

News from Asia

“News from Asia” offers you items of scholarly interest provided by our local partners in Asia. They can include, among others, information on regional events, art collections or places of interest. The news for this issue has been compiled by our regional editor Lu Caixia, a former print journalist and current research associate at the Nalanda-Sriwijaya Centre in Singapore (ISEAS). Other than being involved in research and editorial work, she is also in charge of organising workshops and conferences for the Centre. Her research interest is in comparing historical and contemporary interactions between China and Southeast Asian countries and how these affect current mutual perceptions. For matters related to editorial contributions to this section as well as requests to be included in events listings, please write to her at iias_iseas@iseas.edu.sg



An artist impression of the new museum to be ready in 2014. Courtesy of W Architects Pte Ltd.

Singapore's Natural History Museum: Past, Present and Future

Tan Swee Hee

A MUCH-AWAITED NEW NATURAL HISTORY MUSEUM is set to open in 2014, bringing some of the best of Southeast Asia's natural history collection to the public. This new museum is an expansion of the Raffles Museum of Biodiversity Research (RMBR, rmbbr.nus.edu.sg), home to about 500,000 specimens of mammals, birds, amphibians and other invertebrates, some dating back to more than a century ago. The 7,500m² museum will be built within the grounds of the National University of Singapore (NUS) with funds raised from private and public donations.

The collection had its origins in the Raffles Library and Museum completed in 1887, a result of Sir Thomas Stamford Raffles' idea to set up a museum and library in Singapore as a repository for specimens relevant to the flora, fauna and human civilisation of the region. Visitors to the Raffles Museum in the early part of the twentieth century marvelled at some of the extraordinary exhibits such as the 42-foot skeleton of a baleen whale found beached at Malacca in 1892, hanging from the ceiling of the museum, impressive butterfly and bird displays, and the large skeleton of an elephant shot by the Sultan of Johor in 1909. After Singapore's independence in 1965, the Raffles Museum changed its name to the National Museum of Singapore and shifted its focus to national development and the arts. The natural history collection, deemed to be of little economic value, was to be disposed of, and the whale skeleton, the most iconic specimen, was actually given away during this time. The rest of the collection was moved to the former University of Singapore, where for more than a decade the collection was stored in wooden crates, at various locations, including warehouses, university departments and the library at the former Nanyang University. As the storage conditions were less than ideal, many specimens perished in the harsh tropical climate - it is remarkable that so many specimens survived to this day. This is due in no small part to the efforts of the curatorial staff. Despite the lack of space for research, the collection is well-regarded internationally and many researchers around the world continue to consult it. One of the collection's most illustrious visitors was the Emperor of Japan, His Imperial Majesty Akihito, as he had an active research interest in ichthyology.

Several years after the University of Singapore and Nanyang University merged into the NUS, the collection was finally given a permanent home and renamed the “Zoological Reference

Collection”. A further merge with the Botany department's Herbarium in 1998 formed the Raffles Museum of Biodiversity Research. The museum's focus was on research and to facilitate undergraduate and graduate education, which enabled it to reclaim the position as a leading biodiversity research centre in the region. However, the museum's collection was only accessible to researchers and not to the public, for whom the collection was originally intended. A 200m² public exhibition gallery was finally opened in 2001, but only started receiving an overwhelming number of visitors after news reports in 2009 highlighted the museum's vast yet little-known collection.

With its new-found popularity, the museum realised that current facilities were inadequate to service public demand, especially after more than 3000 visitors thronged the gallery on International Museum Day in 2009. The local newspapers were abuzz with public demands for the establishment of a proper natural history museum. In response, an unnamed donor offered S\$10 million (approx. US\$7.9 million) to help initiate the endeavour. This led to a major fundraising effort in which the museum had to raise enough funds within six months to secure a plot of land for the new building. Sufficient funding was finally obtained from various charitable foundations and organisations. The Lee Foundation pledged a massive S\$25 million (US\$20 million) and, in recognition of one of Singapore's most prominent Chinese businessmen and philanthropists, the new museum will be renamed the Lee Kong Chian Natural History Museum.

