustaka.

Campbell, Jerry. 1995. Copyright, Public Policy and Digital Libraries: Searching for First Principles. IN Michael Mathews and Patricia Brenann edited *Copyright, Public Policy and Scholarly Communities*. Washington, D. C.: Association of Research Libraries.

Campbell, Jerry D. 1998. Building Xanadu: Creating the New Library Paradise. *Collection Management* 22(3-4): 31-40.

Compton, J. L. 1980. Indigenous Folk Media and Rural Development. IN D. W. Brokensha et al. ed. *Indigenous Knowledge Systems and Development*. Lanham, MD. University Press of America.

Daes, Erica Irene. 1993. Study on the Protection of the Cultural and Intellectual Property of Indigenous Peoples. New York: United Nations Document. E/CN 4/Sub.2/1993/28. 28 July.

_____. 1995. Final Report on the Protection of the Heritage of Indigenous Peoples. New York: United Nations Document E/CN 4/Sub.2/1995/26.

Detrie, Jean-Pierre & Ramanantosa, Bernard. 1986. Diversification – the Key Factors to Success. *Long Range Planning* 19(1): 31-37.

Dijk, C van & Hollander, J. 1998. Leemburg-den. *European directory of Southeast Asian studies.* Leiden: KITLV Press.

Ding Choo Ming. 2000a. Access to Materials in and on Malay Studies from Leiden to Bangi: a Model of Information Repackaging on Information Superhighway. A Paper presented at *ATMA-KITLV Colloquium Dutch Scholarship and The Malay World: a Critical Assessment*, 20-22 November, in UKM, Bangi.

_____. 2002b. Accessing the Malay World. *SEAREP Bulletin* (7/01) (April-May): 19-21.

_____. 2002c. The Pantun Database of the Malaysian Baba. *SEAREP Bulletin* (7/02) (Oct-Nov): 24-31.

_____. 2003. The Malay World Portal *www.malaycivilization.com*. *SENADA: Berita Universiti Kebangsaan Malaysia* 252(January): 10-11.

_____ & Supyan Hussin. 2000. Preservation of Culture and Knowledge Through Technology: the Experience of UKM." *[1st] UKM-UC Seminar on Technology in Development.* Jointly organized by Universiti Kebangsaan Malaysia and University of Canberra, Australia at Bangi on 25th January: 1-13.

_____ & Arba'eyah Abdul Rahman. 2002. Daripada Kamus Peribahasa Melayu Digital ATMA kepada Perkamusan Bahasa Berkomputer. *Dewan Bahasa* 2(7): 48-59.

_____ & Supyan Hussin. 2003. Enhancing and Diversifying ATMA's Databases to Ensure their Sustainability in the Digital Age. Paper presented at *The 3rd UKM-UC International Conference on Societies for a Sustainable Future. 14-15 April, University of Canberra*, Australia.

_____ & Supyan Hussin & Choo Wou Onn. 2002. Pembinaan Pangkalan Data di ATMA; Tapak Kecil Dalam Lngkah Besar Membaiki Aliran Maklumat Sehala dari Barat ke Timur. A Paper presented at *Seminar Kebangsaan Bahasa dan Pemikiran Melayu, Akademi Pengajian Melayu*, Universiti Malaya, 18-19 June.

_____, Supyan Hussin & Kala Kuppusamy, 2003. Metadata Access to Archival Collections on Malay Cultural Heritage in ATMA: Architecture and Proverbs. A Paper Presented at *Shared Histories, Communities and Cultural Heritage in Southeast Asia's Western Littoral,* Organised by the Penang Heritage Trust, Sponsored by SEASREP on Wednesday 30 July – Sunday 3 August, Penang.

Drabenstott, K. 1994. *Analytical Review of the Library of the Future*. Washington, D. C.: Council of Library Resources.

Excerpta Indonesica. Leiden: Center for Documentation of Modern Indonesia, Royal Institute of Linguistics and Anthropology, 1970 -

Gullick, J. M. 1987. *Malay State in the Late 19ᵗʰ Century*. Singapore: Singapore Oxford University Press.

Healy, S. A. 1998. Science, Technology and Future Sustainability. *Futures* 30(1): 23-42.

Henshaw, Robin & Valauskas, Edward J. 2001. Metadata as a Catalyst: Experiments with Metadata and Search Engines in the Internet Journal: First Monday. *Libri* 21: 86-10l.

Index to Chinese Periodical Literature on Southeast Asia, 1905-1966. Singapore: Institute of Southeast Asia, Nanyang University, 1968.

Ismail Hussein. 1974. *The Study of Traditional Malay Literature with a Selected Bibliography.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

Johns, A. H. 1992. Tuhfat Al-Nafis: Not a Precious gift? For G. W. J. Drewes in Graceful Memory. *BKI* 148(2): 319-323.

Jones, Russell. 1984. Malay Studies and the British. *Archipel* 28: 117-148.

