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FEATURE

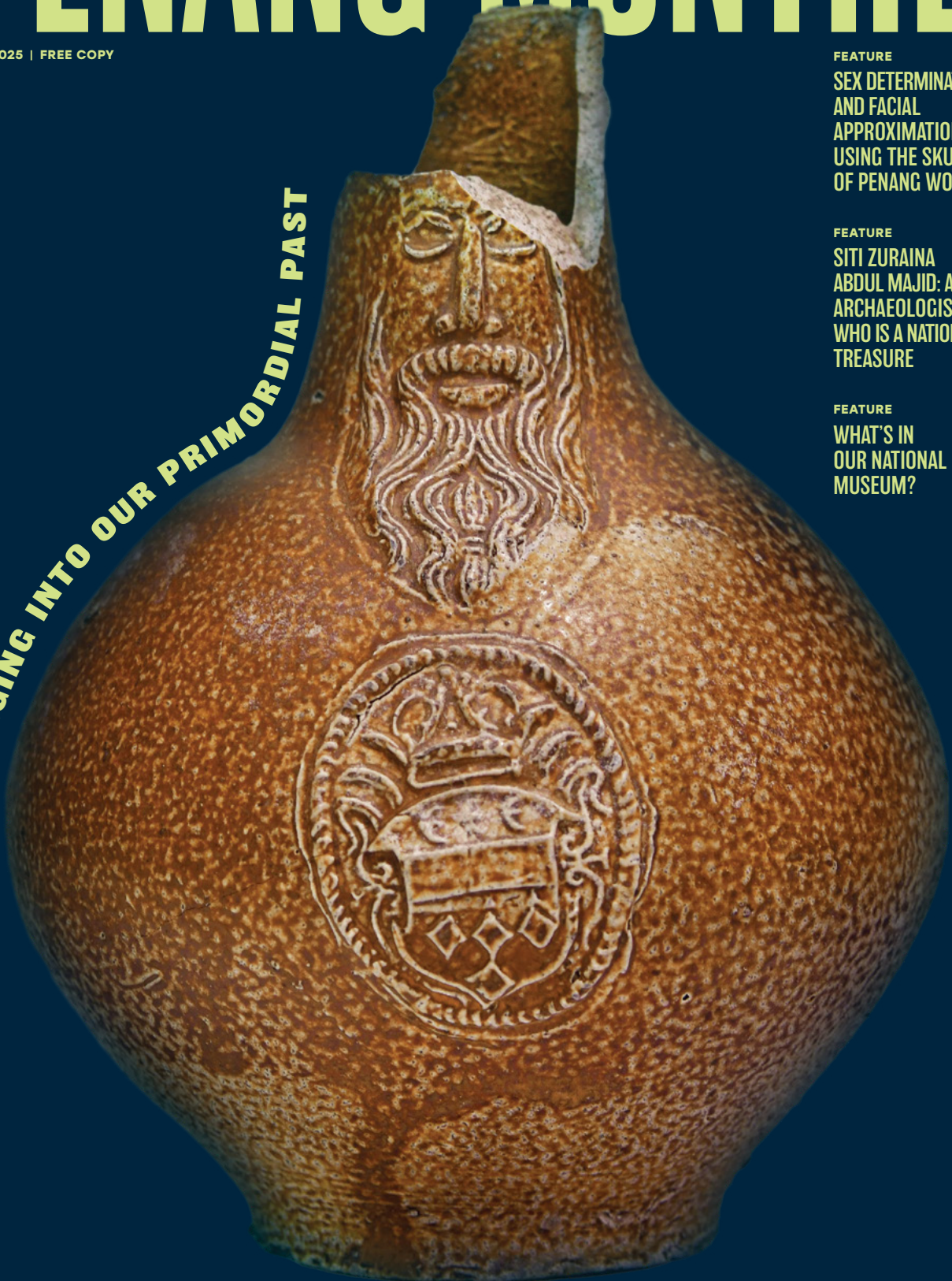
SEX DETERMINATION
AND FACIAL
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USING THE SKULL
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ABDUL MAJID: AN
ARCHAEOLOGIST
WHO IS A NATIONAL
TREASURE

FEATURE

WHAT'S IN
OUR NATIONAL
MUSEUM?





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- 1 Supply Penangites with information about significant issues in order to promote public participation;
- 2 Encourage discussion about various aspects of Penang's fate and fortune;
- 3 Profile Penang personalities who have contributed, sometimes in very unassuming but critical ways, to the reputation and wellbeing of the state;
- 4 Put the spotlight on ordinary Penangites who otherwise go unnoticed, but who nevertheless define the culture of the state in essential ways;
- 5 Highlight the importance of Penang as a generator of culture, education, industry and cosmopolitan values;
- 6 Emphasise present trends in the arts, industry, politics and economics which affect the immediate future of the state and country; and
- 7 Offer reliable socioeconomic data for the benefit of decision makers in government and the private sector.

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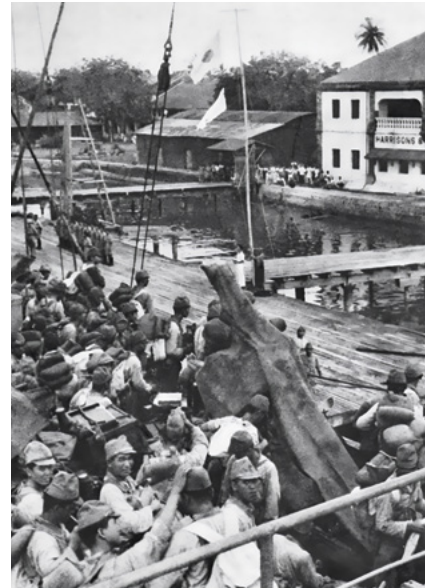
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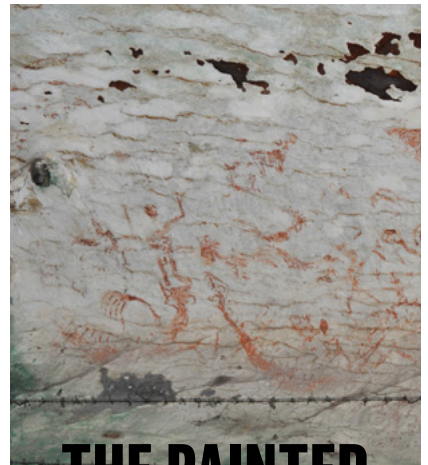
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Most profoundly, these lives are not repeats. Each happens only once. The repetitive nature of the universe is their inspiration. It would seem that this great paradox appears because the repetitions are never perfect... Time, as defined by nature's rhythms and not by human clocks, is syncopated. It is because the repeats are not perfect, and it is because time, in its fullness, entertains endless wavelengths that endless changes appear.”



AWAKE IN TIME FOR A TERENGGANU SUNRISE

BY OOI KEE BENG

THE MOON WAS full two nights ago. I sit now on the first-floor patio of my friend Fazil's beach house. This is in Marang, just south of Kuala Terengganu. It is 5.30 in the morning.

The regular passing of trucks and cars pulsates at an erratic pace. Unpredictable, but expected. This is unlike the soft waves I hear rolling upon the beach 100m away; those are well-paced. Predictable and much more exact in their rhythm. Expected, and yet, I can discern that the crashes differ slightly from each other.

At 5.43am on this July morning, the mosques begin their call to prayer. The muezzin in each of them recites the azan. I note that while they may have been prompted by the clock, they do not begin in unison, nor do they end together.

Once they begin to fade away, I hear the waves distinctly again. They are louder now because my ears have pricked up, having responded to the louder volume of the azan. A bike rushes by, its loud engine fading away very slowly in the morning air, and is overwhelmed by a truck now passing the house with a much louder roar.

From within the house, I can make out the breathing of my wife.

What else do I hear, this quiet morning as I look east into the retreating darkness? It is too early yet for the sun to appear above the eastern horizon. What I see instead is a row of lights from fishing boats arranged in an irregular line.

Are those insects I hear from the garden? If so, they are being drowned out by the rising noises of human activity. The city is awakening, and another day is upon me.

While my ears are drawn to the sounds of this morning in Marang, my eyes note that the lamps of the fishing boats are now flickering, as if being blown out by the rebirth of the day.

Time is ticking by. Flash by flash, wave by wave, breath by breath. Azan by azan, full moon by full moon, sunrise by sunrise. Repeating, reiterating, reciting.

And yet, this is but half the story of the universe.

NO TIME WITHOUT CHANGE

Not too long ago, there would have been a clock on the wall in the hall, perfecting the repetitiveness of time. Tick-tock, tick-tock. Totally predictably.

But while time is repetitive, it also flows. Changes take place against the ticking, against the flow. The repeats, the beats of time, are however not what is interesting. What weaves around the ticks and the tocks is.

Time is like the drummer in a band, around which the other instruments find meaning. We might say that today follows yesterday, and will be followed by tomorrow. But the content differs despite all things being repeats.

We living beings, like musicians, hear our cue, and then timing ourselves expertly, we perform, we act, we achieve. We mean things. Within the textile of the beats, we insert variations and create our tapestry. Marching music allows for alluring jazz to appear.

I now think of the shells and other strange objects I found by the shore yesterday evening, worn down over decades by the rhythm of the sea, by the rush of the wind, by the passing of the moon. Time has done its job on them, but it is this wearing away that gives them a story to tell, that makes them captivating.

Within the music that sunrises and sunsets perform, with the rising and ebbing of tides, lives are lived.

Most profoundly, these lives are not repeats. Each happens only once. The repetitive nature of the universe is their inspiration. It would seem that this great paradox appears because the repetitions are never perfect. The slight variations I hear in the morning waves, in the irregular passing of vehicles, in my wife's breathing, are revealing.

Time, as defined by nature's rhythms and not by human clocks, is syncopated. It is because the repeats are not perfect, and it is because time, in its fullness, entertains endless wavelengths that endless changes appear.

Deaths may be repeats, but they are each endured in isolation. And music is enjoyed as much for its endless variations as for its persistent rhythms.



WHAT'S IN OUR NATIONAL





A NATIONAL MUSEUM is often government-funded and dedicated to preserving a nation's history and culture. Each country may differ in how they present their national storyline. When it comes to formerly colonised countries in Southeast Asia, including Malaysia, most showcase the rise of the nation from early civilisation to colonisation and then independence, and later, its current development. National museums can also be seen as a medium to instil “nationalism” in citizens.

MUSEUM?

BY
**MUHAMMAD
AZAM ADNAN**



MUHAMMAD AZAM ADNAN is currently the Curator/Director of the Labuan Museum in the Federal Territory of Labuan and served as Curator at Muzium Negara from 2018 to 2022. Recently, he participated in the Residence Culture programme organised by the French Ministry of Culture, where he completed a one-month work attachment at the Department of Islamic Art at the Louvre, Paris.

Muzium Negara in Kuala Lumpur was built on the ruins of Selangor Museum, which was bombed by the Alliance Air Force on 10 March 1945 during World War II. A temporary small museum called Muzium Negara Sementara was constructed under the order of General Sir Gerald Templer, the British High Commissioner to Malaya in 1952, and operated briefly for eight years.

Later, Tunku Abdul Rahman (1903–1990), the first Prime Minister of Malaysia, decided to establish a new national museum that reflects the national identity of the country after gaining independence on 31 August 1957.^[1] Tunku appointed Haji Mubin Sheppard (1905–1994) to spearhead the establishment of Muzium Negara, along with Ho Kok Hoe from Singapore (1922–2015) as the main architect for the museum in 1959. They travelled to Kedah to be inspired by the Malay houses and structures there; the National Museum must look Malayan—“no boxes and no glass”.^[2]

Ho successfully adapted the design of a traditional Malay house, incorporating decorative motifs of the Petalawati bird on the roof.^[3] The exterior of the building is further enhanced with two murals made from Italian glass mosaics by artist, Cheong Lai-tong (1932–2022), depicting the historical and cultural journey of the nation. Another prominent local artist and woodcarver, Nik Zainal Abidin Nik Salleh (1933–1993), designed the wood carvings both internally and externally, while the three main door panels at the museum's entrance were carved by a team led by Wan Su Othman (1900–2011).^[4] The building was completed in 1963. Currently, Muzium Negara is under the administration of the Department of Museums Malaysia and the Ministry of National Unity.

INSIDE MUZIUM NEGARA

The museum has four permanent galleries (*balai*): *Balai Kebudayaan* (Cultural Gallery), *Balai Sejarah dan Pertukangan* (History and Craftsmanship Gallery), *Balai Ilmu Kejadian* (Natural Sciences Gallery) and *Balai Kegiatan Ekonomi* (Economic Activities Gallery).

The Cultural Gallery features a diverse collection of artefacts encompassing traditional weaponry, shadow puppetry (*wayang kulit*), *songket* weaving, metal craftsmanship and traditional games, among others.^[6] The History and Craftsmanship Gallery showcases prehistoric collections from the Orang Asli (Indigenous peoples), traditional craftsmanship, weaponry and currency. Among its notable displays is the *Hang Tuah Mural*, featuring the iconic phrase “*Ta’ Melayu Hilang Di-Dunia*”^[7], which remains a prominent feature in Muzium Negara until today. It was later changed to *Wajah-Wajah Malaysia* (Faces of Malaysia).

The Natural Sciences Gallery was established to showcase dioramas highlighting the richness and uniqueness of Malaysia’s biodiversity, including insect life, marine and land creatures, and its geography. It was upgraded in 1968, when Shell Malaysia contributed RM25,000 to enhance the gallery.

Meanwhile, the Economic Activities Gallery was established to showcase the nation’s natural resources and economic outputs (tin, rubber, timber and agricultural products). The gallery was only completed and opened to the public in December 1972, following an allocation of RM84,000 under the Second Malaysia Plan (RMK2).^[8]

In 1986, the Economic Activities Gallery evolved to cover history, ceramics, ethnology and gold. In 1990, Muzium Negara changed the narrative for this gallery again, focusing more on weapons, musical instruments and ceramics.^[9]

Restoration works in 2007 saw revisions to all of its permanent galleries, focusing on the chronological development of the nation’s history instead: Gallery A (Early History), and Gallery B (Malay Kingdoms) tell of the different Malay Kingdoms up to and including the Melaka Sultanate; Gallery C (Colonial Era) exhibits colonial history from the 1511 Portuguese invasion through to the Dutch and British periods up until the Japanese invasion; and Gallery D (Malaysia Today).^[10] Muzium Negara now exhibits 1,566 artefacts in all four main galleries, the outdoor exhibition area and the Cempaka Sari room (VIP room).^[11]

Human skeletons from the Hoabinhian and Neolithic periods dating between 5,000 to 8,000 years ago discovered in Cha Cave by Gale Sieveking, a British prehistory archaeologist in 1954, are one of the prominent artefacts in Gallery A. Another important artefact is the Dongson Bronze Bell (dated 1500 BCE), found by a farmer along the banks of the river in Kampung Penchu, Muar, Johor in 1963.^[12] The bell is believed to originate from Dong Son, North Vietnam, and was used as an ornament hung around an elephant’s neck during religious ceremonies.^[13] This bell was declared a National Heritage Object in 2009. The Seated Bodhisattva, carved in terracotta, which was discovered at Pengkalan Bujang (Site 21/22) in

Kedah has also been gazetted as a National Heritage Object in 2009.^[14]

Gallery B displays another 2009 National Heritage Object—the Avalokitesvara (the Buddhist Bodhisattva of Compassion) statue. The eight-armed statue weighing 63kg was found in 1936 near Bidor, Kinta Valley, Perak. The statue is believed to originate from an early Malay kingdom, Gangga Negara, dating to the 8th–9th century.^[15]

Not many artefacts from the great Melaka Sultanate (1400–1511 CE) have survived to the present day. One that did is the gravestone of Sultan Mansur Shah, discovered on Bukit Melaka in 1918. It was believed to have been moved there from its original site during the Portuguese occupation.^[16]

At Gallery C, visitors can view the Bellamine jar, recovered in 1993 during an underwater excavation carried out on the Nassau (Dutch East India Company (VOC)) shipwreck at Port Dickson, Negeri Sembilan. It is an important artefact from the Battle of Cape Rachado that happened between the VOC and the Portuguese Navy in 1606.^[17] There is also the table used to sign the Pangkor Treaty on 20 January 1874, which marks the introduction of the British residential system.^[18]

In Gallery D, you can find the historical first flag of the Federation of Malaya that was raised on 31 August 1957 at Dataran Merdeka by Tunku Abdul Rahman. The flag has 11 stripes and an 11-point star which represented the 11 states in the Federation of Malaya.^[19]





3



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CAPTIONS

1. (Cover spread) Aerial view of Muzium Negara after it was completed in 1963. Reproduced from *60 Tahun Muzium Negara* (2023).

2. Site visit by Tunku Abdul Rahman, Mubin Sheppard (the first head of Muzium Negara) and several museum officers. Reproduced from *60 Tahun Muzium Negara* (2023).

3. Mural of Hang Tuah at Gallery B. Image from Muzium Negara's photography collection.

4. Muzium Negara's first logo, designed by Nik Zainal Abidin Nik Salleh in 1962. Reproduced from *60 Tahun Muzium Negara* (2023).^[5]

5. The Bellamine Jar. Image from Muzium Negara's photography collection.

6. Muzium Negara's taxidermists at work in *Balai Ilmu Kejadian*. Reproduced from *60 Tahun Muzium Negara* (2023).

7. Sultan Mansur Shah's gravestone. Image from Muzium Negara's photography collection.

8. The Dongson Bronze Bell. Image from Muzium Negara's photography collection.



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A BETTER REPRESENTATION OF MALAYSIA?

Despite the impressive collections currently on display at Muzium Negara, there are still voices claiming that the museum has yet to fully capture and convey the true story of Malaysia. On that, I agree—these collections may suffice to cover major historical events of the nation, but they fall short in representing many other important narratives, particularly the histories of Borneo, including Sabah, Sarawak and Labuan. The cultural pluralism in Malaysia is also not fully explored.

Even though there are dioramas showcasing the diverse ethnic groups in Malaysia dressed in their traditional attire at Gallery D, they lack sufficient information to truly convey the rich stories, cultures and lived experiences of these communities. Other than that, there is also little coverage of post-2000 developments like new political parties, digital culture and globalisation.

One of the galleries I believe the museum should consider bringing back is the *Faces of Malaysia* gallery, but with an enhanced focus on the nation's multi-cultural journey. It should highlight how different communities contributed to Malaysian society by showcasing the cultural intersections that shape our food, language, art, religion and festival celebrations.

When revisiting historical narratives, the museum could adopt a fresh approach that presents Malaysia as a living, evolving society, rather than merely focusing on the making of the nation. Such a perspective would allow for the inclusion of ongoing movements such as environmentalism, and the role of women and youth-led initiatives. A critical and reflective narrative on nationhood and patriotism could also encourage visitors to engage more deeply with the idea of independence, and prompt them to ask: “*What does Merdeka mean to me now?*” “*How should we remember our national heroes?*” “*Who are the ordinary individuals who shaped our communities?*” By inviting these questions, the museum would become a platform for active reflection, dialogue and civic engagement.

Bringing back some taxidermies from *Balai Ilmu Kejadian* from the storage in Muzium Negara could attract visitors, especially children who love animals. A special exhibition organised by the Natural History Museum of Malaysia,^[20] called “The Wonders of Taxidermy: Eternal Life Exhibition” from 18 October 2021 to 17 April 2022, saw more than 15,000 visitors from October to December 2021.^[21]

Muzium Negara could also learn a few things from other notable museums in the country and in Southeast Asia. For example, the Borneo Cultures Museum is current-

ly the largest museum in Malaysia and the second largest museum in Southeast Asia, after the National Museum of Singapore.^[22] Located in Kuching, Sarawak, it is under the administration of the Sarawak Museum Department.^[23] It features a curated theme that seamlessly blends the history of Sarawak with its natural heritage and diverse cultures, enhanced by interactive and immersive digital technologies that engage visitors, making learning both educational and enjoyable.