It has been two years since the first efforts were made to push for a new museum dedicated to natural history in Singapore, and a team of consultants has now been appointed to lead the new building's design, construction and setup. The museum has recently also raised enough funds to buy the skeletons of three giant diplodocid sauropod dinosaurs from the United States as the centrepiece of its gallery. When the Lee Kong Chian Natural History Museum opens its doors to the public in three years, we hope that it will herald a new era of interest in natural history, nature conservation and appreciation of the natural environment in Singapore.

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Sarawak Language Technologies (SaLT) Research Group – Preserving Sarawak's Indigenous Languages through Localisation and Internationalisation Approaches

Alvin W. Yeo

THE SARAWAK LANGUAGE TECHNOLOGIES (SaLT) Research Group at Universiti Malaysia Sarawak (UNIMAS) has initiated a number of projects to revitalise and maintain the indigenous languages of Sarawak by making use of information communication technologies (ICTs), and to bridge the digital divide between the rural and the urban communities by applying technology to local content.

Sarawak is one of two East Malaysian states located on the island of Borneo, and the largest state in Malaysia. With over 28 ethnic groups, the three main groups Iban, Bidayuh, and Orang Ulu constitute 43% of the state's population of 2.2 million. Each ethnic group in Sarawak has its own distinct culture, lifestyle and language. Yet the Sarawak languages are slowly dying out due to the dominance of Bahasa Malaysia and English; these two languages are, especially in urban areas, considered to be the national language and the international language respectively. As listed in the database of the *Ethnologue: Languages of the World*, there are 46 Sarawak languages and 76% of them have fewer than 10,000 speakers.

SaLT has started a number of projects to preserve the indigenous languages of Sarawak through research and development in many areas of the Natural Language Processing (NLP) field. The objective is to digitise existing resources written in indigenous languages in order to build the corpora and processors, such as morphological analysers and part-of-speech taggers. These are necessary to develop applications such as spellcheckers and functions such as machine translation and speech recognition.

Internationalisation (removing culture and language specific components from the software so that it is language-independent) and *localisation* (adding the specific regions or languages to the internationalised-software) result in software that can accommodate the large number of existing indigenous languages – culminating in a single programme that could be run correctly anywhere in the world. This approach reduces the effort to build and maintain an application to accommodate multiple indigenous languages, thereby encouraging the provision of ICTs to indigenous communities by reducing the language barriers of using ICTs in their daily lives.

Since the formation of SaLT in 2007, we have focused on six indigenous languages, namely Iban, Melanau, Kayan, Sarawak Malay, Bidayuh and Kelabit. Nevertheless, there is an ongoing process of adding documents into both the monolingual and bilingual corpora. The research work of SaLT is divided into three broad categories: language resources, NLP tools and applications. For example, the *BarioLakuh Digital Library* aims to explore the cultural benefits of ICTs in stimulating the production, protection and popularisation of Sarawak rural communities' oral traditions; and *Methodologies for Translation of Indigenous Languages: English-Iban (TriBE)* serves to identify an effective approach to translate Iban to English by using a small Iban parallel corpus. Other ongoing projects include building a text-to-speech voice generator to read Sarawak languages.

SaLT researchers face a number of challenges. Most Sarawak languages have never been processed and do not have any electronic documents, with the exception of Iban and Bidayuh. Therefore, the digitisation of these under-resourced languages has to start from scratch, including building the spelling system. Another challenge is the standardisation of terminology. In order to localise a word processor to the Iban language, computing terminology is needed. Due to the absence of computing terminology in Iban, the SaLT researchers had to create this terminology and have Iban speakers verify it.

Through the collecting of local content, building the corpora and developing software tools and applications, the SaLT Research Group envisions the revitalisation of the indigenous languages and also an increase in the number of speakers. This revitalisation will only be achieved through close collaboration with the respective indigenous communities. Also, the research and development work conducted will culminate in a Cultural and Heritage Repository of Sarawak Indigenous Languages, which we hope will not only benefit the indigenous communities but also researchers domestically and internationally.

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SaLT
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