Keenan, Stella. 1983. Re-use and Re-packaging of Information: the Information Work's Flow. *Information Services and Use* 3: 1-6.

Lesk, M. 1997. *Practical Digital Libraries*. San Francisco: Morgan Kaufman.

Main, Linda. 2001. The Global Information Infrastructure: Empowerment or Imperialism? *Third World Quarterly* 22(1): 83-97.

Mathews, Linda M. 1998. The Collection Management Perspective. *Collection Management* 22(3-4): 193-197.

Morin-Labatut, Gisele & Shahid Akhtar. 1992. Traditional Environmental Knowledge: a Resource to Manage and Share. *Development (Journal of SID)* 4: 24-31.

Nelson, T. H. 1987. Opening Hypertext: a Memoir. In Tuman C. M. ed. *Literacy Outline: the Promise and Peril of Reading and Writing with Computers*. Pittsburg: University of Pittsburg Press: 43-57.

Ogburn, W. F. 1950. *Social Change with Respect to Culture and Original Nature*. New York: Viking.

Persons, Nancy A. 1998. Collection Development in a Era of Full-Text and Package Deals. *Library Acquisitions: Practice & Theory* 22(1): 59-62.

Sector, Glen M. 1997. Fair Use in Pay-Per-Use World. *Library Acquisitions, Practice & Theory* 21(1): 53-59.

Rustein, Joel S, DeMiller, Anna & Fuseler, Elizabeth A. 1993. Ownership Versus Access: Shifting Perspectives for Libraries. *Advances in Librarianship* 17: 33-59.

Shamsul Amri Baharuddin, Ding Choo Ming, Supyan Hussin, Afendi Hamat. 2001. A Retrieval System for the Database on Malay World Studies. A Paper Presented at the *National Conference on Research and Development at Higher Institutions of Learning*, 25-26 October PWTC, Kuala Lumpur.

_____, Rumaizah Mohamad & Haslindawati Hamzah. 2002. Pengajian alam Melayu di pentas global: teknologi maklumat dan penstrukturan ilmu di ATMA, UKM. A Paper presented at *Seminar Kebangsaan Bahasa dan Pemikiran* Melayu*, Akademi Pengajian Melayu, Universiti Malaya, 18-19 June*.

_____ & Supyan Hussin. 2003. Teori Pisang: Kekeluargaan, Emosi dan Hubungan Sosial Manusia Melayu *Persidangan Antarabangsa Pengajian Melayu*

bertemakan Emosi Melayu, anjuran Akademi Pengajian Melayu, Universiti Malaya 11-12 Julai.

Supyan Hussin, Ding Choo Ming, Afendi Hamat, Kamariah Abu Samah & Hazrul A. Halim Nasir. 2002. *Development of a Database on Malay Studies at ATMA-UKM to Enhance Information Sharing and Preservation*. IRPA Report No: 04-02–02-0040. ATMA-UKM.

——————————, Ding Choo Ming, Afendi Hamat, Arba'eyah bt Abdul Rahman. 2002a. Sistem Capaian untuk Kamus Peribahasa Melayu Digital Pertama. A Paper presented at *Seminar Kebangsaan dan Pemikiran Melayu: Kecemerlangan Melayu dalam Era Teknologi Maklumat dan Komunikasi*, 18-19 Jun. Kuala Lumpur: Akademi Pengajian Melayu, Universiti Malaya.

Turner, R. K. ed. 1993. *Sustainable Environmental Economics and Management: Principles and Practice*. London: Belhaven Press.

Turner, T. P. & Brackbill, L. 1998. Rising to the Top: Evaluating the use of HTML META Tag to Improve Retrieval of World Wide Web Documents Through Internet Search Engines. *Library Recourses & Technical Services* 42(4): 258-271.

Valauskas, Edward, J. 2000. Are we Steering Technology or is Technology Steering us? Challenges and Portunities in Internet Publishing. *Libri* 50: 109-112.

Wang, G & Dissanayake, W. 1982. The Study of Indigenous Communication Systems in Development: Phased out or Phasing in?" *Media Asia*: 3-8.

——————————. 1984. ed. Continuity and Change in Communication Systems: an Asian Perspective. New Jersey: Ablex Publishing Corp.

Warren, D. Michael & Cashman, Kristin. 1998. *Indigenous Knowledge for Sustainable Agriculture and Rural Development*. London: International Institute for Environment and Development. *(Gatekeeper Series No. SA 10)*.

Wilson III, Earnest, J. 1998. Inventing the Global Information Future. *Futures* 30(1): 23-42.

Ding Choo Ming
Felo Penyelidik Kanan
Institut Alam dan Tamadun Melayu
Universiti Kebangsaan Malaysia
43600 UKM Bangi
Selangor Darul Ehsan
e-mail: chooming@pkrisc.cc.ukm.my