KELANTAN DALAM PERSPEKTIF ARKEOLOGI

Satu Kumpulan Esei

KELANTAN IN ARCHAEOLOGICAL PERSPECTIVES

a collection of essays

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Diterbitkan oleh:
Perbadanan Muzium Negeri Kelantan
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Monograf KELANTAN DALAM PERSPEKTIF ARKEOLOGI (Satu Kumpulan Esei) di selenggarakan untuk penerbitan oleh Jawatankuasa Penerbitan, Seminar Arkeologi Malaysia, (dengan tumpuan khusus kepada Negeri Kelantan).

Jawatankuasa Penerbitan

Cetakan Pertama 1986

Di cetak oleh:
United Selangor Press Sdn. Bhd.
Kuala Lumpur

Kandungan/Contents

تيمبالن منتري بسر كلنتن

TIMBALAN MENTERI BESAR
KELANTAN

Kata-Kata Aluan

Bismillahi rRahmani rRahim
Assalamualaikum Warahmatullahi Wabarakatuh

Saya mengucapkan ribuan terima kasih di atas peluang yang diberi kepada saya bagi merakam sepatah dua kata dalam monograf yang berjodol KELANTAN DALAM PERSPEKTIF ARKEOLOGI (Satu Kumpulan Esei) sempena dengan Seminar Arkeologi Malaysia dengan tumpuan khusus kepada Negeri Kelantan.

Sesungguhnya Negeri Kelantan adalah kaya dengan sumber-sumber sejarahnya. Berbagai artifek yang boleh dijadikan bahan kajian telah ditemui seperti di Gua Cha yang terletak di tebing timur Sungai Nenggeri kira-kira 15 kilometer sebelum sampai ke Chabang Sungai Betis dan juga Gua Musang. Antaranya, termasuklah mangkuk, gelang, kapak, belanga dan lain-lain lagi. Penerbitan ini, sudah tentu akan menambahkan lagi satu bahan bacaan dan rujukan sejarah dan kebudayaan bagi sesiapa sahaja yang ingin mengetahui tentang sejarah dan kebudayaan Negeri Kelantan Darul Naim ini.

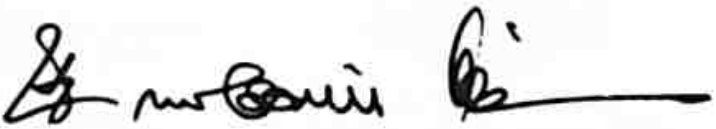
Saya berharap Seminar Arkeologi Malaysia ini akan menjadi contoh dan dorongan kepada badan-badan lain untuk mencungkil dan menimbul kembali khazanah lama yang boleh dijadikan sumber sejarah dan kebudayaan untuk pengkaji-pengkaji sejarah, guru-guru, penuntut-penuntut dan orang ramai yang berminat memperkayakan diri mereka dengan pengetahuan sejarah dan kebudayaan Negeri Kelantan khususnya dan Malaysia amnya.

Bagi pihak Lembaga Perbadanan Muzium Negeri Kelantan dan juga Kerajaan Negeri Kelantan, saya mengambil kesempatan ini untuk mengalu-alukan penerbitan monograf ini disamping mengucapkan

setinggi-tinggi tahniah dan syabas kepada semua pihak yang telah berjaya menganjurkan Seminar Arkeologi Malaysia.

Sekian, terima kasih.

Dengan hormatnya,



Timbalan Menteri Besar
merangkap
Pengerusi Perbadanan Muzium
Negeri Kelantan
1 Ogos 1986.

Pendahuluan

CITA-CITA Perbadanan Muzium Negeri Kelantan untuk menerbitkan monograf yang berjudul "KELANTAN DALAM PERSPEKTIF ARKEOLOGI (Satu Kumpulan Esei)" tidak akan terlaksana tanpa kerjasama yang diberikan oleh Tan Sri Dato' Mubin Sheppard, Dato' Shahrum b. Yub, Professor Khoo Kay Kim dan W.G. Solheim II. Ini adalah kerana hampir keseluruhan esei-esei yang dikumpulkan dalam monograf ini diambil daripada Journal of the Malayan Branch of the Royal Asiatic Society (JMBRAS), Journal of the Malaysian Branch of the Royal Asiatic Society (JMBRAS), Journal of the Federated Malay States Museums (JFMSM), Federation Museums Journal (FMJ), Malaysia in History (MIH) dan Asian Perspectives (AP).

Maka sewajarnya sebelum diteruskan dengan rencana ini saya lafazkan disini ucapan ribuan terima kasih dan rasa terhutang budi kepada Tan Sri Dato' Mubin Sheppard (Editor: JMBRAS), Dato' Shahrum b. Yub (Editor: FMJ), Professor Khoo Kay Kim (Editor: (MIH) dan W.G. Solheim II (Editor: AP) kerana mengizinkan kami menerbitkan semula esei-esei itu dalam monograf ini.

Kebenaran yang dihulurkan kepada Jawatankuasa Penerbitan monograf ini telah memberi erti yang besar kepada dayausaha yang diambil oleh Perbadanan Muzium Negeri Kelantan untuk menerbitkan monograf ini. Pembaca dapat melihat sendiri sumbangan itu. Ini adalah kerana sepuluh buah esei penyelidikan itu diambil dari JMBRAS, tujuh buah esei daripada JFMSM dan JFM, sebuah esei daripada MIH dan sebuah dari AP.

Matalamat utama penerbitan ini ialah untuk mengumpul sebolehbolehnya semua esei-esei yang lahir daripada penyelidikan arkeologi di Kelantan dan membukukan dalam sebuah monograf. Usaha ini dianggap perlu kerana esei-esei itu tidak diterbitkan dalam tahun yang sama dan dalam jurnal yang sama. Sementelahan pula esei yang terawal mula diterbitkan dalam tahun 1924 dan dalam masa 60 tahun telah lahir beberapa buah esei yang agak menarik tentang arkeologi di Kelantan. Dengan dibukukan dalam sebuah monograf maka senanglah

bagi orang ramai dan khususnya peminat arkeologi, sejarah dan kebudayaan membuat rujukan. Secara sepintas lalu dapat melihat kegiatan arkeologi di Kelantan, sejarah awal negeri Kelantan sejak zaman prasejarah dan sejarah kebudayaannya. Monograf ini disusun sebegitu rupa bagi mencerminkan tiga jenis kategori esei yang dipilih. Duabelas buah adalah esei penyelidikan arkeologi yang pada keseluruhannya menumpukan kepada arkeologi negeri Kelantan. Sebuah esei merupakan kertaskerja arkeologi yang dibentang dalam Seminar Sejarah dan Budaya Wilayah Kelantan yang diadakan pada tahun 1980, dan jenis yang ketiga merupakan cabutan daripada laporan arkeologi Malaysia. Cabutan yang diambil itu ialah yang bersangkutan dengan arkeologi negeri Kelantan. Sebuah esei yang berjudul "The Birth of Duft Development Company in Kelantan 1900–1912," ditertbikan juga di sini kerana difikirkan ianya dapat memberi sumbangan kepada peminat arkeologi industri Kelantan.

Akhir kata, diharapkan usaha menerbitkan monograf ini akan memanfaatkan semua pihak terutama sekali kerana mengambil sempena Seminar Arkeologi Malaysia (Dengan tumpuan khusus kepada Negeri Kelantan). Moga-moga usaha ini akan jadi perintis kepada penerbitan monograf arkeologi bagi negeri-negeri lain pula di Malaysia.

Nik Hassan Shuhaimi b. Nik Abd. Rahman

1 Ogos 1986.

Arkeologi Di Kelantan: Satu Tinjauan Sejarah Prasejarah Dan Proto-Sejarah*

NIK HASSAN SHUHAIMI BIN NIK ABDUL RAHMAN

KEGIATAN arkeologi, sama ada dalam bentuk purbawanisme atau yang sistematik, di negeri Kelantan telah berjaya mengesan beberapa buah tapak arkeologi dan membuktikan bahawa sejarahnya bermula dari zaman prasejarah lagi. Anker Rentse,[1] dalam tahun 1947, melaporkan iaitu terdapat dua tapak arkeologi zaman Mesolitik, 17 tapak arkeologi zaman Neolitik, 1 tapak arkeologi zaman Gangsa, 1 tapak arkeologi zaman Sung, 5 tapak arkeologi zaman Ming dan 4 tapak arkeologi menghasilkan tinggalan duit syiling emas kerajaan Melayu di negeri Kelantan. Daripada 30 buah tapak arkeologi itu hanya 3 buah tapak sahaja yang digalicari. Tapak-tapak yang digalicari itu ialah tapak arkeologi di Gua Cha, di Gua Menteri dan di Gua Musang.

Oleh hal yang demikian, banyak lagi usaha arkeologi yang boleh dijalankan di negeri Kelantan. Kepercayaan ini dikuatkan lagi oleh keadaan geografi negeri Kelantan itu sendiri. Sekiranya kita terima pendapat iaitu Semenanjung Tanah Melayu merupakan sebagai jambatan yang menghubungkan tanah besar Asia Tenggara dengan kepulauan Asia Tenggara di zaman Plestosen yang membolehkan migrasi fauna dan manusia daripada benua Asia kepulauan Asia, maka sudah pastilah kedudukan negeri Kelantan di utara Semenanjung Tanah

* Kertas kerja Seminar Sejarah dan Budaya Negeri Kelantan, 1980.

1 Anker Rentse, A Historical Note on the Northeastern Malay States, *Journal Malayan Branch Royal Asiatic Society*, Vol. XX (1), 1947. Lihat peta pada muka surat 31 dan hlm. 29.

Melayu itu adalah penting dan strategik di zaman itu. Dengan itu negeri Kelantan seperti negeri-negeri lain di Semenanjung Tanah Melayu berperanan seperti batu luncatan bagi perkembangan dan penyibaran kebudayaan di zaman prasejarah, sama ada melalui perpindaan penduduk, diffusi, atau kedua-duanya.

Di zaman protosejarah pula, berikutan dengan perkembangan perdagangan laut Asia, kedudukan geografinya memungkinnya memain peranan yang penting dalam arena politik dan perdagangan awal di Asia Tenggara. Oleh kerana itu tidak menghairankan kalau ahli-ahli sejarah dan sarjana-sarjana dalam pengajian China mempercayai bahawa telah wujud beberapa buah kerajaan di negeri Kelantan selewat-lewatnya pada abad ke-5 Masehi. Kerajaan itu berbentuk tradisional dan tempatan. Nama kerajaan itu ialah Ho-lo-tan, Tan-tan dan Ch'ih-tu (Tanah Merah).

Negeri Ho-lo-tan pernah menghantar perutusan ke negeri China pada tahun 430.[2] Mengikut pendapat Moens,[3] Ho-lo-tan itu terletak di Kelantan dan nama Ho-lo-tan mengikut pendapat beberapa orang sarjana yang lain adalah sama dengan nama K'ou-lu-tan dan Kau-lo-chieh. Sementera itu, Tan-tan telah menghantar perutusan ke negeri China pada tahun 530.[4] Kedudukan negeri ini mungkin bersempadan di antara negeri Kelantan dan Terengganu, dan mengikut Paul Wheatley, adalah disatu kawasan di Kuala Sungai Besut.[5] Negeri Ch'ih-tu (Tanah Merah) menerima perutusan daripada negeri China pada tahun 607.[6] Ianya dipercayai terletak di Ulu Sungai Kelantan. Pendapat itu didasarkan kepada keterangan geografi yang tercatat dalam laporan China dan dipadankan dengan keadaan alam sekitar di kawasan Ulu Sungai Kelantan.

Di samping itu pula terdapat kesan-kesan perlombongan emas di zaman purba di kawasan itu.[7] Selain daripada emas, logam timah juga dipercayai wujud di bumi negeri Kelantan. Kawasan lombong emas di Ulu Sungai Kelantan, ialah kawasan sekitar Ulu Galas dan Sungai Neggiri (Sungai Jenera dan Sungai Wias) dan kawasan yang menghala ke timur laut ke kawasan Sungai Setong, Sungai Mempelam dan kawasan yang terletak ke utara iaitu kawasan di timur Sungai Pergau (Sungai Jintiang dan Sungai Sokor). Juga, kawasan di barat

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2 O.W. Wolters, *Early Indonesian Commerce*, New York, 1967, hlm. 151. O.W. Wolters mempunyai pendapat yang berbeza tentang tempat letak Ho-lo-tan itu. Beliau berpendapat bahawa Ho-lo-tan itu terletak di Jawa. Malayan Branch of Royal Asiatic Society, Vol. XVII (2) 1939 hlm. 17. Diterjemahkan oleh R.J. de Touche.

3 J.L. Moens, "Srivijaya, Yava en Kataha", *Journal Malayan Branch of Royal Asiatic Society*, Vol. XVII (2) 1939 hlm. 17. Diterjemahkan oleh R.J. de Touche.

4 Paul Wheatley, The Goldern Khersonese, Kuala Lumpur, 1961 hlm. 52.

5 *Ibid.* hlm. 55.

6 *Ibid.* Lihat peta hlm. 34.

7 Anker Rentse, *op. cit.*, hlm. 31.

laut iaitu kawasan sekitar Sungai Tadoh yang menghala ke Tomoh yang terletak di Ulu Sungai Telubun (Sungai Sai dan Sungai la). Kawasan Ulu Belom dan Ulu Sungai Patani juga di antara kawasan yang dipercayai kaya dengan logam emas. Kawasan-kawasan itu tersibar dari kawasan lombong emas yang terkenal pada satu ketika dahulu iaitu Raub, di negeri Pahang. Logam emas itu boleh di lombong melalui teknik yang tradisional.

Logam emas memang telah menjadi bahan yang paling utama dan istimewa kepada manusia sejak zaman purba. Kawasan yang kaya dengan sumber logam itu akan menjadi terkenal di seluruh dunia dan menjadi tumpuan kepada pedagang dan pengembara. Semenanjung Tanah Melayu adalah tergulung di dalam kawasan yang digelar *Suvarnahhumi* yang memberi maksud *Bumi Emas* atau *Semenanjung Emas.* Di dalam peta Ptolemy, beberapa buah sungai utama di Semenanjung Tanah Melayu dicatatkan. Mengikut pendapat Paul Wheatley sudah pastilah bahawa sungai-sungai yang utama yang tercatat dalam peta itu adalah sungai yang ada kaitan dengan kawasan perdagangan yang berdagang emas. Sungai Attaba yang terdapat dalam peta itu dipercayai sebagai Sungai Lebir di negeri Kelantan.[8]

Peri pentingnya negeri Kelantan dalam hal perkembangan tamadun dan kebudayaan serta dalam hal perdagangan di zaman purba menjadi lebih nyata lagi kalau kita lihat bahawa negeri Kelantan dapat dihubungi oleh negeri-negeri yang terkenal dengan sejarah purba iaitu Perak, Pahang, Kedah, Perlis dan Patani melalui jalan darat dan sungai. Daripada Kuala Sungai Kelantan, seseorang pengembara boleh mengembara ke Pahang melalui Sungai Lebir, Sungai Galas, dan Sungai Nenggiri. Dari situ, melalui Sungai Tembeling dan Sungai Jelai ianya akan sampai ke Kuala Sungai Pahang. Melalui Batu Melintang di Hulu Sungai Pergau, seseorang itu dapat masuk ke negeri Perak dan Kedah. Caranya ialah dengan menyeberangi sempadan negeri Thai masuk ke Lembah Belom di negeri Perak melalui Sungai Todoh (anak Sungai Pergau). Lembah Belom ini bersambung dengan Betong di Hulu Sungai Patani. Dengan melalui Sungai Ketil seseorang itu dapat masuk ke Kuala Sungai Merbok. Sungai Patani dan Sungai Telubin adalah di antara kawasan yang boleh dihubungi melalui Sungai Pergau dan Lembah Belom Dengan itu maka kemungkinan besar ada pedagang-pedagang yang menggunakan jalan darat dan sungai untuk menyeberangi Semenanjung Tanah Melayu ketika jalan laut iaitu jalan melalui Selat Melaka tidak begitu selamat akibat daripada kewujudan lanun. Jalan-jalan darat dan sungai itu menjadi penyambung kepada pusat perdagangan di Lembah Bujang,[9] iaitu kawasan di sekitar Sungai Merbok,

8 *Ibid.* hlm. 33.

9 Dipercayai bahawa Lembah Bujang adalah tapak bagi kerajaan Kedah tua yang dikenali sebagai Chieh-cha oleh orang-orang China dan Kataha oleh orang-orang India dan disebut sebagai Kadaram dalam bahasa Tamil. Lebih

dengan Kelantan sejak awal kurun Masehi lagi.

Sekiranya hal ini benar sudah pastilah negeri Kelantan juga memain peranan yang penting dalam perkembangan perdagangan awal Timur-Barat.

Kedudukan negeri Kelantan di Semenanjung Tanah Melayu menjadi faktor utama dalam pertumbuhan negeri awal seperti, Ho-lo-tan, Tan-tan dan Chih-tu. Kemungkinannya wujud beberapa pusat penempatan manusia Neolitik. Masyarakat Neolitik ini mula membuat hubungan pedagang dengan masyarakat lain di Asia Tenggara, dan dengan pedagang China dan Indian. Asal-usul hubungan perdagangan ini mungkin bermula sejak 5000–4000 tahun dahulu.[10] Hubungan ini wujud melalui pekembangan dalam perdagangan laut akibat daripada kemajuan dalam teknoloji membina perahu dan kapal layar dan pengetahuan menggunanya. Dengan berkembangnya perdagangan awal antara Timur dan Barat maka pusat penempatan di Kelantan itu menjadi lebih maju dan berkembang ke taraf negeri kecil mungkin sejak daripada abad pertama Masehi. Negeri kecil ini mengasaskan sistem politiknya kepada sistem yang bercorak ke Indiaan bagi kepentingan status dan kedudukannya di zaman itu. Untuk menguatkan lagi kedudukannya dalam pergolakkan politik antara negeri di Asia Tenggara pada masa itu negeri-negeri kecil itu membuat hubungan dengan negeri China.

Daripada catatan-catatan penulis China kita dapat melihat secara umum tentang bentuk negeri-negeri kecil itu. Dari segi politik, negeri-negeri itu membuat hubungan politik dengan negeri China sejak zaman Emperor Wu (141–87 S.M.).[11] Negeri-negeri itu telah menghantar perutusan ke negeri China. Tujuannya ialah untuk menguatkan kedudukannya. Tetapi bermula daripada abad ketiga Masehi negeri-negeri itu telah dipengaruhi oleh kuasa kerajaan Funan iaitu negara pelaut yang terkuat pada masa ini.[12] Selepas daripada abad ke-7 Masehi dengan kelemahan kuasa Funan, negeri-negeri itu menjadi bebas. Namun demikian daripada akhir abad ke-7, pengaruh kerajaan Srivijaya telah mula menpengaruhi kedudukan negeri-negeri itu.[13]

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kurang 50 buah tapak arkeologi yang ditarikhkan kepada zaman di antara abad ke-6 sehingga abad ke-13 dijumpai oleh ahli arkeologi yang membuat penyelidikan di kawasan itu. Lihat H.G. Quariteh – Wales, Archaeological researches on ancient Indian colonization in Malaya," *Journal Malayan Branch Royal Asiatic Society*, vol. XVIII (2), 1940.
Alastair Lamb, Pengkalan Bujang: An ancient port in Kedah. Malaya in History, Vol. 5 (1) 1959. Dato Sir Roland Braddell, Most Ancient Kedah, *Lembah Bujang*. Persatuan Sejarah Malaysia, Kuala Lumpur, 1980. Leong Sau Heng, Lembah Bujang.

10 Lihat F.L. Dunn, Rain-forest collectors and traders: A Study of resource utilization in modern and ancient Malaya, Monographs of theMalaysian Branch of the Royal Asiatic Society, 1975, hlm. 136.

11 Paul Wheatley, *op. cit.*, hlm. 8.

12 G. Coedes, The Indianised States of Southeast Asia, Kuala Lumpur, 1968 hlm. 36–80.

13 Lihat O.W. Wolters, *op. cit.*

Bentuk kerajaan negeri-negeri itu di samping menunjuk ciri-ciri tempatan yang berasaskan kepada konsep pemerintahan keindiaan adalah teokratik. Dipuncak sistem ialah raja. Di bawahnya terdapat beberapa orang pembesar. Bilangan pembesar itu berubah dari negeri ke negeri. Di Chih-t'u umpamanya, golongan Brahman memain peranan yang besar dan penting dalam adat istiadat perajaan.[14] Pembesar-pembesar di negeri Chin-tu adalah seorang Sa-t'o-chia, dua orang To-na-ta-yu, tiga orang Chia-li-mi-chia yang berkuasa ke atas politik negeri, seorang Chu-lo-mo-ti yang berkuasa dalam hal undang-undang jenayah, dan dalam negeri jajahan dilantik Na-ya-chia dan sepuluh orang Po-ti.[15] Pembentukan kerajaan seumpama itu mungkin lahir akibat daripada kesedaran tentang peri pentingnya di institusikan dan disahkan kekuasaan raja serta juga organisasi pertadbiran negeri. Pemerintah-pemerintah itu sudah sedar tentang wujudnya cara menginstitusikan dan pengesahan kuasa itu melalui hubungan secara langsung atau tidak langsung dengan India. Mereka akan menjemput Brahman dan pendita India datang ke negerinya selain daripada pedagang-pedagang. Walaupun ritual India diamalkan di kota-kota tetapi ritual yang tidak berbentuk keindianan seperti upacara pengkebumian mayat melalui ritual burung juga diamalkan.