The Sarawak state government allocated RM323mil for the construction of the museum.^[24] The cost has paid off; the museum has garnered 1.1 million visitors (as of September 2024) since its grand opening in March 2022.^[25] Many sang praises about the museum, and one visitor even commented that the museum is on par with some of the best museums in Japan, Europe and the US.^[26]

There is also the National Museum of Singapore, which dates back to 1849, when it opened on Stamford Road as the Raffles Library and Museum. The Singapore government had spent SGD118mil for the refurbishment and branding of the museum.^[27] It narrates stories using both traditional and modern methods, using immersive displays and modern technology, making history fun and interactive.

These two museums tell us that funding is crucial if we want Muzium Negara to

be on par with other prestigious museums in this region. Its last upgrade and renovation was done in 2007.

A special committee needs to be established by the Department of Museums Malaysia. It could then engage with selected academicians, historians and organisations, such as top architecture firms, in visualising new narratives and gallery designs. This budget must also include new repositories and conservation labs; the current repositories can no longer accommodate the museum's expanding collections. New conservation labs must also be developed so that more conservation, restoration and research work can be done.

An online collections database for Muzium Negara will also allow public and researcher access to its heritage, fostering greater appreciation for the museum's collections, and ensure its relevance among global institutions.

Nevertheless, Muzium Negara has always been working to provide the best for its visitors by showcasing objects and artefacts that are otherwise kept in the storage rooms.

Every year, all federal museums under the administration of the Department of Museums Malaysia have a programme called "Night at the Museum" that runs from 30 to 31 August. High school children spend the night at the galleries in conjunction with the celebration of Independence Day. Muzium Negara is also quite active in outreach programmes to schools, universities and public or private institutions.

Muzium Negara stands as a vital institution in preserving and showcasing Malaysia's rich cultural and historical heritage. As the country continues to evolve, it is hoped that the museum will enhance its exhibitions and strengthen its role in educating future generations.



CAPTIONS

9. Muzium Negara at night. Reproduced from Muzium Negara's website.

10. Borneo Cultures Museum at Kuching, Sarawak. Image by Muhammad Azam Adnan.

***Disclaimer:** The views and opinions expressed in this article are those of the author and do not represent the views of Muzium Negara or the Department of Museums Malaysia.

FOOTNOTES

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5. Jabatan Muzium Malaysia, *60 Tahun Muzium Negara* p. 10
6. Jabatan Muzium Malaysia, *60 Tahun Muzium Negara* pp. 23-24
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16. Ibid, p. 25
17. Muzium Negara, *Muzium Negara Gallery Guide: Gallery C – Colonial Era* (Kuala Lumpur: Jabatan Muzium Malaysia, 2011), p. 11
18. Ibid, p. 16.
19. Muzium Negara, Independence Day Collection, <https://www.muziumnegara.gov.my/en/independence-day-collection>.
20. Another museum under the administration of the Department of Museums Malaysia with its own curators and staff. Unfortunately, the museum does not have its own building for permanent displays. Currently, the Department of Museums Malaysia is trying to secure fund from the government to permanently house the Natural History Museum.
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A BRIEF HISTORY OF ARCHAEOLOGY IN MALAYSIA

BY STEPHEN CHIA



THE LONG HISTORY and practice of archaeology in Malaysia—spanning over 180 years—began from the colonial era in the mid-19th century. This period of antiquarian interest (1840–1900) saw British amateurs undertaking random explorations and reconnaissance in search of history and antiquities. In Peninsular Malaysia, the first-known archaeological dig was undertaken by G.W. Earl in 1860 at Guar Kepah in Seberang Prai (formerly Province Wellesley), where he discovered a shell mound containing many human burials. In Sarawak, between 1873 and 1878, an expedition in search of early human fossils and the “missing link” in human evolution was conducted in the Niah and Bau caves by naturalist Alfred Hart Everett, and organised by Charles Darwin, Alfred R. Wallace and Thomas H. Huxley.

Archaeological interest increased during this period with the establishment of museums in the Malay Peninsula (1900–1940), beginning with the Perak Museum, founded by Hugh Low (1883–1903), and the Raffles Museum in Singapore in 1887.

These museums carried out ethnographical and archaeological explorations to collect artefacts and objects for exhibition and reference. The British officers who undertook the work, however, were not trained archaeologists, but mostly ethnographers such as Leonard Wray and I.H.N. Evans. Consequently, the archaeological work done in this period was primarily reconnaissance or laymen diggings. Nevertheless, their pioneering works provided useful information on the location of archaeological sites and findings.



During World War II, when Japan invaded and occupied the country, archaeological work stopped, and was only resumed in Peninsular Malaysia in the 1950s by returning British officers at several cave sites in Perak, Kelantan and Perlis. After Malaya gained independence on 31 August 1957, followed by the formation of Malaysia on 16 September 1963, a few British officers remained in the country to continue their archaeological work. In Sarawak and Sabah, from the 1950s to 1960s, Tom and Barbara Harrison, along with their collaborators, undertook archaeological research at the Niah Caves and other sites in East Malaysia.

It was not until the 1960s that archaeology was offered as an undergraduate course at the History Department in University Malaya, KL, and archaeological

research continued there under Alastair Lamb in the Bujang Valley and B.A.V. Peacock in prehistoric sites in Peninsular Malaysia. Due partially to the prolific work of British curators and colleagues at the Raffles Museum in Singapore, the Federated Malay States Museums and the Sarawak Museum, Malaysia was one of the most active countries doing archaeological research in Southeast Asia from the 1930s to 1960s.

The mid-1970s to 1980s was a watershed moment as Malaysians began to enter the field of archaeology. Among the first few Malaysians who went overseas for post-graduate training and study were Zuraina Majid, the late Nik Hassan Shuhaimi, the late Adi Haji Taha, Leong Sau Heng and Ipoi Datan.

In 1976, the Malaysian government passed a federal law known as the Antiquities Act, which provides for the control and preservation of and research into ancient and historical monuments, prehistoric sites and artefacts, as well as matters related to the trade and export of prehistoric and historic artefacts. The late 1980s witnessed a tremendous increase in archaeological activities and research in the country, spurred by the zeal of many first-generation Malaysian archaeologists attached to local universities and museums.

THE ARCHAEOLOGICAL CENTRE AT USM

In 1987, Zuraina Majid, while working as a lecturer at the Universiti Sains Malaysia (USM), Penang, started the Malaysian Archaeology Project dedicated to archaeological research in new sites, and the teaching and training of future archaeologists. The early 1990s saw the birth of the second generation of Malaysian archaeologists, trained under Zuraina—Mokhtar Saidin (1997), myself (1997) and Zolkurnian Hassan (1998).

After nearly a decade of systematic research, discoveries and publications, the Centre for Archaeological Research Malaysia was established in 1995 at USM, with Zuraina as the founding Director. Its primary goals are to plan and intensify systematic research programmes in building



new knowledge, not only on Malaysian and Southeast Asian prehistory, but also in contributing to the global archaeological data; to offer undergraduate and postgraduate training and research degrees in archaeology; to train and upgrade the knowledge and technical skills of the National Heritage Department and museum staff, both national and international; and to provide advisory and consultancy services in the preservation and conservation of cultural heritage through research, the establishment of exhibitions and museum, and Heritage Impact Assessments. The archaeology centre at USM has a multi-disciplinary team of scholars and scientists who use their expertise to answer archaeological questions and to fill gaps in the prehistoric culture sequence of Malaysia. This knowledge is then disseminated to the public via social media, television programmes and documentaries, as well as to schools, museums and relevant educational institutions.

This had great impact on the development of archaeology in Malaysia, where many new and significant discoveries have been made. As a result, estimated dates of early human occupation in Malaysia were pushed back from 40,000 years ago in the Niah Caves to several hundreds of thousands of years ago in the Lenggong Valley, consequently rewriting hypotheses and theories on Malaysia's early history.



By that time, archaeological research in the country was no longer piecemeal; more systematic research programmes had been designed and carried out, especially in the Lenggong Valley in Perak, where significant discoveries were made, e.g. in Bukit Jawa (a 200,000-year-old site) and Kota Tampan (a 74,000-year-old site), two in-situ Palaeolithic stone tool workshop sites, as well as the Perak Man (a 10,000-year-old skeleton) excavated from Gua Gunung Runtuh.

Later, archaeological research was also extended to the Bujang Valley, Kedah as well as to sites in Sabah and Sarawak, e.g. Tingkayu, Bukit Tengkorak, Samang Buat, Kinabatangan Valley, the Niah Caves, Bukit Sarang and Bau Caves. The Centre

also has international linkages and does joint research with international and national research institutions, universities and museums, such as the Conservation Analytical Lab in Washington DC, the University of Western Australia, the Tokyo National Science Museum, Silpakorn University in Thailand, Universitas Indonesia, and the University of the Philippines. After a proven track record, including exciting new discoveries that added to the understanding of regional and global archaeology, the Centre was upgraded by the Ministry of Higher Education Malaysia in 2009 to the Centre for Global Archaeological Research.



The Centre, now headed by me, has produced more than 70 PhD and MA postgraduates in archaeology from Malaysia, Singapore, Indonesia, Iran, Pakistan, Jordan and China, as well as hundreds of undergraduate minor students. Many of them are now working in universities, and heritage and museum departments in Malaysia and overseas.

One of the biggest challenges Malaysian archaeology faces is the need to protect, conserve and manage our archaeological heritage from the consequences of rapid economic development, especially within the last 25 years or so. Developing and promoting archaeotourism, particularly in some of the best-known and richest archaeological areas in the country, such as the Lenggong Valley, the Bujang Valley, the Niah Caves and the east coast of Sabah, have created site preservation and conservation challenges. Although federal and state museums are responsible for the protection of archaeological sites in the country prior to 2005, sites continue to be threatened or damaged in major construction works of highways, roads, buildings and dams as well as from guano digging, quarrying, agricultural, land reclamation and treasure hunting activities.

In 2005, the Antiquities Act of 1976 was replaced by the National Heritage Act 2005 to provide better protection of archaeological sites and cultural heritage. The Department of National Heritage, under the Ministry of Tourism and Culture, was commissioned to use this new act to protect, preserve and manage the archaeological and



cultural heritage of the country. States like Penang, Sabah and Sarawak now have their own heritage ordinance or enactment to protect their archaeological heritage.

In recent years, archaeological practice in Malaysia has also begun to take into consideration the involvement of indigenous peoples to study, preserve and protect their heritage values and rights. This is because archaeological sites often hold deep cultural and spiritual importance for indigenous peoples, and represent their ancestry, history and cultural identity, which can help enrich archaeological research and interpretations. To further safeguard important cultural sites, Malaysia now has two archaeological areas inscribed on the UNESCO World Heritage List—the Archaeological Heritage of the Lenggong Valley, Perak in 2012 and the Archaeological Heritage of Niah National Park's Caves Complex, Sarawak in 2024.

The history and practice of archaeology in Malaysia over the past 180 years or so have witnessed a gradual but significant change from a speculative-descriptive approach to one that is scientific and interdisciplinary. This has resulted in tremendous growth in research and in knowledge on Malaysian prehistory. I am hopeful that future archaeological research will continue to unravel more of the peninsula's history, and that this will be preserved and safeguarded, not only for sustainable economic interest, but also for future generations.

***Note:** For more information, see Chia, S (2017). "A History of Archaeology in Malaysia", in *Handbook of East and Southeast Asian Archaeology* (Eds Junko Habu, Peter V. Lape, John W. Olsen, pp 125-141), Springer. New York.



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BUJANG

EXCAVATIONS EXPOSE THE



VALLEY

PENINSULA'S EXCITING PAST

BY
**NASHA
RODZIADI
KHAW**

LONG BEFORE THE Sultanate of Melaka, there was Ancient Kedah—a patchwork of coastal and riverine polities located along the northwestern coast of the Malay Peninsula. From as early as the 2nd century CE, the region began to participate in the expanding trans-Asian trade network that connected major economic and cultural centres in India, the Middle East, China and Southeast Asia. This connectivity formed an integrated network of port-polities, which facilitated not only the exchange of goods, but also the movement of people, ideas and religious traditions. Over time, these interactions contributed to the emergence of increasingly complex socio-political structures and cultural landscapes across the region.

By the 5th or 6th century CE, the Bujang Valley had evolved into the principal economic and population centre of Ancient Kedah, playing a pivotal role in mediating maritime trade and fostering regional cosmopolitanism. Nestled in the foot of Gunung Jerai and the riverine plains of the Merbok River, the Bujang Valley is widely regarded as the cradle of early civilisation in the Malay Peninsula.

Often overshadowed by the grandeur of Angkor or Borobudur, this archaeological landscape holds immense significance due to its diverse assemblages, unique art forms and advanced technological achievements. From the early centuries of the Common Era, the Bujang Valley flourished as a vibrant hub within an extensive maritime trade network that connected India, China and the Middle East. The economic prowess and cultural sophistication of Ancient Kedah remain evident in Bujang Valley's archaeological remains, which include Hindu-Buddhist sites, tradewares, iron-smelting sites as well as beads and ornaments. These discoveries span 184 archaeological sites across the area of Bukit Choras, the Merbok-Muda River valley and Cherok Tok Kun.



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A TIMELINE OF SHIFTING INTERPRETATIONS

Archaeological research in the Bujang Valley began in the mid-19th and early-20th centuries with surveys and diggings at several *candi* sites, conducted by Low, Irby and Evans. However, it was not until 1937 that the first systematic investigation was carried out. This was by H. G. Quaritch-Wales, who excavated 31 archaeological sites. His work culminated in one of the earliest structured interpretations of Ancient Kedah's history. Subsequent research was expanded by Sullivan, Wang Gungwu, Lamb and Peacock.

In the following decades, especially after the 1970s, a more diverse range of perspectives emerged. Scholars such as Leong Sau Heng, Jane S. Allen, Adi Taha, Nik Hassan Shuhaimi and Michel Jacq-Hergoualc'h introduced new approaches to understanding the region, focusing on trade networks, environmental context and settlement distribution. In 2009, excavations led by Mokhtar Saidin revealed iron-smelting complexes at Sungai Batu, dating to as early as the 2nd or 3rd century CE, suggesting the role of Ancient Kedah not just as a port, but a centre of production for diverse products, one of them being iron. Excavation by Zuliskandar Ramli had also unveiled more religious sites. These successive waves of research have shaped three dominant scholarly theories regarding the nature and extent of Indian influence in Ancient Kedah. These are:

1. Colonisation Theory
2. Indigenisation Theory
3. Trade Enclave Theory

The earliest, the Colonisation Theory, was advocated by Quaritch-Wales, who argued that Indian culture was introduced

through direct colonisation by Indian settlers. According to this view, the presence of Hindu-Buddhist temples, Indian-style sculptures and inscriptions in the Pallava script pointed to a civilisational transplant, in which itinerant Indian priests, traders and artisans established religious and political institutions in the region.

In response to this, the Indigenisation Theory emerged, primarily through the work of Alastair Lamb, later refined by Nik Hassan Shuhaimi and Zuliskandar Ramli. This perspective emphasises the role of local agency, suggesting that Indian (and other external cultural) elements were not imposed, but selectively adopted by local elites and artisans, resulting in hybridised art forms and architectural features. Nik Hassan, in particular, highlighted Ancient Kedah's role as a cosmopolitan hub, where Indian, Chinese, Southeast Asian and indigenous influences intermingled in a dynamic and syncretic cultural landscape.

Challenging both views is the Trade Enclave Theory, proposed by Jane S. Allen



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and supported by Michel Jacq-Hergoualc'h. This interpretation argues that Indian cultural influence in Ancient Kedah was limited to foreign merchant communities, and that Indian religious artefacts and temple structures were primarily constructed and used by these traders, without significant penetration into local society. The spatial concentration of temples near ports and river mouths, alongside minimal Indian influence in hinterland settlements support this argument. Together, these theories reflect the evolving interpretations of Ancient Kedah's past—from narratives of external civilisational imprints to more nuanced models of cultural negotiation and



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local resilience. Ongoing archaeological discoveries continue to inform and challenge these frameworks.

While these three prevailing theories have each contributed valuable insights into the nature of Indian influence on Ancient Kedah, they share key limitations. Notably, they often overlook paleo-environmental factors, variability of settlement patterns and internal socio-economic disparity, often treating the Bujang Valley as a monolithic cultural entity. In contrast, I view the valley as a mosaic of distinct communities, each with divergent socio-economic functions and varying degrees of cultural receptivity to external influence. This includes not only local settlements with different trajectories of development, but also enclaves of foreign merchants and religious orders, suggesting a far more fluid and multicultural landscape than allowed by these dominant frameworks.

NEW APPROACH, NEW NARRATIVES

In recent years, research in the Bujang Valley has undergone a significant paradigm shift, spearheaded in part by the Centre for Global Archaeological Research at USM. Whereas earlier scholarship tended to over-emphasise sacro-religious structures or ancient industrial sites as proxies for "civilisation", contemporary approaches have moved beyond rigid civilisational binaries. These new perspectives embrace more

nuanced, locally grounded interpretations of cultural change. Rather than relying on oversimplified and declarative narratives, we now understand Ancient Kedah as a dynamic confluence of socio-political and economic systems, technological capabilities and cultural expressions. These elements evolved not in isolation, but through interaction with trans-regional networks, environmental conditions and indigenous traditions, resulting in a heterogeneous and resilient society.

My own research is informed by an interpretive framework that foregrounds human agency, cultural negotiation and contextual meaning. This involves seeing archaeological sites not as static markers of civilisational “stages”, but as situated expressions of belief, identity and exchange. I approach the Bujang Valley not as a monolithic polity, but as a network of communities, some deeply embedded in trans-regional trade and receptive to external cultural practices, others more locally rooted and ecologically adaptive. This per-

spective enables a more layered reading of the archaeological record—one that recognises the fluid boundaries between cultural spheres and the uneven, context-specific nature of foreign influence. Acceptance of external ideas and technologies was neither universal nor uniform, but mediated by the social, political and environmental contingencies unique to each community.



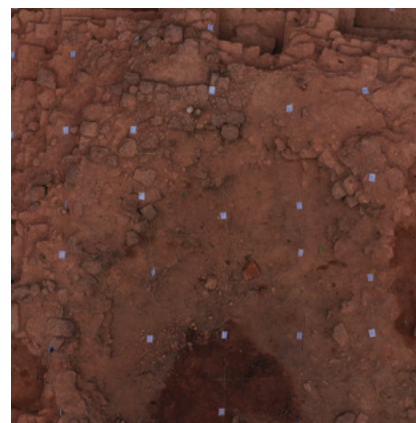
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tion to categories of data that have previously been overlooked in other excavated sites. Situated at the summit of Bukit Choras in Yan, Kedah, the site is among the most well-preserved temple remains in the region, and is uniquely the only known archaeological site in the Bujang Valley north of Gunung Jerai.

The site has a long history of scholarly interest, beginning with an illicit digging by British officer James Low in the 1850s, followed by a small-scale excavation in 1937 by Quaritch-Wales, who reported two laterite structures and a Pallava inscription—now housed in the Asian Civilisations Museum in Singapore. In the 1980s, Kamarudin Zakaria from the Department of Museums conducted site clearing and mapping, although no detailed architectural plan was produced.