Hubungan di antara negeri awal di Asia Tenggara dengan India mungkin lahir daripada kepantasan bangsa Melayu sebagai pedagang laut. Daripada laporan yang terdapat dalam Chien Han Shu,[16] iaitu sebuah sumber China tentang zaman itu kita dapat gambaran bahawa hal itu benar. Oleh kerana kapal-kapal China belum lagi berupaya mengharungi Laut India, maka kapal pedagang bangsa-bangsa di Asia Tenggara yang membawa mereka ke India di abad-abad sebelum abad keempat.[17] Bangsa yang digelar "barbarians" oleh penulis China dalam Chien Han Shu itu meliputi bangsa Yueh di China Selatan, dan termasuklah bangsa Cham, Proto-Melayu dan India.[18] Bangsa-bangsa di Asia Tenggara digelar sebagai Kun-lun oleh orang-orang China.[19] Ungkapan nama yang sama bagi bangsa-bangsa di Asia Tenggara juga muncul dalam teks *Periplus of Erythrean Sea,* yang ditarikhkan kepada abad kedua Masehi.[20] Sarjana-sarjana mempercayai bahawa ungkapan nama itu memberi maksud yang sama dengan ungkapan Qumr dan waq-waq (atau uaq-uaq atau wak-wak) yang terdapat dalam teks Arab.[21]

14 Paul Wheatley, *op. cit.*, hlm. 26–30.
15 *Ibid.* hlm. 28.
16 *Ibid.* hlm. 8–9.
17 O.W. Wolters, *op. cit.*, hlm. 150 dan Paul Wheatley, *op. cit.*, hlm. 8.
18 *Ibid.* hlm. 12.
19 Gabriel Ferrand, Le K'ouen-louen et les Ancienes Navigations Interoceaniques dans les Mers du Sud, extrait du *Journal Asiatique*, Paris, 1919 hlm. 7–18.
20 Anthony Christie, "An Obscure Passage from the Periplus", *Bulletin School of Oriental and African Studies*, Vol. 19, 1957 hlm. 345–353.
21 Keith Taylor, "Madagascar in the Ancient Malaya-Polynesian Myths," dalam

Kepercayaan tentang kepurbakalan perdagangan yang diusahakan oleh orang-orang berbangsa Melayu diperbesarkan oleh Miller. Beliau telah membina semula sejarah perdagangan orang-orang Melayu dengan Afrika Timur melalui Laut Hindi. Ianya diasaskan kepada keterangan dalam buku *Natural History* oleh Pliny.[22] Pada kepercayaan Miller, hasil Asia Tenggara seperti kapur barus dijualkan kepada orang-orang Arab. Chien Han Shu juga menyebutkan bahan-bahan yang tidak terdapat di negeri China diperolehi daripada Asia Tenggara dan ditukar dengan emas dan sutera China.[23]

Hubungan perdagangan di antara India dan masyarakat di Asia Tenggara yang bermula sejak zaman prasejarah dapat disahkan. Hasil sastera Hindu dan Buddha, walaupun tidak dapat mengesahkan dengan tepatnya tentang pengetahuan orang-orang di India berhubung dengan tempat yang dilawati oleh pedagang-pedagang India pada awal-awalnya tetapi dengan terlahirnya Jatakas, Brahatkatha, Arthasastra dan Milinda-panha dalam bentuk yang wujud pada hari ini,[24] pengetahuan geografi orang-orang India tentang Asia Tenggara mula menjadi lebih jelas. Daripada setengah cerita dalam sastera-sastera Hindu-Buddha terdapatlah kisah tentang kedatangan pedagang India ke Asia Tenggara dan pedagang Asia Tenggara ke India. Sebuah daripada teks Jatakas menceritakan tentang pelayaran ke Suvarnnabhuni daripada Bharukaccha dibuat sebagai membalas lawatan yang dibuat oleh saudagar daripada Suvarnnabhumi.[25] Walaupun sarjana-sarjana tidak dapat mengesah dengan tepatnya di mana terletak Suvarnnabhumi, tetapi kita boleh terima iaitu Semenanjung Malaysia terletak di Suvarnnabhumi itu. Secara tidak langsung kerana kedudukan negeri Kelantan itu, yang strategik di Semenanjung Malaysia, maka sudah pasti ia juga menerima tempias daripada hubungan perdagangan antarabangsa di masa itu.

Galicari di Kelantan

Di antara tiga buah tapak arkeologi yang digalicari di Kelantan ialah tapak di Gua Cha. Ianya terletak di barat Sungai Nenggiri dan ke selatan Sungai Perias, iaitu kira-kira 7 batu dari Kuala Sungai Betis. Tinggi Gua Cha daripada paras Sungai Nenggiri ialah lebih kurang 300 kaki. Gua ini mempunyai keluasan lebih kurang 21,600 kaki persegi (360 kaki x 600 kaki).[26]

Gua Cha digalicari oleh H.D. Noone pada tahun 1935.[27] Galicari

Explorations in early Southeast Asian History (eds.), Kenneth R. Hall and John K. Whitmore, Michigan, 1976 hlm, 33–38.

22 *Ibid.*

23 Paul Wheatley, *op. cit.*, hlm. 8.

24 *Ibid.* 184.

25 *Ibid.* 184.

26 Laporan tentang tapak arkeologi Gua Cha dapat dilihat dalam G. de G. Sieveking "Excavation at Gua Cha, Kelantan 1954" Federation Museum Journal Vol. 1, 2, 1954–1955 hlm. 79–81.

27 H.D. Noone, "Report on a new Neolithic site in Hulu Kelantan" Federation

itu berjalan selama 10 hari dan dua parit galian dibuat. Hasil daripada galicari itu ialah 8 biji tembikar yang lengkap bentuknya dan dua buah kubur. Pada tahun 1951,[28] William-Hunt telah membuat satu parit ujian di tapak itu. Penyelidikan itu diikuti pula oleh G. de Sieveking serta isteri pada tahun 1954.[29] Galicari dijalankan selama lebih kurang sebulan iaitu daripada bulan April hingga ke 10 Mei, 1954. Dalam galicari ini empat buah parit galian dibuat.

Stratigrafi dalam parit galian pertama adalah seperti berikut:[30]–

(1) Lapisan tanah berlumpur dan berpasir (zaman sejarah)
(2) Lapisan tanah hitam berbatu (lapisan utama zaman Neolitik)
(3) Lapisan tanah lumpur yang halus (lapisan mandul)
(4) Lapisan "serpihan" Neolitik (lapisan Neolitik awal)
(5) Lapisan berlumpur (lapisan mandul)
(6) Lapisan tanah berwarna cokelat (lapisan zaman Hoabinhian)
(7) Lapisan batu kerikil berwarna kuning
(8) Lapisan tanah liat padat yang berwarna kuning (lapisan mandul)
(9) Lapisan batu hampar

Di lapisan (2) iaitu tahap zaman Neolitik yang utama dijumpai 9 buah kubur. Kubur-kubur itu ada dua jenis, iaitu 4 buah yang jenis kandungannya telah rosak, iaitu tulang-tulang telah patah dan 5 buah yang kandungannya hampir lengkap. Bersama-sama dengan tulang-tulang manusia itu dijumpai tembikar yang berbagai bentuk dan hiasan seperti dalam gambar rajah. Di antara hiasannya ialah corak kelar bentuk jeometri, corak captali, corak gelungan dan corak tanda sikat dengan warna hitam dan merah. Bentuk tembikar ialah bentuk loceng dan mangkok berbentuk karinet. Selain daripada alat-alat tembikar dijumpai juga alat-alat batu seperti gelang tangan, kapak dan pahat yang mana buatannya begitu halus. Berasaskan kepada teknologi pembuatannya maka dapatlah dikatakan bahawa zaman itu adalah zaman Neolitik akhir.

Pada lapisan (4) dijumpai serpihan-serpihan alat-alat batu dan lebih kurang 20 bilah kapak segi empat yang kasar buatannya. Beberapa serpihan tembikar juga dijumpai. Dilaporkan bahawa lapisan neolitik awal ini terpisah daripada lapisan Hoabinhian oleh satu lapisan yang mandul.

Parit galian kedua menghasilkan stratigrafi seperti berikut:[31]–

Museum Journal, Vol. 151 (1–4), 1930–1939.

28 P.D.R. William-Hunt, "Recent archaeological discoveries in Malaya", *Journal Malayan Branch of Royal Asiatic* Society, Vol. 25 (1). hlm. 185–197.

29 G. de G. Sieveking, *op. cit.*

30 *Ibid.* hlm. 81–89 dan B.A.V. Peacock, "A Short description of Malayan Prehistoric Pottery," *Asian Perspective*, Vol. 3(2), 1959, hlm. 125.

31 G. de G. Sieveking, *op. cit.*, hlm. 89.

(1) Lapisan yang berlumpur dan berpasir (Lapisan zaman sejarah)
(2) Lapisan yang berlumpur
(3) Lapisan berbatu yang berwarna hitam (Lapisan zaman Neolitik utama)
(4) Lapisan berbatu yang berwarna gelap
(5) Lapisan tanah yang berwarna cokelat

Di lapisan ketiga, iaitu lapisan utama Neolitik dijumpai tembikar di dalam 15 buah kubur. Selain daripada tembikar dijumpai juga alat-alat batu seperti kapak batu dan beliong. Empat daripada kubur itu adalah jenis yang lengkap.

Parit galian ketiga mula digali di antara parit galian pertama dan kedua. Ianya digali sedalam empat kaki. Stratigrafinya adalah seperti berikut:[32] –

(1) Lapisan tanah berlumpur
(2) Lapisan tanah warna merah yang terbakar dan bercampur dengan arang kayu
(3) Lapisan tanah yang hitam dan berbatu (zaman Neolitik utama)
(4) Lapisan tanah yang berlumpur halus
(5) Lapisan tanah yang berlumpur
(6) Lapisan Neolitik awal
(7) Lapisan tanah yang berlumpur dan berwarna kuning

Di parit galian ketiga ini dijumpai 9 buah kubur, di lapisan zaman Neolitik utama. Serpihan tembikar dan alat tembikar yang lengkap juga dijumpai. Di samping itu dijumpai juga kapak batu dan beliong batu segi empat dan gelang batu.

Penyelidikan arkeologi di Gua Musang

M.F. Tweedie telah membuat penyelidikan arkeologi di Gua Musang pada tahun 1939.[33] Beberapa buah gua dan kawasan batu lindungan dijumpai di kawasan sekitar perhentian keretapi di Gua Musang. Gua Madu merupakan gua yang pertama diselidiki. Di situ dijumpai beberapa serpihan tembikar dan apabila dibina semula, didapati bentuknya adalah seperti dua biji tabung.

Kawasan kedua di Gua Musang yang diselidiki ialah gua-gua yang hampir dengan perhentian keretapi. Kawasan di sebuah gua kecil digalicari. Beberapa serpihan tembikar dijumpai. Hasil keseluruhan daripada tinjauan Tweedie di Gua Musang itu ialah lapan biji bekas tembikar. Dua biji adalah jenis mangkok yang besar yang berwarna merah dan bercorak captali yang kasar, sebuah mangkok berleng-

32 *Ibid.* hlm. 94–96.
33 M.W.F. Tweedie, "Report on excavation in Kelantan", *Journal Malayan Branch of Royal Asiatic Society*, Vol. XVIII (2), 1940 hlm. 1–22.

karan tiga yang berwarna cokelat tua berkilat tetapi tanpa hiasan, sebuah mangkok separuh bulat yang berwarna cokelat gelap dan permukaan badannya bercaptali dan bibirnya berkilat, sebuah mangkok bercorong dan berkaki dan berwarna cokelat tua. Di samping alat-alat tembikar itu dijumpai juga 9 bilah alat-alat batu zaman Neolitik yang dijumpai pada lapisan 15sm pertama.

Galicari di Gua Menteri

H.D. Noone[34] melaporkan tentang penyelidikan arkeologi di Gua Menteri. Dari segi geografinya Gua Menteri terletak di tebing anak sungai, Sungai Nenggiri dan ianya merupakan sebuah batu lindungan yang berukuran lebih kurang 50 ela panjang dan 10 ela lebar. Galicari di Gua Menteri itu melibatkan pembinaan dua buah parit galian. Susun lapis tanah dalam parit galian tersebut adalah seperti berikut:[35]

(1) Lapisan tanah berpasir halus yang berwarna kuning sedalam 9 inci.
(2) Lapisan ini terdiri daripada tanah liat yang berwarna kelabu sedalam 6 inci.
(3) Lapisan ini dijumpai kapak batu yang dilicin. Dalam lapisan ini ialah 3 kaki.
(4) Lapisan ini dijumpai kapak batu yang bertarah dan tembikar. Dalam lapisan ialah 2 kaki 6 inci.
(5) Lapisan ini lapisan Hoabinhiam akhir sedalam 1 kaki 6 inci.
(6) Lapisan Hoabinhian awal di mana alatnya kasar dan besar. Dalam lapisan ialah 2 kaki.
(7) Lapisan "mandul".

Di parit galian pertama banyak terdapat tembikar, tetapi di parit galian kedua jumlah alat tembikar adalah kecil. Selain daripada alat tembikar dijumpai 3 bilah kapak yang dilicinkan, 2 bilah batu pengasah, 1 bilah kapak berleher, 2 bilah kapak empat segi dan 1 bilah kapak pemotong. Dalam parit galian itu dijumpai kubur. Kubur-kubur itu dalamnya lebih kurang empat kaki. Di kubur dalam parit galian pertama dijumpai 2 buah mangkok dan begitu juga di kubur dalam parit galian kedua.

Di kawasan di antara dua parit galian dijumpai serpihan tembikar zaman Neolitik. Kebanyakan daripada tembikar itu mempunyai hiasan captali. Tembikar yang dijumpai di parit galian kedua didapati dalam keadaan di mana mangkok yang saiz kecil terletak dalam mangkok saiz besar. Mangkok yang besar mempunyai dasar yang lebar dan bulat bercaptali dan permukaannya kesar. Sementara mangkok yang

34 H.D. Noone, *op. cit.*, hlm. 170–172.
35 *Ibid.*

kecil berdasar dampak dan tidak mempunyai corak. Di dua parit galian dijumpai lapan biji mangkok di dalam keadaan "in-situ" bersama-sama dengan tulang manusia. Tembikar itu mempunyai bentuk yang berbeza dan enam daripadanya mempunyai hiasan captali.

Zaman Prasejarah

Mengikut anggaran yang terdapat pada masa ini, manusia telah mendiami kawasan Asia Tenggara hampir 1.9 juta tahun,[36] iaitu di zaman Plestosen.[37] Keterangan arkeologi setakat ini yang diperolehi dari Jawa mengesahkan hal ini. Ini berdasarkan kepada pentarikhan ke atas keterangan fossil Pithecanthropus modjokertensis dan Pithecanthropus erectus.[38] Oleh kerana Jawa dan Tanah Melayu di zaman Plestosen bersambung dan menjadi sebahagian daripada Tanah Sunda maka kemungkinan juga manusia purba itu wujud di Tanah Melayu. Tetapi setakat ini tidak ada keterangan.

Namun demikian terdapat keterangan-keterangan arkeologi tentang kewujudan kebudayaan zaman Batu Tengah (Mesolitk) atau Hoabinh di Kelantan. Tradisi alat-alat batu yang dibuat daripada batu serpihan tidak wujud dengan jelas di Kelantan dan hal ini berbeza dengan keadaan di Gua Niah Sarawak walaupun terdapat sedikit contoh-contoh alat batu serpihan yang digunakan sebagai pangikis dalam membentuk alat-alat daripada kayu.[39] Kebanyakan alat-alat batu itu adalah jenis yang dibentuk daripada batu punat yang diambil dari sungai; iaitu alat batu jenis batu punat yang ditarah. Alat-alat batu itu dijumpai bersama-sama dengan tembikar bentuk konservatif di Gua Cha.

Sebelum tahun 1936 tradisi alat-alat batu itu tidak diberi nama yang khusus. Kesan daripada galicari di Hoa Binh di Barat Daya Hanoi oleh M. Colani pada tahun 1927[40] dan cadangan yang dibuat oleh ahli-ahli arkeologi prasejarah di mesyuarat pada tahun 1932[41] di Hanoi tentang penggunaan nama kebudayaan Hoabinh bagi kebudayaan batu punat ditarah, maka ahli-ahli arkeologi yang mengkaji tentang prasejarah di Malaysia mula mengguna ungkapan "Hoabinhian". Sebelum-

36 Ini berasaskan kepada pentarikhan terbaharu ke atas lapisan Djetis di mana fossil Pithicanthropus erectus dan Pithicanthropus modjokertensis dijumpai di Jawa. Lihat R.P. Soejono, "Prehistoric Indonesia" dalam Harati Soebadia and Carine A da Marchire Savas (ed.), *Dynamics of Indonesian History*, Amsterdam, 1978.

37 Lihat Arthur S. Boughey, *Man and the environment*, New York 1975, p. 541–542.

38 Pakar-pakar tentang fossil hominid mempercayai kedua-dua itu adalah satu *specie*, iaitu Homo erectus W.E. Clark, *The fossil evidence for human evolution*, 1972, p. 93–95.

39 Laporan tentang penyelidikan arkeologi di Gua Niah dapat dilihat dalam T. Harrisson, "The Caves of Niah: A History of Prehistory, " Sarawak Museum Journal, Vol. 8, 1958.

40 J.M. Mathews, "A Review of Hoabinhian in Indo-China", *Asian Perspectives*, Vol. IX, 1966, hlm. 86.

41 *Ibid.*

nya kebudayaan itu dikenali sebagai alat jenis Paleolitik. Walaupun Callenfels telah mengemukakan pendapatnya iaitu penggunaan ungkapan kebudayaan Hoabinh di luar Indochina adalah tidak tepat, tetapi selepas daripada tahun 1953 penggunaan ungkapan itu diterima umum dan diguna dalam penulisan prasejarah Semenanjung Tanah Melayu sepertimana yang terdapat dalam tulisan Tweedie "The Stone Age in Malaya ".[42]

Zaman Hoabinh di Kelantan berkembang di antara tahun 8000 sehingga 3000 S.M.[43] Ianya adalah di zaman post-Plestosen dan mewakili zaman Mesolitik negeri Kelantan. Masyarakat "Hoabinh" ini masih lagi dalam peringkat kehidupan memburu dan memungut bahan makanan. Berdasarkan kepada keterangan G. de Sieveking[44] yang dilaporkannya hasil daripada galicari di Gua Cha didapati bahawa zaman Hoabinh dan Neolitik adalah terpisah setelah masyarakat Hoabinh tidak lagi mendiami Gua Cha, kawasan Gua Cha itu terbiar sahaja hingga beberapa waktu. Kemudian baharulah muncul manusia zaman Neolitik. Pendapat Sieveking itu mendapat sokongan daripada Tweedie yang memberi pandangan iaitu kebudayaan di Asia Tenggara berkembang bukan secara evolusi tempatan.[45]

Tetapi B.A.V. Peacock[46] dalam penulisannya yang terbaharu tidak senang menerima pendapat Sieveking itu, iaitu terwujud dua kebudayaan, Hoabinh dan Neotilik, yang berkembang bebas di antara satu sama lain. Pendekatan Sieveking itu mencerminkan pendekatan tradisional di mana prasejarah (sebelum zaman logam) satu-satu kawasan itu dapat dibahagikan dengan jelas kepada palaeolitik, mesolitik dan neolitik. Pendekatan ini diasaskan kepada skema yang digunakan dalam kajian prasejarah Eropah. Tetapi penyelidikan arkeologi terbaharu di Gua Kechil, Pahang dalam tahun 1962 dan di beberapa kawasan lain di Asia Tenggara telah melahirkan prasangka terhadap skema itu bagi membicarakan prasejarah di kawasan ini.

Adalah dipercayai bahawa penggunaan alat-alat batu tradisi Hoabinh wujud kepada satu jangka waktu yang agak lewat di Kelantan. Ini berdasarkan kepada penemuan alat batu punat yang di tarah di dua buah batu lindungan pada paras teratas sekali di Ulu Kelantan (di Gua Tampaq dan Gua Cha). Oleh kerana tidak terdapat keterangan lain kecuali serpihan tembikar jenis hiasan captali maka dapatlah

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42 M.W.F. Tweedie, "The Stone Age in Malaya," *Journal Malayan Branch Royal Asiatic Society*, Vol. 26 (2), 1953.

43 F.L. Dunn, *Rain forest collectors and traders: a study of resource utilization in modern and ancient Malaya,"* Monograph of the Malaysian Branch of the Royal Asiatic Society, No. 5. hlm. 134 tentang kronologi zaman Hoabinh di Semenanjung Malaysia.

44 G. de G. Sieveking, *op. cit.*

45 M.W.F. Tweedie, *op. cit.*

46 B.A.V. Peacock, "Early cultural development in Southeast Asia with special reference to the Malay Peninsula", dalam Archaelogy and Physical Anthropology in Oceania, Vol. VI (2), 1971.

dianggapkan zamannya adalah zaman akhir "Hoabinh". Mengikut pendapat Chester Gorman 'Hoabinh'[47] itu lebih tepat kalau kita gelarkannya sebagai tekno-kompleks dan tidak sebagai kebudayaan.

Zaman Neolitik di Kelantan, adalah dipercayai berkembang di antara 3,000–1,000 S.M.[48] Ianya diwakili oleh alat-alat tembikar, kapak batu empat segi bujur dan berbagai jenis artifek lain yang dibuat daripada batu seperti gelang tangan batu. Kajian yang terakhir ke atas tinggalan tulang manusia zaman Hoabinh. Keterangan itu menolak pendapat iaitu kebudayaan Neolitik di Kelantan itu sepertimana juga kebudayaan Neolitik di tempat lain di Malaysia sebagai kebudayaan yang *intrusive*.[49]

Hal ini boleh dilihat dengan jelas lagi sekiranya dikaji dengan teliti kumpulan artifek dilapisan atas sekali yang terdapat di Gua Cha. Alat-alat tembikar yang beranika jenis yang dijumpai di Gua Cha itu, kemungkinan besar dipengaruhi oleh tradisi tembikar tanah besar Asia Tenggara. Pernah dicadangkan bahawa alat-alat tembikar zaman Neolitik akhir di Gua Cha itu mempunyai persamaan dengan tradisi tembikar zaman Neolitik di Ban Kao,[50] di kawasan negeri Thai Tengah (Daerah Kanchenaburi) Tapak arkeologi Ban Kao itu dikelaskan sebagai tapak arkeologi zaman logam. Tarikh karban – 14 bagi tapak ini ialah lebih kurang 2000 S.M.[51]

Selain daripada keterangan tradisi tembikar juga keterangan alat-alat batu seperti gelang tangan batu mungkin dapat mengesahkan tentang hubungan masyarakat Neolitik akhir di Gua Cha dengan tapak-tapak arkeologi prasejarah di tanah besar Asia Tenggara. Cincin batu yang dijumpai, di antaranya adalah yang berbentuk T. Sememangnya gelang batu banyak terdapat di Malaysia. Setakat ini dijumpai hampir tiga puluh dan lima daripadanya berbentuk T.

Gelang batu dianggap oleh Tweedie sebagai satu ciri utama zaman Neolitik.[52] Tetapi W. Linehan[53] berpendapat bahawa kemungkinan besar alat-alat itu mempunyai hubungan dengan masyarakat yang mengamalkan kebudayaan zaman logam. Walaupun tidak ada keterangan yang jelas untuk mengesahkan hal itu, namun demikian adalah menjadi kenyataan bahawa dua daripada artifek berbentuk T itu dijumpai di kawasan lombong bijih iaitu di Mantin, dan Jen-

47 C.F. Gorman, "Excavations at Spirit Cave, North Thailand: one Interim Interpretation" *Asia Perspectives*, Vol. 13, 1970, hlm. 61–82.

48 F.L. Dunn, *op. cit.*, hlm. 122.

49 Di antara sarjana yang percaya tentang hal itu ialah M.W.F. Tweedie, *op. cit.* dan G. de G. Sieveking *op. cit.*

50 Per Sorensen, *Archaeological Excavations in Thailand*, Vol. II *Ban Kao*, Copenhagen, 1967 hlm. 114–115.

51 *Ibid.*

52 M.W.F. Tweedie, *op. cit.*, hlm. 41.

53 W Linehan, "Notes On Some Further Archaeological Discoveries in Pahang," *Journal Malayan Branch Royal Asiatic Society*, Vol. VIII (II) 1930 hlm. 316.

deram Hilir, Selangor. Di tanah besar Asia Tenggara artifek bentuk T itu memang tersibar luas. Sementara itu di negeri Thai tengah, yang berhampiran dengan Segenting Kra dijumpai artifek itu bersama-sama dengan artifek dari logam, iaitu di Gua Ongbah di daerah Kanchanaburi.[54] Alat-alat artifek daripada gangsa iaitu cincin berbentuk T juga dijumpai.