Between 2023 and 2025, the USM archaeological team uncovered the western portion of a Buddhist stupa and the northern section of an architectural feature whose function remains to be determined.

time. More importantly, the artefacts discovered—including three Buddha statues (so far!)—were found *in situ*, undisturbed and in their original positions. This is an exceedingly rare occurrence in the Bujang Valley, where most sculptures and artefacts have historically been recovered as accidental finds, often devoid of contextual



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information. Additionally, the site yielded a complete assemblage of votive tablets, inscriptions written in Southeast Asian Brahmi and Sanskrit languages, pottery sherds and iron objects. The unearthing of the statues and artefacts enables a more holistic reconstruction of the religious practices, daily activities and socio-cultural functions associated with the site. Bukit Choras, therefore, not only enriches our understanding of Buddhist presence in the Bujang Valley, but also provides one of the most intact archaeological contexts in the region to date.

Although our current excavation has uncovered less than 30% of the entire area, preliminary findings suggest that Bukit Choras may have been part of a much larger and more complex religious or cultural centre. Early analysis indicates that the site reflects a confluence of multiple cultural influences—architecturally, it shares notable similarities with Buddhist sites in eastern India, southern Thailand and western Java, while the sculptural style of the statues reveals affinities with Sri Lankan artistic traditions. Meanwhile, the inscriptions in Southeast Asian Brahmi script exhibit local modifications, and the pottery assemblage reflects strong indigenous stylistic traits.

Despite these external influences, all construction materials and artefacts were locally sourced, pointing to a community that was not merely passively adopting, but actively receptive and adaptive to external cultures. These findings suggest that the Bukit Choras site was the result of active cultural negotiation between foreign and local traditions, challenging earlier theories that viewed Indian influence as unilateral and dominant.

This discovery is not particularly surprising, as the Bujang Valley is already known for its rich archaeological record of Buddhist remains, with notable sites in areas such as Sungai Bujang, Sungai Muda and Sungai Batu; nor is its significance based on the scale of the site, as there are other locations within the valley that are larger and more expansive in layout.

What makes Bukit Choras truly exceptional lies in the quality of its preservation and the contextual integrity of its finds. The structural remains of the temple are largely intact, allowing for an in-depth architectural analysis that is rarely possible at other sites in the region, many of which have been damaged or heavily eroded over



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KEY CHALLENGES AND LESSONS FROM ACROSS MALAYSIA

While discoveries in Bukit Choras offer an extraordinary window into the past, they also expose challenges in Malaysia's archaeological ecosystem. Malaysia boasts one of Southeast Asia's richest and most diverse archaeological landscapes, from the prehistoric Lenggong Valley and Niah Caves to Melaka and George Town, which have been recognised as UNESCO World Heritage Sites. Alongside the Bujang Valley, these sites reflect Malaysia's early involvement in ancient migration, global trade, technological innovation and religious exchange. Their protection and conservation are vital not only for academic advancement, but also for fostering national pride and international recognition.

Unlike the monumental ruins of Angkor or Borobudur, many Malaysian sites—such as the structural remains of the Bujang Valley, Fort Cornwallis and Porta de Santiago—are modest, built from brick and laterite, and scattered along rivers and coasts. Their significance lies in connectivity rather than scale, revealing the peninsula's historical role as a key node in maritime networks linking India, China, the Middle East and beyond.

Sites like Bukit Choras bear evidence of regional interaction through artistic forms adapted to local contexts. This calls for heritage policies that prioritise scien-

tific investigation, digital preservation and interpretive strategies that situate Malaysia within broader regional histories. Importantly, interpretation must remain inclusive. Similarly, the Niah Caves and Lenggong Valley can be framed as a shared heritage, emphasising the role of indigenous communities alongside the influences of early migrations and trade networks. Melaka and George Town, with their multicultural histories, should highlight the interplay of Malay, Chinese, Indian and European contributions, while centring local agency. An inclusive approach through education, participatory research and public engagement can ensure their sustainable preservation. These sites, like the Bujang Valley, hold educational, identity-building and diplomatic value, offering Malaysia a heritage strategy that is locally rooted, socially cohesive and globally significant.

That being said, Malaysia's archaeological research and heritage conservation face enduring challenges. Among the most pressing is environmental degradation. The tropical climate subjects archaeological sites to intense rainfall, flooding, soil erosion and invasive vegetation. These natural dynamics necessitate sustained investments in scientific methods, such as remote sensing and conservation technologies—which have received increasing government support as of late.

Another significant challenge is the shortage of trained archaeological professionals. While institutions such as USM and Universiti Kebangsaan Malaysia (UKM) have produced capable scholars, expertise in areas like geo-archaeology, conservation science and archaeo-botany remains limited. This scarcity hampers high-quality research and the development of inclusive, science-based heritage narratives.

Although the government's growing commitment to research funding and higher education has laid the groundwork for future capacity building, targeted investment remains necessary to build a sustainable pipeline of specialists. Furthermore, insufficient funding continues to affect archaeological projects, particularly in terms of long-term planning, conservation and infrastructure development. Many initiatives rely on short-term or cyclical funding; these disrupt continuity. In response, the government has made notable allocations and begun exploring collaborative models such as public-private partnerships and state-level heritage funds. These efforts offer promising pathways to diversify and stabilise heritage funding.

Moreover, the National Heritage Act 2005 (Akta Warisan Kebangsaan 2005, Act 645) provides a strong legal framework for safeguarding Malaysia's cultural and natural heritage, where government initiatives in regulatory integration and

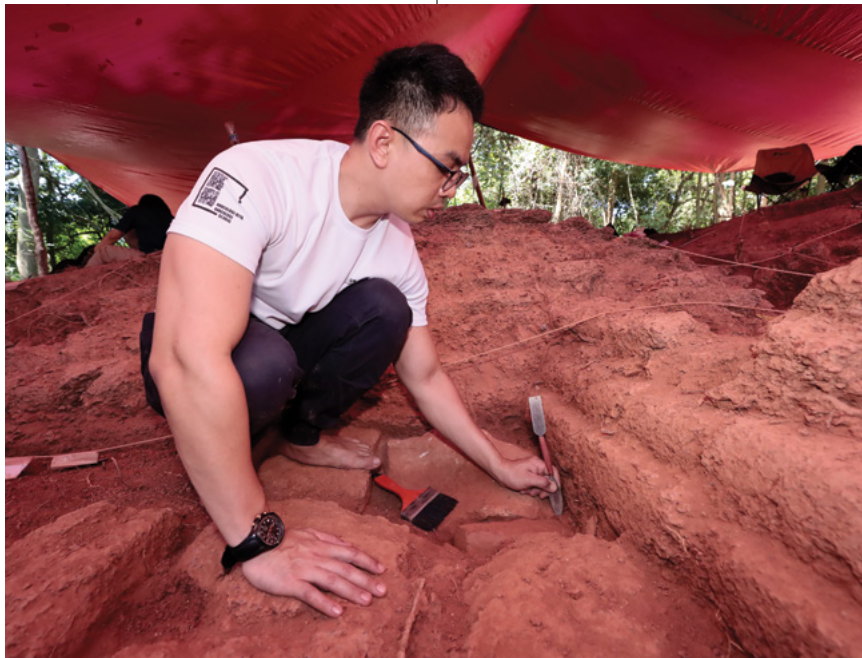
capacity-building remain vital. A key initiative currently underway in the Bujang Valley is the collaboration between USM, Jabatan Warisan Negara (Department of National Heritage) and the Kedah State Government. This partnership supports both archaeological research and infrastructure development, and seeks to elevate Bujang Valley's profile with the goal of securing a UNESCO World Heritage nomination. This includes the development of research projects, interpretive programmes, digital documentation, site protection and visitor-friendly facilities.

RECLAIMING THE PAST

If archaeology is to matter beyond academic circles, it must engage the public in imaginative and accessible ways. Discoveries must be translated into compelling narratives that resonate with people across generations. Museums should evolve beyond static displays to offer immersive, multilingual experiences through short films, virtual reconstructions and interac-



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tive storytelling. Such experiences make the past tangible and meaningful to the modern man and woman.

At the same time, our education system must include the Bujang Valley not only as a marginal reference, but as a foundational chapter of Malaysia's diplomatic, economic and cosmopolitan heritage. Teachers must be empowered with updated materials and training to convey these histories with clarity and engagement. Civic involvement is equally crucial; activities such as heritage trails, archaeology camps and student site visits can spark public interest and nurture a deeper sense of belonging. Local communities too must

be included as stewards of their own heritage because cultural preservation is not sustainable if imposed from above.

Significantly, Malaysia's archaeological legacy also holds powerful potential for cultural diplomacy. A reimagined Lembah Bujang could become a cornerstone of Malaysia's soft power, just as Angkor has done for Cambodia and Borobudur for Indonesia. Yet, to achieve this, we must embrace our unique context: the Bujang Valley is more than a ruin; it is a mirror of Malaysia's cultural DNA, telling the story of a people who absorbed global influences, who traded peacefully with all others and who connected with the outside world instead of

isolating itself. It reflects a long history of hybridity, negotiation and openness.

As we move forward, the challenge is not only to protect this past, but to reintegrate it into our national consciousness. Through focused research, institutional reform and inclusive public engagement, the Bujang Valley can be more than a relic—it can be a blueprint. And in understanding this ancient entrepôt, we may also better understand ourselves.

CAPTIONS

1. (Cover spread) Nasha sitting next to the statue in the western recess of the Bukit Choras site.
2. Nasha clearing the Bukit Choras site.
3. Complete statue at the northern recess of the Bukit Choras site.
4. Statue found in the western recess of the Bukit Choras site.
5. The main stupa of the Bukit Choras site.
6. Drone image of the main structure of the Bukit Choras site.
7. Drone image of Bukit Choras.
8. Nasha conducting an excavation at the Bukit Choras site.
9. Site No. 23, Pengkalan Bujang.

SEX DETERMINATION AND FACIAL APPROXIMATION USING THE SKULL OF PENANG WOMAN

**BY
HELMI
BIN
MOHD
HADI
PRITAM**

THE SKELETAL REMAINS of Penang Woman, a 5,000-year-old skull discovered at Guar Kepah in 2017, offer a unique opportunity to explore the intersection of bioarchaeology and forensic science.

Determining the biological sex of early human remains is a critical step in reconstructing individual identities; sexual dimorphism in the skeleton can provide insights into the biology and social structures of ancient populations. Penang Woman's skull has become a focal point for advanced techniques like forensic facial approximation, which not only visualises her features, but also bridges the gap between scientific analysis and human connection.

This study highlights how modern methods—such as sex estimation through cranial morphology and three-dimensional (3D) facial reconstruction—shed light on the lives of ancient individuals, while challenging existing narratives about migration and ancestry in Southeast Asia.

SEXUAL DIMORPHISM IN THE HUMAN SKELETON

The fundamental concept underpinning skeletal sex determination is sexual dimorphism, which describes physical differences in the size and shape of males and females of the same species. In humans, these differences are largely driven by unique developmental pathways, varying hormonal responses to environmental stimuli and, historically, adaptations caused by the gendered division of labour. Generally, biological males tend to exhibit larger, more robust skeletal structures, often reflecting greater muscle mass and overall body size. Conversely, females typically present smaller and smoother skeletal features. These differences become most pronounced after puberty, making sex determination in child skeletons especially challenging.

When forensic anthropologists and bioarchaeologists analyse skeletal remains, the pelvis is often considered the most reliable bone

Figure 1: Burial ground of Penang Woman (designated GKph2017) at Guar Kepah. Source: Malay Mail





Figure 2: The skull of Penang Woman (Left: original; Right: 3D scan). Source: MDPI

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for sex estimation, boasting an accuracy rate of up to 95% when well-preserved—the distinct adaptations of the female pelvis for childbirth result in a wider pelvic inlet and a larger subpubic angle compared to males. However, archaeological contexts frequently present incomplete or fragmented remains where the pelvis may be absent or too damaged for reliable analysis. In such scenarios, the skull becomes the next most reliable structure for sex determination, as is the case with Penang Woman.

The scientific process of sex determination from skeletal remains, while aiming for a binary biological classification, reveals the inherent biological fluidity and variability within human populations. Skeletal traits are not always definitively male or female; instead, influenced by factors such as ancestry, environmental conditions and age, they often lie along a continuum, ranging from “very female” to “very male”. For instance, it can be nearly impossible to differentiate sex in child skeletons, and some populations naturally possess more delicate or robust skeletal structures than others, meaning a feature that appears female in one population might be male in another.

Archaeologists who impose a strict gender binary solely based on skeletal traits risk overlooking historical reality due to their application of an anachronistic framework on past societies. The limited perspective involved can lead to misinterpretations of social roles, for example, incorrectly assuming that ancient women could not have used axes or that men could not have worn rings, as the case can be if only grave goods are considered. The need to acknowledge this continuum underscores the importance of interdisciplinary approaches that combine rigorous osteological analysis with broader archaeological and cultural interpretations.

READING THE CRANIUM: MORPHOLOGICAL CLUES AND INTERPRETATIONS

One foundational approach to determining biological sex from skeletal remains is the anthroposcopic assessment, often described as the “qualitative art” of visual inspection. This

involves a trained eye examining specific skeletal features, typically evaluating them on a subjective scale (e.g., from 1 for “very female”, to 5 for “very male”).

While crucial for preliminary assessment, this method relies heavily on the experience and judgment of the examiner, which can be subjective and unreliable—particularly if the remains are fragmented or incomplete.

Forensic anthropologists meticulously examine several key sexually dimorphic features of the skull for sex identification, such as the forehead and brow. When viewed in profile, male foreheads tend to be less rounded and slope backward at a gentler angle, often featuring a prominent ridge above the eye sockets, known as the supra-orbital ridge. In contrast, female skulls typically exhibit a more rounded, vertical forehead, and their supraorbital ridge is generally smoother.

Another telling indicator relates to the jaw region. Males typically present a square jawline, with the angle between the outer edge of the jaw and the ear appearing more vertical. They also often have a more pronounced chin, known as the mental eminence. Female jaws, conversely, are usually more pointed, and the angle of the jaw slopes gently towards the ear.

Despite their utility, these morphological methods come with inherent limitations. As noted, their subjective nature can lead to inconsistent results between examiners. Furthermore, factors such as age can significantly influence skeletal morphology; for instance, the skulls of elderly women may sometimes develop characteristics that resemble those typically found in males. Crucially, sexual dimorphism varies markedly between different populations, underscoring the necessity of population-specific reference data.

To overcome the inherent subjectivity of purely morphological assessments, bioarchaeologists employ craniometrics, the scientific measurement of the skull. This quantitative approach provides objective, quantifiable data, significantly reducing examiner bias and offering scientifically verifiable results. It transforms visual observations into numerical data that can be rigorously analysed.

COMPUTED TOMOGRAPHY (CT) AND 3D MODELLING: VISUALISING WITH UNPRECEDENTED DETAIL

The integration of medical imaging technologies, particularly Computed Tomography (CT) scans, has revolutionised the study of skeletal remains in bioarchaeology; it has allowed for the creation of high-resolution 3D digital models of skulls and other bones without the need for potentially damaging physical manipulation. This non-invasive approach helps in the conservation of irreplaceable archaeological heritage.

In the context of sex determination, CT images provide exceptionally detailed views of both the external and internal cranial morphology, which facilitate precise landmark placement for traditional metric and advanced geometric morphometric analyses.



Figure 3: The Forensic Facial Approximation of Penang Woman (GKph2017), by Cicero Moraes.

The 3D models derived from CT scans are also instrumental in forensic facial approximation, as demonstrated by the Penang Woman project. These digital models enable the virtual reconstruction of missing or damaged skeletal elements, and critically, they allow for the accurate application of population-specific soft tissue thickness markers, bringing ancient faces to life with remarkable anatomical accuracy.

PENANG WOMAN: A FORENSIC ARCHAEOLOGY CASE STUDY

The forensic facial approximation of Penang Woman was a meticulous, multi-step process that exemplified the success of cutting-edge scientific methodologies applied to ancient remains.

After undergoing a CT scan at Hospital USM, the resulting Digital Imaging and Communications in Medicine (DICOM) data of the skull were used to create a detailed 3D model of the skull, using Blender software.

The forensic facial approximation of Penang Woman yielded several fascinating findings. Her intracranial volume was measured at 1,330mL, a figure remarkably comparable to the average intracranial volume of modern humans (averaging 1,328mL), suggesting that Penang Woman's brain capacity was fully within the modern range.

Perhaps the most compelling finding was the revelation of a blend of ancestral features in her facial reconstruction—the skull displayed

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characteristics consistent with both Mongoloid and Australomelanesoid ancestries.

The Mongoloid features observed included a rounded orbital margin (eye sockets), a medium-width nasal aperture, moderate prognathism (protruding jaw), an absent brow ridge, a straight nasal profile, wide facial breadth, and a flatter, broader, squarer face with prominent cheekbones.

On the other hand, the Australomelanesoid features include a squarer orbital margin, a large and elongated mastoid process (the bony bump behind the ear), and a clear temporal line in the parietal region of the skull. This blend of features strongly supports earlier hypotheses proposed by researchers such as Teuku Jacob, who suggested that the ancient Guar Kepah population was a “mixture of Mongoloid and Australomelanesian races”. The presence of these irregular features indicate non-homogenous racial characteristics, likely due to interbreeding that occurred over a long period of time.

The Penang Woman’s missing upper jaw and lower jaw were digitally reconstructed by distorting a 3D mesh from a virtual donor, using a sophisticated technique that ensures anatomical coherence even with missing body parts. A crucial aspect of achieving an accurate facial approximation is the application of soft tissue thickness markers. For Penang Woman, these markers were meticulously applied based on CT scan data derived from 34 modern Malays. Additional measurements for the height of the ears and eye openness were also incorporated from Malay population data. This emphasis on population-specificity is paramount, as soft tissue thicknesses vary significantly across different ancestral groups, directly impacting the accuracy of the final facial reconstruction.

To ensure the reconstructed soft tissue conforms accurately to the underlying bone structure, the CT scans of two Malay individuals were imported. An anatomical deformation technique was then employed to conform the donor’s skull mesh and soft tissue to Penang Woman, maintaining the fine anatomical features, while adjusting for the unique contours of Penang Woman’s skull.

Throughout the process, a comprehensive set of facial measurements guided the reconstruction. These included lateral nasal projection (distances and angles for the nose), inter-orbital distances for eyeball positioning, and mouth

measurements and ear height. Precise measurements of these, combined with the 3D modelling, allowed for a highly realistic and scientifically informed reconstruction. The flowchart shows the steps taken to create the Penang woman.

A FACE FROM 5,000 YEARS AGO, A WINDOW TO OUR PAST

The meticulous reconstruction of Penang Woman’s face and the detailed analysis of her skull have prompted a significant reassessment of the biological and ancestral affinities associated with the broader Guar Kepah skeletal collection. Her face tells a story of ancient interbreeding and cultural exchange, providing tangible evidence for theories like the “two-layer hypothesis”, which posits that Eastern Asia was initially occupied by Australo-Papuans before being replaced by or admixing with Neolithic agriculturalists possessing East Asian cranial morphology.

The cranial analysis of Penang Woman is notably compatible with the “transitional Neolithic” period. Beyond its scientific contributions, the process and techniques employed in the study of Penang Woman indirectly promote digital documentation in the conservation of human remains.

The journey to reconstruct the face of Penang Woman, a 5,000-year-old inhabitant of the Guar Kepah shell midden, stands as a remarkable testament to the meticulous work of bioarchaeologists. Her skull, once a mere bone fragment, has yielded a wealth of information not only about her biological sex, but also about her complex ancestral origins and the broader human story of ancient Penang. This endeavour underscores the enduring power of forensic archaeology and anthropology. These disciplines are not simply about identifying the deceased; they are about reconstructing entire lifeways, understanding social structures and discerning the environmental adaptations of ancient populations.