Namun demikian tidaklah dapat dibuat kesimpulan bahawa masyarakat Neolitik Gua Cha itu masyarakat yang *instrusive*. Ini adalah kerana Gua Cha itu juga mempunyai ciri-ciri kebudayaan Neolitik yang agak berbeza dengan kebudayaan zaman logam tanah besar Asia Tenggara. Beberapa buah kapak/beliong berbentuk paruh burung dijumpai berserta dengan alat batu penumbuk. Alat-alat itu banyak dijumpai di tapak-tapak arkeologi lain di Malaysia tetapi tidak dijumpai di luar Malaysia, kecuali di Surat Thani, Selatan Negeri Thai.

Alat-alat batu penumbuk itu dijumpai juga di dalam kubur batu kepingan bersama-sama dengan artifek bersidi Changkat Menteri, Perak. Di Gua Madu dan Gua Melawar alat batu penumbuk itu dilaporkan dijumpai bersama-sama dengan artifek zaman Hoabinh. Sementara di Ulu Dong, Pahang alat penumbuk batu itu dijumpai bersama-sama dengan gelang tangan batu yang dilicinkan.

Daripada keterangan arkeologi itu maka dapat disimpulkan bahawa gelang batu, batu penumbuk dan kapak/beliong bentuk paruh burung adalah sezaman. Oleh kerana artifek itu dijumpai juga di tapak arkeologi zaman logam, maka sudah pastilah masyarakat Neolitik di Malaysia, terutama sekali yang hidup di Gua Cha, Kelantan mempunyai hubungan dengan masyarakat yang lebih maju di tanah besar Asia Tenggara yang pada masa itu telah pun mengamalkan kebudayaan logam. Melalui perhubungan itu ide tentang pembuatan alat-alat tembikar yang lebih maju juga diperkembangkan dan hasilnya dapat dilihat daripada temuan di Gua Cha. Ide dan sikap innovatif masyarakat di Kelantan di zaman Neolitik itu menjadi asas kepada perkembangan yang lebih ketara di zaman awal tahun Masehi. Kebolehan mereka dalam ilmu pelayaran membantu mereka untuk memain peranan yang lebih effektif dalam perdagangan timur-barat di awal tahun Masehi. Mereka membawa ahli agama dan pedagang China ke India di abad-abad sebelum abad keempat. Peranan mereka yang berkesan itu menjadi faktor penting dalam pertumbuhan negeri-negeri awal di Kelantan di awal tahun Masehi. Negeri-negeri awal itu berkembang mengikut arus politik dan perkembangan perdagangan antara timur-barat.

Sejak daripada zaman T'ang, struktur politik di Semenanjung Tanah Melayu telah mengalami perubahan yang besar. Ini adalah kerana nama kerajaan-kerajaan awal di Semenanjung Tanah Melayu yang disebut oleh penulis China tidak lagi terdapat. Nama kerajaan seperti Tan-tan dan Chih-tu yang dipercayai terletak di Kelantan

54 Per. Sorenson, *op. cit.*, hlm. 115.

itu tidak wujud lagi. Ditempatnya terdapat kerajaan Chi-lan-Chau sepertimana yang tercatat dalam catatan Chao-Ju-Jua[55] pada tahun 1225. Nama ini menjadi Chi-lan-tau pada tahun 1349 seperti yang terdapat dalam laporan Wang Ta-ijuan.

Mengikut catatan Wang Ta-ijuan[56] itu negeri Kelantan mempunyai raja. Negeri itu menghasilkan bijih timah dan bahan-bahan hutan seperti pinang, manisan lebah, paruh burung. Hasil negeri itu ditukar dengan bahan-bahan seperti kain, pinggan, mangkok, berbagai jenis manik dan alat muzik. Masyarakat negeri Kelantan suka berpesta, iaitu mengadakan upacara-upacara meriah. Mereka juga tahu bertenun.

Keterangan arkeologi dalam bentuk tembikar China zaman Sung dan Ming mengesahkan kewujudan negeri Kelantan di masa itu. Adalah diharapkan daripada kegiatan penyelidikan arkeologi yang lebih sistematik dan lebih meluas di Kelantan maka akan terhasillah cita-cita untuk mendapat gambaran yang lebih luas tentang sejarah prasejarah dan proto-sejarah negeri Kelantan. Juga, diharapkan usaha-usaha itu dapat mengesan tapak-tapak Kerajaan Melayu Kelantan yang awal.

55 Paul Wheatley, *op, cit.*, peta di hlm. 64.
56 Lihat terjemahan dalam bahasa Inggeris, *ibid* hlm. 79.

A Historical Note On The Northeastern Malay States*

ANKER RENTSE

IN connection with a colletion of Archaeological Implements presented by me to Raffles Museum in Singapore, I have made an attempt to record finds of historical interest in Kelantan as known to me. These discoveries cover a wide historical field from the early mesolithic period up to our present era, and they confirm my former assumption (History of Kelantan, J.R.A.S.M.B. Vol. XII, pt. II, 1934) that Kelantan is a country with a very old history, which has yet to be discovered in detail. An attempt has also been made to collect data from the various sources, available on the history of the Northeastern Malay States, which include the Malay countries on the east coast from Kelantan to Ligor. It is impossible to confine oneself to the history of Kelantan without dealing with that of the Malay States on the east coast north of Kelantan as well, as they passed through history together, now and again divided up into smaller states, sometimes united in an independent kingdom and sometimes under the yoke of the Mon-Khmer's or the Thai's, their neighbours to the north. As the history of this part of the Peninsula is so obscure, the historical data so scanty, I feel that a record like this, meagre and incomplete as it is, may be of some use.

Historical research in the Malay Peninsula in the past has been confined largely to Malacca and its dependencies. Very little light was cast upon the history of the Northeastern Malay States. The Malays here represent a people different in many respects from the

* Reprint from the *Journal of the Malayan Branch Royal Asiatic Society*. Vol. 20(1): 1947.

Malays in the west and the south; they are isolated from the rest of the Peninsula by high mountain ranges, and although there were trade connections with the west coast they passed through a historical phase of their own. The Malays of Perak, Pahang, Selangor, Negri Sembilan and Johore have Sumatran affinities, whereas the Malays to Kelantan, Patani fnd Ligor had intercourse with the people from the north and the east; they represent in physical type and dialect as well as in customs two different people. Dato' Braddell asked in 1935 (J.R.A.S.M.B. Vol. XIII, pt. II, page 86). "But what was the 'Malay proper'? Is this origin of Malay culture in Trengganu and Kelantan really the same as that of the Malay culture on the west and south of the main mountain range of the Peninsula? and did the Malays of these two states really acquire that culture at the same time as the Western and Southern Malays?" These two cultures were influenced from different sources and therefore became different to a degree. Trengganu was, however, later on in close connection with Pahang and Johore, and this connection has left its trace. Trengganu Malays are different in custom from Kelantan Malays, except in the Besut valley on the Kelantan border, the population of which is of Kelantan origin; the customs of the Kelantanese are greatly influenced by Brahmanism and Hinduism through connection with the north, and with Majapahit; in Trengganu this is not the case. The Malay culture in the Northeastern Malay States is probably of a much earlier date than the culture on the west coast, which spread out from Malacca.

It seems strange that so little was known about the east coast of the Peninsula, but there appears to be an explanation for this. The ancient trade routes from Europe went from India across the Bay of Bengal to the west coast of the Malay Peninsula. It seems likely that piracy prevented traders from following an established trading route further east. Therefore we get very scanty information about the east coast Malays from the ancient records put up by traders from the west. It is probable that in the earliest times of western trader barter took place on the west coast of the Malay Peninsula, in Kedah and Perak, where it appears that important settlements of Indian traders were to be found from about the 1st to 10th century A.D. (Dr. H.G. Quaritch Wales, J.R.A.S.M.B. Vol. XVIII, pt. I) and that goods were carried overland from the east coast. After 1511 A.D. when the first European power, the Portuguese, settled as Malacca we find detailed historical accounts concerning the west coast, but still very little about the east coast countries. Recent investigations into the works of Chinese Chroniclers are now beginning, however, together with western travellers' records and archaeological research, to form a picture of early culture in the Malay Peninsula, and there are signs which indicate that future research work may find a key in the Northeastern Malay States as well as in Kedah and Perak to establish the data about the

Malay culture before 1500 A.D.

The earliest date relating to the history of the Kingdom of Patani is mentioned by Eredia (J.R.A.S.M.B., Vol. VIII, pt. I, 1930; J.V. Mills, Eredia's Description of Malacca, Meridional India and Cathay), who writes about 1600 A.D. that "The Empire of the Malaios was founded in Pattane by Tuan Malaio, the first Emperor, who was chosen in the third year before the birth of Christ, during the time when Herod of Ascalon, the pagan, was on the throne; the seat of the empire passed to Pan then to Malacca, and is now established at Batusauar." It was the Thai's from the north sho pressed the Malay rulers further south when they settled in Pahang (Pan). Dr. W. Linehan states (J.R.A.S.M.B., Vol. XIV, pt. II, 1936) that the Thai overlords (the Thai's, Sukhotai) obtained supremacy over Ligor about 1280 A.D., and afterwards suzerainty over Sai and Pahang during the 14th century; apparently they did not interfere with the Ligor dynasty in Pahang. They merely exacted tribute, and established settlements. In the 15th century Malacca was in power and later, about 1600 A.D., Johore became an important trade centre.

Eredia, describing Marco Polo's voyage in 1292, states "So it may be concluded that in those times there were no civilised people in Samatra and Ujontana, except on the other or western coast of Ujontana, where there was intercourse with Attay or Cathay." This affords evidence of a relationship with countries east of Malaya. It may be noted here that Malay families in Cambodia, who do not talk the Malay language, but who have maintained their Muslim faith, are even now sending their children to religious schools in Kelantan.

And further Eredia writes, "Patane was the first seat of the Empire of the Malaios; its site lies on the eastern coast of the Peninsula in seven degrees of North latitude; it is one of the famous Oriental ports with an extensive trade and commerce. It contains even at the present day large gold mines which have been discovered in the mountains and the ranges and in other parts of the territory along the course of river Cea, where one finds large quantities of gold in the form of dust and small grains, which is taken for sale to the port of Malacca, and is well known to the captains and merchants of the latter place, who always buy it for the trade with Choromandel.

"I remember seeing a piece of gold from the river of Cea; it was a gold nugget shaped like a small onion, with roots like a plant; it was in the house of Ninaborneo Chelim, a very large trader and merchant.

"Pan was the second seat of the Empire of the Malaios; its site lies on the Eastern coast of the Peninsula, in three degrees of North latitude; the port is just as much frequented by merchants, because of the gold from its auriferous mines; it contains the best and largest gold mines in the whole Peninsula; it was from here, one presumes, that

there came the gold which formed the subject of the ancient trade with Alexandra and Grand Cairo, which passed by the Way of the port of Calan, or the port of Tanasorin or Tana Sophir (which is nowadays called Tanasorin) through the Red Sea or Arabian Gulf in the following manner."

The river Cea mentioned above refers to the Sai River, nowadays known as Sungei Telubin. At one time the country around this river formed a kingdom called Sai.

The recent publications by Dato' Roland Braddell, Mr. J.L. Moens and Dr. Quaritch Wales in this Journal have cast a new light into the darkness of ancient Malayan history. Mr. Moens notes are based on the ancient Chinese and Arabian travellers' records (J.R.A.S.M.B., Vol. XVII, pt. II, 1940), and he has suggested that the ancient kingdom of Srivijaya (about 670 A.D.) was centred in the part of Malaya known to us as Kelantan, which he considers to be the Ho-lo-tan of Chinese chromiclers. He also records that in 430/452 A.D. envoys were sent from Ho-lo-tan (= Kelantan) to China, which indicates an important trade centre in Kelantan during that period. Mr. Moens writes (page 17), "Is there any indication supported by historical or topographic causes, for the rise of Kelantan or Kalatan (as the natives of this place call it) – which subjugated Malayu and eventually monopolised the trade route from China to India during two centuries."

Mr. W.A. Graham writes ("Siam", Alexander Moring, London, W.1. 1924) "The principal of those lesser states which for a long period alternately admitted and denounced the suzerainty of Sukhothai-Sawankalok, was Sri Wijaya, also called Sumarattha and later Supan, the first capital of which was built, probably about 150 A.D., on a site at that time close to the sea at the head of the Gulf of Siam, though it is now twenty-five miles inland. As Sri Wijaya the state flourished for some 800 years, successive kings adding to the buildings and fortifications of the capital and embellishing the magnificent pagoda, the graceful spire of which, often restored and more than once practically rebuilt during successive ages, still dominates the district long known as Nakon Chai Si (Nagara Jaya Sri) and now called Nakon Pathom."

And futher "Yet another southern state was the kingdom of Nakon Sri Tammarat or Lakon, corrupted by the Malays to Ligor, situated on the east coast of the Siamo-Malay Peninsula, about latitude 8° 25' N. The date of the first appearance of a consolidated kingdom in this neighbourhood is uncertain, but there is evidence that travellers from both India and China knew of a capital city on the northeast coast of the Peninsula at a very early period, while the "Annals of the North" describe Lakon as waging a temporarily successful war against Lopburi in the ninth century A.D. In very early times the kings of Lakon were the overlords of the entire Siamo-Malay Penin-

sula, and though the advent of the Malays and the establishment of the Malacca Power destroyed their rule in the southern parts, they continued until comparatively recently (when the sub-kingdom became a mere province of Siam), to be the acknowledged masters of all the central northern districts. Lakon was always subject to much foreign influence. Indian and European traders made it a centre for the collection of merchandise, and in the wars between Siam and Pegu its situation contiguous to the frontier caused in to be frequently occupied by the Peguan forces. The cult of Brahmanism flourished greatly there in the middle ages and it remains at the present day the last stronghold of popular Brahmanism in Siam."

Comparing the notes of Mr. Moens and Mr. Graham it looks as if Sri Wijaya's boundaries extended from the head of the Gulf of Siam down South into the Malay Peninsula somewhere about Kelantan, or, with Dr. W. Linehan's discoveries in view, including Pahang. Mr. Moens thinks that Kelantan was the centre of the empire, but Mr. Graham seems to think that this was to be found further north amongst the Khmer tribes. Probably both are correct as it may be suggested, that the ruling power at times was in the bands of the Malays and sometimes with the Khmers.

Further Mr. Moens writes, "The present capital of the State of Kelantan is Kota Bharu, 10 klm inland on the river estuary. The previous capital Kota Lama is farther upstream than Kota Bharu, from which one may conclude that this sandy un-wooded coast is increasing so that old Kelantan of the 7th century must be looked for much farther upstream. This was very likely the case, because it lay on 5° 50' northern latitude, whilst the present Kuala Kelantan lies on 6° 15' N. latitude, or 45 klm more to the north. There is the possibility that sundial measurements cannot always be relied on, on account of their comparative inaccuracy (Gerini was not too particular about arriving at the result of 5° 50' N. latitude for old Srivijaya). Though the north-east monsoon in the China Sea makes navigation difficult from November until February, the sea is calm all the rest of the year. The Kelantan River is open to Malay shipping for 300 klm upstream, and sailing boats with a draft of 8' can reach Kota Bharu, where the river has a breadth of 350 meters. Kelantan is well known for its gold, which next to that from Pahang is preferred by Malays. During the reign of Sultan Mahmud II of Malacca (end of 15th century) Kelantan was a more powerful State than Patani, with which its history was closely associated through centuries.

"Both cities were frequented by traders between China and India, because from there the Gulf of Siam was crossed to Camboja. This was indeed the shortest route, and favoured especially Kelantan. During the northeast monsoon Patani was, however, preferable owing to its well protected harbour. In both these cities all merchandise

could be found from the East Indian Archipelago, China, Indo-China and India. Only occasionally stops were made at Ho-ling or Po-ling on the southern part of Malayu's east coast (according to Yi-tsing). I believe that it is more than a mere coincidence that the empire Ho-lo-tan or Ko-lo-tan is identical with the empire on the Kelantan River; Pelliot believes that Ko-lo-tan, on the island of Cho-p'o, is identical with Kelantan. The annals of the first Sung dynasty (240–478 A.D.) mention emissaries from there to China with crystal rings, parrots, Indian and native textiles, etc. Further geographical proof is substantiated by the Sui annals (589–618 A.D.) which mention that Ho-lo-tan lies to the south of the empire of Teh'e-t'ou, where a Chinese mission arrived in 607 A.D. and which in response sent a mission to China in 616 A.D. To the north this country bordered the sea (see map No. II). The name Teh'e-t'ou seems to be a translation of a name signifying "red earth", perhaps Raktamrttika, which appeared on an old inscription founn in Province Wellesley (5th century).

"It is surely more than a coincidence that north of Kelantan and) Patani) in the old Patalung (now situated near the swampy lake Tale Sap–with the capital of Singgora founded by Siam near a splendid new harbour) the soil is pronouncedly red and the harbour extrance marked by the red sandstone hills of Kao Deng (Kao = hills; deng = reddish). Patalung, now merely a well-to-do village, was a large city near a deep waterway, according to local tradition. But even if the above identifications of Ho-lo-tan with Kelantan and Teh'-tou with Patalung should be errorneous, the fact remains that according to geographical information the city must have been somewhere near 5° 50' N. latitude on the east coast of Malaya: thus Srivijaya must have existed on the Kelantan River before its transfer to Malayu. This becomes the more likely if Kelantan is identical with Ho-lo-tan of the 5th century. Kelantan must have adopted the famous name of Srivijaya before the first visit of Yi-tsing, else he would not have mentioned it. Also the fact that the T'ang annals mention emissaries from Cheli-fo-che (670–673 A.D.) is in favour of this view. The adoption of the name may have been prompted by the intention to impress Cho-p'o and other states with its might and power (670–1 A.D.). It is noteworthy that nothing was heard in China of Cho-p'o during a whole century (666–767 A.D.) and the conclusion is that Che-li-fo-che (Kelantan) was already during 666–670 A.D. a power which exerted a supreme influence in Malaya."

I do not think Mr. Moens' suggestion that the old capital of Kelantan in the 7th century was situated at a place close to the seashore (on 5° 50' N. latitude) will prove to be correct. I have collected a stone implement (an adze) of the neolithic type only 4 miles from the present seashore, 2 feet below the surface, which may indicated that the formation of the Kelantan plain is of a much earlier date. Curiously enough a similar implement was discovered in the soil near the bank

of the Kelantan River at 5° 50' N. latitude. Also Kota Lama is, according to local tradition, of a comparatively recent date. So far no traces have been found of an ancient capital; the Kelantan River overflows its banks at every monsoon flood and deposits a certain amount of silt on the plain, and it is quite possible that the remains of an ancient capital have been buried under such silt deposits from heavy floods.

Dato' Roland Braddell writes to me that he does not think that Ho-lo-tan was Kelantan, but it appears that the Chinese chroniclers have also mentioned Ho-lo-tan as Kou-lo-tan, and mentioned it as lying south of Ch'iht'u (Sukhothai, Siam) in the seventh century. Gerini remarks that it appears to be doubtful whether this refers to Kelantan or not, but he adds later on that the sea is lying to the north of the country; this applies very well to Kelantan.

Dr. H.G. Quaritch Wales writes (J.R.A.S.M.B., Vol. XVIII, pt. I, 1940) page 68, describing the second main wave of Indian Cultural Expansion to Malaya (circa 300 to circa 550 A.D.), "As to the political status of Kedah during this early period, as we have no certain evidence of its independent intercourse with China, it seems reasonable to suppose that it was controlled by some more powerful neighbouring state. Unless we accept Moens' views that Kedah (as Cho-p'o) was under the rule of Kelantan (identified by him with Ho-lo-tan of the First Sung Annals), we may suppose that it was part of the powerful kingdom of Lang-ya-hsiu which is generally agreed to have been situated at Ligor and which in turn was almost certainly under the suzerainty of the Funan Empire. Not only would such an early Kedah–Ligor combination have been in accordance with the state of affairs we find repeated in later centuries, but the overland route from Kedah (now followed by the railway) formed a natural and easy link, intercourse across which at an early date is suggested by the existence not only at Kedah but also Ligor of very early inscriptions." And further Dr. Quaritch Wales writes, page 74, "Perhaps most decisive of all the emphatic negative evidence that *nowhere in Kedah, among remains of any period, have any sculptural, architectural or decorative remains been recovered that are essentially Javaness or Sumatran in character.* The same statement seems to hold good throughout Malaya. In Kelantan of course there is plenty of evidence of Javanese influence in the living culture of the people, but it is late in character and may be attributed to the contacts in the Majapahit period."

Even if Ho-lo-tan does not refer to Kelantan, although there seems reason to believe that it probably does, the Lang-ya-hsiu (Langkasuka) was no doubt an empire of some great extent and it seems most likely that all the smaller states along the Pahang, Kelantan, Sai and Patani Rivers were included in this empire, though probably ruled by vassal kings, who recognised the Ligor ruler as their overlord. At times,

it may be assumed, the rulers of Patani or Kelantan were regarded as overlords, gaining supreme power through local feuds. It also seems probable that the earlier Indian settlements in Kedah formed a coalition with the east coast empire, and that the later power in the Kinta valley in Perak (mentioned by Dr. Quaritch Wales) was connected in the same way, communication taking place up the Perak River. This will be dealt with further on.

The name Langkasuka suggests some connection with the Ramayana tales, the plays of which up to the present time form a source of great entertainment in the villages of Kelantan and Patani. They are performed on the stage of the Kelantan *Wayang-kulit* (shadowplay), locally referred to as *Wayang-Siam* so as to distinguish it from the *Wayang-Java*, which is of a recent date in Kelantan.

It may also be worth recording that an old Malay, who was my informant on the Kelantan Shadowplay about 10 years ago, told me that the city of Lanka (Lankapuri) mentioned in the Ramayana tales was really not situated in Ceylon as commonly believed but in Ligor, somewhere near Singgora, he said, and that the temples referred to in the ritual of the shadowplay (J.R.A.S.M.B., Vol. XIV, pt. III, 1936, page 292), which reads:–

> "Puak-puak dewa rosak, ya'itu Maharaja Rawana dan nenek Maharaja Sri Rama, yang duduk bertapa di pantai Bali di dalam negri Lakarkatyin, siapa yang empunya ending, ending suak, ending jahrum, siapa yang menjadi nenek, ya'itu Tuk Maha Risi Kala yang bermatakan api, yang duduk bertapa di dalam wat tujuh kedi Berhama, bersama dengan berhala ampat-puluh hulubalangnya, bernama Ratu Pangnira,"

(translation:–Troops of godlings, who are the great kings Rawana and Seri Rama, who practise penance in ascetic devotion on the Bali coast in the land of Lakarkatyin, whoever are accompanied by servants, whoever are ancestral deities, namely Kala, the great wizard with the red eyes, who practises asceticism in the seven temples, that are monuments to Brahma, together with his captains, the forty idols, having the Javanese titles Ratu Pangnira), were situated in the same place. Although this old ritual is showing a strong Javanese influence, probably originating from the later Majapahit rule on the east coast, it refers to a country, written down by me as Lakaratyin, an expression conveyed to me verbally by an illiterate Malay peasant, and therefore most likely corrupt, it suggests Langka in the first syllable. At the time when Majapahit culture influenced the east coast Malays the rule of Langkasuka had already then become a tale.

The discoveries in Kelantan of stone and bronze implements as well as ancient Chinese porcelain and pottery right from the coastal areas up into the centre of the Peninsula near the Perak–Kelantan and Pahang–Kelantan borders indicate that human activities took place on a considerable scale in ancient times. It would therefore appear that

some kind of trade must have attracted the foreign traders to the country. What then would Kelantan be able to produce in return for the goods brought to its shoes by these foreign travellers? We know that gold, spices, merchandise and various agricultural products were exported from the Malay Peninsula in general; but apart from this we have now a few other points to guide us.

Kelantan was no doubt very rich in gold, and also in tin to some extent, and the same applied to the countries of Patani, Rahman, Jaring and Sai. If we draw a line from the present Raub Gold Mines in Pahang up north through Ulu Galas and Sungei Nenggiri (S. Jenera and S. Wias) in Kelantan, then bending towards the northeast, Sungei Setong and Sungei Mempelam, and from there north through the area east of Sungei Pergau (Sungei Jentiang and Sungei Sokor), next further on towards the northwest through the Tadoh River areas towards Tomoh in South–Thailand, the source of Sungei Telubin (Sai. Cea), and finally westwards through the upper parts of the Patani River, touching the Ulu Belom in Perak, we find traces of ancient mining everywhere in the jungle in the form of old water-supply canals along the slopes of the hills. Alluvial gold will be found in the streams almost anywhere in this extensive area; but nowadays it appears in such small quantities that only small scale *dulang* work (panning) is profitable, an indication that the great bulk of surface deposits have been removed by the ancient miners. It must be assumed, however, that those miners used primitive implements and that they worked the surface only, wherefore rich ore deposits may still be expected to be present underground. The stone and bronze implements described in connection with present notes have nearly all been discovered in or along these ancient sites for gold and tin workings. Some of the discoveries were made twenty feet below the surface. It is now tolerable evident that an extensive trade in gold (and in tin to some extent) took place in Kelantan in ancient times, and I have no doubt that further investigations would yield the same results in the jungle along the upper reaches of the Patani and the Sai Rivers. This trade in gold continued on a decreasing scale to be present time. We find Sung Celadon porcelain buried in the soil of the Kelantan plain and large Ming pottery jars regarded as sacred old relics in villages from the coast to the interior. A small Ming jar I found in a village on the Thailand border (Sungei Golok) was described to me as a *guri mas* (gold jar), and I was told that it contained gold dust when found buried in the ground. Extensive mining activities would require a trade in food supplies, and this probably developed the agriculture on the Kelantan plain, which in padi areas alone covers more than 200 square miles today. About 1500 A.D. locally minted gold coins were in use as currency. Recent discoveries (J.R.A.S.M.B., Vol. XVII, pt. 1, 1939) have proved that gold coins were minted in the Northeastern Malay States to an extent

unknown in the rest of the Peninsula. It is probable that a gold currency was in force before 1500 A.D. The gold coins discovered so far all bear inscriptions in Arabic, which indicate that they were minted by rulers subject to Muslim faith. Tradition in Kelantan claims that the Northeastern Malay States embraced Islam at a period much earlier than the west coast states, and that it was untroduced from Yunan. Eredia writes (J. V. Mills; J.R.A.S.M.B., Vol. VIII, pt. I, 1930), "the faith of Maumeth was accepted in Patane and Pam on the eastern coast of Ujontana, and in certain islands of the Aromatic Archipelago, especially at the port of Bantan in Java Major. Later it was accepted and encouraged by Permicuri at Malacca in the year 1411."

We are now able to establish the facts about a chain of ancient settlements along the Kelantan Riveer and its main tributaries right up to the Perak and Pahang borders. Similarly there have been early settlements along the Pahang River, the upper reaches of which also contain gold and show traces of ancient mining. It is therefore quite probable that there was a close connection between the settlers in the upper reaches of the two main rivers, as the gold workings continue in an almost unbroken chain across the divides, some of which are less than one thousand feet above sea level. This would indicate an unbroken route from Kuala Kelantan up through the Lebir, Galas and Nenggiri Rivers, crossing the Kelantan–Pahang border into the Tembeling and the Jelai Rivers down to Kuala Pahang. These routes are not known to the younger generation of Malays, but I have met many old Malays who used them before roads and railway were developed in this country.

With reference to the old maps of the Peninsula Dato' Roland Braddell writes (J.R.A.S.M.B., Vol. XVII, pt. I, page 149), "The Attabas seems clearly to have been Pahang. Like Johore it fits scenes of ancient settlement." And further, "In connection with Ptolemy's names Dr. Linehan has directed our attention to this Society's map of the Peninsula in 1887 which shows a spur of Gunong Tahan as being named Bukit Batu Atap; and he says that as a consequence he is now inclined to give some credence to Gerini's derivation of Attabas from atap which Dr. Linehan had previously rejected." In 1934 (J.R.A.S.M.B., Vol. XII, pt. II, page 46) I made the suggestion that Ptolemy's Attaba may be the Lebir River (one of the main tributaries to the Kelantan River, the source of which is Gunong Tahan). Mr. C.N. Maxwell made the following notes (J.R.A.S.M.B., Vol. XIV, pt. III; Roland Braddell, Study of Ancient Times in the Malay Peninsula), "We find Palandas (p. 17) as the mouth of a river and Palanda (p. 18) as an inland town. I gather that Ptolemy plotted his maps from information obtained from sailing masters and travellers who came to te Malay Peninsula for gold (and tin). *Landa (melanda)* means to pan for ore. *Melanda mas*, to pan for gold, *dulang pelanda*, the wooden pan used by gold

and tin washers to this day: also *pendulang*. Pelanda or Pelandas may therefore have been accepted as being the name of a river or town whereas it simply referred to the places where people washed for gold i.e. the gold fields." And further, p. 18, "the remainder becomes the Palandas, for which unfortunately he gives no further positions." This may be accounted for by the fact that the gold fields were extensive. Further Mr. Maxwell writes, "It looks as though the true name of the river was overlooked in favour of the object of the voyage that the river was called Palandas because it was the gold seekers' first port of call and the river which either contained gold or led to the gold fields."

It may be suggested that the former views regarding the position of Ptolemy's Attaba River, that it refers to the Pahang River and that the Palandas was the Johore River, may be revised. On Gerini's may the mountain called M. Batu Atap is shewn at the source of the Attaba River, which is to the *south* of this river. The position of Gunong Tahan is south of the Kelantan River. Against the Palanda being the Johore River, was there ever any gold mining of any importance carried out on the Johore River. I think it likely to be considered that the Attaba River refers to the Kelantan River and that the Palandas was the name for the Pahang River.

I do not think there can be any doubt about an ancient inland trade route from our Kuala Kelantan to Kuala Pahang; a main route like this would naturally be wellknown in those days to all traders, wherefore casual visitors like Ptolemy's informants, who being overseas traders probably paid calls only in the coastal ports and therefore only heard about the sources of the main rivers from the native traders. They would, however, be certain to take notice of such information as these upper reaches contained the gold they were purchasing; but mistakes in such secondhand information may easily occur.

In connection with the Kelantan–Pahang inland trade route attention should be drawn to the aboriginal tribes in the mountains on the Perak–Kelantan border, the *Temiar*. Recent years' investigations by Mr. H.D. Noone have proved that these Temiar contain a stock of a highly intelligent tribe of agricultural minded people. We find here types so refined that one cannot but conjecture that these types are the relics of a former civilisation yet unknown to us. It may be suggested that some of these Temiar descend from the ancient people who populated the country along the Kelantan–Pahang trade route. Furthermore it is interesting to note that the Temiar dialect is closely related to the Mon-Khmer language. According to Mr. W.A. Graham the Khmers were at one time the overlords of the various kingdoms in the Malay Peninsula. There is also the legendary tale in Kelantan about the queen who ruled Kelantan from Gunong Chintawasa (on the map wrongly called Noring East) in the Temiar country and whose

adopted daughter was a descendant of Tok Raja Besiong (or Bersiwang).

Apart from the Kedah–Ligor route, mentioned by Dr. Quaritch Wales, there is another land route which may also be considered. It is wellknown that there was communication between Patani and Upper Perak for hundreds of years back. A considerable part of the Malay population in Upper Perak claims descent from Patani. Gold was found in the upper reaches of the Patani and Sai Rivers, as well as in the Belom valley down to Tapong, and it seems likely that future investigations will make discoveries of historical interest along these sites of ancient gold workings, the same as in Kelantan. Gold and other products from the east coast were probably carried across country to Kedah for the overseas export to the western countries, India. Persia, Egypt and Europe. It strikes me as curious there is a place in Kedah called Sungei Patani. I venture to suggest that this name may refer to an ancient trade route from Patani on the east coast, up along the Patani River through its gold bearing areas, and down through Kedah somewhere along the Ketil River towards Kuala Merbok. This line would pass the present Sungei Patani in Kedah. It seems probable that this Kedah Sungei Petani derived its name from the river through which the Patani traders from the east coast appeared to the eyes of the Kedah folk, when they arrived with their products. Gold, spices and merchandise would be easy to carry across on elephants, which are commonly used for transport up to the present day in South-Thailand and Upper Perak.

This route would be of very great importance for the trade between the east coast states and Kedah as a distributing centre for the overseas trade on the west coast, as will be seen from the following. The upper reaches of the Patani River, the Telubin (Sai) River and the Pergau River (a tributary to the Kelantan River) are situated in the neighbourhood of each other. Connecting passages take place through the upper part of the Belum valley in Perak where traces are also found of old gold workings. There is still a wellknown path from Batu Melintang in Ulu Pergau up the Tadoh River (a tributary to the Pergau in Kelantan) across the Thailand border and further on into the Belum valley. I have met Kelantan Malays on this path walking along towards Belum to visit their relatives living there. The map of Malaya (1933) shows a path from the Belum valley to Betong in the Ulu of the Patani River, from where there is now road connection into Kedah. It seems evident that this route must be considered in connection with the ancient history of the northern Malay States. The route would probably be found convenient for a future road connection between Penang and Kelantan–Trengganu; it need not cross the Thailand territory, but could be directed through the pass at Ulu Jintang on the Perak–Kelantan border.

Mr. V.B.C. Baker writes (J.R.A.S.M.B., Vol. XV, pt. I, page 27;

Roland Braddell, Further Notes upon the study of Ancient Times in the Malay Peninsula), "The men of Sai who colonised Pahang were miners, not seafarers–probably of stock other than Malay. They followed gold and tin up the Telubin (Sai) and crossed over into the Pergau and thence up the Lebir and over, *via* the Sat, into the Tembeling valley. Linehan (J.R.A.S.M.B., Vol. XIV, pt. II, page 10) mentions "the river Tembeling, a highway of communication between Pahang and the North," and on page 9, "the river Tembeling which the discovery of numerous neolithic and early iron age implements there indicates was at one time a thickly populated district." Some of them would take the alternative route up the Galas and over *via* Pulai into Jelai–the route followed by the railway today. Hence the importance of Sai, which as related by Eredia tapped so many gold fields."

Mr. V.B.C. Baker also writes (referring to J.R.A.S.M.B., Vol. XIV, pt. II, W. Linehan, History of Pahang) "About 1500 A.D. the King of Ligor, on instructions from the King of Siam, invaded Pahang *via* the land route *down the Tembeling.*" It seems likely that the Tembeling River received its present name from the ancient miners of pre-Thai stock who once settled here, the people from Ligor (Tambralinga).

Furthermore Mr. Baker writes, "It is abundantly clear that our early records are the work of mariners, or historians taking down the stories of seamen, and that they are influenced by the seamen's mentality. These men were chiefly interested in ports. But the miners and other inhabitants inland who brought the gold and other commodities to port were landsmen–they followed valleys, not necessarily travelling on the rivers. Judging by the places they worked, they generally travelled overland, like the still existing hill-men in the Pensinsula, as opposed to the seafaring and riverine Malays. They probably used elephants, in preference to boats. Hence many of the apparent difficulties of the old records. The seafarers and river-folk in their accounts assumed continuous water transport in the interior, whereas often it did not exist, and was not needed."

As to the route along which the gold was brought from the Jelai area in Pahang to Malacca it is worth while looking at the map. A tributary of the Muar, called the Jelai River, indicates f probable direction of that route by its name, called so by the Malacca people, because the Jalai (Pahang) traders appeared in Malacca through here when they had crossed the *penarikan*, in other words the river which led from Malacca to the route to Jelai in Ulu Pahang.

The present notes have been made with the intention to indicate possible lines for future field investigations. It seems clear that a net of inland routes of great importance existed in the Malay Peninsula, and that these routes formed a link between the various states, which

were at one time or other united by intercourse. That some of these states have been mentioned under one and the same name by the ancient chroniclers is not surprising; e.g. Ligor and Kedah are both mentioned as Laukasuka; this merely indicates that they were at one time united in one empire. Likewise it seems quite probable that the Sailendra empire (suggested by Dr. Quaritch Wales in the Kinta valley) extended its power across to the west coast by connection through inland routes. Kelantan conquered Kedah between 666–670 A.D.; there was no doubt a very old connection between these two countries through the land route across the upper reaches of the Pergau, Sai, Belom and Patani Rivers. Jealously amongst neighbours probably yielded to open fights on occasons over disputes as to the ownership of the gold areas of other matters of local interest, which would result in a transfer of the overlordship to the one or the other for certain periods. It therefore happens that we at different times hear about envoys being sent to China, sometimes from Ligor, at other times from Kelantan or Kedah. Envoys to China were sent from Ligor (Lankasuka) 515–531, 568 and 616–664 A.D.; from Kelantan (Ho-lo-tan or Kou-lo-tan) 430–452 and 616 A.D.; and from Kedah (Ho-ling) 610–666 A.D. After Kelantan's victory over Kedah a coalition took place between the predecessors of Sanjaya at Kedah (Ho-ling) with the exiled Fou-nan dynasty at Ligor against Camboja (Tchen-la) and Kelantan (Che-li-foche; Srivijaya) 670–671 A.D.

Sites of discoveries in Kelantan
(See map plate VIII)

Mesolithic

S. Nenggiri (just above Kuala Perias); for details see J.F.M.S. Mus., Vol. XV, pt. 4; H.D. Noone, M.A., Report on a new Neolithic Site in Ulu Kelantan.

S. Gales (Gua Madu below Pulai); for details see J.R.A.S.M.B., Vol. XVIII, pt. II, M.W.F. Tweedie, M.A., Report on Excavations in Kelantan.

Neolithic

S. Nenggiri

Gua Mentri (just above Kuala Perias); for details see J.F.M.S. Mus., Vol. XV, pt. 4, H.D. Noone, M.A., Report on a new Neolithic Site in Ulu Kelantan.

Bt. Suang at S. Yai, a tributary to S. Perias. Collected by the writer, an adze head, 15 cm long: well made and polished. A slight curve has been ground so as to allow for a handle to be fixed; has probably been used like the present day *beliong* used by the natives in the interior. Mr. Tweedie thought that this kind of stone may not be Malayan, probably it was imported by foreign miners.

Bt. Suang Adze head, 10 cm long, white stone. Collected by the writer.
S. Jenera Stone bark-pounders. Collected by the writer.
Ulu Sungei Galas (close to the Pahang border.
Gua Madu and Gua Musang below Pulai; for details see J.R.A.S.M.B., Vol. XVIII, pt. II, M.W.F. Tweedie, Report on Excavations in Kelantan.
Pulai Adze head, 11½ cm long, black stone; collected in a gold mine by the writer.
Pulai Chisel, 18¼ cm long, light grey stone; collected by the writer.
Pulai Chisel, 21 cm long, grey stone, waterworn; collected in a gold mine by the writer.
Pulai Chisel, 15¾ cm long, yellow stone, a well made specimen; collected in a gold mine by the writer.
Pulai Adze head, 13¾ cm long, black stone; collected in a gold mine by the river.
Kuala Sungei (Junction of S. Galas and S. Nenggiri).
Kg. Kuala Sungei; Chisel, 10 cm long, grey stone; found in a clearing, collected by the writer.
Sungei Setong valley, below Gunong Setong.
These implements have been found for the most part in old ant-hills, when these were opened up to find baits (larvae) for fishing; collected by the writer.
Adze head, 15¼ cm long, grey stone.
Adze head, 13 cm long, black stone; early type, unfinished.
Adze head, 11 cm long, black stone.
Adze head, 9¾ cm long, black stone.
Adze head, 7 cm long, grey stone.
Adze head, 9 cm long, white stone.
Adze head, 4¼ cm long, black stone, surface weathered white.
Adze head, 10½ cm long, brown stone.
Adze head, 9 cm long, black stone.
Adze head, 21 cm long, probably early type; I am doubtful about the genuineness of this implement, it may represent an early type which has been worn in a riverbed.
Chisel or adze head of an earrly type, 39 cm long, black stone.
Kuala Pergau (Junction of the Galas and the Pergau Rivers).
These implements were found in a clearing close to old gold workings; collected by the writer.
Adze head, 10 cm long. black stone.
Adze head, 9 cm long, brown stone.
Sungei Pergau (a main tributary to S. Galas).
These implements were found in clearings close to old gold workings; collected by the writer.
Kuala Balah, Chisel, 14 cm long, black stone; a very well made specimen.

Kg. Bunga Tanjong, Adze head, 14½ cm long, grey stone.
Kg. Bunga Tanjong, Chisel, 17 cm long, dark grey stone.

Lower S. Galas, Kg. Teku (Kuala Gris Estate).
Stone spear head, a very rare specimen; collected by Mr. R.H. Ehlers. For details see J.F.M.S. Mus., Vol. XV, pt. 1, I.H.N. Evans. *Dulang* workings for gold take place now occasionally on the river bank in the neighbourhood. Other stone implements, adze heads, chisels and a bark pounder were also found here.

Sungei Lebir, (a main tributary to the Kelantan River).
There are traces of gold workings on this river.
Kg. Temiang, Adze head, 17 cm long, black stone; collected by the writer.

Kuala Sokor (Sungei Sokor is a tributary to the Kelantan River, and is sellknown for its gold workings).
A number of stone implements, collected by Mr. Young, and now in Raffles Museum.

Pulai Chondong (19th mile Kota Bharu – Krai road).
Adze head, 8½ cm long, black stone, found in a padi field; collected by the writer.

The Kelantan Plain.
Bukit Jawa, Kg. Banir Belikong, appr. 9 miles from the present coast line, Chisel, 37 cm long, black stone, surface grey weather worn; found in an anthill, collected by the writer.
Gong Kedak, below Bukit Petri on the Kelantan–Trengganu border, appr. 4 miles from the present coast line, Adze head, 8½ cm long, black stone, surface grey weatherworn, collected by the writer.
Kota Bharu, Kg. Puteh, appr. 7 miles from the present coast line, a broken Adze head, black stone, collected by Mr. H.K. Ashby.

Bronze Age.

Sungei Nenggiri.
Sungei Jenera, Socketed bronze celt, 8 cm long; found in a gold mine; collected by the writer. This place is two days journey from the nearest Malay village on the Lower Nenggiri. The country is covered in virgin jungle and is only inhabited by the Temiar. The place is just below Gunong Chintawasa (on map wrongly called Noring East). Traditional tales in Kelantan state that this place was once thickly populated and ruled by a queen, who ruled the whole of Kelantan from here.

Sung Celadon Porcelain, etc.

Pendek, at the bank of Sungei Mulong, about 2 feet below surface was found the following, afterwards collected by the writer.
A green glazed Sung Celadon plate, appr. 40 cm in diameter and q cm thick.

A dark glazed Sung Celadon bowl, appr. 10 cm in diameter.
A Sawankalok vase, similar to one in British Museum, appr. 10 cm high.
S. Mulong forms an old delta arm of the Kelantan River, continuing towards the sea through Sungei Pengkalan Dato' There are many signs that this area was populated in ancient times.

Chinese Pottery (Ming Period)

Ulu S. Galas, above Kuala Kundor. A large brown glazed jar with incised dragon design and five moulded lion heads near the top, appr. 50 cm high. Similar to the one illustrated in "Pottery and Porcelain, II. The Far East" by Emil Hannover (Ernest Benn Limited, London, 1925), page 104, fig. 157.

Kg. Temangan Lama, (below Kuala Sokor on the Kelantan River). A similar jar to the above mentioned, 57 cm high.

S. Golok, Kg. Pengkalan Kubor, close to the seashore. A similar jar to the above mentioned, 55 cm high.

S. Golok, Kg. Lubok Gong. A small jar, called *guri mas* by the Malays, it was said to contain gold dust when found buried in the ground.

Malay Gold Coins

These have been unearthed in various places on the Kelantan plain, but especially in places marked on the map (Plate VIII). Some of them date as far back as the 16th century, some are probably a couple of hundred years older. For details see J.R.A.S.M.B., Vol. XII, pt. II, W. Linehan, Coins of Kelantan; J.R.A.S.M.B., Vol. XIV, pt. III, Anker Rentse, A Note on Kelantan Gold Coins, and J.R.A.S.M.B., Vol. XVII, pt. I. Auker Rentse. Gold Coins of the Northeastern Malay States. In addition some further notes on recent discoveries of gold coins will be found in the present issue of this Journal.

Plate VIII. Map of the State of Kelantan, showing archaeological sites.

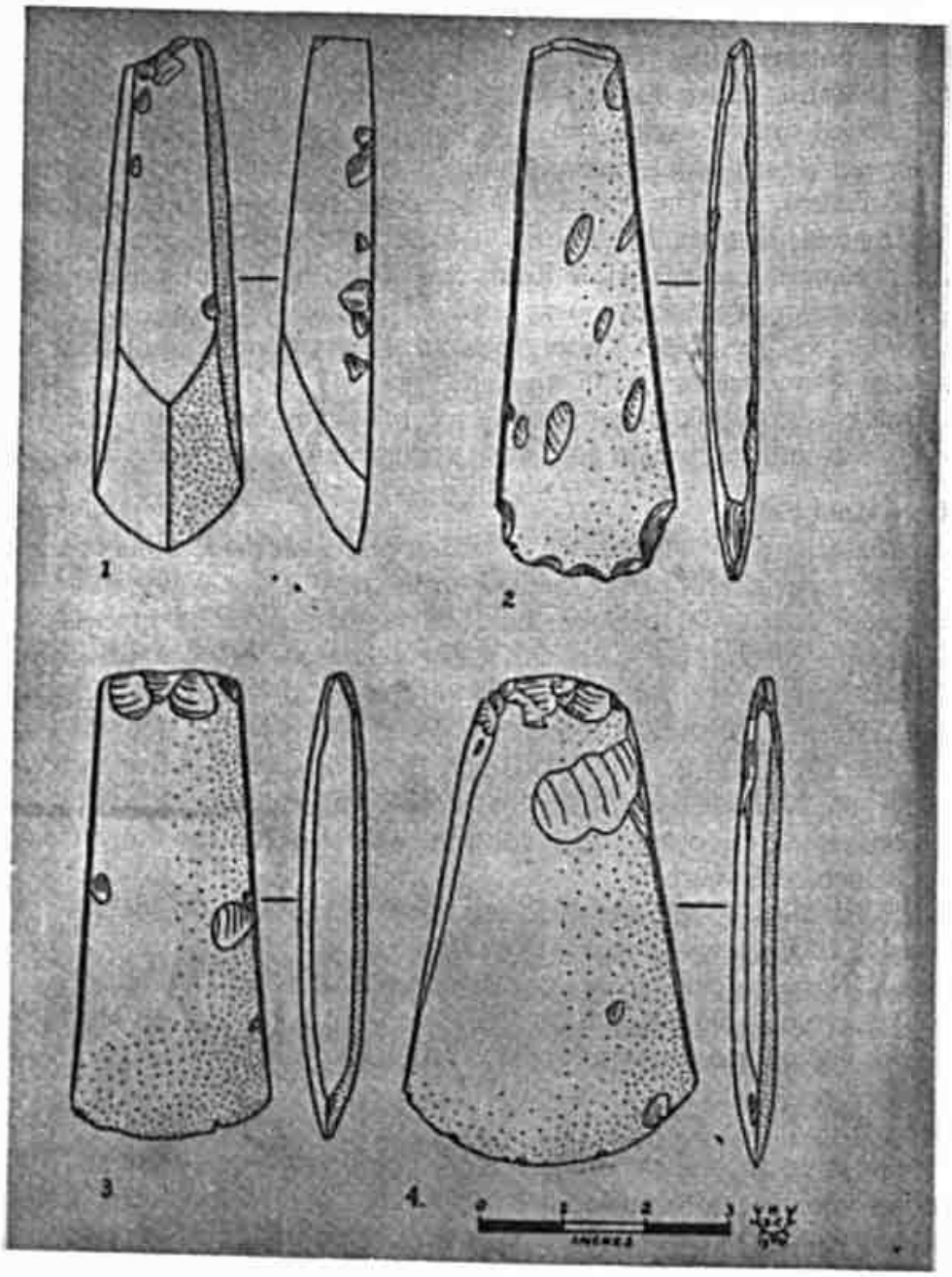
Plate IX. Neolithic implements from Kelantan.