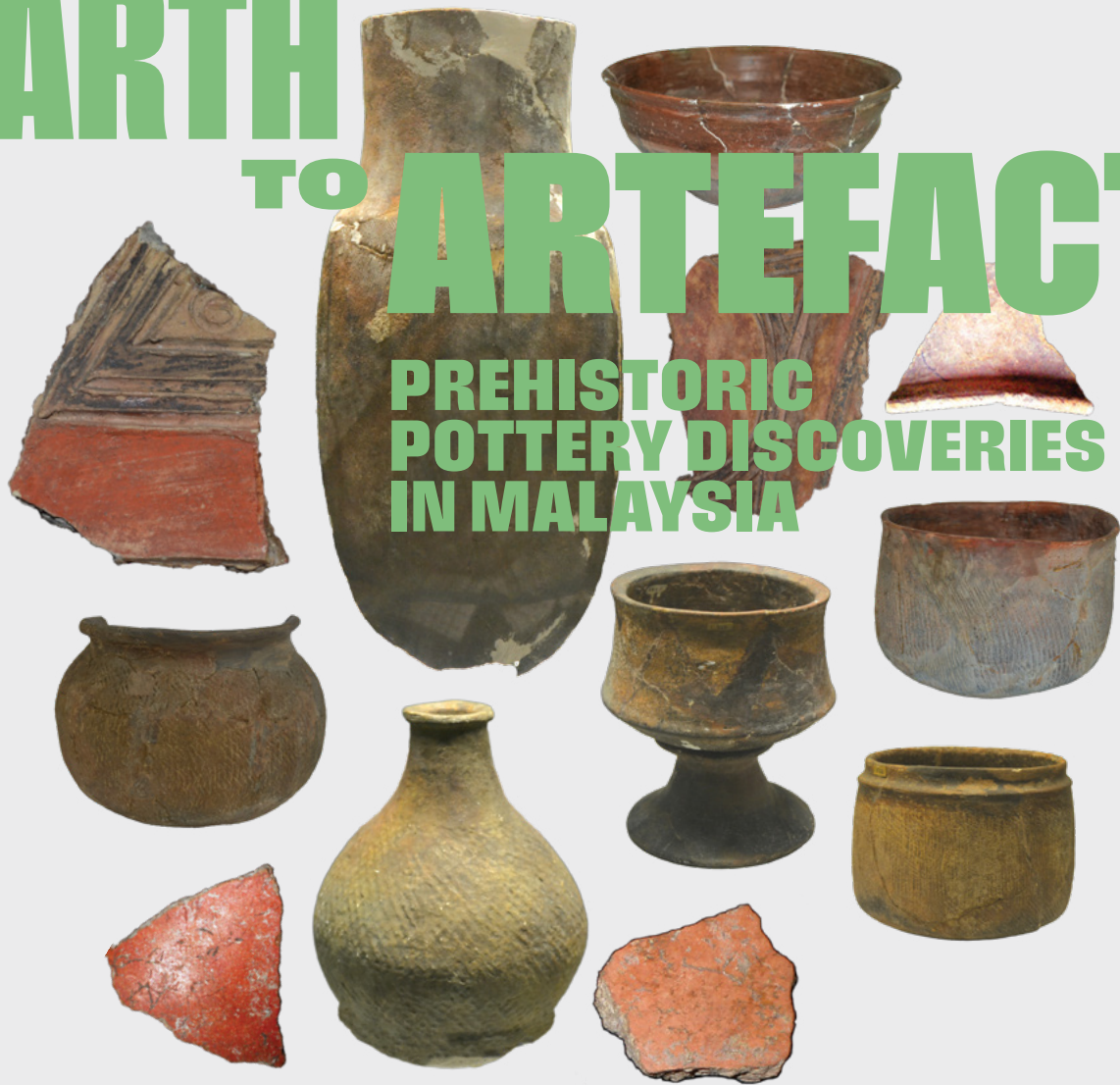
Penang Woman’s story is a compelling example of how science can connect us intimately with our ancestors and foster a deeper appreciation of the intricate human journey that unfolded over vast stretches of time. Looking forward, Penang Woman is just one face from the past, but her story opens countless doors to understanding our shared heritage and the remarkable adaptability of human populations.



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FROM EARTH TO ARTEFACT

PREHISTORIC POTTERY DISCOVERIES IN MALAYSIA



BY
SURESH NARAYANEN

EARTHENWARE POTTERY REMAINS one of the most significant indicators of technological and cultural development in prehistoric societies, particularly during the Neolithic period.

In Malaysia, the Neolithic culture is believed to have begun around 4,000 to 4,500 years ago, and is represented by more than 100 archaeological sites across the country. This culture is characterised by features such as extended burials and artefacts like earthenware pottery, polished stone tools (adze), bark beaters as well as stone and shell bracelets. Broadly, the Neolithic culture in Malaysia shares many sim-

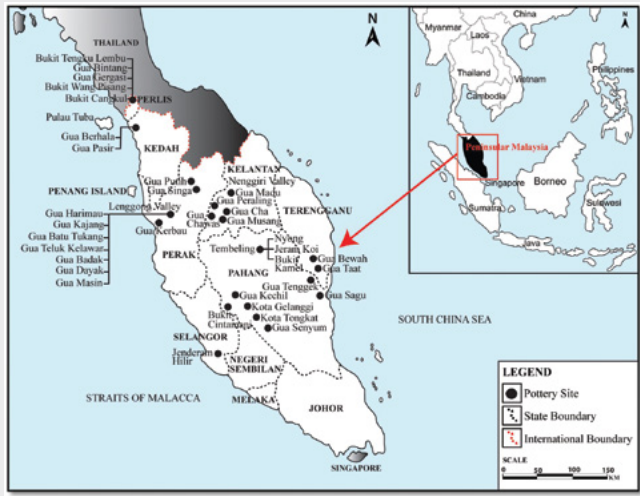
ilarities with those found in other parts of Southeast Asia.

Neolithic sites in Malaysia are primarily found in caves and rock shelters, while others are found at open-air sites along riverbanks. The former were commonly used as habitation areas or for burial purposes; the latter, often situated near water sources, tended to serve as habitation areas, indicating that these communities' strategic settlement patterns were linked to resource availability. These sites often reveal evidence and remains of Neolithic culture in the upper layers of the site floor in the form of pottery shards, stone tools, bark beaters, food remains and sometimes, extended burials.

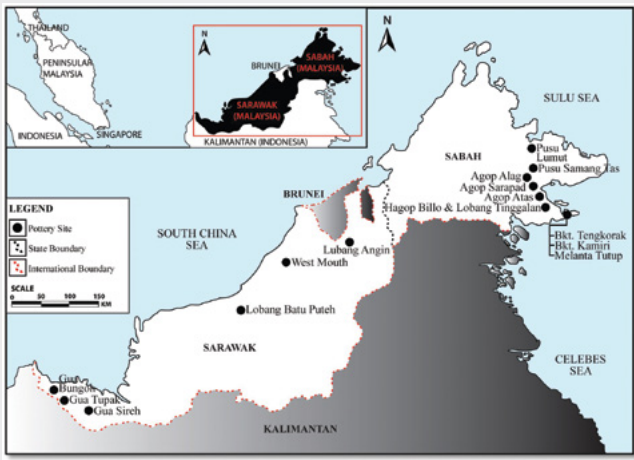
Prehistoric pottery in Malaysia is generally characterised by a range of surface treatments and vessel forms that reflect both utilitarian and cultural functions within early societies. The most commonly identified types include plain, cord-marked and red-slipped wares. Plain pottery refers to vessels with smooth, undecorated surfaces, likely used for daily domestic purposes such as cooking or storage; cord-marked pottery features impressions made by pressing twisted cords onto the clay surface before firing, a technique that may have served both decorative and functional purposes such as improving grip or heat resistance. Red-slipped pottery—distinguished by a thin layer of red ochre or

CAPTIONS

1. Map showing prehistoric pottery sites in Peninsular Malaysia. (Source: Suresh, 2017)
2. Map showing prehistoric pottery sites in Sarawak and Sabah. (Source: Suresh, 2017)
3. Gua Harimau, a Neolithic cemetery site located in the Lenggong Valley, Perak. (Source: Lenggong Geopark, 2025)
4. Bukit Tengkorak, a Neolithic pottery making site located in Semporna, Sabah. (Source: Chia, 2016)



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iron-rich clay applied before firing—suggests a higher level of craftsmanship, and may have been associated with ritual or ceremonial uses.

The forms of prehistoric pottery are equally diverse, typically including beakers, tripods, cups, bowls, jars, round-bottomed vessels and footed containers. Such variety points to a well-developed pottery tradition, with vessels tailored for different functions, ranging from food preparation and consumption to storage and possibly even ritual offerings. Tripod vessels and footed containers, in particular, may indicate social or symbolic meanings, as their elaborate forms are less suited to simple utilitarian use.



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In Malaysia, prehistoric pottery is often discovered in fragments, scattered across habitation sites, burial caves and riverine settlements. The incomplete nature of these finds may be attributed to natural breakage over time or deliberate fragmentation during burial rites. Despite their fragmentary state, these pottery pieces provide valuable insights into prehistoric technological knowledge, aesthetic preferences, daily practices, and the evolving social and cultural landscapes of early communities in the region.

Common characteristics of prehistoric pottery in Malaysia include the following:

1. Handmade using coiling, joining and paddling techniques before the invention of the potter's wheel.
2. Fired at low temperatures, which made them relatively fragile, but sufficient for daily use.
3. Surface decorations included red-slipped, impressed patterns, incised lines and a combination of incised and impressed patterns.
4. Functioned as storage vessels, cooking pots and burial urns.

RECENT DISCOVERIES OF NEOLITHIC POTTERY

BUKIT KOMEL

In 2022, an archaeological excavation conducted by USM uncovered evidence of Neolithic culture at the Bukit Komel site in Ulu Tembeling, Pahang. The excavation revealed a cluster of pottery shards found alongside stone tools, including polished adzes.

Recent studies using geochemical and mineralogical analyses reveal that the Bukit Komel pottery was locally made using raw materials sourced from Sungai Tembeling. The pottery is handmade, likely using the paddle and anvil technique. Decorative features such as impressed and gouged marks suggest the use of carved paddles and sharp tools possibly made from wood or stone. Sand and grog were used as tempering materials, and the pottery was fired at low temperatures using an open-firing method.

Optically Stimulated Luminescence (OSL) dating indicates that the pottery is between 4,200 and 4,300 years old, making it the oldest-known Neolithic pottery discovery in Peninsular Malaysia to date.

5. Prehistoric pottery vessels decorated with (a) cord marked and (b) checked patterns (Source: National Museum Kuala Lumpur)
6. Decorated pottery shards from Bukit Tengkorak, Sabah. (Source: Chia, 2016)
7. Red-slipped pottery shards from Bukit Tengkorak, Sabah. (Source: Chia, 2016)
8. Broken pieces of three-colour ware from Gua Niah. (Source: Sarawak Museum Department)
9. A bowl from Gua Cha.
10. A medium-sized cooking pot from Gua Cha.
11. A bucket-shaped pottery from Gua Cha.
12. A large-sized cooking pot from Gua Cha.
13. Broken legs of tripod pottery from Jenderam Hilir. Source: National Museum Kuala Lumpur)
14. A broken pottery spout from Gua Niah.
15. A replica of tripod pottery from Bukit Keplu. (Source: National Museum Kuala Lumpur)
16. A goblet type of pottery from Bukit Tengku
17. A large, cylindrical type of pottery Lembu. (Source: National Museum Kuala Lumpur)
18. One of the excavation trenches at Bukit Komel, where pottery and stone tools were found. (Source: CGAR, USM, 2022)
19. Excavation at Bukit Komel by a USM research team in 2022. (Source: CGAR, USM, 2022)
20. Earthenware pottery shard discovered at the Bukit Komel site. (Source: CGAR, USM, 2022)
21. Neolithic polished stone adze discovered at the Bukit Komel site. (Source: CGAR, USM, 2022)



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Some pottery fragments discovered at Bukit Komel in 2022. (Source: CGAR, USM, 2022)

GUAR KEPAH

Recent scientific research conducted by USM on pottery from Guar Kepah has further enriched our understanding of Neolithic pottery technology. The comprehensive study identified the presence of red-slipped pottery as well as vessels decorated with incised lines and impressed patterns.

Several fragments, including parts of handles, spouts and rim sherds, were also discovered, suggesting the use of more complex vessel forms and functional designs. A series of compositional and comparative analyses are underway to identify the technological practices and origin of the Guar Kepah pottery. Furthermore, OSL dating will be used to provide a chronological framework and help explore cultural affiliations with other shell midden sites across Southeast Asia.

BUKIT CHORAS

Beyond the prehistoric period, earthenware pottery has also been found at Bukit Choras, a site dated to approximately 1,200 years ago, and located at the northernmost edge of the Bujang Valley. Pottery found at Bukit Choras are generally plain and coarse surfaced.

A particularly intriguing pottery sherd was found bearing carvings in the Pallava script, a writing system used around the 7th century CE, and associated with the Srivijaya Kingdom. Notably, the script is inscribed on the interior of the vessel near the rim, a rare and possibly symbolic placement. This artefact is considered unique, and may hold considerable aesthetic and cultural significance.

Studies are currently being conducted to investigate the technological aspects and provenance of the Bukit Choras pottery as well as to understand its production



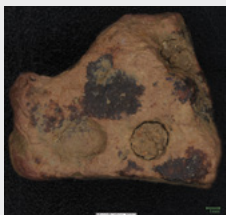
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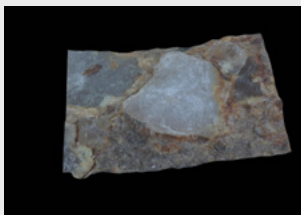
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22. A fragment of plain pottery.

23. A piece of red-slipped pottery (partially faded).

24. A pottery shard with impressed design (faded parallel lines).

25. A pottery shard with incised design (faded short and tiny lines).

26. A small-sized pottery from Guar Kepah. (Source: CGAR, USM, 2025)

27. A broken pottery handle from Guar Kepah. (Source: CGAR, USM, 2025)

28. A red-slipped pottery from Guar Kepah. (Source: CGAR, USM, 2025)

29. A pottery shard with perforated design from Guar Kepah. (Source: CGAR, USM, 2025)

30. Digital microscopy revealed the presence of quartz mineral in various shapes and sizes. (Source: CGAR, USM, 2025)

31. The Bukit Choras site at Yan, Kedah (Source: CGAR, USM, 2023)

32. A decorated pottery fragment found at Bukit Choras. (Source: CGAR, USM, 2025)

33. A piece of pottery found at Bukit Choras bearing carvings of the Pallava script (a) image without shadow effect, and (b) with shadow effect. (Source: Siti Hajar et al. 2025)



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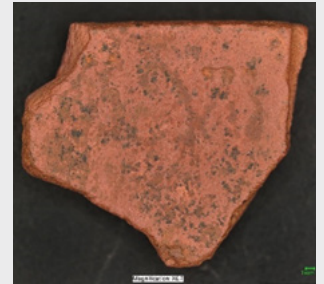
methods and raw material sources. Additionally, OSL dating will be applied to determine the chronometric age of the site, thereby aiding in the reconstruction of its cultural chronology and establishing potential connections with other contemporaneous sites across Southeast Asia.

The study of earthenware pottery in Malaysia provides crucial insights into the technological capabilities, cultural practices and social dynamics of prehistoric and early historic communities. From the widespread presence of Neolithic pottery at cave and riverine sites to the more complex forms and decorative techniques identified through recent excavations and scientific analyses, these ceramic artefacts reveal a rich tradition of craftsmanship and functional design.

The diversity in forms and surface treatments reflects both practical uses and symbolic expressions, offering a window into the everyday lives and belief systems of early populations. Notably, discoveries

such as those at Bukit Komel and Guar Kepah have extended our understanding of early pottery technologies, while the unique inscribed sherd from Bukit Choras highlights the continuity and transformation of pottery traditions into later historical periods. Together, these findings underscore the significance of pottery as both a cultural marker and a material link to Malaysia's deep archaeological past.

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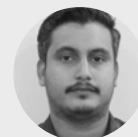


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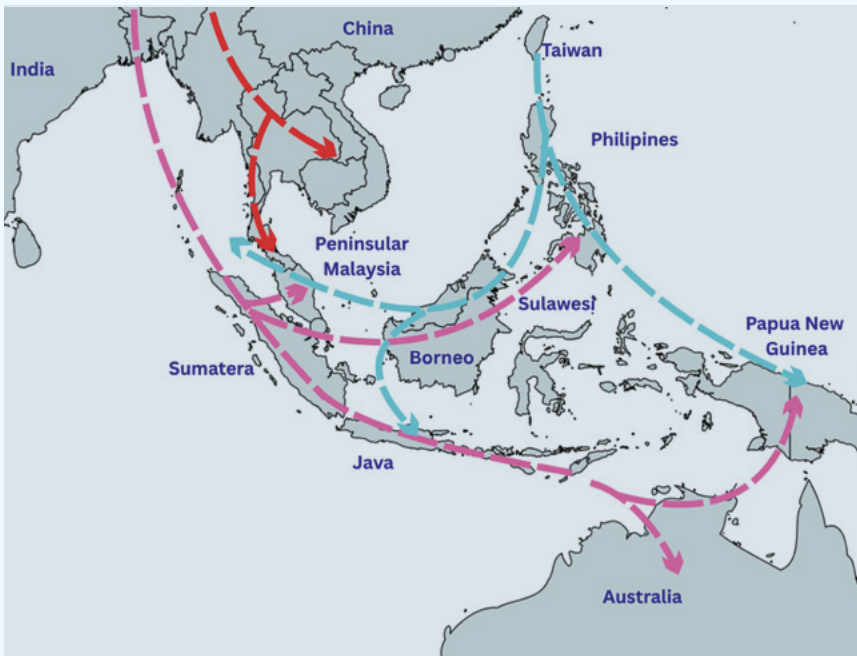
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MAPPING PREHISTORIC HUMAN SETTLEMENTS ON THE MALAY PENINSULA WITH DNA SEQUENCES

BY EDINUR HISHAM ATAN



1



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POPULATION GENETIC DATASETS collected from various polymorphic genetic regions, either in the nuclear or mitochondrial genome, have contributed towards our understanding of ancient human origins and their migration patterns.

In Peninsular Malaysia, scientists have studied the DNA of different ethnic groups to learn more about their ancestral roots. These studies focus on genes that vary between people—like those related to blood types and immune responses—as well as parts of the genome that do not directly code for traits. By comparing these genetic patterns, researchers have found unique genetic markers in groups that are not closely related today. This suggests that Peninsular Malaysia was settled by multiple waves of people over thousands of years, which matches what archaeologists and linguists have also found (Figure 1).

The earliest inhabitants of Peninsular Malaysia are believed to be the Orang Asli (aborigines) of the Semang tribe, commonly known as Negritos. These nomadic hunter-gatherers, characterised by their short height, dark skin and curly hair, are said to be descendants of the first “anatomically modern humans” who migrated out of Africa 50,000 to 70,000 years ago. It is believed that they travelled overland via coastal routes to India, Indo-China and Peninsular Malaysia before spreading southeast to Papua New Guinea and Australia.

Today, although few Semang members have assimilated into mainstream society, others mainly live in small communities scattered across the mountainous forests of southern Thailand and northern Peninsular Malaysia, particularly in the states of Kedah, Perak and Kelantan (Figure 2). They communicate in Aslian languages, which is a branch of Austroasiatic languages—a trait they share with their larger Senoi brethren.

The semi-nomadic Senoi are believed to have migrated south from mainland Asia around 5,000 to 7,000 years ago. However, archaeological and linguistic data indicate that they did not settle further south on the peninsula, and their communities are mostly found in the central states of Perak, Selangor, Negeri Sembilan and Pahang.