Plate X. Neolithic implements and (6) a bronze celt from Kelantan.

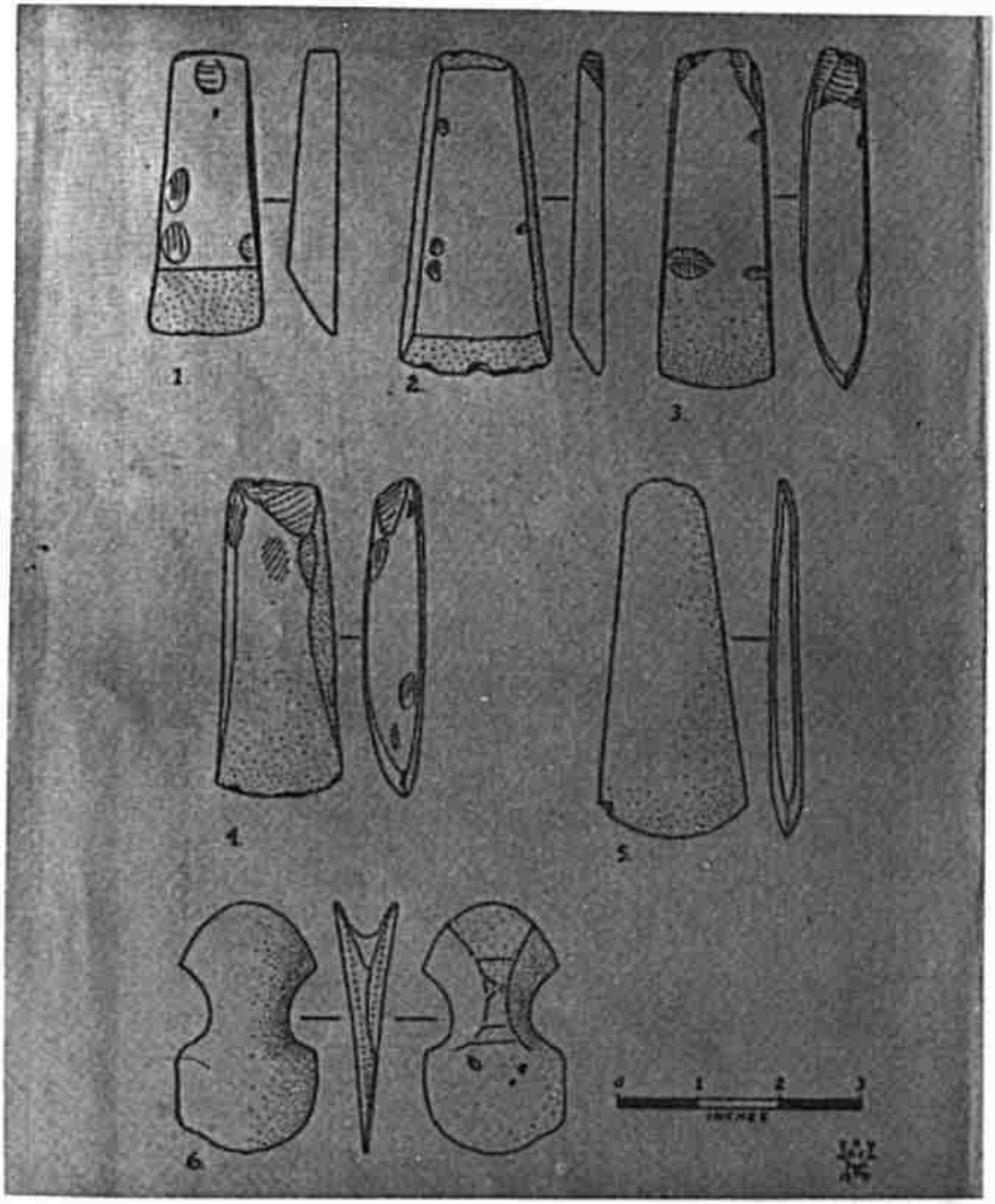
I am much indebted to Mr. H.D. Collings of the Raffles Museum for making the drawing for plates IX and X.

Postscript

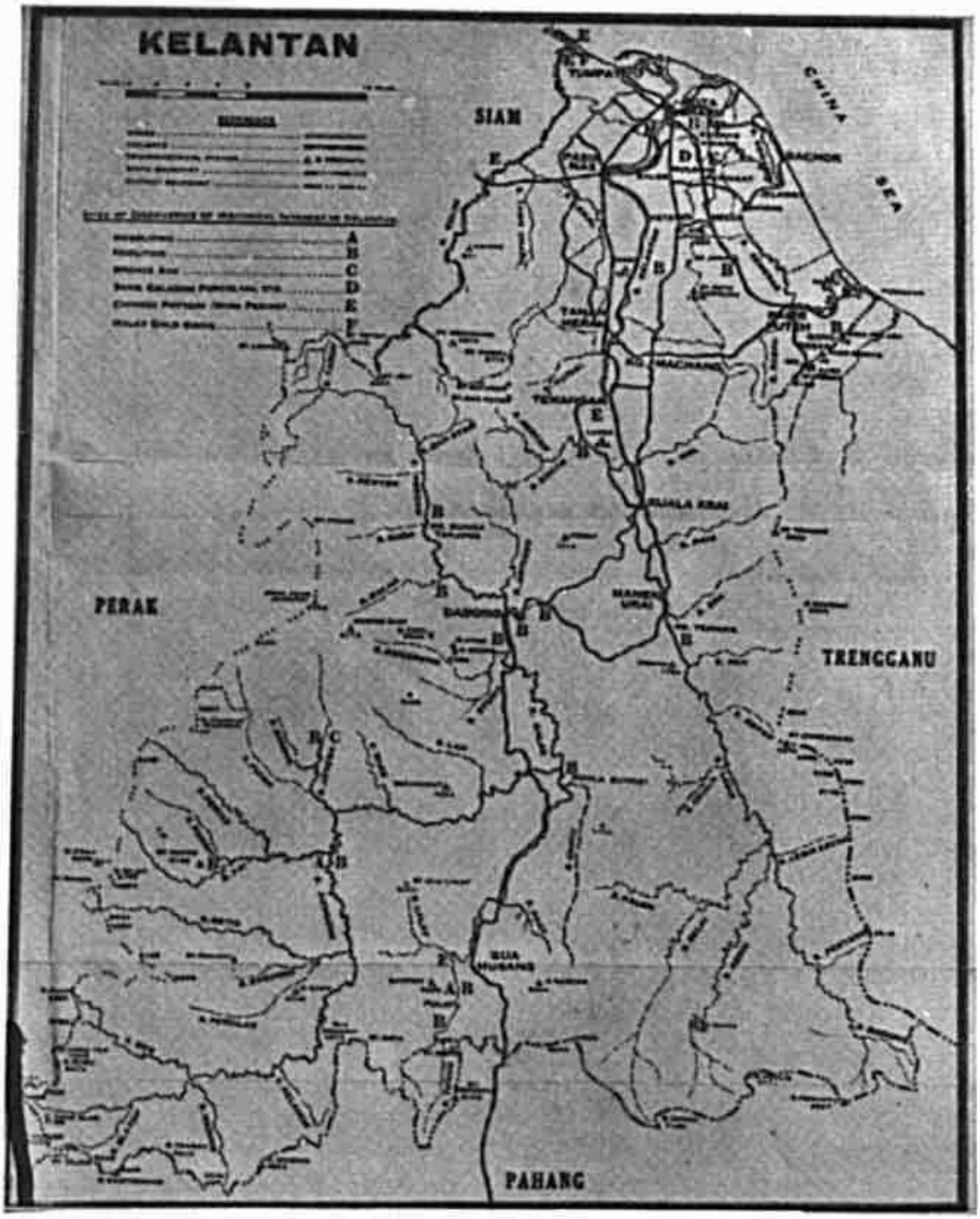
Great credit and my most sincere thanks are due to the staff of Raffles Museum, who managed to safeguard my MSS published in the volume from destruction by the enemy. The MSS with plates were handed to me intact on my return to Singapore in September 1945.



Rentse. Note on Northeastern Malay States.



Rentse: Note on Northeastern Malay States.



Map of Kelantan.

Report On A New Neolithic Site In Ulu Kelantan*

H.D. NOONE, *M.A.*

GUA Menteri is situated close to the banks of one of the tributaries of the Sungai Nenggiri (see map); the shelter is about 50 yards in length, and 20 yards in height and the average breadth under cover is about 9 or 10 yards. The rock composing the shelter is partly schistous and partly metamorphosed limestone, almost dolomitic. The river gravel near shows a great variety of blends of rocks.

The ground surface is covered with fine yellow sand, about 8 inches in depth which is the weathered results of the slime deposited by the 1931 flood. Immediately below this is a layer of reddish-grey clay, about a foot in depth, probably deposited by the 1926 flood, which "ayer bah" (flood water) is remembered in Kelantan as being red in colour. Below this, the disposition of the finds suggests that floods have affected the deposits practically not at all, except possibly at the lower, down-stream end. The present surface of the mound, which itself is 9 or 10 feet above the ground outside the shelter is 20 feet above normal river level. The edge of the shelter is of a distance varying from 20 to 30 yards from the river bank. Fortunately, there is also evidence that the 1926 flood did not disturb the deposit. The Malay Datok (head-man) of Kuala Betis, whilst boating up river from Bertam, was forced to take refuge in the shelter at the height of this flood, and the water covering the surface inside was well away from the spate of the torrent.

Two trial trenches were made, one at either end of the shelter. The finds were so rich that sections had continually to be abandoned.

* Reprint from the Journal of the Federated Malay States Museum. Vol. 15, 1939.

Even then barely 10% of the area available for excavation was touched.

Although located at the extreme edges of the habitable areas, only by continual deviations outward, were trenches deepened sufficiently in the restricted sections to reveal a representative display through all layers of what later systematic excavation may expect to record.

Trench No. 1 was prolific in broken sherds of pottery, but in trench No. 2 they were less numerous. Burials were found in both trenches, and so were ruddle, pounding and grinding stones, and other stone artifacts.

The burials encountered, were respectively 4 and 3 feet below the surface. The remains were lying east-west. The burial A in trench No 1, and possibly the two in trench No. 2, (B & C.) had the feet towards the east.

In the case of the burial A in trench No. 1 (the skull showed up first) there is no doubt, although it lies in layers holding palaeoliths, that it was laid down during the more recent neolithic occupation of the shelter, as it lies just below the neolithic layer. Moreover, the accidental discovery of two complete pots of the type to be associated with the neolithic culture, and so placed as likely to be part of the grave-furniture, rather confirms this point.

Burial B in trench No. 2 was indicated more by the grave-furniture than by the actual skeletal remains. What appeared to be a rim of pottery was exposed, and when the spot had been cleared, two completed pots were laid bare, and a third was revealed to the left, forming a symmetrical row. The last was covered up and left, but the first two, being so exposed, were carefully lifted.

Human bones (burial C) were actually encountered alongside the site of the pots, but these were filled in again with sand, and a sufficient area to cover the probable disposition of the line of pots on the opposite side was left also. The direction of the trench was diverted outwards and a nest of pots with a third burial was uncovered; but later more human remains were found ("probable" burial D) and the trench abandoned, after these had been carefully covered. There can be no doubt that these last remains were of the period which laid down the palaeolithic type of implements; they were found covered by layers holding the latter type of implement at a depth of five feet below the surface. No such low-lying remains were found in trench No. 1, but this is no proof that such do not exist at that end of the shelter bearing in mind the comparatively restricted area that could be deepened. The significance of the human remains above will be indicated in the concluding section of this report.

Implements

In trench No. 1, the deposit for 2½ feet below the red clay, con-

tained rich remains of neolithic culture, three polished axes being found. One of these was a beaked pick-adze of black stone in a beautiful state of preservation, and another was a miniature axe in a green stone, its delicate lines still intact. These had definitely not been water-borne, and the discovery of two hones for polishing stones also proves that the people who used these polished implements lived, and had their workshop, in the shelter.

It seems, however, that just before this typical neolithic facies came into fashion the population were experimenting with the "waisted" ("Rasa" or "Guak Kepah") axe-form in a new medium, using the schistous rock of which the Gua abounds. They produced a flat waisted axe of which three (one in superb condition) were found. It may be that a former flood washed out the layers containing the proto-type "Rasa" axe-form which seems to be associated with the most recent population carrying the Hoabinhian culture through the peninsula. In any case, two such were found in the gravel in front of the shelter, heavily stained with red (probably haematite or "ruddle" used for body decoration).

That the thicker proto-type of the waisted axe was used, if not in the shelter, at least in the neighbourhood, is made even more likely by the fact that the lower layers contained the most sophisticated later Hoabinhian (Hoabinhian 3) stone-culture; the palaeoliths, chipped on both sides, being all small and well made. Indeed, both trial trenches revealed the most delicate miniature Hoabinhian artifacts in their lower layers.

Between the layers containing the polished implements and the Hoabinhian type, was a deposit containing numbers of flakes of a black stone which, when struck, behaves extremely like flint. In this layer two fine ("racloir") side scrapers came to light, with formidable "stepped" flaking but it seems as if a tremendous amount of experiment in handling this type of stone had taken place. Two quadrilateral stones were found which were chipped all over, but with ends squared off these closely resemble some found by the late Mr. R.E.F. Williams on the site of ancient mine-workings on the Sungai Tras, Pahang, these may be either unfinished neolithic axes or "mashing" implements.

One medium sized "fan-shaped" chopper axe was discovered, which may well be related to the larger one found in Gol Ba'it, Sungai Siput, as it was chipped all over; but it showed superior crafmanship.

Apart from a very doubtful specimen, in trench No. 1 no protoneolith occurred in either of the trial trenches.

Pottery

The two trial trenches amply indicate that the systematic excavation of this shelter would be justified for the pottery alone. No. 1

was especially prolific in sherds of pottery, though fewer came to light in the other trench at the lower end.

The pottery is definitely associated with the neolithic layer at the top, and ceases completely in the lower layers containing the Hoabinhian artifacts, though it percolates into the intermediate layer containing the black scrapers and flakes. There is a wealth of ornamentation in different motifs, mostly cord-marked; and rims and bases. There is no doubt that a fuller record of this phase of pottery will be available than ever before.

Where pottery was found in the lower layer containing the Hoabinhian artifacts, it was part of the grave-furniture, and had been buried down into these layers at a later date than the deposit in which it now lies. Such pots were found at three sites, one of which was laid bare in trench No. 1 and two in trench No 2. The skeletal remains with which they were associated were covered up and left, but the pots, being so friable, had to be lifted. Of the two pots in trench No. 1, one was found and lifted intact, the other had cracked a little but every portion of it is preserved. One of the pots was tilted into the other. (See Plate XLVII).

In trench No. 2 an alignment of pots was revealed. Two pots had to be lifted, the other or others were left together with the human remains, only portions of which were laid bare. (Burial "B.").

This trench was deepened accordingly in another portion further in, and here other pots were found, in this case lying at the feet of other human remains, (burial "C."). As they were at the edge of the section they had to tbe removed, but the remains were covered and left.

In this case, three pots were found one inside the other, all inverted, with the rim of the topmost, which was also naturally the largest, lying on a "trencher".

Of these, the big one, the trencher and a pot with a rounded base were cord-marked, the small one with the flattish base being plain. The inner surface of the trencher had a "slip" of shiny black. The big outer pot was of coarser ware, and its inner surface had been left without a slip.

The two trial trenches in this rock-shelter, therefore, contained eight complete pieces of pottery found *in situ* and associated with human remains; whereas we have hitherto had to be content with broken sherds in cave sites (complete pots have occasionally been found in open ground unassociated with stratigraphy or occupation layers). Each pot is of a different shape; all but two are cord-marked.

Apart from these, it is likely that considerable portions of other pots will be reconstructed from the numerous sherds recovered from trench No. 1, and that confirmatory evidence as to form of rims and

bases and the method or methods of applying the decorative patterns will also be available.

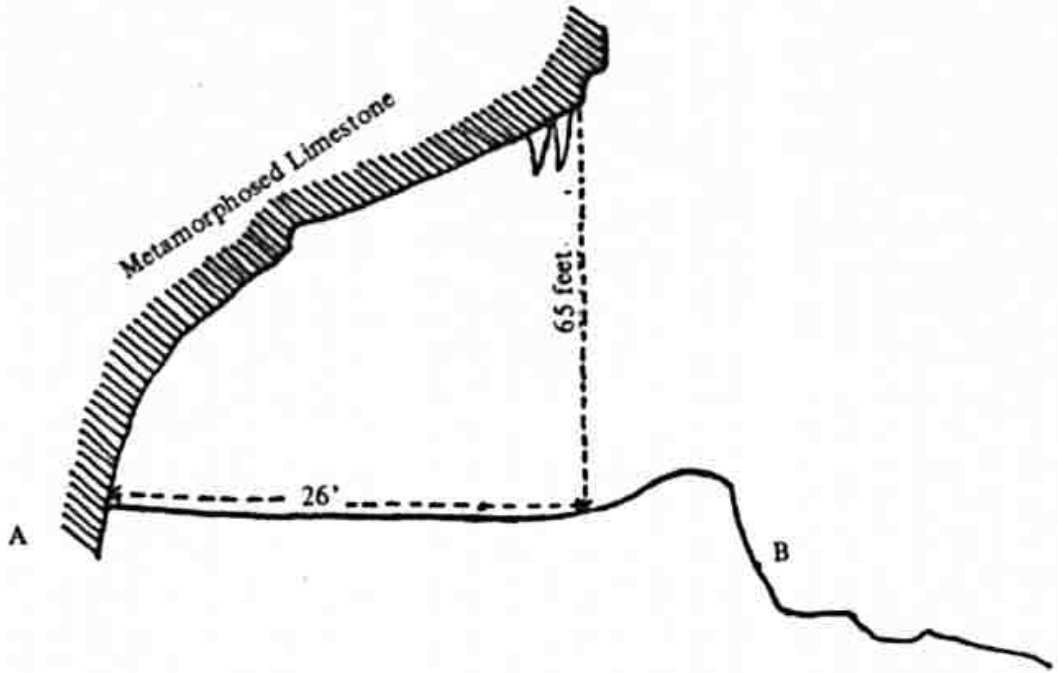
Conclusion

The systematic excavation of this site should be a matter of value to Malayan prehistory. It seems likely that a large series of human remains representing human types who made and used polished stone implements in Malaya will, for the first time, be available for study. Up to the present the identity of the population which carried the neolithic culture into Malaya has been a riddle. It may also show a route by which neolithic culture was carried into the valleys of Pahang, and thence spread to other regions in the south of the Peninsula. Moreover, there is a wealth of burials which should yield up grave-goods, including complete specimens of pottery, and evidence as to the form of religion.

The unique preservation of the pottery and its intimate association with the several skeletons found at the site led me at first to set aside the stone industry. Closer attention to it, and the grouping of the implements (so far as they could be identified in a trial sounding) according to their location in the deposit have brought several very important features to my notice. Some of these implements appear to me to share several points of similarity with the collections made by Mr. G.W. Thompson near Kuantan, Pahang. The fact that no implements worked on one side only turned up in the trial trench, is suggestive.

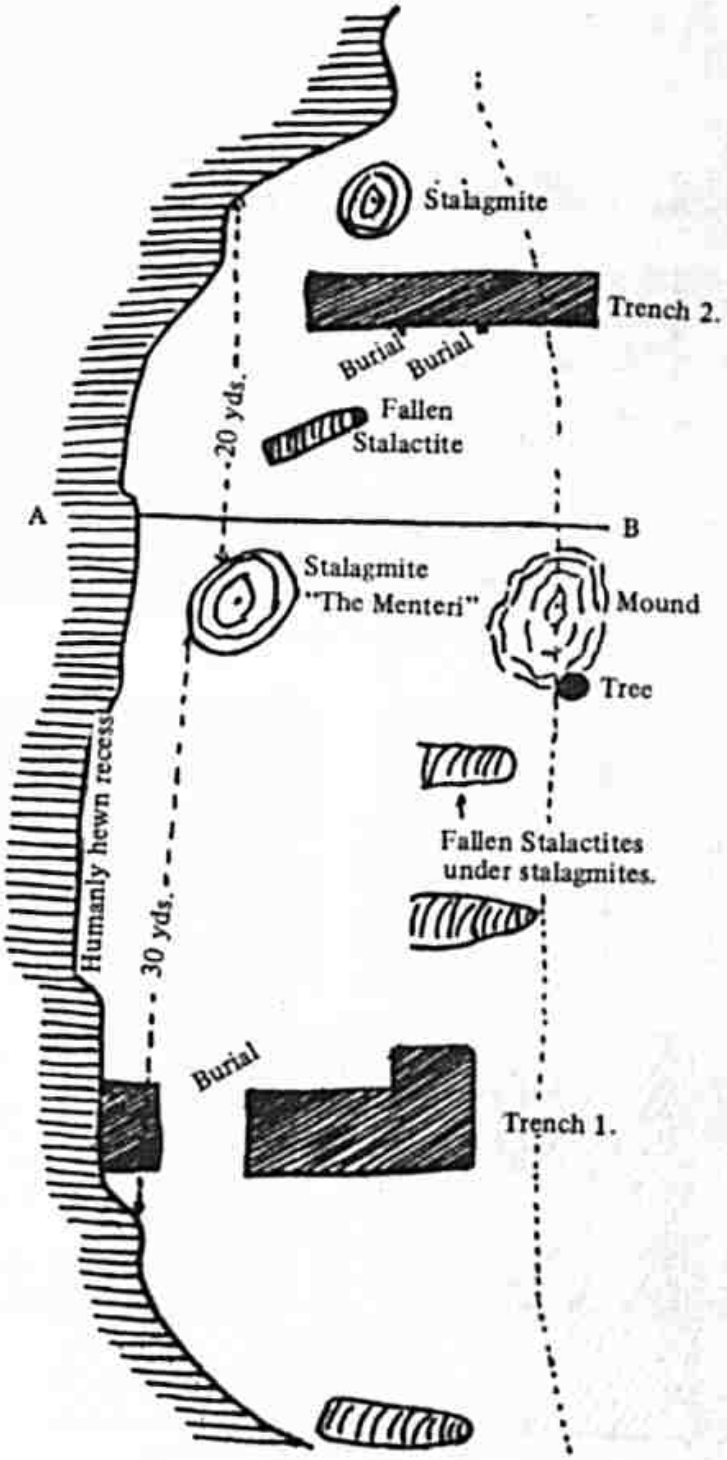
The lowest levels of Gua Menteri show a palaeolithic facies with *biface* implements (both cordiform and ovate) the more symmetrical and fine made pieces being produced during the final phase. These were followed by an industry employing better material which enabled them to produce quite respectable flakes, some showing further preparation and use as tools. Above these, and for some five feet below ground level the finds include well finished polished tools, the working edges being in mint condition. Of even more interest is part (base?) of a point of slate-like material shaped by grinding which, had ot been in bone, might have passed as a "pointe" of the Upper Palaeolithic French Cultures.