Proto-Malays, on the other hand, are very distinct from the Semang and Senoi. They are mostly permanent coastal dwellers who speak Austronesian languages and practise an agricultural lifestyle. While they are primarily settled in the southern part of the peninsula, their kin may also be found in the wider regions of Southeast Asia and Oceania, with Taiwan as a potential distal source of their origin. Thanks to their seafaring and navigation skills, their descendants have spread out across the Indian and Pacific Oceans since 900 to 5,500 years ago. Studies have found genetic similari-

ties between Malaysian Proto-Malays and natives from as far as Madagascar in Africa, to Aotearoa (indigenous name for New Zealand) and Rapa Nui (indigenous name for Easter Island) in Chile. On the Malay Peninsula, they are represented by the Orang Kanaq, Orang Kuala, Seletar, Jakun, Semelai and Temuan sub-tribes (Figure 2).

Throughout history, the Semang, Senoi and Proto-Malays interacted socially and culturally. This is supported by genetic data, where admixture has been detected in the genetic pools of all three aborigine tribes. As genetic materials are usually collected from modern samples, this admixture has complicated ancestral fraction determination, which is associated with genetic materials used for ancestral analysis. Further admixture on the peninsula occurred with the arrival of other distinct populations in relatively recent times, such as the Portuguese, Chinese and Indians during the height of the Melakan Empire in the 15th century. Peranakan communities resulted from cultural exchanges and intermarriages with local Malays.

Focus thus needs to be shifted to ancient specimens, which are less affected by admixture compared to modern human DNA. In this context, carbon-dated ancient human remains that are unearthed at various archaeological sites can be used to determine ancestral fraction in the gene pools of indigenous people, subsequently providing important data for ancestry studies. These include the Bewah Man excavated in 2010 in Gua Bewah, Terengganu, and the Penang Woman found in Guar Kepah in 2017. Ancient human remains have also been unearthed within caves in Perak (Gua Gunung Runtuh, Gua Teluk Kelawar, Gua Harimau, Gua Kajang and Gua Kerbau) and Kelantan (Gua Cha and Gua Peraling).

Several collaborative research projects are underway to generate the whole genome sequence of ancient DNA specimens in Malaysia, including the Bewah Man and Penang Woman. The institutions involved include Terengganu Museum, Sarawak Museum, Universiti Malaysia Terengganu, USM and the Malaysian Genome Research Consortium. International players include Griffith University in Australia, Copenhagen University in Denmark and the University of Auckland in New Zealand. These collaborations also focus on three other iconic ancient specimens: Deep Skull from Gua Niah, Sarawak (representing Borneo), and Yidinji King and Mungo Man discovered in Cairns and New South Wales, Australia, respectively. Together, combinations of ancient genomes analysed using cutting-edge methods can provide important reference sources for understanding the history of indigenous people in the Asia-Pacific region.

Working with ancient DNA samples is more challenging than analysing modern

samples. The probability of obtaining good quality DNA depends on the nature of the specimens, as well as the type of bone available. Research has shown that high concentrations of DNA may be obtained from well-preserved petrous bones. However, in cases like the Bewah Man, the skull was simply not available and DNA extraction had to be performed on various bone fragments. In addition, ancient DNA work also requires a highly specialised laboratory to avoid contamination with modern samples.

Overall, improved understanding of early human settlements on the peninsula can potentially be achieved through population genetic datasets collected from contemporary descendants of indigenous populations for comparison with ancient specimens.

Through genetic research, scientists are slowly piecing together a more nuanced picture of prehistoric human mobility, interaction, adaptation and connection in this region. This offers a powerful approach towards reconstructing the demographic history of the peninsula.

CAPTIONS

1. The flow of Semang (pink arrow), Senoi (red arrow) and Proto-Malay (blue arrow) settlements across the Nusantara in ancient times.
2. Orang Asli settlements in Peninsular Malaysia. These include Kensiu (1), Kintak (2), Lanoh (3), Jahai (4), Bateq (5) and Jahai (6) for Semang, Semai (7), Temiar (8), Mah Meri (9), Jahut (10), Semoq Beri (11) and Che Wong (12) for Senoi and Temuan (13), Jakun (14), Semelai (15), Orang Kuala (16), Seletar (17) and Orang Kanaq (18) for Proto-Malays. Info obtained from Department of Orang Asli Development (JKOA; <http://www.jakoa.gov.my>) and Centre for Orang Asli Concern (COAC; <http://www.coac.org.my>)

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DR. EDINUR HISHAM ATAN is an associate professor and Chairman of the Forensic Science Programme at the School of Health Sciences, USM.

SITI ZURAINA ABDUL MAJID

AN ARCHAEOLOGIST WHO IS A NATIONAL TREASURE



BY
CAROLYN
KHOR

ONE CAN ONLY imagine the lonely path Siti Zuraina Abdul Majid has travelled as Malaysia's first archaeologist, and one with considerable academic gravitas under her belt. A returning graduate from the UK, she was only 24 years old when she excavated her first site in the late 1960s.



CAROLYN KHOR is a former ministerial press secretary, a former United Nations volunteer and an independent researcher/writer.

Initially, Zuraina Majid faced scepticism, and the lack of professional archaeologists in the country was disheartening. Yet, where others saw barren ground, she saw opportunity. Penang, with its rich history as a trading hub combined with the academic vigour provided by Universiti Sains Malaysia (USM), became her base in 1988, when she established the first Archaeology Unit in Malaysia. The Centre for Global Archaeological Research was set up in 1995 at USM, paving the way for more young history buffs to dive into the past and setting the stage for the field of archaeology to be recognised as a discipline in Malaysia.

“It was a mission,” Zuraina Majid describes it. “Not an ambition. There were no archaeologists in Malaysia when I started. I had to build the discipline from the ground up.”

Before pursuing her doctorate in archaeology in 1973, Zuraina Majid studied Chinese and Oriental Studies at Cambridge. Her early interest in Chinese language, art and history was what ignited her curiosity in archaeology.

“I was fascinated by Chinese archaeology, especially the rich collection of bronzes and objects discovered from the graves of emperors,” she recalls.

PENANG'S INDIANA JONES

Referring to Zuraina Majid as Penang's Indiana Jones would not fully capture the depth and dedication she has contributed to the field. Unlike the fictional adventurer who chased relics for glory and whose portrayal romanticised archaeology, Zuraina Majid devoted her life to the field to advance human knowledge, preserve history and uphold truth. Still, the release of the Indiana Jones films in the 1980s undeniably helped push archaeology into Malaysian consciousness.

“Because that was when the movies came out, right? In the 1980s? That was when I was trying to encourage people to fill this archaeologist vacuum in the country. For the first time, through the Indiana Jones movies, they had an understanding of what an archaeologist does,” she chuckles.

Although the cinematic portrayal was exaggerated and far from the academic rigour required of real-life excavations, the pop culture moment opened a critical portal, and Zuraina Majid seized that opportunity to further the cause of archaeology in the country. Currently, the pioneer proudly works with homegrown archaeologists at Lenggong Valley, including Nasha Rodziadi Khaw, Velat Anak Bujang and Nisa Khalil.

CONTINUING HER LEGACY

Whether it is Penang's George Town, the ancient caves of the Lenggong Valley or Balambangan Island in Sabah, Zuraina

Majid seems to have the innate ability to inject adventure and life into what many would have dismissed as mundane.

Archaeology being a multidisciplinary field, Zuraina Majid says that collaboration is needed across subjects, such as biology, chemistry and the other sciences.

“It is truly teamwork with scientists from many other disciplines depending on the kind of sites we are working on. Archaeology is problem-orientated, and we work together with whichever discipline can help us investigate specific sites and construct a reliable narrative of our deep past,” she explains.

Zuraina Majid started archaeological research at the Bujang Valley in 1968, and then in 1977 at Gua Niah. In 1987, she led an excavation team to Kota Tampan in Lenggong Valley, Perak and uncovered a prehistoric stone tool workshop that dates back to 74,000 years, filling a huge vacuum on the historical timeline. The enormity of the discovery recalibrated our understanding of human migration patterns, placing Malaysia as a key human migratory route from Africa to Australia.

“What we found was a piece of the jigsaw puzzle in the early history of mankind,” she says.

In another groundbreaking discovery at Gua Gunung Runtuh, also at Lenggong Valley, Zuraina Majid unearthed the Perak Man, an ancient skeleton estimated to be around 11,000 years old. The oldest and most complete human remains found in Malaysia and Southeast Asia, Perak Man bears traces of a rare congenital deformity, Brachymesopthalangia Type A2. The hunter-gatherer was laid to rest in a deliberate Paleolithic burial—the first-ever documented in the region—in a foetal position, with Brotia shells strewn around and some food in his right hand as well as around his body. This discovery—including the careful positioning of the skeleton—offers a rare peek into the burial rituals and customs of those times.

After decades of meticulous fieldwork, documentation and public engagement, Zuraina Majid's vision bore fruit. In 2012, during her tenure as Malaysia's Head of Delegation to the UNESCO World Heritage Committee (2011–2015), Lenggong Valley earned the UNESCO World Heritage Site recognition. She was also instrumental in securing the same recognition for Melaka and George Town in 2008.

Such is the scale of Zuraina Majid's legacy—boldly venturing into uncharted territories, making pioneering discoveries and unearthing the forgotten lives of prehistoric communities. In recognition of her lifelong and significant contributions to archaeology and national heritage, Zuraina Majid was appointed *Penyanggah* Kursi Za'ba (Za'ba Chair) at Universiti

Pendidikan Sultan Idris in April 2024. The role, named after renowned scholar Zainal Abidin Ahmad (Za'ba), is awarded to those dedicated to advancing Malay language, literature and civilisation.

Her contributions have also earned her the 50WomenAtYale150 Award in 2020, the Merdeka Award for Outstanding Scholastic Achievement in 2022, an honorary PhD from Universiti Malaysia Kelantan in 2012, and an honorary Doctor of Humanities from WOU in 2023. She was also conferred the title “Dato” by the Sultan of Perak and “Datin Paduka” by the Sultan of Selangor.

WOMEN IN ARCHAEOLOGY

While historically, archaeology has been a male-dominated industry, Zuraina Majid points out that more women are now entering the field, and they are thriving.

“I also think that it is untrue that women are less interested in archaeology. You know, there are several women archaeologists now who are up and coming in USM. And they are tough, they are good—not necessarily because they are women, but they just happened to be women,” she says. Zuraina Majid describes women she has worked with in the field as “very meticulous, very cautious and ethical”.

“In fact, the next generation of archaeologists will likely be dominated by women,” she adds.

She highlights that supportive families are critical for aspiring women to pursue fieldwork; this is due to the physical and personal demands of the profession.

“You will be leaving your family when you do fieldwork... and that is a non-negotiable.”

Reflecting on her journey, she says, “I am just so pleased. I thank God that I've achieved what I set out to do. I can close my eyes quite happily in terms of my career. But through all of this, there is one person I should thank—my husband. Without him, I couldn't have achieved what I did. He passed away five years ago, but I still want it to be known that he was behind so much of my success. I couldn't have done it alone.”

Her husband, the late Professor Vincent Salih Lowe, was not an archaeologist, but he was a pillar of strength and support nevertheless. He once served as Dean of Postgraduate Studies at USM.

“He was a wonderful man who really supported me in my career,” she reminisces. “Right till the end, he was there for all of it.”

At 80, her advice and code of conduct to young archaeologists is enduring: “Archaeologists write a nation's history. Hence, they should excavate meticulously, record honestly and always be grounded in archaeological ethics.”

KEEPING
PENANG'S
STORY REAL
IN THE AGE OF

ARTIFICIAL INTELLIGENCE

1a

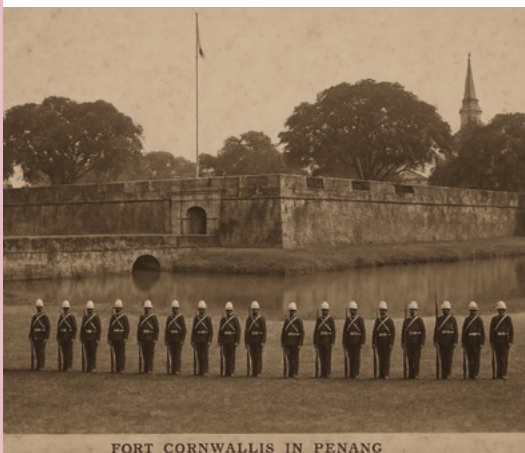


#upscaled



EUGENE QUAH is an independent researcher and writer who is working on a book tentatively called "Illustrated Guide to the North Coast of Penang". He rediscovered the joys of writing after moving back to Penang from abroad.

#ai-generated



FORT CORNWALLIS IN PENANG

2



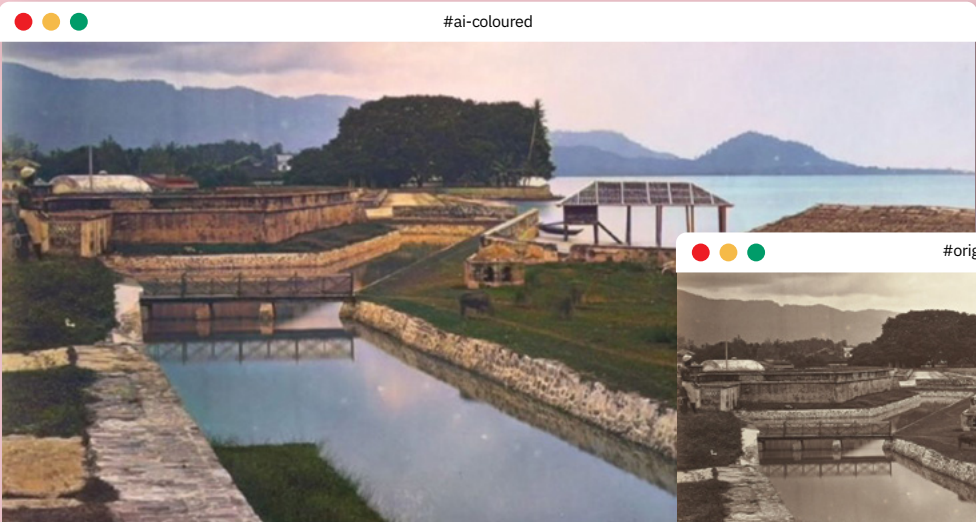
#original-image



1b

BY
**EUGENE
QUAH
TER-NENG**

***Note:** This article discusses the ethical implications of using AI-enhanced and AI-generated imagery in historical storytelling, particularly on social media. All examples referenced are drawn from publicly accessible online posts or materials. No individual posters or specific groups are identified, and no accusation of bad faith is made. The intent is to encourage responsible use and clear labelling of AI-modified content in the public interest.



3



4

THESE DAYS, you may have come across gorgeous, nostalgia-inducing colour photos of old Penang in your social media feeds. These are not the grainy-looking, hand-tinted postcards of years past, with their unmistakable stray patches of grey showing through where the artist failed to paint over the underlying photo reproduction. No, these photographic masterpieces look like they were taken yesterday, their quality sometimes rivalling those taken by today’s cameras.

One particularly beguiling image of Fort Cornwallis—shared on a major Penang interest Facebook group with 100,000 members—shows its moat and yellow building, with the fort’s brown brick walls against Penang’s verdant hills. One could marvel at the amazing cameras the Victorians had back then to capture picture-perfect Penang. But take off those nostalgia-tinted glasses for a moment, and it becomes clear that things are not what they seem—this is actually a black-and-white photo colourised using artificial intelligence (AI) imaging techniques. [See Images 1b, 3 & 4]

COLOUR-TINTED PAST

The original black-and-white photo was taken by the Scottish photographer John Thomson in 1865, just three years after colour photography became possible. Colour photographs, however, would, for most of the 19th and 20th centuries, remain extremely rare.

When AI-colourised images are shared without context, they risk misleading viewers into believing they are seeing authentic representations of the past. This distorts public understanding of history and undermines the work of historians, archivists and educators, who rely on visual records to convey the realities of bygone eras. While colourisation can make old photographs

more accessible and emotionally resonant, doing so without transparency erodes trust, and may ultimately rewrite collective memory based on imagined hues rather than historical truth.

To be clear, colouring photos—also known as hand-tinting—has been practised since the dawn of photography. However, since late 2020, advances in AI imaging technology—led by Adobe, the makers of the well-known photo manipulation software Photoshop, among others—are so good that it is hard to tell if a photo has been digitally coloured. The technology is now so sophisticated that it poses an actual risk to our perceptions of the past. And there lies the ethical issue—the line between historical documentation and digital reinterpretation is increasingly blurred.

Another increasingly common form of AI-assisted enhancement is called upscaling—or as some might call it, the zooming in on or blowing up of an image. Enlarging an image the regular way would result in a bigger but blurred photo—detail is sacrificed. AI-assisted upscaling promises to enlarge a photo without any loss of detail, just like in spy movies. Upscaling is commonly known as super resolution or super zoom, a term popularised by Adobe. Photoshop’s AI relies on a “machine-learning model trained by analysing millions of images” to fill in extra image information—known as pixels—to make photos look sharper. This generally works well when an image is blown up to twice its size, but beyond that, it produces crisp images that, upon close inspection, contain inaccuracies such as garbled text or distorted faces. The inaccuracies worsen when an already upscaled photo is upscaled again, as is commonly done on social media. [See Image 6]

Then, there is also the more concerning case where images are purely made up by AI. By typing a few words, one can gener-

ate, say, a 19th-century-style photo of Fort Cornwallis with French troops in formation across the moat. [See Image 5]

Now, we’re faced with a difficult problem. Is the reader or social media follower expected to take up the enormous burden of fact-checking the photographs? Obviously, it is impractical and it will not happen. Take Thomson’s purported colour photo of Fort Cornwallis—of the thousands of people who saw it, based on the numerous comments from appreciative viewers, it appears that none realised it was a digitally coloured photo.

Fred Ritchin, former photo editor at *The New York Times* and now professor emeritus at New York University’s International Centre of Photography School, observes: “The burden on the reader has to be as light as possible because nobody’s going to do all that research. People may have 10 minutes a day to get the news. They have to go to work, make dinner, take care of the kids.”

“They need a credible source,” he adds.

Here are some tag-suggestions which I hope the various Penang interest groups would consider adopting as part of their code of conduct:

Image Type	Disclosure Tag	Explanation
Upscaled	#ai-upscaled or #upscaled	AI-assisted image “zooming” or “enlargement”. Commonly marketed as super zoom or super resolution.
Digitally coloured	#ai-coloured or #ai-coloured	AI-assisted or manual transformation of black and white photos to colour photos.
AI-Generated	#ai-generated	AI-generated images or AI-modified images.

A CHAT WITH PROFESSOR OH PENG AI

I recently had a chance to meet with a well-known historian, Oh Peng Ai, who is, of late, somewhat of a celebrity. This amazing chap is the rare kind of academic who specialises in the entire history of humanity, earning a deserved reputation as a know-it-all.

A question had always bothered me: when was the Kuan Im Teng—that quaint Chinese temple at Pitt Street—established? As we chatted on various topics regarding Penang's fascinating history, I found an opportunity to bring up the topic: "When was the Chinese temple at Pitt Street in Penang built?" I asked.

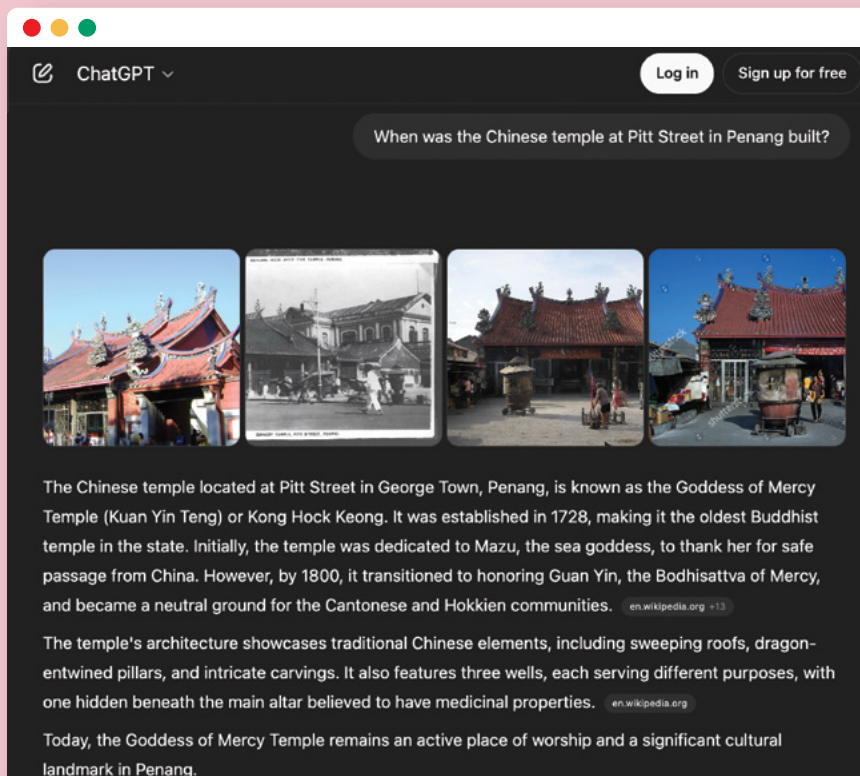
"The Chinese temple located at Pitt Street in George Town, Penang is known as the Goddess of Mercy Temple (Kuan Yin Teng) or Kong Hock Keong. It was established in 1728, making it the oldest Buddhist temple in the state," Oh replied, without a hint of hesitation.

"Initially, the temple was dedicated to Mazu, the sea goddess, to thank her for safe passage from China. However, by 1800, it transitioned to honouring Guan Yin, the Bodhisattva of Mercy, and became a neutral ground for the Cantonese and Hokkien communities."

I was stunned, flabbergasted by the historian's seemingly erudite answer.

"How did Pitt Street look when the temple was established?" I asked nervously.


"When the Goddess of Mercy Temple was established in 1728, Pitt Street in Penang—as we know it today—did not yet exist," explained Oh. "The island was largely covered in tropical forest, with scattered Malay and possibly Siamese fishing or trading villages along the coast," continued the ever-confident scholar.



ChatGPT

Log in Sign up for free

When was the Chinese temple at Pitt Street in Penang built?



The Chinese temple located at Pitt Street in George Town, Penang, is known as the Goddess of Mercy Temple (Kuan Yin Teng) or Kong Hock Keong. It was established in 1728, making it the oldest Buddhist temple in the state. Initially, the temple was dedicated to Mazu, the sea goddess, to thank her for safe passage from China. However, by 1800, it transitioned to honoring Guan Yin, the Bodhisattva of Mercy, and became a neutral ground for the Cantonese and Hokkien communities. en.wikipedia.org +13

The temple's architecture showcases traditional Chinese elements, including sweeping roofs, dragon-entwined pillars, and intricate carvings. It also features three wells, each serving different purposes, with one hidden beneath the main altar believed to have medicinal properties. en.wikipedia.org

Today, the Goddess of Mercy Temple remains an active place of worship and a significant cultural landmark in Penang.

6

THE CHINESE ROOM

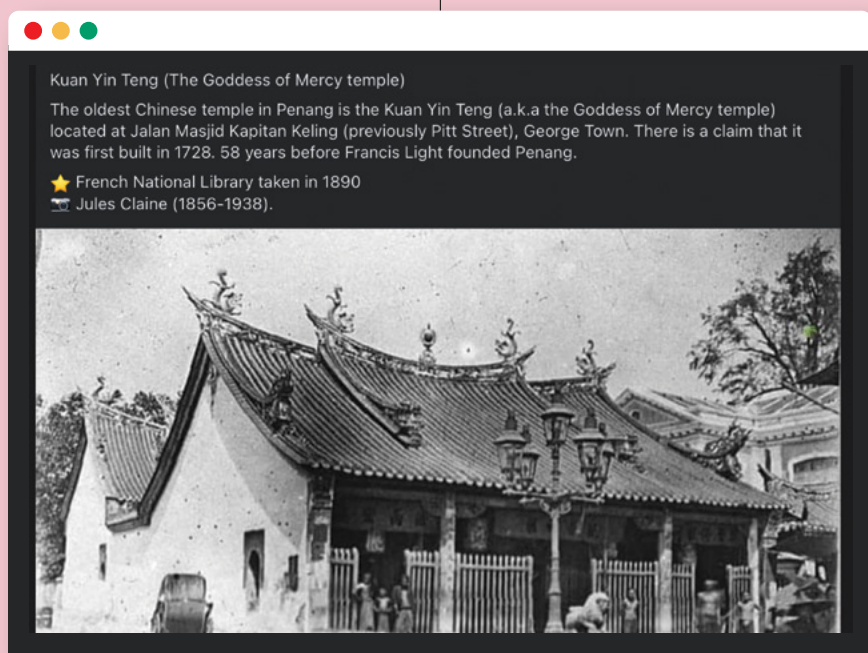
Now, before some of you start writing angry emails to *Penang Monthly* or organise a protest against this wayward academic trying to push an alternative narrative of the founding of Penang, I suggest first going to the closest *kopitiam* for a glass of *kopi O-peng* to cool down. You see, the good professor is not responsible for his words. Prof. Oh Peng Ai is the creation of my literary licence, though ChatGPT—the famed AI chatbot by OpenAI—with whom I chatted

is very real. [See Image 7] You too can—and probably have unknowingly—chatted with the good professor at OpenAI's website: <http://chatgpt.com>

My conversation with ChatGPT illustrates the dangers of using AI as the sole source of reliable historical information. What ChatGPT answered was not an intentional lie per se—it is a hallucination. The machine has no way to tell fact from fiction. The answer, well-crafted and confident as it may seem, is nothing more than the most probable sounding reply the AI decides based on what it was trained on.

The philosopher, John Searle, best known for his work on the philosophy of mind and language, proposed a famous thought experiment in the 1980s to challenge the idea that computers could truly "understand" language. Known as the Chinese Room thought experiment, Searle imagines someone who doesn't speak Chinese or know anything about the language locked in a room with a rulebook, manipulating Chinese characters according to instructions without understanding their meaning.

That is essentially what happened with "Professor Oh"—sophisticated pattern-matching that produces fluent responses without genuine understanding. Think of autocomplete on steroids. The historian and bestselling author, Yuval Harari, best known for his book *Sapiens: A Brief History of Humankind*, observes: "When information is in a complete free market, the vast majority of information becomes fiction, illusion or lies."



5

“This is because... telling the truth is costly. On the other hand, creating fiction is inexpensive. If you want to write a truthful account of history, economics, physics, et cetera, you need to invest time, effort and money in gathering evidence and fact-checking. With fiction, however, you can simply write whatever you want.”

Today, with AI chatbots, you don’t even need to write social media posts yourself—there are numerous free services that will do it for you. Whatever your intentions may be, it really doesn’t matter. That is because your robot copywriter—with its perfect mastery of English—cannot tell truth from fiction (at least not yet). So, how does Penang keep its heritage real with this onslaught of easily generated “facts”?

A CALL TO THE PEOPLE OF PENANG

The sustainable solution lies not in complex regulation, but perhaps in community vigilance. Penang’s heritage and cultural interest groups—with their combined reach of hundreds of thousands of followers—hold the power to preserve historical authenticity in the digital age.

I hope this article will encourage my friends at various Penang heritage and interest groups to consider implementing AI-content policies, following consultations with their respective communities. Although we are still in the early stages of AI development, it is imperative to initiate discussions and eventually take action. It is important to educate members that AI cannot reliably perform fact-checking, and should not be regarded as an authoritative historical source. Consider this to be akin to community maintenance—just as we would not tolerate graffiti on our heritage buildings, we should not accept digital inaccuracies in our heritage discussions. The objective is not to ban AI entirely, but rather to utilise its advantages transparently, while preserving historical integrity. Perhaps these discussions could begin with informal member surveys or pinned posts, allowing communities to shape their own standards organically.

Make no mistake, AI is here to stay—we must adapt to it. So, by all means, use AI to assist in creating engaging and informative social media content. Use AI to brainstorm ideas, proofread and improve posts. Just remember, despite its marketing promises, it really cannot do original research yet. Its answers are remixes and summaries of what humans have written over the past five millennia. Sometimes, these remixes and summaries are confident but incorrect fabrications. Perhaps Microsoft’s name for its AI-chatbot—Co-pilot—is a good reminder that it is a tool, an assistant. Humans still need to be the pilot.

And yes, all this fact-checking will require effort and resources. But crowd-



sourcing through an engaged, historically conscious community makes this manageable. We are quite lucky in this sense; Penangites are passionate about our heritage. With a long-running tradition of volunteerism, harnessing this passion for truth and accountability should produce an army of digital guardians of historical facts.

As a Persian sage once said, “Truthfulness is the foundation of all human virtues.” If we want to protect the fabric of society and its virtues, the choice is clear: act now to preserve the integrity of our visual and written heritage, or watch as AI-generated fiction gradually replaces authentic historical memory.

Penang’s real story is remarkable enough—let’s keep it real.

CAPTIONS

1a & 1b.. This photo, posted to a local discussion group, appears to have been upscaled from a low-resolution image. The probable original thumbnail is shown in the inset for comparison. While the upscaled image is sharper, artefacts such as banding and distorted text are visible upon close inspection. Additionally, the features of the people resemble drawings. This technology can be useful when a higher quality image is unavailable. Disclosing the use of upscaling can prevent the image from being misidentified as a painting or AI-generated image [#upscaled]

2. This is a demonstration of AI-generated content: “French Troops at the Esplanade Awaiting British Surrender, 1812”. A rare sepia-toned historical image capturing French

forces stationed across the moat at Fort Cornwallis, Penang, during the tense moments of 1812. Their disciplined formation at the Esplanade underscores the gravity of impending British capitulation in this strategic colonial stronghold. Generated by Microsoft’s Co-Pilot AI chatbot (from creative prompting from yours truly). [#ai-generated]

3. A popular Penang social media page shared a coloured photo of Fort Cornwallis, no doubt in good faith. It was probably created using an AI-assisted colorisation tool, since the original photo predates colour photography. Hand tinting, whether done manually or digitally, is a long-standing art requiring thorough research and understanding of historical colours. However, AI now allows for instant colouring,

often without proper context or interpretation. [#ai-coloured]

4. This original monochrome photo of Fort Cornwallis and its moat is from an album compiled by Major General Charles McWhirter Mercer. It is attributed to Scottish photographer Thompson (1837–1921), dated 1865 Source: Public Domain. Christie’s. Lot No. 5834282, Lot Essay (Author: Amanda Fuller)

5. When asked, ChatGPT (using the GPT-4o model) mentioned that the Goddess of Mercy Temple at Pitt Street was constructed in 1728–58 years prior to the founding of George Town.

6. The temple’s establishment year is spuriously listed as 1728 on Wikipedia, and has persisted for over a decade. Consequently, AI chatbots trained on this data provide the wrong year. George Town was founded in 1786.

7. This is a demonstration of AI-generated content. This is a portrayal of the fictitious Prof. Oh in front of a fictitious temple, generated by Microsoft’s Co-Pilot AI chatbot (with additional creative input from yours truly). Prof. Dato’ Dr. Owen Oh Peng Ai (胡朋爱), LL.M. Sc.A.M.

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BUKIT

BY REXY
PRAKASH
CHACKO

HIKE AT A GLANCE

LENGTH

1.5 hours (to the peak)

DIFFICULTY

Moderate

INTEREST LEVEL

High

SIGNPOSTING

Limited. Best to turn on a smartphone GPS application while on the trek.

LIKELIHOOD OF GETTING LOST

Low

NUMBER OF HIKERS

Many



REXY PRAKASH CHACKO is an electronic engineer by profession and a nature lover by passion. While he spends his weekdays earning a living at the Bayan Lepas Free Industrial Zone, his weekends are spent reflecting and recharging on the green hills of Penang.



PAPAN

A LITTLE PARADISE OVERLOOKING PENANG'S SOUTH

THE HILLS IN the southern part of Penang Island may have a lower elevation than the peaks in the north, but they are just as fascinating. While the allure of Penang Hill and the peaks in the north lie in their biodiverse rainforests—not forgetting the allure of a refreshing bowl of *ais kacang* after a workout to Penang Hill's peak—the experience in the south is pretty different. Instead of large swaths of rainforests, this area is dominated by orchards. Here, it is all about fruits—a diverse array of them. Records show that agriculture in these southern hills has existed since the 1850s, and though the kind of crops grown may have changed, these orchards are a present-day testament to the same agricultural legacy. While choosing a peak to explore in this area, we came across Bukit Papan.



CAPTIONS

1. Cascades of Sungai Bayan Lepas.
2. Greater racket-tailed drongo.
3. Parts of the trail are equipped with signposting.
4. Dragon fruit flower sighted along the hike.



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5. View from the summit of Bukit Papan.
6. Secondary forest along the trail.
7. The flowers of a commonly spotted climber called Hoya.
8. An Oriental Garden Lizard (*Calotes versicolor*) clambering up a durian tree on the summit of Bukit Papan
9. The Tua Pek Kong shrine along the trail.
10. The large buttress roots of a petai tree.
11. "We-fie" with Pan and the petai pods which he kindly gifted us.
12. The view towards Bayan Lepas from the trail.
13. Tongkat Ali (*Eurycoma longifolia*) near the summit of Bukit Papan.
14. Trail to Bukit Papan.
15. Learning how to harvest petai pods.

Our hike begins on a cement road that goes slightly downhill beside the Orchard Ville apartment in Lengkok Kelicap, Bayan Lepas. Parking can be a challenge here, so carpooling is recommended. We follow the cement road as it descends briefly before climbing gently through durian orchards behind Orchard Ville. Since it is durian season, it's no surprise that the trees are fitted with safety nets—an ingenious “trap” designed to catch falling durians and prevent them from splitting open as they land. Looking up, we spot a few durians “ensnared” in these nets, suspended right above our heads.

As we ascend the cement road, more fruit trees come into view—custard apples, papayas, mangosteens, rambutans, and even lesser-known ones like the Brazilian Longan and the Sentul. While all these look tempting, hikers should not pluck or damage these fruits; they are all grown by farmers here and form their source of income.

Something soon catches our attention—a vine with fleshy stems sprawling in all directions, bearing large, white flowers. Upon closer inspection, we realise these are the flowers of the dragon fruit. It is a cactus that typically blooms at night when moths



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and bats visit to pollinate the flowers. The ones before us are just an hour or two away from wilting, so we snap a few quick photos before continuing our journey.

Further along the cement road, we catch glimpses of Bayan Lepas, the airport and even Pulau Rimau through narrow gaps between towering apartment buildings at our forefront. After 30 minutes of hiking, we arrive at a Tua Pek Kong shrine beside the trickling headwaters of Sungai Bayan Lepas. Here, the sound of rushing water piques my curiosity, leading me to think that there might be a cascade nearby. We follow an orchard trail branching off to the right of the shrine, and true enough, we discover a delightful cascade—visible only from this direction. After capturing a few shots, we retrace our steps to the shrine and resume our hike along the cement track again.



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16–25. Fruits galore along the trail up to Bukit Papan.



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The path continues through more orchards interspersed with patches of secondary growth. A sudden chirping sound prompts us to look up at a towering durian tree, where we spot a black bird with long, racket-like tail streamers—the Greater Racket-tailed Drongo. As we observe, its chirping unexpectedly shifts to a distinct call before it takes flight. Drongos are known for their diverse vocalisation and, more interestingly, for the ability to mimic the calls of other birds.

At this point, the cement trail transitions into an unpaved path. This is steeper and begins winding through denser sections of the secondary forest. A wooden signboard reading “BUKIT PAPAN” reassures us that we are headed in the right direction. It takes us about 50 minutes from the Tua Pek Kong shrine to reach the summit ridge, where, because the fruit trees are still relatively young, we are treated to splendid views of Pulau Jerejak and the Sultan

Abdul Halim Muadzam Shah Bridge (also known as the Second Penang Bridge). As we continue along the ridge, we are pleasantly surprised by how well-maintained the area is—the grass is neatly trimmed and the fruit trees are lined in a row along the trail’s margins.

10 minutes later, a signboard welcomes us to the peak of Bukit Papan. Behind it is a panoramic view, the Teluk Kumbar hills in the foreground and Pulau Kendi in the distance. This sight brings back cherished memories of my 2021 visit to the isle (see “Pulau Kendi: A Glimpse of Old Penang’s Rich Waters”, *Penang Monthly* September 2021).

While we take in the views, we are greeted by the friendly orchard owner, Jaa-far, better known to locals as Pan. He has made great effort to transform his hilltop orchard into a hiker-friendly destination. In addition to the summit signboard, he has set up a small rest spot and shed where hik-

ers can relax. As we chat, we quickly realise his enthusiasm for his orchard, particularly the medicinal herbs growing in it. He points out to us the Kemunting (*Rhodomyrtus tomentosa*), Senduduk (*Melastoma malabathricum*) and Tongkat Ali (*Eurycoma longifolia*) growing here.

It is petai (*Parkia speciosa*) season, and Pan has a surprise for us. He brings us to see his petai trees, giving us a quick demonstration of how to harvest the pods with a long harvesting pole. Though it looked easy, it was trickier than expected. After several attempts, we successfully pluck a cluster of pods, and he generously gifts it to us.

After a “we-fie” with Pan, it is time to head back. Bukit Papan truly embodies the essence of a delightful hike—fruity treasures, melodious birdsong and a kind-hearted orchard owner eager to share the bounty of his farm and his vast knowledge and enthusiasm for nature.

WHAT'S SO AMAZINE ABOUT ZINES?

BY NURUL NATASHA AMIR



SOMEWHERE BETWEEN 2013 and 2015, Penang's literary scene shifted. Not with a bang, but with a handful of stapled booklets, scrappy covers and stories that felt real in a way mainstream publishing rarely does. This was the beginning of Penang's English literary zine culture—a small, messy, intimate scene that would eventually claim its own place on the national map.

At the heart of it is Wilson Khor Woo Han. This was long before Working Desk Publishing (WD) became official. Back in 2013, it was just Wilson boothing at Hin Market at Hin Bus Depot. There was no fancy display and no team. It was just him sitting at a table with a stack of zines and a lot of heart. WD wasn't officially registered until 2018, but the seeds were already being planted. Around the same time, MYWriters Penang was gathering steam, and with it came *NutMag*, a community-driven anthology that quickly became a space for writers to test their voice without needing permission from a publisher.^[1]

Today, those early zine experiments have led to some very real literary wins. *NutMag* now releases a full anthology every five years, and their 2020 edition, *Homegroan: A NutMag Anthology*, just hit a milestone most indie writers only dream about. Two of its short stories—"The Pickpocket" and "Janaki's Journey"—are officially being included in the 2026 STPM English Literature syllabus.^{[2][3]} As someone who used to pore over *Ratnamuni* and *No Visitors*

Allowed in school, I couldn't help but think of Puan Suriya—my literature teacher—who made us actually care about words. I miss those days.

So, what started as a bunch of people folding paper in cafes and art markets is now part of how Malaysian literature is being taught. (Disclaimer: these weren't the kind of zines you'd find at a punk gig or photocopied in someone's bedroom. Not entirely, anyway.)

What WD was doing back then already leaned more towards something bookish than punk. The formatting was cleaner; the covers were more designed than doodled. Some would even argue it wasn't a "real" zine. Maybe they're right. But it doesn't matter. Even if it started out as a hybrid—a book in zine form—I believe it worked. It created a space and invited people in—it made a lot of them stay.