It is, however, the more recent periods of Malayan prehistory that are for our present purposes in need of stratified evidence, and there is ample indication that a fuller record for the Neolithic period will now emerge.

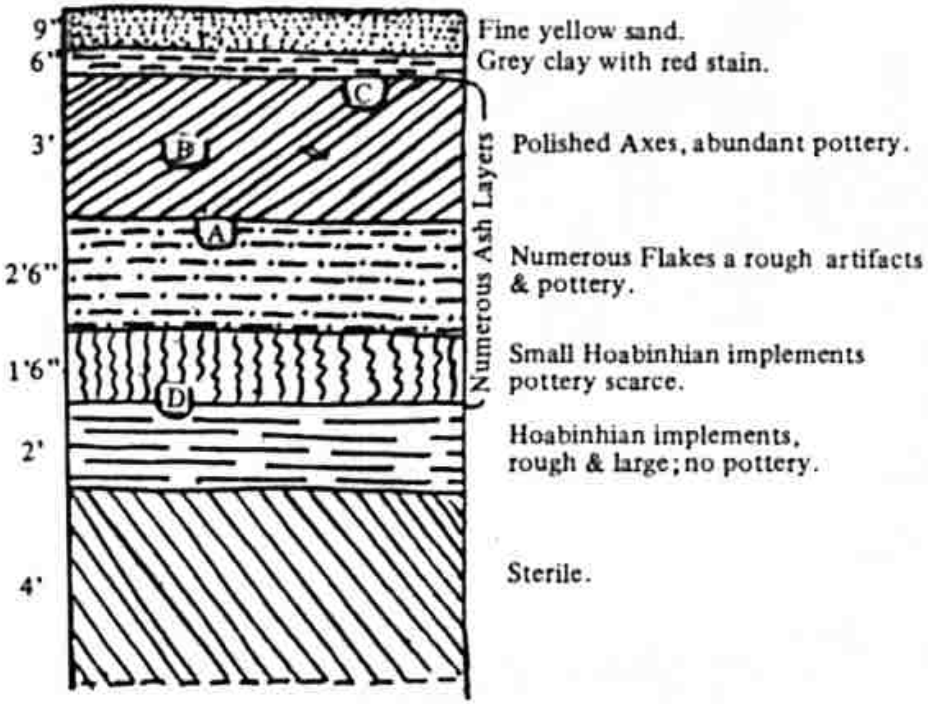


GUA MENTERI
Ulu Nenggiri, Kelantan.

Section A-B



GUA MENTERI
Plan of Rock-shelter from above. (approximate distances only).



Burials

C – nest of complete pots.

B – alignment of pots.

A – pots.

D – no pots.

GUA MENTERI

Section with approximate depths.

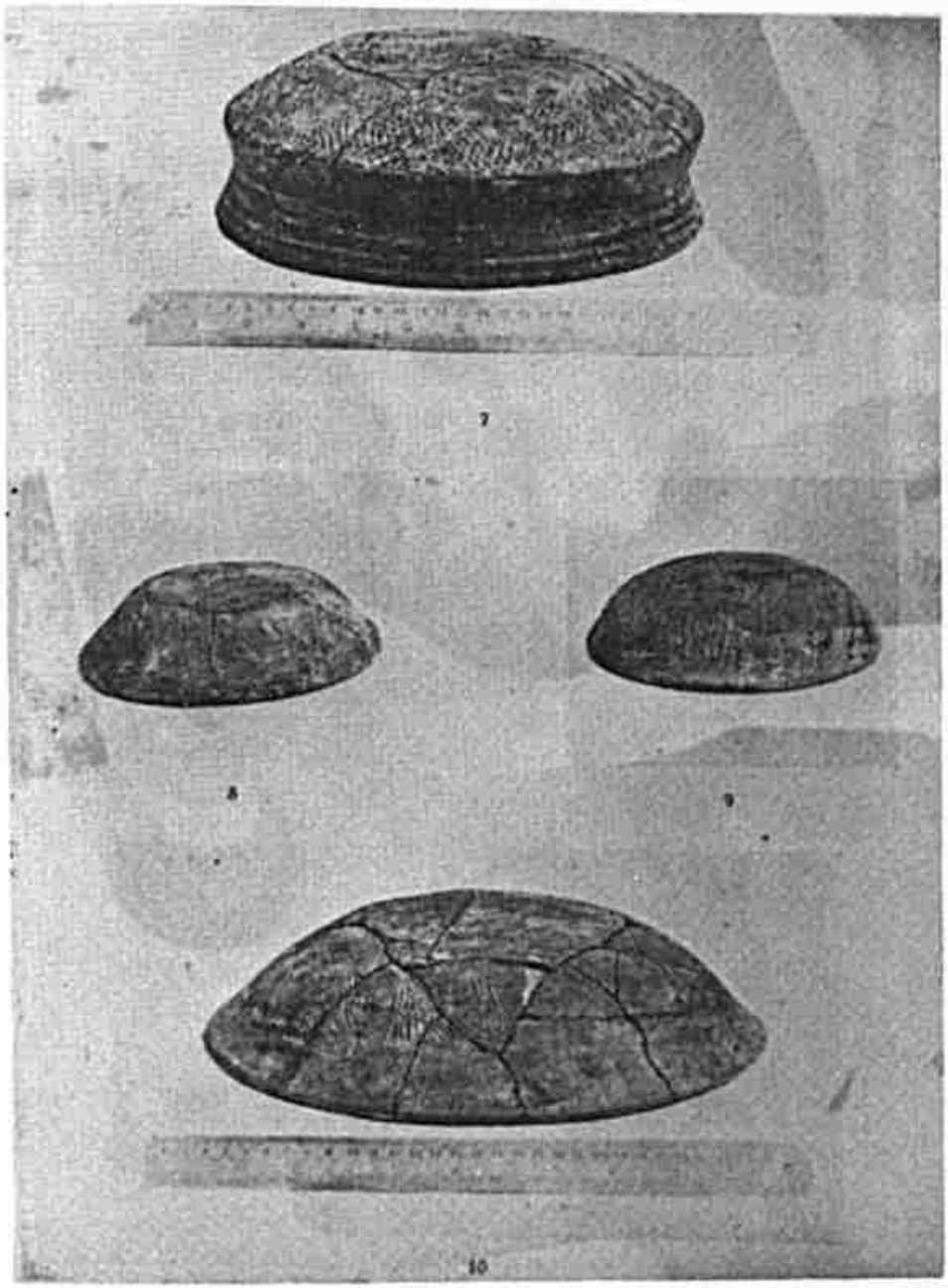
1

2

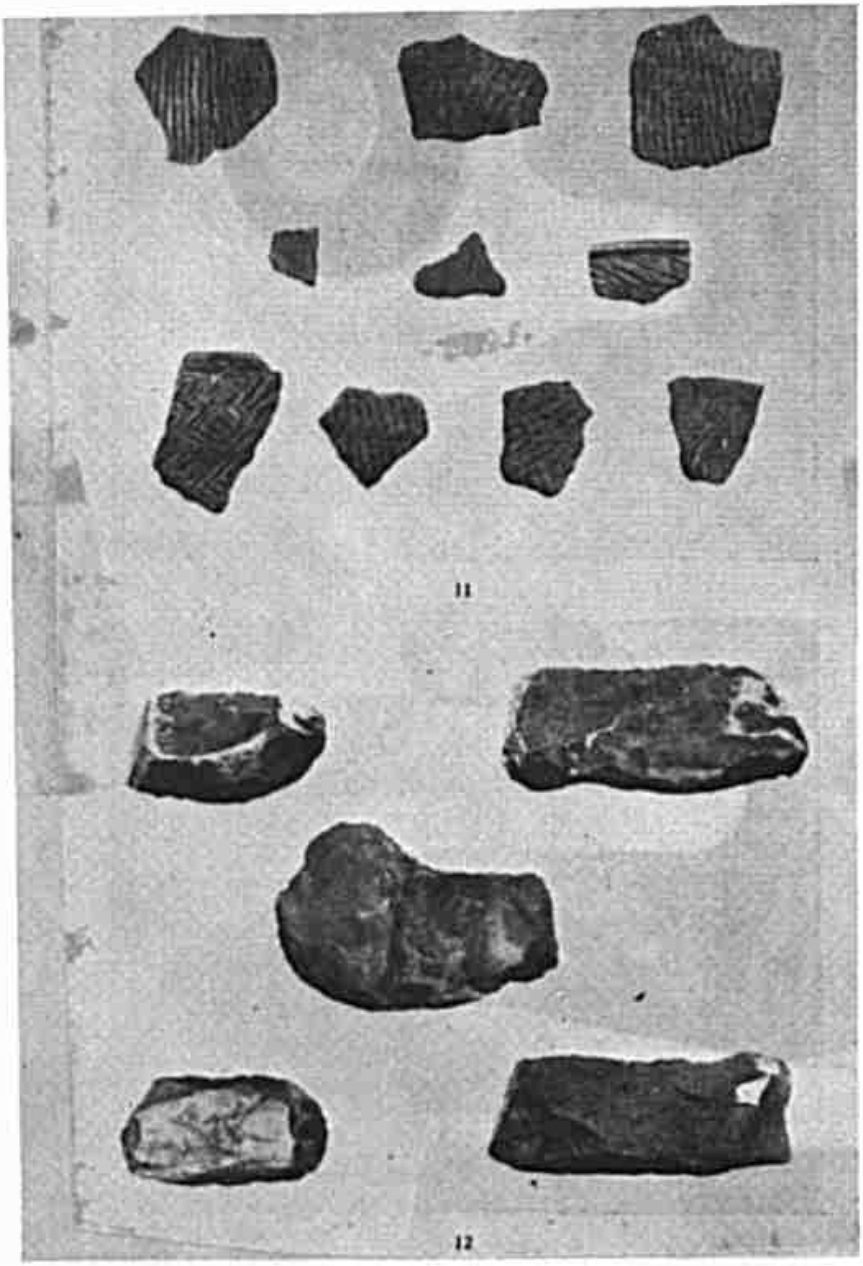
1. *View of rock-shelter showing artificial recess and texture of rock-wall.*
2. *Find of pottery associated with Human Remains "A" in Trench No. 1.*
3. *Two of an alignment of pots found associated with Human Remains "B" in Trench No. 2.*
4. *The trencher (in situ) on which a nest of inverted pots was found, associated with Human Remains "C" in Trench No. 2.*

5

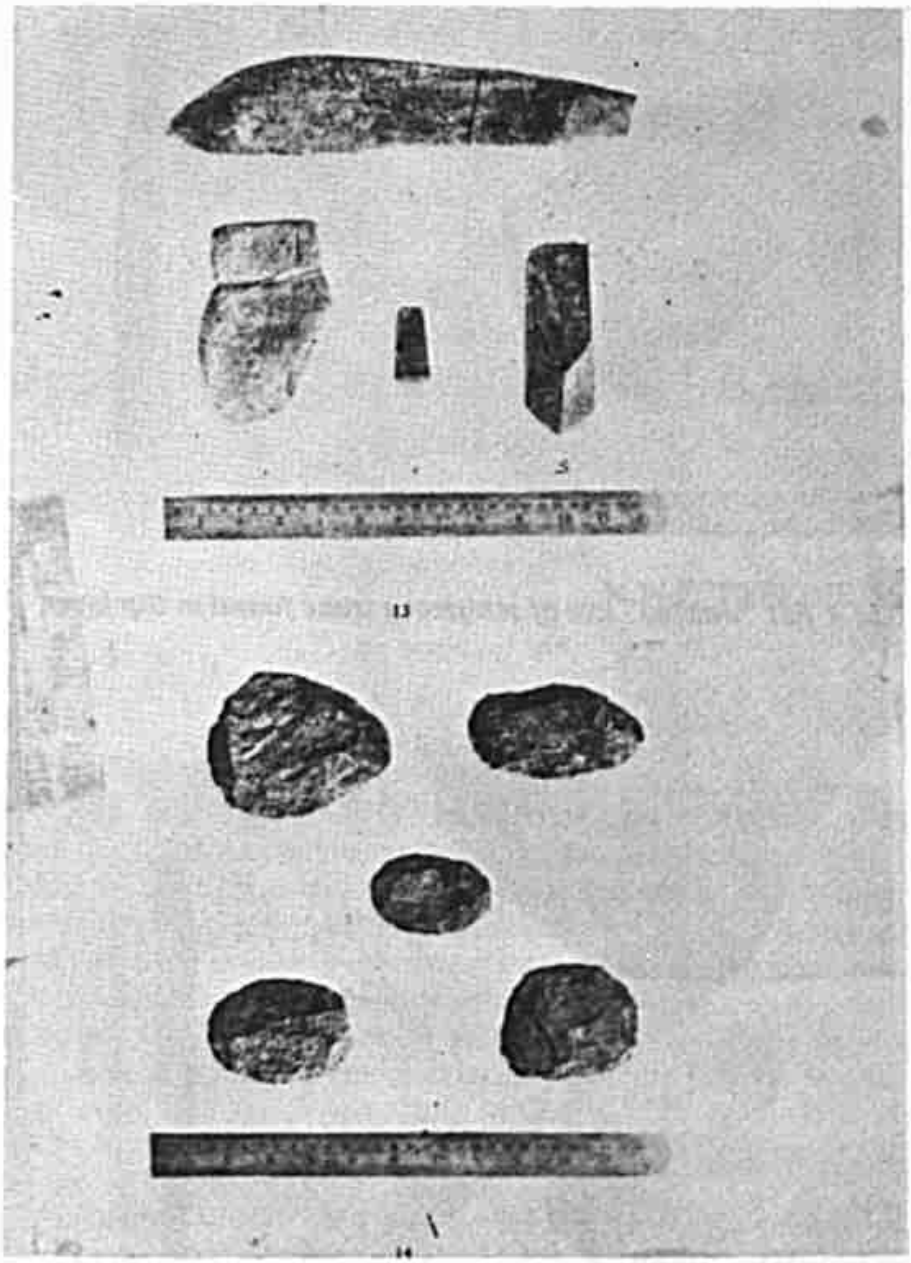
5. *The two pots tilted towards each other. ("in situ" in photo No 2).*
6. *Two of an alignment of pots. ("in situ" in photo No. 3).*



7–10. *Nest of four pieces of pottery, Nos. 7, 8, 9 being inverted on No. 10. (see photo No. 4).*

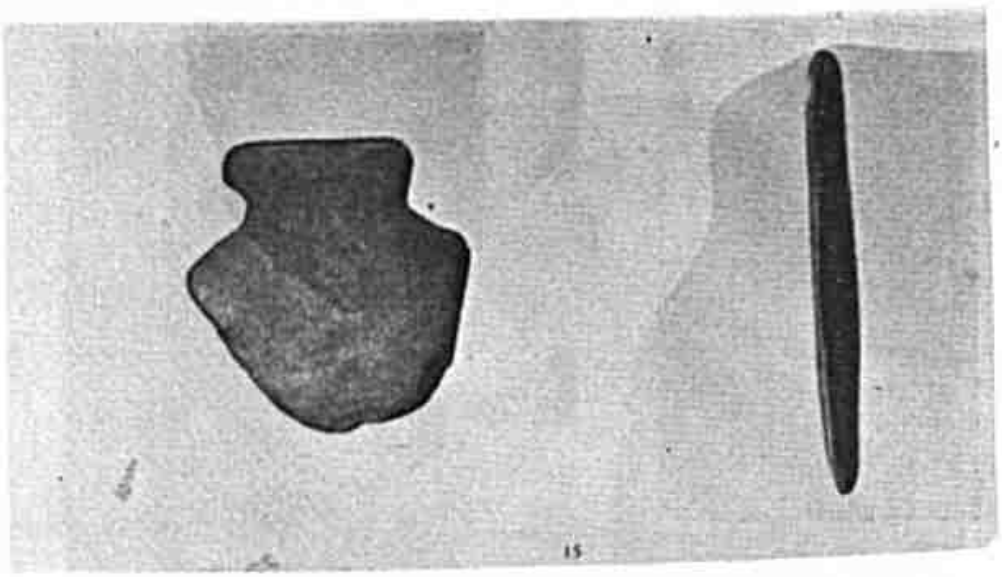


11. *Sherds of pottery showing variety of decoration, mostly cord-marked, from the two trial trenches.*
12. *A bent axe in middle with two scrapers and two oblong unfinished neoliths.*

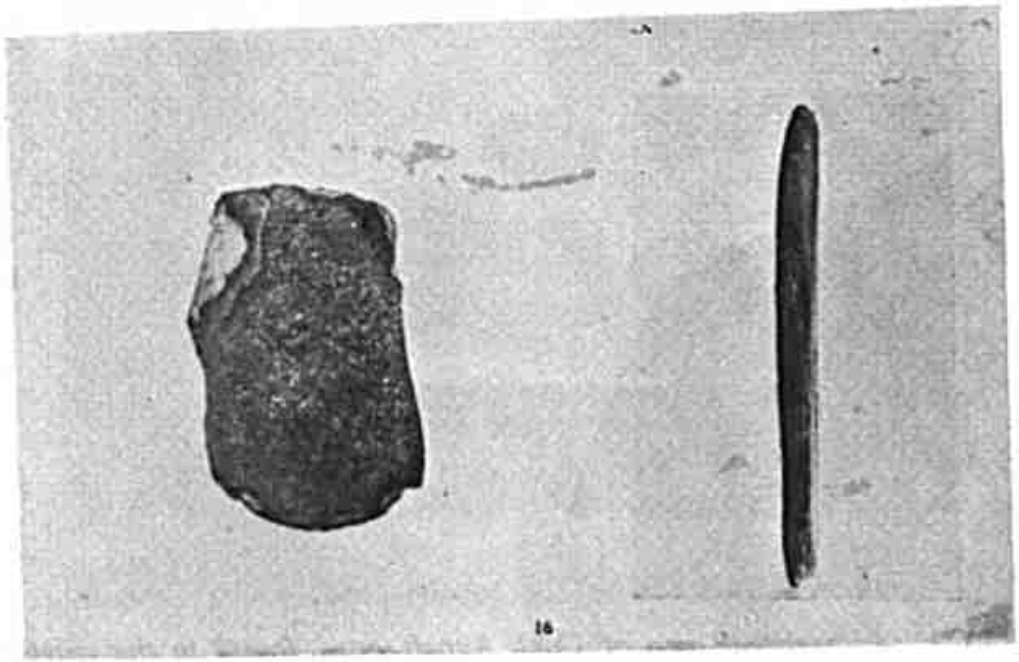


13. 1. *A "waisted" axe of Guak Kepah type, found in the gravels outside the shelter.*
    2. *Miniature axe in green stone.*
    3. *Beaked pick-adze.*
    4. *Stone hone for polishing implements.*

14. *Five palaeoliths of Hoabinhian facies found in the lower layers.*



15. *A flat "waisted" axe of schisteous stone found in top layer.*



16. *A flat axe of schisteous stone.*

Report On Excavations In Kelantan*

(Plates I–XVI)

M.W.F. TWEEDIE, M.A.

IN July and August, 1939, exploration and excavation of caves and rock-shelters was carried out in the neighbourhood of Gua Musang, a settlement on the East Coast Railway in south Kelantan, about fifteen miles north of the Pahang border. Gua Musang was chosen as a centre for exploration on account of the large number of limestone hills in the country surrounding it, containing numerous caves and rock-shelters none of which has been explored previously by an archaeologist Previous cave-exploration in Kelantan is confined to Mr. H.D. Noone's investigations at Gua Menteri on the river Nenggiri about twenty miles north-west of Gua Musang (Noone, 1939) in an entirely separate group of hills.

Preliminary exploration was carried out along the railway southwards as far as Gua Ninek and to the north at Kemubu, and along the foot-path leading to the ancient Chinese settlement of Pulai, west of the railway. Trial trenches were dug at a number of sites and it was found that only caves or rock-shelters, the floors of which are at a considerable height (at least 10–15 m.) above the flat country surrounding the hills, yielded sufficient signs of habitation to be worth excavating. Caves of eminently habitable appearance at or near ground level were

* Reprint from *Journal of the Malayan Branch of the Royal Asiatic Society*, Vol. 18(2) 1940.

1 The study upon which this report is based was made possible by funds granted by the Carnegie Corporation of New York.

found to be nearly or quite barren of artefacts. The reason is presumably that the low-lying caves are liable to be flooded during the wet season, but when the rivers are at their normal level they appear deceptively dry and secure.

The sites chosen for controlled excavation were at Gua Madu; a large rock-shelter some three miles south of Gua Musang, and in caves situated high up in the precipitous side of the limestone hill overlooking Gua Musang station.

My sincere thanks are due to Dr. A.N.J. Th. a Th. van der Hoop of the Royal Batavia Society for valuable assistance in identifying a peculiar type of neolithic eartheware object and for permission to reproduce the photograph on pl. XIII and the drawing on fig. 5. Information kindly supplied by Mr. A.D. Brankston of the British Museum concerning pottery from Gua Musang is also gratefully acknowledged, and to Mr. A. Rentse of Kota Bharu, Kelantan thanks are due for his kindness in preparing the sketch map reproduced on fig. 2.

The excavation at Gua Madu

The site. The large rock-shelter known as Gua Madu is situated on the western side of the limestone hill Batu Gua Madu which lies just ot the south of Batu Papan about Lat. 4° 50'N. and Long. 101° 57'E. The old track between Gua Musang and Pulai (now superseded by a more direct route) runs just below it along the narrow strip of ground between the vertical and overhanging side of the hill and the river Galas which flows from south to north close past the rock-shelter (fig. 2). The distance along the track from Gua Musang is about three and a half miles. The height of the rock-shelter is very great, considerably more than the breadth of ground sheltered, so that it is in no sense a cave and the whole of it is directly illuminated by the sun during the greater part of the afternoon. The level of the floor is about 17 metres above the normal level of the river. High up in the back wall and only accessible by climbing is a small cave which, in contrast to the rock-shelter, is dark within a short distance of its entrance.