Penang didn't have a big publishing scene, especially for young or emerging writers. Though, with *NutMag* and WD suddenly popping up, you didn't need to be "published" in the traditional sense to be

taken seriously. You just needed a story and a bit of guts, and suddenly, a whole generation of home-grown writers slowly found their voice.

Besides, it wasn't just about the writing either. Spaces like Hin Bus Depot, LUMA^[4] and a long list of zine-friendly cafes gave these projects room to grow. Open mics happened. Launches happened. People met, chatted and communities formed. Even if you weren't there for the "scene", you still felt like you were part of something.

WHAT'S THE CULTURE LIKE?

If you think zines are a solo project, think again. Zine-making might start alone at your desk, but the culture around it is all about connection and building a community.

Events like Penang Zine Fest^[5] prove that it is more than just reading. In fact, it's more about showing up, meeting people and sharing ideas. "Zinesters"—someone who creates zines—would gather with artists, readers and curious newcomers for a day of workshops, stalls and sometimes impromptu performances. You never know if you'll leave with a new zine or a new friend. Sometimes it's both!

According to Wilson, zines are also present at underground festivals, where they're passed around alongside music and art. Even when there are no festivals going on, the zine culture finds a home in Penang's indie spaces. Bookstores like Gerakbudaya and creative spaces like Dreamer Haven and Artlane, where WD has hosted readings and workshops, have helped nurture the scene.

In Penang, a lot of zines feel like love letters to the city. They mix culture, food and everyday life in a way that just feels honest. One of WD's zines, *Bite-Sized*, doesn't just list eating spots. It pairs them with personal





CAPTIONS

1. A trio of cross-cultural zines in hand.
2. Aya Kurteva engaging with visitors at the WD booth, GTLF 2023.
3. Wilson Khor during one of the events at Langit Senja Kopi.



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recommendations from local writers, tying the cafe scene to real people and real stories. It's like a guidebook, but chill.

"Zines give people a voice," Wilson says. "They're a way to share stories that might not make it into mainstream media." They're imperfect, emotional and sometimes chaotic, just like real people—and that's what makes them *real*.

By creating accessible platforms, WD and *NutMag* have given writers encouragement and provided them with an exposure that is often hard to find, especially outside KL. From that point of genesis, readers went on to become contributors; friends turned into collaborators. It was never about who could sell the most copies, but about who had something worth saying. Penang's literary scene was built over time—through meetups, markets, messy drafts and a whole lot of community support.

WHY BOTHER WITH ZINES?

When was the last time you actually went out and touched grass? I'm kidding. What I mean to say is, in a world obsessed with likes, algorithms and going viral, zines just feel countercultural. They're offline. They're slow. They don't care if your font is ugly or if your page margins are weird.

At a glance, zines might just look like folded paper and photocopied pages. But spare another look, and they tell a bigger story. One about how grassroots publishing can actually shift a city's creative culture. This didn't just happen because someone followed a blueprint. It happened because people cared. They made things. They showed up.

In Penang, indie doesn't mean small, and zines are far from irrelevant—they have become part of the literary ecosystem. So, the next time you pick up a zine at a local market or sip *kopi* at a cafe that stocks them, remember that you're not just holding a booklet. You're holding a tiny piece of Penang's ever-evolving story.

***Special thanks:** The writer wishes to acknowledge Wilson Khor, founder of Working Desk Publishing, for his generous assistance and for contributing the photographs used in this article.

FOOTNOTES

1. <https://NutMagzine.weebly.com/>
2. https://asimodel.net/wp-content/uploads/2025/06/920_LIT-ENGLISH-Sukatan_Pelajaran_Peperiksaan_STPM_Yang_Dimurnikan.pdf
3. <https://NutMagzine.weebly.com/homegroan.html>
4. LUMA is the creative studio arm of LiveWire! Media, initiated in 2012 to light up arts and culture in Malaysia through media production and board game creation.
5. <https://www.facebook.com/penangzinefest/>



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EDUCATED BUT EXCLUDED: PERSISTENT GENDER GAPS IN MALAYSIA'S WORKFORCE

BY MIRIAM
DEVAPRASANA

I REMEMBER MEETING a fellow undergraduate at Universiti Sains Malaysia (USM). We were in our early 20s, and she was pursuing a degree in history. We crossed paths regularly over the three years. Then, just months shy of graduating, I saw her packing her things. She told me she was leaving university to get married.

Another friend, who studied accountancy, was equally decided; she planned to join the workforce for a decade, and then exit to become a full-time homemaker. Back then, I struggled to make sense of these decisions. For me, it seemed natural to pursue education, find meaningful work and hopefully contribute to society. I hadn't yet grasped how deeply gender expectations and structural limitations could shape women's trajectories—even among those who were excelling in academia.

Despite outnumbering their male peers in higher education institutions for over a decade, Malaysian women remain markedly underrepresented in the workforce. While female graduates consistently make up more than 50% of all tertiary-educated individuals in the country, their labour force participation rate has stagnated below 56%—lagging behind many of Malaysia's regional peers.

Why has educational attainment not translated into equal economic participation for women?

THE NUMBERS TELL A STORY

In Malaysia, the workforce is defined as individuals aged 15 to 64 who are either employed or unemployed (without work but actively seeking employment). Those excluded from the calculations are students, homemakers, retirees and individuals not seeking work.

The most recent report on the Gender Gap Index in Malaysia shows an educational attainment score of 1.071. A score of 1.0 (100%) indicates that women and men have achieved equality in a particular subcategory. This score of 1.071 suggests that women have surpassed men in achieving educational attainment. 2023 statistics show that the gross enrolment for females at the tertiary level was 50.7% compared to men (33.8%) (Department of Statistics Malaysia, 2024). A similar trend is recorded in graduation rates, particularly at the postgraduate level.

These patterns suggest rising women's empowerment marked by higher education attainment, which should lead to increased entry into fields traditionally dominated by men. Unfortunately, they do not translate into comparable workforce participation.

The Statistics on Women Empowerment in Selected Domains, Malaysia, 2024 reports women's participation rate in the labour force to be at 56.2%, while males are at 82.3%. The gender gap widens fur-

ther in leadership roles and STEM-related sectors. Higher positions like legislation spots, managerial roles and senior official status are male-dominated (74.6%), with women recorded at 25.4%. On the Global Gender Gap Report, Malaysia ranked 89 (2023) in terms of economic participation and opportunities, but fell to 102 (2024). Similarly, Malaysia ranked 122 (2023) for political empowerment, but fell to 134 (2024). Despite small advancements for women in Malaysia, a broader, sustained effort is required to close the gender gap in economic opportunity and political empowerment.

According to a 2024 working paper by Khazanah Research Institute, Malaysia's socio-economic landscape reveals persistent structural inequalities across geographies and demographics. Women in urban areas are more likely to be in the labour force than their rural counterparts, a reversal of trends observed in the 1970s. Since the 1980s, the participation of women from rural areas has declined and stagnated. In contrast, urban women have made steady gains, perhaps benefiting from better access to education, childcare services, transportation accessibility and job opportunities.

Women living in rural areas face barriers limited by infrastructure, traditional gender roles and the lack of employment options outside agriculture or informal work—it is also slowed by the deeply rooted gender expectations. Men are still largely seen as primary earners, while women continue to bear the burden of domestic responsibilities. Interestingly, rural men exhibit higher participation in the workforce compared to urban men. These contrasting dynamics suggest that location, rather than gender alone, increasingly shapes employment outcomes. This also indicates the need for targeted interventions in rural development and better gender-responsive policy frameworks.

At the state level, Putrajaya leads with a female participation rate of 79.2%, while states like Terengganu, Kelantan and Perlis report rates below 50%. Penang (57.4%) comes in fifth behind Selangor (69.7%), Kuala Lumpur (66.5%) and Melaka (58.0%).

Ethnicity also adds a layer of complexity to labour force participation. Chinese (60.9%) and Indian (59.7%) women consistently show higher participation rates compared to Bumiputera women (53.4%). Although Bumiputera forms the largest share of the labour market (37.3%), their overall participation is driven overwhelmingly by men (80.8%), also the highest rate across all ethnicities. Then there is also Malaysia's reliance on foreign workers, particularly in low- and semi-skilled sectors, that has led to the displacement of less-educated, lower-skilled Malaysians from these jobs—a challenge that affects both women and men.

WHERE ARE THE WOMEN GRADUATES?

An article posted on *WeirdKaya* recently covered a TikTok video of a woman seen cooking at a roadside stall. In the clip, she spoke about her personal journey; she had a JPA scholarship^[1] and was a Chemistry graduate from a local university, but had no career aligned with her studies. She started a food business without prior entrepreneurship experience. Her story resonated with many viewers, including another JPA scholar and PhD holder who now combines part-time lecturing and tutoring with food sales to make ends meet.

Curious for more responses, I posted on Reddit asking women to share their challenges in employment. Users spoke candidly about the gap between qualifications and opportunities, with many pointing out long-standing workplace discrimination, gendered expectations and a lack of meaningful support systems as reasons for either stepping away from formal employment or never entering it at all. Responders reported being asked intrusive questions in interviews, dismissed contributions, underpayment and burnout.

One Redditor who currently works as an engineer shared:

“My previous job was at a typical local company. The boss was very biased towards women and outright told us that women belong inside the office while men should go out... he would often say, ‘Aiya, you all women dunno anything one la.’

During interviews, I would say, ‘Be observant [of] how the hiring manager talks to you, especially if it’s a technical role. Whether they engage with you as an equal or they talk down to you. And ask for the demographics if possible. Those two should give you a decent idea of what the company might be like.’”

Another responded:

“...resigned due to heavy workload, long working hours, (on top of being pregnant) it was soooo tiring but unfair to the team if I take MC. End up being hospitalised multiple times due to high blood pressure... pay was not sufficient (got to know my male peer was being paid more—same job scope, same qualification), maternity leave was only two months. There’s no room for my kids if I continue working there...”

And another shared her friend’s experience which included “a cocktail of illnesses and diseases (both of which hindered or was caused by studies and work)” and “sexual harassment” in the F&B industry.

These responses indicate that women’s trajectories reveal the persistent challenges that push even highly educated individuals out of the conventional labour force. Others, fatigued by the demands and rigidity of formal work, have turned to freelancing and home-based businesses,

or have opted out entirely. Together, these stories complicate the narrative of graduate “success” and suggest that women are not simply “missing” from the workforce. Instead, they are making difficult decisions within a landscape that often undervalues their labour and potential.

GLOBAL ENDEAVOURS

Across Southeast Asia, certain countries have implemented proactive measures to enhance women’s participation in the workforce. In Vietnam, the female labour force participation rate stood at 68.48% in 2023, significantly higher than the global average of 51.07%. The high participation is attributed to policy choices like economic reforms and a demonstrated push towards strengthening education with an emphasis on gender equality. Highly skilled women have also been absorbed into the workforce through the implementation of family-friendly laws regarding childcare and maternity, with stronger legal frameworks on gender equality and non-discrimination.

Singapore has invested in supportive mechanisms for caregivers (the majority being women), parental leave, flexible work arrangements and support programmes targeted at women returning after career breaks. These efforts are supported by public awareness campaigns promoting gender equality at home and in the workplace.

Looking to Europe, countries like Sweden and the Netherlands offer further lessons. Sweden provides 480 days of paid parental leave per child, with 90 days reserved for each parent, promoting shared responsibility in childcare. The Netherlands has integrated part-time work into its labour market, with nearly 60% of women working part-time, though this also contributes to gender gaps in earnings and career progression. This is not to say that there aren’t challenges within these countries or varied implementations of support and policies, but they do reflect the need for a broader policy shift, i.e., treating women’s workforce participation as a public good shaped by institutional support.

In Malaysia, we need improved policies and laws that directly empower women in the workforce. These include full implementation of the enacted Anti-Sexual Harassment Act of 2022, financial aid for female entrepreneurs, subsidised day care centres and capacity-building programmes.

I lost touch with both the university friends mentioned earlier, but I often wonder about them. Did the one who left to marry ever think of returning to finish her degree? Did my accountant friend end up loving the industry so much that the idea of becoming a full-time homemaker now makes her laugh? Or perhaps both are leading fulfilled lives while I sit here, reflecting on the challenges I’ve faced in balancing

my desire to succeed in education with my place in the workforce.

Perhaps, Malaysia’s gender gap in the workforce is not a matter of education, but of inclusion. Women are educated, capable and willing to contribute, but structural barriers, cultural expectations and undervalued forms of labour have diverted them away from formal employment. Which-ever the case, it is time we stop asking why women are not in the workforce, and start asking how the workforce can evolve to include them fully.

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FOOTNOTE

- [1] The Jabatan Perkhidmatan Awam (JPA) scholarship is a programme that provides financial scholarships to outstanding Malaysian students to pursue higher education, either locally or abroad.



MIRIAM DEVAPRASANA is a dabbler of creative expressions and a budding researcher rooted in sensitivity, vulnerability, faith and human connection. Check out more of her writing on mdev16.wordpress.com.



REMEMBERING THE PACIFIC WAR IN SABAH

**BY
JOAN
LIAO**

CAPTIONS

1. Japanese landing off the west coast of British North Borneo, Labuan.
2. Albert Kwok.

3 JANUARY 1942—a detachment from Japanese-controlled Labuan landed and captured the village of Mempakul, North Borneo, just outside the town of Menumbuk. Two weeks before that, Sibu and Brunei were captured by Japanese naval forces at the very start of the Japanese Borneo Campaign. As Japanese troops marched north towards Jesselton (modern-day Kota Kinabalu), the army garrison there quickly negotiated the surrender of the city to the Japanese. By 8 January, large portions of Sabah's West Coast had been captured.

The British North Borneo Company (BNBC), founded as the North Borneo Provisional Authority Limited in 1881 by Albert Dent, was the authority administering the North Borneo territories (modern-day Sabah) between 1881 and 1942. A British private charter company ruled over Sabah after taking over the territorial concessions from Gustav Overbeck and the American Trading Company of Borneo. Sabah was then considered a colony and protectorate of the UK, relying on the Royal Navy for defense, and only maintained a paramilitary police force, the North Borneo Armed Constabulary, consisting of only 650 men. BNBC based its seat of government in the northern city of Kudat, before moving it to Sandakan. Jesselton was only made the capital of North Borneo in 1946 after the latter became a crown colony.

On 17 January 1942, the Japanese navy invaded and captured the city of Sandakan. With the loss of the capital, North Borneo was surrendered, and was occupied by the Japanese for 3 years and 8 months.

The Japanese occupation of Sabah was brutal, stained with mass exploitation, forced labour, collective punishment, massacres and reprisal killings. Multiple prisoners-of-war (POW) camps were established across Borneo, such as the Batu Litang camp in Kuching, the Sandakan camp, and smaller ones such as the 300-prisoner Labuan camp. The camps were used to detain captured soldiers from across Borneo and Malaya.

Though the Japanese kept Malay civil servants in the bureaucracy whilst interned former British administrators in POW camps, all ethnicities in Sabah—the indigenous, Chinese and Malay, were subjected to Japanese brutality and cruelty. The Chinese, particularly the urbanites among them, were subjected to eco-

nomic expropriation, constant surveillance, and sometimes, brutal force and torture by the *Kempeitai* (Japanese military police), due to their sympathies for the Guomindang party that ruled the Republic of China and made up the government when the Sino-Japanese War began in 1937.

All ethnicities in North Borneo were subjected to Nipponisation; they were forced to adopt the Japanese language, culture and customs. Schoolchildren sang the *Kimigayo* (the Japanese anthem) before each class, and had to learn *Nihongo* (the Japanese language). Japanese newspapers were translated into Malay, and printed and distributed throughout Borneo.

ALBERT KWOK AND THE KINABALU GUERRILLAS

The oppression experienced by local communities was untenable, leading to the rise of resistance amongst the local people. Chief amongst them were the Kinabalu Guerrillas, led by Albert Kwok.

Kwok was born in Kuching, Sarawak in 1921 and was medically trained in the Chinese Red Cross as a traditional Chinese medicine doctor in Shanghai, Nanking, Hankou and Canton. As the war worsened on the mainland, he returned to Borneo in 1940 and worked in Jesselton as a doctor. In 1941, at age 19, he decided to resist the Japanese occupation when a Japanese decree was circulated, threatening Chinese residents against showing any non-compliance.

In April 1943, he contacted the Filipino-United States resistance fighters, hoping to procure arms and supplies for a rebellion. Returning to Jesselton a month later, he contacted the Chinese National Salvation Association, a Menggatal branch of the Overseas Chinese Defense Association (OCDA), to procure medical equipment and donations for the Filipino resistance fighters. During his second visit, he received training from the remnants of the Filipino-United States Forces and was appointed a Lieutenant. Working with business people like Lim Keng Fatt, the former *chong khiam* (leader or organiser) of the China Relief Fund, members of the North Borneo Volunteer Force (NBVF) like Li Tet Phui and Jules Stephens, and former members of the Armed Constabulary like Chief Police Officer of Jesselton, he formed the Kinabalu Guerrillas to struggle for the liberation of North Borneo.



On the eve of the 32nd Chinese National Day on 9 October 1943, the Kinabalu Guerrillas rose up against the Japanese from their base in Menggatal. From there, they went on to fight the *Kempeitai* at their headquarters in Tuaran and in Jesselton. The resistance fighters captured Japanese positions from as far north as Kota Belud to as far south as Papar. Even without arms and supplies from the Filipino resistance fighters, the resourceful fighters fought with *parang*, *keris* and *bajak*.

Accounts say that after capturing Jesselton, the guerrillas raised the British Union Jack and the Chinese “Blue Sky, White Sun and a Wholly Red Earth” flag, as members from the NBFV are largely loyal to the British and OCDA are largely loyal to the Chinese. The OCDA members of the Kinabalu Guerrillas also took the opportunity to celebrate the birthday of Sun Yat-sen, the Chinese revolutionary who founded the Republic of China (ROC), by hoisting the national flag and its national anthem.

The uprising orchestrated by the Kinabalu Guerrillas was not just the work of Chinese and former colonial fighters. The group consisted only of 100 Chinese fighters, with another 200 being indigenous peoples. It also enjoyed the support of nearby indigenous villages. All in all, 47 Japanese military and civilian personnel met their end during the uprising. The guerrillas, however, continued to hide in the hills of Menggatal and Penampang, only surrendering on 19 January 1944 after the Japanese threatened to massacre 400 civilians in the Shantung Valley, near what is modern-day Bundusan, Penampang.

Losing control of Jesselton and having their occupying forces killed infuriated the Japanese. They thus led a large series of reprisal killings on the west coast of North Borneo, even after the surrender and execution of fighters from the Kinabalu Guerrillas. Most famous of these reprisal killings were their massacres on Matanani Island

in February 1944, where they captured the Suluk men and killed Suluk women and children after failing to locate a Chinese guerrilla reportedly in the area, leading to the island’s population falling by 75%. They reportedly machine-gunned entire villages from as far north as Kota Belud to as far south as Membakut; 2,000 to 4,000 civilians died, most of whom were of Bajau and Suluk descent.

Many captured fighters were transported overnight to Petagas, Putatan, and forced to sign statements of guilt which they weren’t allowed to read before being gunned down. Albert Kwok, Kong Tze Phui, Li Tet Phui, Charles Peter and Tsen Tsau Kong were beheaded and buried in a mass grave in Petagas. The site of the massacre is now the Petagas War Memorial site. One third of the fighters escaped execution, and were interned in Labuan under brutal conditions and put to work on public work projects. Only seven guerrillas survived the labour camp to see the end of World War II. 324 fighters lost their lives.

THE SANDAKAN DEATH MARCH

The Japanese became increasingly brutal in order to deter further uprisings. During the International Military Tribunal for the Far East or the Tokyo War Crime Trials, the *Kempeitai* were found to be responsible for a reign of terror that saw the arrest, torture and massacre of innocent civilians and the depopulation of the coastal areas of their Suluk population.

Many captured POWs from former British administrations were sent to North Borneo. The most notable camp at the time was in Sandakan, where British and Australian POWs captured from the Battle of Singapore were placed. In 1945, Allied forces were slowly recapturing territories from the Japanese. By January 1945, the Japanese military command feared that the Allies would soon recapture Sandakan and released the interned POWs back into Allied ranks. POWs are also crucial bargaining chips during peace set-

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Despite the replacement of the Jesselton Uprising Remembrance Day from 2 January to Hari Pahlawan on 31 July after Sabah joined Malaysia in 1963, the anniversary of the Kinabalu Guerrilla’s unfair execution is still remembered as the day Sabahans of all ethnicities fought back against their oppressors.”



3. A lake with lotus plants located in Sandakan Memorial Park. Photo credit: Joan A.

4. Jesselton bomb damage.

5. Early days of the Petagas War Memorial. Photo credit: Chia Yuk Tet

6. The Sandakan War Memorial. Photo credit: Joan A.



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lements. They were also forced labourers used to build infrastructure like the Sandakan Airport.

In retaliation, the Japanese military forced the POWs to march from the east coast of Sandakan inland to the town of Kundasang, Ranau, situated at the foothills of Mount Kinabalu. This march inland saw the demise of 2,434 Australian and British POWs who had been subjected to starvation and brutality by the Japanese forces. They were forced to traverse 260km through the Bornean rainforests. Only 38 survived the march by the end of July 1945; most were very ill and were unwell to do any work.

The Japanese fear of naval invasion by the Allied Forces came true on June 1945. US and Australian forces landed on Labuan and Brunei Bay. Most of the fighting was concentrated in Labuan and around the town of Beaufort. When the Japanese surrendered on 15 August 1945, only six POWs from the Sandakan Camp were found to be alive. A memorial stands in Sandakan today, located at the original site of the POW camp next

to the airport. A war memorial memorialising the Sandakan Death March is erected in Kundasang, at the final location of the POW march.

Despite the replacement of the Jesselton Uprising Remembrance Day from 2 January to Hari Pahlawan on 31 July after Sabah joined Malaysia in 1963, the anniversary of the Kinabalu Guerrilla's unfair execution is still remembered as the day Sabahans of all ethnicities fought back against their oppressors. Even in peacetime, the sacrifices of those who resisted must be remembered; they served to foster unity against possible future conflict and connect us to our local history.



JOAN LIAO is a Sabahan who moved up from KL to experience living as a Penangite. She also participates in advocacy, giving voices to those forgotten by society.

FISTS ACROSS THE SEA: WING CHUN AND BUAH PUKUL LIAN

BY
MUHAMMAD
AMIRUL
NAIM ROSMI

IT IS COMMON knowledge that there are overlaps between various martial arts systems. By design, we have two hands and two feet—and an instinct for both defending and attacking. So it comes as no surprise when similar hand-combat techniques appear across different traditions.

Allow me to draw your attention to two martial arts that share some surface-level similarities, but are unique in their own ways: Wing Chun and Buah Pukul Lian. I had the opportunity to explore these two systems more deeply through interviews with two seasoned practitioners and masters: Abdullah Abdul Aziz^[1] (Silat Buah Pukul Lian Padukan) and Aaron Boey^[2] (Wing Chun instructor in Penang).



CAPTIONS

1. Aaron at a Wing Chun seminar in Foshan, China, featuring the iconic wooden dummy.

2. Awang Daek, under the instruction of the Sultan of Johor, studied under a Yunnanese trader, Syed Abdul Rahman Yunani, before becoming the grandmaster of Silat Buah Pukul. (Photo source: <https://buahpukul.weebly.com/history.html>)

3. Aaron demonstrating the use of the wooden dummy in Wing Chun training during a public event in Penang.

4. Buah Pukul Lian in action. The Grandmaster offering hands-on guidance during a live training session. (Photo Source : <https://titikperisai.blogspot.com/2012/>)



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The Wing Chun school of Kung Fu gained global recognition following the success of the Ip Man film series, in which Donnie Yen portrayed the legendary Wing Chun master, Ip Man (Yip Man), best known globally as the mentor of Bruce Lee. Following the films, people around the world became captivated by Wing Chun.

Buah Pukul Lian, in turn, is a traditional Malay martial art practiced in the southern regions of Peninsular Malaysia, especially in Johor.^[3] At first glance, the two systems appear similar, particularly in their rapid, continuous strikes and forward-facing stances. However, both Abdullah and Aaron assert that when you dive deeper into these arts, their principles, training methods and philosophies clearly set them apart.

ORIGINS OF LIAN AND BUAH PUKUL

Buah Pukul has two major lineages: *Lian Yunan*, established in 1897 by Syed Abdul Rahman Yunani and Awang Daek, and *Lian Kwantung*, said to have been founded earlier by a master who settled in Tanjung Gemok, Rompin, Pahang. Though both systems bear the name “Lian”, most practitioners treat them as distinct lineages.



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Abdullah is originally from Pekan, Pahang, and began studying Lian Padukan styles in 1998. He completed the system (*khatam*) after passing a highly demanding test defeating eight opponents simultaneously, a rite of passage reserved only for those qualified to be called a *Cikgu*. This challenge recalls the story of Syed Abdul Rahman Yunani, a historical figure in Buah Pukul, who once famously defeated eight men in Singapore.

Syed Abdul Rahman's feat caught the attention of Sultan Ibrahim of Johor.^[4] He ordered his bodyguard, Awang Daek, to investigate the merchant's martial skills. Realising he could not take on Syed Abdul Rahman alone, Awang Daek requested permission to bring his friend, Pak Long Muhammad Yasin Yunus, the Chief of Police in Muar, to assist. After several invitations, Syed Abdul Rahman finally agreed to fight them, and finally defeated them both.

Instead of punishing them for their defeat, Sultan Ibrahim ordered both warriors to study under Syed Abdul Rahman. Since martial arts training was not

FOOTNOTES

1. Direct disciple of Dr. Haji Mohammed Hasyim, the current chief instructor of Lian Padukan Malaysia.
2. "The Martial Art of Wing Chun Finds a Home in Penang", *Penang Monthly*, Enzo Sim, October 2021; <https://www.penangmonthly.com/the-martial-art-of-wing-chin-finds-a-home-in-penang/>
3. *Silat Pulut: An Essential Malay Martial Art and Performance*, Muhammad Amirul Naim, October 2024 <https://www.penangmonthly.com/silat-pulut-an-essential-malay-martial-art-and-performance/>
4. *Sultan Sir Ibrahim Al-Masyhur ibni Almarhum Sultan Abu Bakar Al-Khalil Ibrahim Shah*, 2nd Modern Sultan of Johor (1873-1959)
5. A famous Malay Wing Chun instructor, Sifu Kahar Saidun. <https://www.freemalaysiatoday.com/category/leisure/2022/09/18/son-of-silat-master-turns-into-wing-chun-master>
6. Centerline – Wing Chun's #1 Concept, The Dragon Institute (Wing Chun Schools) website; <https://www.dragoninst.com/blog/centerline/>
7. *Menjawab Artikel The Vocket: Kungfu Wing Chun Dan Seni Silat Lian Padukan Membawa Kepada Suatu Titik Persamaan*, Mengenal Lian Padukan Blogspot, published on 3 May 2016; <https://lianpadukanforall.blogspot.com/2016/05/menjawab-artikel-vocket-kungfu-wing.html>
8. This idea was personally shared by Ooi Kee Beng during a Penang Institute staff meeting in 2025. He had previously articulated this view in: "A Maritime Focus Is Southeast Asia's Given Mindset," *The Edge Malaysia*, April 6, 2015. Available at: <https://theedgemalaysia.com/article/my-say-maritime-focus-southeast-asia%E2%80%99s-given-mindset>

permitted openly in Singapore at the time, Syed Abdul Rahman was invited to teach in Mersing. Once Awang Daek and Pak Long mastered the full system, they were granted permission to propagate the art, which later became known as Buah Pukul Mersing.

LIAN: THE FOUNDATION OF BUAH PUKUL

The term "Lian" refers to the choreographed training forms that make up the foundation of Buah Pukul. In this tradition, the eight parts of the human body are treated as "weapons", and the training is centred around four core principles:

1. *Duduk diam*: calmness and stability
2. *Gerak*: awareness of the opponent's actions
3. *Gayang*: fluid and adaptable movement
4. *Ruat*: managing footwork in all directions

According to Abdullah, Lian is a system of attack and counter-attack, guided by a layered approach. The core elements are striking, hitting, layering and grappling; together, these form the combat framework of Buah Pukul.

Lian Padukan is not a hybrid of Silat and Wing Chun. According to Abdullah, who studied Wing Chun and Jeet Kune Do under Sifu Kahar,^[5] the structure and philosophy of Lian Padukan are entirely different. For example, in Lian Padukan, the first strike often serves as a feint. In Wing Chun, according to Aaron, each strike is meant to land. Their training approaches also differ: Lian Padukan now combines traditional Silat and sport Silat techniques, requiring more than three years to complete the syllabus.

WING CHUN

Aaron began his martial arts journey in 1995 with Taekwondo. However, he was more drawn to traditional Southeast Asian and Chinese systems that flow more naturally and are not bound by modern formalities. He later explored Monkey Kung Fu, Praying Mantis and Taijiquan.

His interest in Wing Chun was sparked after watching Ip Man in 2008. At the time, only one active Wing Chun school existed in Penang—Fong Shan Wing Chun in Paya Terubong. He followed his teacher to a seminar in Singapore, and after two years, he was granted permission to teach. He also trained directly under Ip Ching, the son of Grandmaster Ip Man.

According to Aaron, Wing Chun is a close-range combat system that is often misunderstood. "If you can



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hit your opponent, your opponent can hit you," he said, rejecting the idea that Wing Chun can be easily neutralised by long-range attacks. From his experience in Monkey-Crane Kung Fu, he believes most fights involve two key ranges: mid-range and close-range. Wing Chun excels in both.

One of Wing Chun's hallmark training methods is *Chi Sao*, a kind of sparring that focuses on energy control and tactile sensitivity. Aaron emphasises that what you're controlling in this drill is not technique, but energy. Similarly, Buah Pukul Lian has a drill called *Pelampas*, which is a striking exercise that can be done solo or with a partner. While the methods differ, both systems emphasise internal control and reactive sensitivity.

MORE THAN JUST TECHNIQUES

Both masters describe Wing Chun and Buah Pukul Lian as concept-based martial arts, not technique-based. Wing Chun emphasises the centerline, an invisible axis that runs through the middle of the body and governs both offense and defense.^[6] Mastery of the centerline means mastery of movement, balance and strategic control. Buah Pukul Lian, on the other hand, includes the concept of "*Tak Bermalam*"^[7] (literally meaning "non-overnight stay")—a poetic Silat phrase implying that a strike should never be delayed.

Just as karate journeyed from China to Okinawa to mainland Japan, these two martial art types tell a rich story shaped by local culture and worldview. One can easily explore how the Johor-Singapore corridor once served as a vibrant trading hub which opened space for foreign influence and local synthesis.

I recall a point once made by Ooi Kee Beng, Executive Director of Penang Institute, who said "Malaysia and Southeast Asia as a whole naturally possesses a maritime mindset,^[8] if we're honest about our history." In reflection, I view the sea not as a barrier, but a bridge.

Buah Pukul Lian is a powerful example of this maritime way of thinking. It shows how external influences were not only received, but reinterpreted through local wisdom. This proves that openness to outside ideas does not weaken authenticity, but instead enhances it into something different. At the same time, Wing Chun continues to stand tall as a complete system, with its own logic, lineage and values. While the two may look similar at a glance, they emerge from different cultural and historical settings, and from that distinction, both offer a cultural wealth worth preserving.



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THE PAINTED CAVE: WHERE ANCIENT WALLS DEMAND ATTENTION

BY
RACHEL
YEON

“ADA BUAYA TAK?”^[1] my travel companion casually asked the boatman. “*Eh, jangan panggil nama dia. Nanti dia akan timbul,*”^[2] he hushed.

After a one-minute ride to get across the *teh tarik*-hued river, the journey to catch a glimpse of the 1,200-year-old cave drawings at what is known as Painted Cave, originally known as Kain Hitam Cave, began. However, I did not expect to journey 2.8km on a slippery boardwalk (it rained the day before) before reaching Trader’s Cave, the first in the network of caves I wanted to explore. Painted Cave is part of the Archaeological Heritage of Niah National Park’s cave complex, a UNESCO World Heritage site, inscribed on 31 July 2024.

Trader’s Cave is a beauty—it made me feel like I just marched into the fortress city of Minas Tirith with giant columns lined at its mouth. After ambling and taking photos over the 200m stretch, we exited, only to be swallowed by the Great Cave.

Guano-filled, its odour punched my olfactory system. I had to take in small, shallow breaths to adapt. Visually, this cave is quite magnificent. The expansive opening measures 122m wide and 60m high.^[3] It was here that Tom Harrisson and his team found the earliest definite representative of *Homo sapiens* in South-east Asia—a human skull that carbon dated back to approximately 40,000 years.^[4]

I trudged through the Great Cave for another 45 minutes, taking photos of the breathtaking skylights punctuating the darkness of the cave, before plunging in deeper into the blackness and exiting through Gan Kira.

After several minutes back on the boardwalk, and with the sun’s rays pounding down on us, we hiked up a few flights of stairs to reach the Painted Cave—4.1km from the point where we started.

JOURNEY TO THE AFTERLIFE

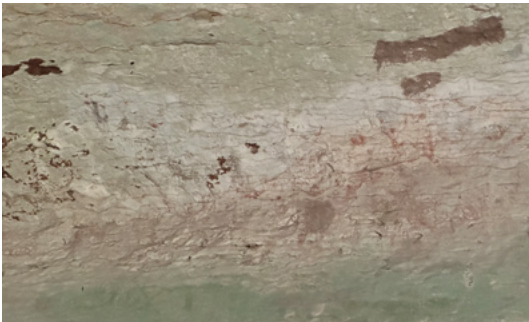
When I visited Borneo Cultures Museum two years back, I was specifically enthralled by how the different Borneo ethnic groups conducted funerary rites and buried the dead—from using totem poles to crocodile-shaped coffins. While these are documented, the “death ships”^[5] found in Gua Niah’s Painted Cave are not textually chronicled; they are explicitly depicted through more than 100 images consisting of boats, horned animals and dancing stick figures across a wall stretching approximately 50m.



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CAPTIONS

1. Exiting Gan Kira at the Great Cave.

2. One of the skylights in the Great Cave.

3. The area cordoned off to prevent visitors from getting

close to the ancient disappearing paintings.

4. Image taken by Annette Teng on 11 October 2013, sourced from Wikimedia Commons.

5. What is left on the cave wall during my visit on 11 June 2025.

Its discovery by Barbara Harrison (Tom's wife) in 1958 led to an excavation process that began in 1959 and continued in 1961. Scattered alongside the "death ships" are bones, beads, porcelain and stoneware sherds.

When studying material culture, particularly the remains of the deceased, Mohammad Sherman Sauffi, an archaeologist involved with research in Gua Niah, said that archaeologists will meticulously extract clues about past human life, grounding their interpretations in concrete hypotheses and evidence. His contemporaries Junior Kimwah, Jumin Jusilin and Zaimie Sahibil explained that the cave paintings show us a glimpse into their daily activities, and the recurring boat icons make it seem like they are carrying the human stick figures through the "voyage of life" before they reach their final place of rest. Others believe that the images demonstrate the journey of the souls of the dead via boats to the land of the dead.^[6] The Harrissons believed that these "death ships" are "symbolic receptacles for bodies, facilitating the soul's transition to the afterlife". Once the soul is successfully "transported" to the afterlife, these vessels made from Borneo Ironwood (also known as Pokok Belian)—one of the hardest and most durable type of wood on the island—are reused again and again, probably over 1,000 years.

The elaborate paintings in striking rusty red are believed to be made from the bark of *Pterocarpus indicus Willd* (I did a quick Google search, it tells me that it's actually Pokok Angsana—yes, the large tree with buttress roots and small yellow flowers that shade Penang's major roads). To the untrained eye, the cave art looks like dozens of figurines dancing around many

bonfires; but after some "archaeological" and "artistic" guidance, you'll start spotting boats with "trees of life", human-like figures and recognisable animals like crocodiles, snails and turtles. These paintings are of the Hoabinhian-style, attributed to hunter-gatherer societies within the East and Southeast Asian regions.

In another study, Kimwah along with Salbiah Kindoyop and Ismail Ibrahim isolated and scrutinised these figures. Three types were identified. The most obvious are the "death ships"; then there is the type linked to another set of motifs—human-like figures with open arms believed to mirror the death rituals practised at that time. Then, there are highly-stylised, almost-dancing anthropomorphic beings seen outside those "death ships".

Could they be spirits leading the souls of the deceased safely into the afterlife? Alas, we will never know.

EPHEMERAL

"We're here, at last!" I cried. It was past noon and lunch was out of the question. One last step on the final flight of stairs and I could see the sign "Painted Cave". There was no sight of the cave drawings yet, but I thought I should wait for my company to catch their breath before I went hunting for it.

I noticed an area cordoned off with wired mesh up the slope above me. I bounded towards it. "This must be it!" I thought, and reminded myself not to get over-excited because I've read Trip Advisor reviews stating that the drawings have faded significantly due to erosion and moss growth. Other theories include the fall of a large tree at the north entrance—sunlight streaming in may have bleached the paintings.^[7]

It took me a little more than a second to locate it. I saw faint brown markings of what seemed to be the last figurine standing, with its hands lifted, as if rejoicing that I managed to catch sight of it before he too, disappeared with the rest. At the corner was a pile of dugout canoes which would be the "death ships" I've been reading about. My heart sank as quickly as it rose. My companions were not so discreet—"Where is it? Is that all?"

The disappearing paintings remind me of how art imitates life—the impermanence and how the memory of those who have lived slowly fades away, and if you've watched Disney's *Coco*, you'll know what I am talking about. The memories of those who have passed on may be passed down a few generations, and if one is really well-known, up to a few millennia; some become gods and some are reduced to a myth.

Unlike art installations and pieces today that are meant to showcase impermanence, these organic paints on cave walls have held their colour for more than a millennium—rituals documented to last until the end of time. The protection of Sarawak's archaeological sites fall under the Sarawak Museum Department, and according to Sherman, research for the Painted Cave's fading drawings are still under peer review. The analysis will be done by this year. This has also been heavily discussed during the nomination defence with the International Council on Monuments and Sites (ICOMOS) and World Heritage Site UNESCO Committee. Until then, the natural decay will continue its course, and all that would be left to extend it's ephemeral nature are photos and documentations of them.

FOOTNOTES

1. Translation: Are there crocodiles?
2. Translation: Don't call its name. Or else it will appear.
3. <https://discovermalaysia-unesco.com/portfolio/gua-niah-entrance/>
4. <https://www.world-archaeology.com/features/niah-cave-sarawak-borneo/>
5. Following the terminology of Tom Harrison.
6. <https://dayakdaily.com/spelunking-on-the-moon-navigating-in-the-dark-of-sarawaks-great-niah-caves/>
7. <https://dayakdaily.com/spelunking-on-the-moon-navigating-in-the-dark-of-sarawaks-great-niah-caves/>

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2. <https://ificah-vr.de/wp-content/uploads/Seelenschiff-Borneo.pdf>
3. https://www.researchgate.net/publication/327837430_'DEATH_SHIP'_IMAGE_IN_PREHISTORIC_CAVE_PAINTING_OF_KAIN_HITAM_CAVE_THE_PAINTED_CAVE_NIAH_SARAWAK



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