The greater part of the floor deposit has been removed by the local Chinese cultivators for use as fertiliser[2] but fortunately a considerable isolated area remained in about the middle of the shelter which could be subjected to controlled excavation.

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2 It is interesting to note that it is not only deposits of bat-guano that are valued as fertiliser by rice cultivators; floor deposits in open rock shelters, containing on bat-guano whatever are also found to be effective. There can be little doubt that this is due to the presence in the deposit of the bones, ash and other organic remains that accumulated during the period of stone-age habitation.

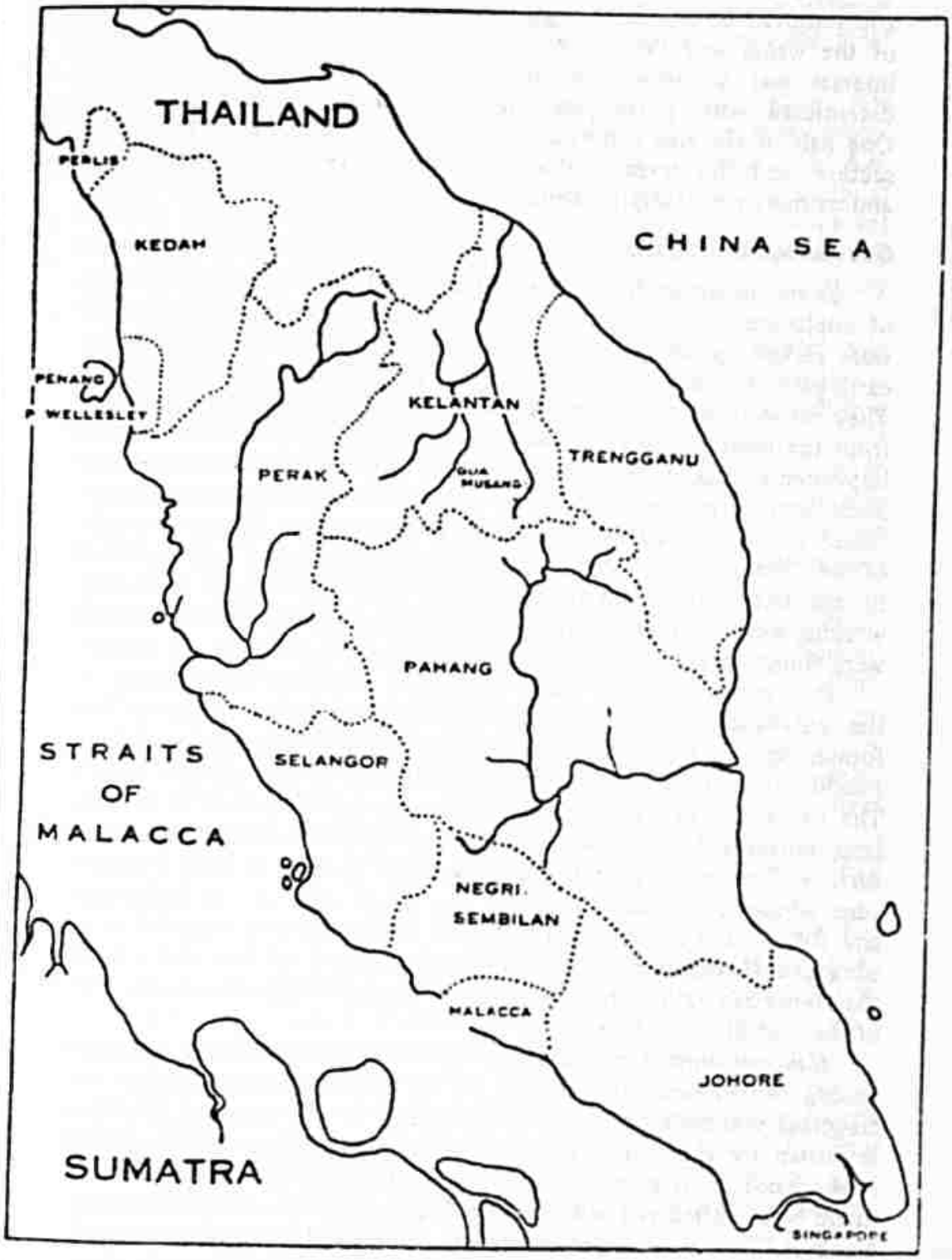

Figure 1 Sketch man of the Malay Peninsula showing the position of Gua Musang in the state of Kelantan.

Here the deposit was slowly scraped away with bamboo spatulae and removed by a locally engaged labour gang under the supervision of the writer and two of the museum collectors. As each object of interest was uncovered its position relative to a fixed point was determined with a compass, clinometer and tape (see appendix). One half of the area was excavated first to obtain a complete vertical section, and this revealed that the deposit was uniform throughout and without visible stratification.

Gua Madu, the artefacts.

Stone implements of Hoabinhian type. A very large number of implements of this type was found in the rock-shelter; nearly 400 were picked up on the surface and among piles of stones left by the earth-gatherers, and half as many again were found in the excavation. They range from crudely worked pebble tools, hardly distinguishable from the most primitive palaeoliths, to well finished ovate or discoid implements, flaked on both sides over the whole of their surface. Some very large specimens were found, rivalling in size the largest found in river gravels near Kuantan (Collings, 1937 B). No examples of the "Sumatra-type", pebble tools with the working wholly confined to one side, were encountered. Flakes, with and without secondary working were common (pl. III, 1, 2). Seventeen Hoabinhian implements were found in a shallow deposit in the small cave above the shelter.

Protoneoliths. These were very rare, only two being found in the excavation and one fragment among the surface finds. Of the former one is of the ordinary type, a small, elongate chipped tool, roughly ground on both sides to form an edge at one end (pl. IV, 2). The other (pl. IV, 1) is of a far more advanced type. It is a fairly large implement, 140 mm. in length and flaked over almost its whole surface. One end is carefully and smoothly ground to form a curved edge which is symmetrical about the longer axis of the implement and follows the curvature of its ovate outline. If it is regarded as an advanced Hoabinhian tool, it suggests evolution in the direction of the round-axe rather than towards the typical Malayan neolithic celt of the type illustrated on pl. VI.

Hammer-dressed round axes. One very fine specimen occurred among the surface finds (pl. V, 1). In the undisturbed deposit one fragment was found which clearly belongs to this type (pl. IV, 3) as is shown by the extent and large radius of curvature of the ground edge. Another fragment (pl. IV, 4) is less extensively ground and might be classified as a protoneolith. That part of the unbroken surface, however, that is not ground is clearly pecked or hammer-dressed; it could be regarded as intermediate between the two types.

The practice of working stone by hammer-dressing or percussion as opposed to flaking was not unknown to the Hoabinhian people;

the "grip-marking" of pounding stones and fabricators was carried out in this way c.f. fig. 2 on p. V. It is not unreasonable to suppose that these round axes represent, in this country at least, the most advanced phase of the Hoabinhian culture.

Bone Implement. A single fine example of a bone gouge was found among the surface debris (pl. V, 4). Bone tools have been recorded in quantity in the Peninsula only from Perlis (Collings 1937 A,p. 100); single specimens were found in Kedah (Collings, l.c.) and at Gunong Senyum in Pahang (Evans 1927, p. 148), They are abundant in kitchen-middens in Indo-China and can be regarded as representing a northern culture which did not penetrate very far into the Malay Peninsula.

Bark-Cloth beater. A cross-hatched stone artefact of the type usually regarded as designed for making bark-cloth was found in undisturbed deposit at a depth of rather over a metre (pl. V, 3 and section II, pl. XV, No. 265). The level at which this implement was found (if this is admitted to have any significance) suggests that it was made and used contemporaneously with the Hoabinhian culture, though whether it really belongs to that culture or was introduced from outside remains uncertain. With its evenly and deeply incised intersecting grooves it is an implement of a far more advanced type than the chipped and roughly ground tools typical of the Hoabinhian. Stone bark-cloth pounders have been found in Malaya with stone circlets of neolithic type (Evans 1927, p. 138), with pottery and neolithic implements at an open site in Pahang (Evans 1928 C), in an iron age granite cist (Evans 1928 A) and in debris left by earth-gathers in a cave in Kedah, together with Hoabinhian stone tools and neolithic pottery (Collings, 1936, p. 11). Wooden pounders of the same pattern are used by the present-day Malayan aboriginals and elsewhere in Malaysia, and stone ones are recorded from Celebes (Evans 1928 A pl. XLIII).

Neolithic implements. A single unfinished neolithic tool was among the surface finds in the rock-shelter (pl. V, 5). In the small cave above the shelter a well-finished and beautifully preserved neolithic adze was found in shallow deposit (pl. VI, 1) together with a few Hoabinhian implements and a fair amount fof pot-sherds.

Other stone implements. Flat stones showing signs of use as grinding slabs were found in the rock-shelter most of them are stained with haematite and were apparently used for making ruddle. Bruished river pebbles of the type usually classified as pounding stones, were abundant. Some are stained with haematite, others, often showing signs of violent percussion, were probably fabricators for chipping stone tools. One of these is very distincly "grip-marked", having an artificial depression on one side made by hammer-dressing (pl. V, 2). One flat, discoid tool has two shallow depressions pecked out on each side,

the depressions being opposite each other as if an attempt was made to pierce the stone in two places.

Pieces of soft red haematite, often ground down on one side, were found abundantly.

Materials employed in making the stone artefacts. A wide range of rock types is found among the Hoabinhian tools. The finest specimens are made of hard, green chert; as a material for making flaked implements this is scarcely inferior to flint. Quartzite was also commonly employed and tools made of this very hard and refractory stone are quite devoid of patina or corrosion and look as if they have come straight from the hand of the maker. Many of the flat implements are made of dark or greenish coloured fissile shale or schist. A few specimens, including the fragment of a hammer-dressed axe (pl. IV, 3) are of volcanic tuff and various fine-grained igneous and metamorphic rocks were used, which would require sectioning for precise identification. Many of the pounding stones and one or two of the crudest implements are of white vein-quartz. The bark-cloth pounder is of fine-grained, ferruginous sandstone.

Pottery. In the rock-shelter pottery was conspicuously scarce. Only five fragments were found among the surface debris and four more in the superficial layers of the undisturbed deposit. None of them are sufficiently remarkable to merit description.

In the small, dark cave above the shelter potsherds were found in some abundance. The majority is of the common "cord-marked" variety, and partial reconstructions have been made of two vessels showing them to have been of considerable size; the diameter of the larger is estimated to be about 37 cm. A few sherds were found with interesting incised patterns (pl. VIII); one (pl; VIII, 5, 6) is unusual in having a pattern on the inner surface in addition to, and different from that on the outer.

Gua Madu. Food remains. Bones and teeth of vertebrate animals and shells of Melaniid and Unionid molluscs were found throughout the deposit in the shelter. The mammalian remains have been identified by Mr. F.N. Chasen, Director, Raffles Museum, who submits the following list and comments. – "Wild ox, *Bos* sp.; Goat antelope. *Capricornis sumatrensis* (Bech.); Barking deer, *Muntiacus muntjak* (Zimm.); Sambur deer, *Cervus unicolor* Kerr: Wild pigs, *Sus cristatus* Wagn. and *Sus barbatus* Mull.; Pig tailed Macaque, *Macaca nemestrina* (Linn.); Langurs, *Pithecus* sp.? *femoralis* Mart. and *Pithecus* sp.? *obscurus* (Reid); Bamboo-rat, *Rhizomys* sp.? *sumatrensis* (Raff); Malay bear, *Helarctos malayanus* (Raffles).

There is one interesting point about this list. The numerous remains of *Sus barbatus* prove that this pig is truly indigenous in the Malay Peninsula. The species has only recently been "discovered" in the Malay States and was hitherto known in the Peninsula only

from the east coasts of Pahang and Johore. It has been suggested that the few known specimens are the remains of a herd imported for sporting purposes by a former Sultan of Johore. Otherwise the remains are those of animals which could easily be killed by a present day hunter based on the same cave.

In the present state of our knowledge and without much further material and study I do not feel inclined to apply modern subspecific names to these prehistoric remains which not infrequently differ in detail from the extant species with which they have been compared".

Gua Madu, Human remains. Two burials were discovered in the course of the excavation, both so incomplete that it is doubtful if the remains that have been preserved will be of anatomical value. One was a dispersal burial at very shallow depth (No. 371, section I, pl. XIV) and the other an extended burial at about 1 metre deep. The crushed skull was at No. 494 (section I) and the ribs and one humerus at 513. All the other bones had disappeared and it seems probable that the skeleton was disturbed by some ancient inhabitants of, or visitors to, the shelter and afterwards covered by subsequent deposits.

Gua Madu. Cultural stratification in the rock-shelter. For the purpose of illustrating the vertical distribution of the artefacts found in the controlled excavation, the central part of the irregulary shaped area excavated has been divided into three parallel strips running in the direction of the slope of the ground (fig. 3) and the objects plotted in each strip have been projected on a vertical section (pl. XIV–XVI). The south end of the area was largely occupied by a preliminary trial trench. In the north part evidence of disturbance of the deposit by cave-earth diggers became apparent in the course of excavation; for safety's sake section I is placed some distance south of the southern-most sign of such disturbance.

It can be seen from the three sections that artefacts were most abundant in the higher layers of the deposit, becoming scarce below a depth of about one metre, and then, in places, rather more plentiful in the layer immediately overlying the rock floor.

While it connot be said that any particular type of implement that was found in quantity is confined to the higher or lower levels, those found at shallow depth are, at their best, much better finished than any found near the bottom of the deposit. A series of six very well made implements is illustrated on plate I. Two of them are surface finds; the positions of the other four can be seen on Section I (pl. XIV) Nos. 359, 424 and on Section II (p. XV) Nos. 169, 272. On plate II six of the best made implements from the lowest layers are illustrated; their positions are all plotted on Section II (pl. XV), Nos. 341, 342, 352, 363, 367, 374. The broken half of a very large implement (pl. III. 5) was found near the bottom of the deposit (No. 548 in Section I). No other tools of comparable size were found in the controlled

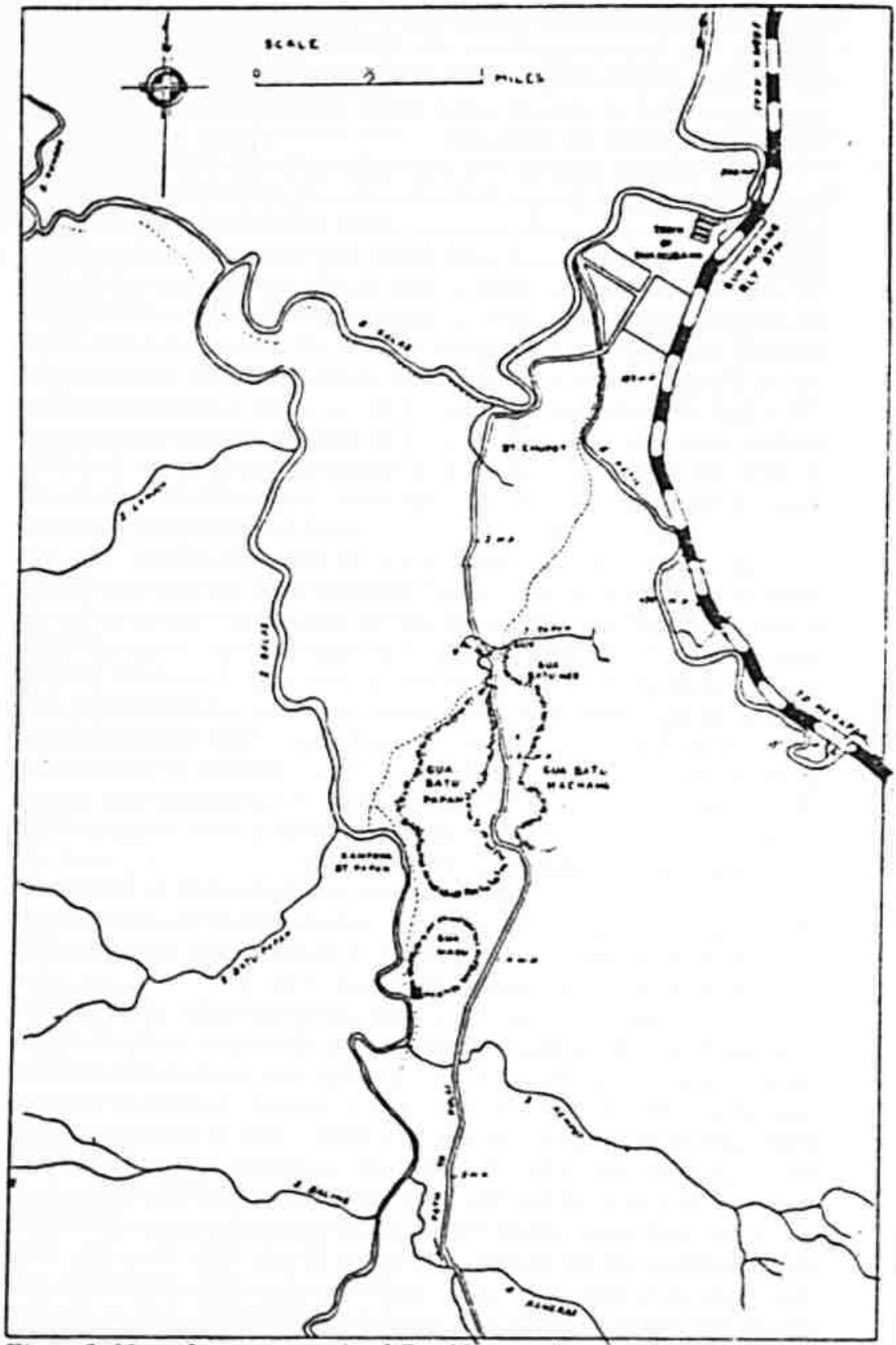

Figure 2. Map of country south of Gua Musang, showing the position of the site at Gua Madu, marked

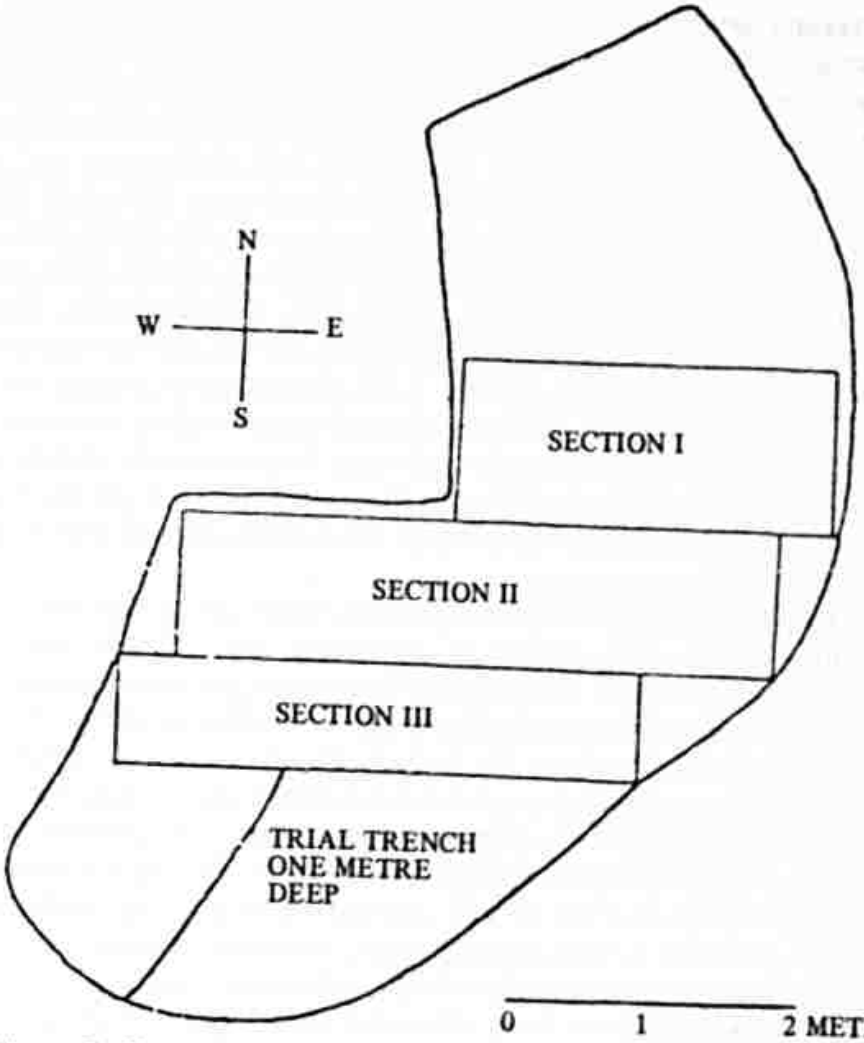

Figure 3. Plan of excavation showing areas plotted on vertical Sections I II and III (plates XIV – XVI).

excavation.

Crudely worked pebble tools, peices of haematite and atypical artefacts such as pounding stones and flakes occurred at all levels but were far more abundant in the upper layers.

The distribution of the food remains is of some interest. Vertebrate, and particularly mammalian, bones were abundant in the upper layers, rich in artefacts, while molluscs were relatively scarce. In the more barren deposits below one metre bones were rare but Melaniid and Unionid shells occurred constantly and in considerable quantity, though they never formed definite layers. It would appear that the early inhabitants of the shelter were of a food-gathering rather than a hunting type, and that they evolved into (or were succeeded by) a race of skilful hunters.

Ash was present throughout the whole deposit and in the lower

parts irregular layers of hard, stalactitic material were frequent consisting of ash and cave-earth cemented by calcium carbonate. I suspect that these layers were formed by percolating water charged with calcium carbonate, and bear no direct relation to the stratification of the deposit.

Gua Madu. A calcareous breccia of uncertain age. The rock encountered at the bottom of the excavation was not limestone, but a conglomerate of more or less rounded river pebbles mixed with grit and sand, all sealed by calcareous cement into a hard breccia. This formation was encountered exposed in vertical section in the northern side of the rock-shelter. Here its base is 14 metres above normal river level, and in the excavation, further back in the rock-shelter, it is about a metre higher. It is inconstant in thickness the maximum observed being between 70 and 80 cm. Towards the southern end of the excavation it thinned out and over a small area the culture deposit rested on the basal limestone.

Several days were spent in searching for fossils and some molluscs were found, mainly in a pocket of calcareous sandstone devoid of pebbles. All but one were land-shells belonging to species inseparable, in my opinion, from those inhabiting this and other limestone hills today. *Prosopeas swettenhami* de Morgan was the commonest form, and I was able to recognise *Lagochilus townsendi* Crosse, *Cyclophorus* sp. (fragments), *Kaliella c.f. perakensis* Nev. and *Microcystina* sp. the last two are identical with forms found living in the neighbourhood but I am not certain of their specific identity. A single small Melaniid was found, possibly a very young *Thiara variabilis* (Bens.). A few scraps of bone occurred but no identifiable vertebrate fossils.

The breccia must have been deposited by a stream that flowed over the floor of the rock-shelter and possibly led to its formation by undercuting the cliff. This stream was probably the counterpart of the present river Galas which has since cut its way down to a lower level. At present the rock-floor or the shelter is well out of reach of floods, being 14 to 15 metres above normal river level. Moreover, no flood of violence sufficient to transport pebbles and small boulders can have flowed through it since Hoabinhian times, as this would have quickly washed away the loosely consolidated culture deposit; it was presumably secure from flooding during the period of its habitation and probably for some time previously.

A bed of quartz sand, presumed to have been deposited by a stream was found near the bottom of a floor deposit in a cave in Bukit Chintamani, Pahang (Tweedie, 1936, p. 19) at a height of about 30 metres above the level of the ground surrounding the hill.

The caves above Gua Musang station.

The sites. High up in the steep side of the limestone hill over-

looking Gua Musang railway station is an extensive system of caves. There are several openings facing north-west (overlooking the railway) but the caves are only accessible at present through a long and very norrow cleft in the rocks, the wider openings all being situated in the precipitious face of the hill. A steep path leads to the cleft as the caves are used as a source of fertiliser by the local cultivators, the material in this case being true bat-guano. From the system of caves facing north-west it is possible, with the aid of lamps, to make ones way across to another series of openings on the opposite side of the hill, one of which is accessible from below. The large cave above and to the south-west of the chamber reached by the approach cleft has a wide opening and has been extensively exploited for guano, though far more still remains than has been taken out. It is not carried out through the cleft but is thrown out of the opening and collected from below. In this cave a quantity of potsherds was found among debris, and three polished neolithic implements (pl. VI, 2–4). A small area of undisturbed deposit remained near the opening and excavation of this showed that the potsherds came mainly from a thin layer of ash and charcoal 10 to 15 centimetres below the surface. Below this they became rapidly scarcer and none were found below 30 to 40 centimetres.

Further exploration revealed another much smaller cave, also facing north-west and above and south-west of the former. Here the floor deposit was quite undisturbed and tranches revealed that abundant potsherds were present, associated, as before, with a shallow layer of ash. Owing to the great abundance of material concentrated in a single thin layer just under the surface, excavation was carried out by removing the deposit in layers of 15 centimetres without the use if instruments. It was found that by far the greater part of the material occurred in the topmost layer, which included the thin stratum of ash. The second layer (15–30 cm.) yielded about 20% of the quantity in the first and in the third (30–45 cm.) very littele was found. Below this depth the deposit was completely barren. Altogether over two thousand potsherds were found in this cave with five typical and four atypical neolithic implements and one broken chipped implement of Hoabinhian type.

Gua Musang. The neolithic implements. Three neolithic implements were found on the surface in the large cave (pl. VI, 2–4). One is of very fine-grained black stone, one of dark crystalline rock and the third of dark coloured schist. All appear to have had a serviceable cutting edge, now chipped and blunted, presumably by use, but none are as well finished as, for instance, the specimen from the cave above Gua Madu rock-shelter, in all three the original flake-scars have not been completely ground away.

In the smaller cave four small adzes and a broken implement

were found in undisturbed deposit (pl. VI, 5–9) all except one of the former being in the topmost layer, *i.e.* within 15 cm. of the surface; the other was in the second layer. The four adzes are all rather rough and unfinished and two are very small, being less than 5 cm. in length. One of these is of fine-grained light green stone and the other three are of dark coloured stone, two of crystalline schist and the third of fine, black shale. In the broken specimen the whole of the distal end is broken off but the remainder is symmetrical and well ground; it is made of a whitish rock.

Two small fusiform implements, pointed at each end (pl. VII, 1, 2) were found in the second layer. They are made of shale, not very hard, and may be classified as awls or borers. Another artefact, somewhat similar but flattened and with the pointed ends obtuse and blunt was found in the third layer, 30–45 cm. deep (pl. VII, 3). Lastly, a smoooth piece of limestone (pl. VII, 4) neatly truncated at the smaller end and bruised at the larger occurred in the top layer. It has the apparance of a pestle. A sea-shell-, a single valve of *Meretrix meretrix* (L.) occurred, also in the top layer.

Gua Musang. The pottery. A great quantity of broken potsherds was found in these two caves, the greater part being in shallow, undisturbed deposit in the smaller cave. No complete vessels were obtained but reconstructions have been made of several by fitting sherds together, and from these the form of the vessels can be seen.

Types of ware. Two very distinct types of ware occurred. The most abundant is black or dark brown in colour, variously ornamented, and with the smooth parts often burnished or polished. Exceptionally shards of this ware are light brown or dull reddish in colour, probably due to heating under oxidising conditions either by accident in the process if baking or during use as cooking vessels. The ware is always coarse in texture and is tempered with large grains of sand and grit. The other type of ware has a smooth surface of a deep red colour. It is generally thicker than the black and is never ornamented. Its internal texture is similar to that of the dark coloured ware. The shards of this ware all appear to be fragmenents of a single type of object (*vide infra*). Pottery of this type is recorded by H.D. Collings from Baling, Kedah (1936, pl. XII, fig. 1) and from Bukit Chuping, Perlis (1937 A, p. 108). Dr. van der Hoop informs me (*in litt.*) that an identical type of ware us found in neolithic funeral urns in Sumba Island, but the form of the fessels is different.

Shards of both kinds of ware were sent to the British Museum for expert opinion on the nature of the smooth external coating. The following passage is quoted from a letter written in reply by Mr. A.D. Brankston.

'As for the nature of the coatings on the sherds, I think they may be compared with those on some early Chinese wares.

The black is caused by the firing having taken place in a reducing atmosphere, perhaps with the addition of sawdust in the furnance during the final stages. This reduces any iron present and coats the vessel with soot or carbon. Afterwards the vessel was polished.

The red pottery was fired in an oxidising atmosphere and the colour is mainly due to iron oxide.

Probably the technique was similar to that of the Chinese. The surface of the vessel, before firing, was coated with fine slit or slip and carefully finished. After firing further polishing or burnishing was probably possible.

Some of the fragments that are red outside, have grey cores. This is because the firing was not long enough, and complete oxidisation did not take place".

Ornamentation. Only the dark coloured pottery is ornamanted. By far the commonest type is "cord-marking", or the impression of a pattern by means of twisted string wound round a spatula or cylinder. The string may be coarse or fine and the impression may be single or, as is more usual, double, resulting in a reticulate pattern of squares or rhombs. The rims of the vessels are usually smooth and may be double. (pl. XI, 1, 2) or even treble (pl. X, 3). A fairly wide smooth area is sometimes left below the rim and only the lower part of the vessel cord-marked. Simple incised or impressed patterns are sometimes found on rims, but they are exceptional. Instances of these were found in the cave above Gua Madu rock-shelter (pl. VII) and a few more in the present site (pl. IX, 5, 6).

The vessels of dark coloured ware. Complete reconstructions have been made of two vessels. One (pl. X, 2) is a small, very well finished bowl, 20 cm. in diameter and 6.5 cm. deep, black in colour with the rim and inside burnished and the outside, below the rim, cord-marked. The other (pl. X, 1) is a large bowl 36 cm. in diameter and 22.5 cm. deep with the rim slightly everted and the sides vertical in their upper half. The outside is rather coarsely cord-marked to within 2 cm. of the rim and the inside is smooth and shows traces of burnishing.

Another small bowl (pl. X, 3) is devoid of surface ornament, but has an elaborate series of superimposed rims. From the way in which it has fractured is apparent that the bowl was first made with a single rim, which now forms the lowest of the three external ridges that encircle it. Next a second rim was made in the form of a ring and stuck on top of the first and then a third was superimposed in the same way. The joins form planes of weakness along which the vessel has broken, but except where fractures have occurred they are quite invisible, being concealed by the burnished external coating with which the finished vessed was covered. This bowl has a diameter of about 19 cm and a depth of 12 cm.

On plate XI, 1, 2, are two reconstructed pieces of vessels showing a broad, smooth area between the rim and the cord-marked part below. On fig. 4, plate VIII is a piece of vessel of rather coarse ware with thick, everted rim and cord marking impressed right up to the rim; there is not sufficient material to show its shape.

One of the most interesting specimens (pl. XII, 1) is a partly cord-marked earthenware object of dark coloured ware having the same peculiar form as those made of the red ware (*vide infra*). Its fat greater abundance suggests that the dark coloured and black ware was in common use by the neolithic frequenters of the caves and that they made it themselves. If we admit the possibility that they obtained the red pottery from some other source the present specimen could be interpreted as an imitation of the extraneous type of vessel in their own ware.

Some small discs of pottery of this type were found, which appear to have been made by roughly grinding the edges of pot-sherds. They may, perhaps, be compared with those figured by Mansuy (1923, pl. IV, V), but they are without any incised pattern.

The objects of red ware. Several reconstructions were made from the shards of red pottery, some of which are shown on plate XII, 2–5. None are complete, but collectively they are sufficient to give a good idea of the form of the objects they represent, which consists of a flat dish on a hollow, conical stand, with a round hole in the centre of the dish opening into the hollow of the stand. A reconstruction in side elevation is given in fig. 4.

Figure 4. Diagrammatic reconstruction of the type of vessel represented by the fragments of red ware, see plate XII.

The nature and purpose of these objects remained a complete mystery to me until Dr. van der Hoop, to whom I had sent specimens and a reconstruction, sent me a photograph and a diagrammatic section of one of three similar earthenware objects in the Batavia Museum from Atjeh in Sumatra the photograph is reproduced on plate XIII and the section in fig. 5. The form part of a collection of potter's tools made by the well known ethnographer Professor Snouck Hurgronje, who describes them in the "Notulen Bataviaasch Genootschap, 1900, Bijlage II, as follows (translation by Dr. van der Hoop);

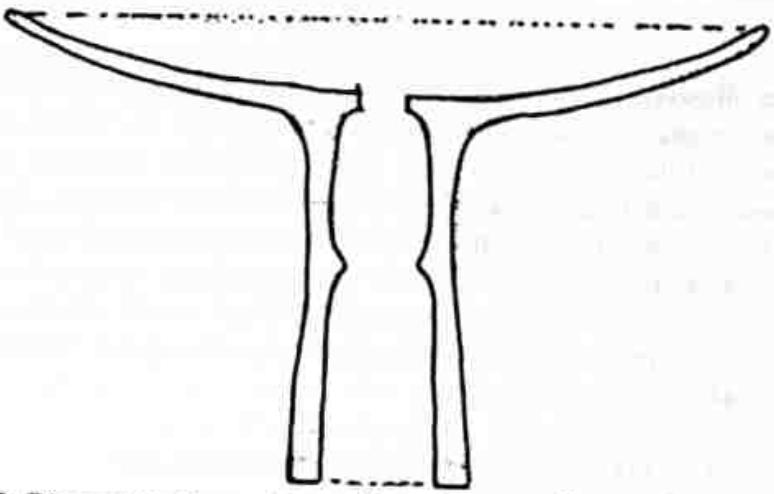

Figure 5. Diagrammatic section of earthenware "potter's wheel" from Atjeh, Sumatra (see plate XIII).

'Nr. 9120–9122. *Para* or potter's wheel; implement made of baked clay in the shape of a flat dish without border on a cylindrical foot (*go*); dish and foot are perforated. The roughly shaped potter's clay is put on the dish the potter turns the foot of the potter's wheel in his left hand and with his right hand he models the clay".

The close similarity between these objects and those of which fragments were found in the Gua Musang caves, and their prculiar, design, unlike that of any ordinary earthenware vessels, strongly suggests that both were used for the same purpose.

Professor Hurgronje does not explain the purpose of the hole in the centre of the "wheel". In my opinion its most likely function is to admit a fixed wooden or bamboo spindle, the action of which would be to ensure that the apparatus rotated concentrically. A primitive potter's "wheel" or turn-table described by L. Wray (1903, p. 26, pl. I, 1, 0) from Perak consists of two superimposed wooden discs, the lower with a central peg on which the upper, centrally perforated disc revolves. A similar specimen from Kampong Pinang, Batu Bara, Sumatra is in the Raffles Museum. It is possible that this apparatus affords the clue to the *modus operandi* of the mor com-

plicated earthenware type, of which it may even be a degenerate derivative.

So far as can be seen all the shards of red were are fragments of these 'wheels" the type of ware is so different from the dark coloured pottery that forms the bulk of the finds in these caves that I am tempted to believe that the neolithic people nay have obtained the "wheels" from some extraneous source and occasionally tried to copy them in their own ware (*vide supra* and pl. XII, 1).

The red shards were found in undisturbed deposit intimately associated with the dark coloured pottery and the polished stone tools and there can be little doubt that they were in use at the same time.

Gua Musang. Cylindrical objects of burnt earth. A few fragments of what appear to be thick, cylindrical objects of baked or burnt earth were found together with the rest of the neolithic material. Some are crudely ornamented externally, others smooth. Their substance is soft and friable and without any tempering of sand and grit and they do not appear to have been burnt at a high temperature.

Two fragments are shown on plate XI; 3 shows the roughly ornamented external surface and 4 illustrates the great thickness and earthly texture of these objects.

The relation of the pottery to the neolithic implements

An important result of these excavations is the evidence that the incised and cord-marked pottery that is such a general feature of the Malayan cave-deposit belongs to the true neolithic culture characterised by polished stone implements, and not to the culture represented by chipped implements of Hoabinhian type. This evidence may be recapitulated as follows:–

(1) In the rock-shelter at Gua Madu, where Hoabinhian tools were present in unusual abundance, potsherds were very scarce and only one neolithic celt was found, which came from the surface finds and not from the excavation. The few potsherds that were excavated came from the superficial layers.

(2) In the small dark cave above the rock-shelter potsherds were found in some quantity associated with a single neolith and some Hoabinhian tools.

(3) In the high caves overlooking Gua Musang station between two and three thousand fragments of broken pottery were obtained together with eight typical neolithic implements four other ground tools presumed to be of neolithic affinity, and only a single chipped implement.

In the Gua Madu rock-shelter we have an almost pure Hoabinhian stone culture and in the Gua Musang caves an almost pure neolithic;

in the former pottery is conspicuous by its scarcity and in the latter is far more abundant than is usual in Malayan cave deposits. The presence of a certain number of Hoabinhian implements in the small cave at Gua Madu is not surprising considering the evidence for a long and crowded occupation by this culture of the rock-shelter just below.

There can be no doubt that the pottery and neoliths found in the Gua Musang caves were brought there by the neolithic people themselves, since with the exception of a single chipped implement there is no evidence that the caves were used by people of any other culture. The fact that almost all the pottery found at Gua Madu was in the small cave and not in the rock-shelter with the bulk of the Hoabinhian material points to the same conclusion.

A find of neolithic stone implements associated with pottery at an open the site on the river Tembeling, Pahang, was reported on by I.H.N. Evans in 1928 (1928 B).

The only previous cave-excavation in Malaya that has yieled definite evidence of the association of pottery with the polished neo lithic implements as opposed to those of Hoabinhian type was that made by H.D. Noone at Gua Menteri in Kelantan, about 20 miles north-east of Gua Musang (Noone, 1939). There the deposit is said to show cultural stratification, the succession being divided by Mr. Noone into four stages. The lowest layer contained large Hoabinhian tools and no pottery the next produced small Hoabinhian tools and a little pottery, the third, flakes and chipped implements with a fair amount of pottery, and in the highest layer abundant pottery was found together with several polished neoliths.

In all the previous cave excavations in this country in which pottery has been found it has been associated with tools of Hoabinhian type and an occasional neolith in the upper layers of the deposits, becoming scarcer in the lower layers and in the deepest being usually absent.

A suggestion that the pottery was not made by the authors of the chipped implements was made on typological grounds by Collings (1936, p. 10), who suggested that the makers of the Gua Debu industry (a culture of Hoabinhian type) in Kedah lived as neighbours of a neolithic people and occasionally obtained possession of their more advanced artefacts and brought them back to the caves.

The excavations in Kelantan have shown, however, that the neolithic people, at least in some cases, used the caves themselves. While the supposition that the Hoabinhian and neolithic people inhabited the country to some extent simultaneously cannot be abandoned, the frequent mixing of neolithic pottery with Hoabinhian implements in the upper layers of the cave deposits may be due in some cases to the practice of the neolithic people of burying their dead in the floors of caves previously inhabited by men of Hoabinhian culture.

It is interesting to note that the pottery found with stone implements in the closely comparable cave deposits of Indo-China has long been regarded as being associated with the neolithic (upper neolithic) as opposed to the Bacsonian and Hoabinhian cultures (Mansuy, 1925, p. 33).

The use of the caves by the neolithic people

From the evidence of his investigation at Gua Menteri Mr. Noone concludes that the neolithic people lived in the rock-shelter. I do not thick, however, that they lived in the caves in the Gua Musang district. Those at Gua Musang are high and difficult of access and not suitable for habitation, while anyone living at Gua Madu would certainly stay in the rock-shelter rather than scramble up to the dark, bat-haunted little cave above it.

Furthermore, the potsherds found at Gua Musang were associated with a thin layer of ash and charcoal at 10–15 cm. below the present surface of the floor. Thick layers of ash, earth and food-remains, which are formed as a result of prolonged habitation, were wholly absent.

The present of great quantities of potsherds led me to believe at first that the caves were used for ceremonies to which offerings of food were brought, contained in vessels which would frequently be broken accidentally or, possibly, deliberately as part of the ritual.

The discovery of the potter's wheels, however, lends colour to another hypothesis, namely that the caves were used for the manufacture of pottery. They would give the necessary shelter from the weather, and fires for baking the vessels could be made without the danger of conflagration that would be present in the thatched huts in which the people probably lived.

Opposed to this theory is the fact that no remains of ovens or kilns were found, and that the quantity of ash and charcoal in the floor deposit seemed to be far less than would be expected if the firing of pottery had been carried out in the cave for a long period.

It is hoped that future research will throw more light on this interesting question.

APPENDIX

The use of the instruments employed for the controlled excavation

In order to fix the positions of the artefacts in the deposit at Gua Madu surveying instruments were used. In place of the combined theodolite and compass used by the late Dr. P.V. van Stein Callenfels and others at various excavations in this country, direction, distance and level were determined with separate instruments, a prismatic compass, a steel tape and a clinometer of the pattern used by the F.M.S. Survery Department. The instruments were operated from a small plane table which was left permanently standing in the rock-shelter, centred over an arbitrarily chosen fixed point.

The compass can only be easily read when it stands near the edge of the table remote from the object. Care must therefore be taken to place it so that the centre of the table is directly in the line of sight when a bearing is observed.

Both the bearing and the distance are normally measured from the fixed point to the levelling staff, which is placed with its foot on the position occupied by the object to be measured; the staff must therefore be held exactly vertical.

It possible the fixed point should be chosen so that the top of the table is a little above the highest ground level of the area to be excavated. The lower part of the graduated staff will then be visible through the levelled sights of the clinometer and will continue so throughout unless the depth of the excavation is such that the top of the staff passes out of view. At Gua Madu I used an expanding staff graduated in centimetres with a maximum height of four metres.

If neither the bottom nor the top of the levelling staff can be seen through the levelled sights of the clinometer, a staff clearly marked at the height of the table (a piece of bamboo with a white rag tied round it was found to serve very well) should be substituted for the levelling staff. The angle of elevation or depression from the top of the table to the mark must then be read and the distance between these two measured. It will be seen that both these measurements are equivalent to those from the fixed point under the table to the object. The corrected (horizontal) distance and the difference in level may then be calculated as shown in fig. 6.

The F.M.S. pattern clinometer is graduated not in angles but in natural tangents, so the angle BAC must be obtained from the table of tangents before its cosine can be ascertained.
Tan BAC is, of course, the original reading.

Four figure tables are sufficiently accurate.

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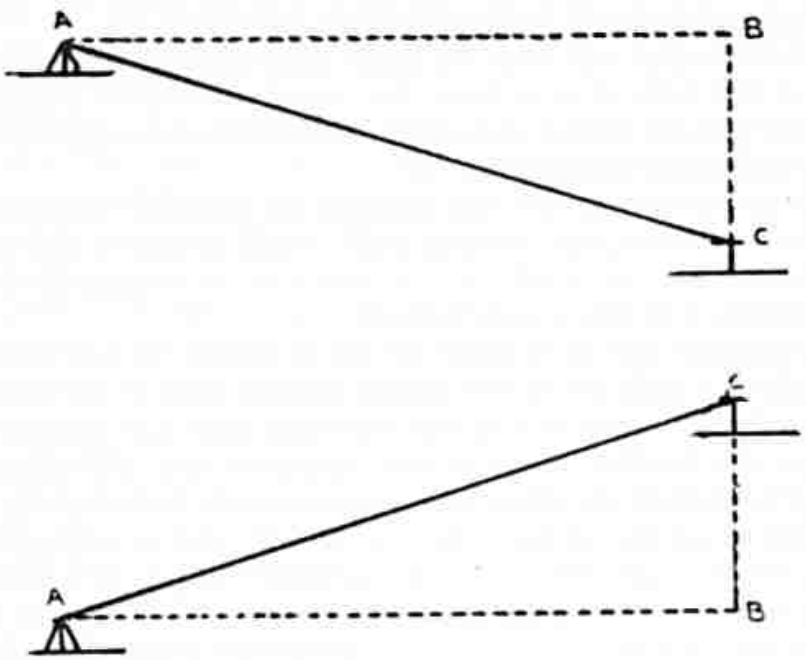

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EXPLANATION OF PLATES

I. Well finished Hoabinhian implements from Gua Madu rock-shelter.
1. Excav, No 359 (section I). Green chert.
2. Surface find. Green chert.
3. Excav. 272 (section II). Light green banded chert.
4. Surface find. Green chert.
5. Excav. No. 424 (section I). Light green chert.
6. Excav. No. 169 (section II). Light coloured igneous rock.

II. Hoabinbian implements from the lowest layers in Gua Madu rock-shelter, all are plotted on Section II.
1. Excav. No. 341. Dark, crystalline igneous rock.
2. Excav. No. 342. Dark green, fine-grained rock.
3. Excav. No. 352. Black metamorphosed shale.
4. Excav. No. 363. Quartzite.
5. Excav. No. 367. Quartzite.
6. Excav. No. 374. Brown slaty schist.

III. Implements from Gua Madu rock-shelter.
1. Worked flake. Excav. No. 103 (section II). Dark grey shale.

2. Small worked flake. Excav. No. 29 (section II). Grey shale.
3. Large elongate implement of black shale, surface find.
4. Large flat implement of grey shale, surface find.
5. Half of very large implement of red quarizite. Excav. No. 548 (section I).

IV. Implements from Gua Madu rock-shelter.
1. Well made protoneolith. Excav. No. 242 (section II). Dark green microcrystalline rock.
2. Protoneolith. Excav. No. 280 (shallow deposit, not included in sections). Greenish shale.
3. Fragment of hammer-dressed round axe. Excav. No. 300, (section II). Volcanic tuff.
4. Fragment of hammer-dressed protoneolith or round axe. Excav. No. 411 (section III). Fine-grained green igneous rock.

V. Implements from Gua Madu rock-shelter.
1. Hammer-dressed round axe; surface find. Dark green microcystalline rock.
2. Pounding stone or fabricator with hammer-dressed "grip-mark". Excav. No. 93 (section II). Dark grey metamorphic rock.
3. Bark-cloth pounder. Excav. No. 265 (section II). Fine red sandstone.
4. Bone implement, surface find.
5. Neolithic chisel, surface find.

VI. Neolithic implements.
1. Small cave above Gua Madu rock-shelter.
2–4. Surface finds in large cave at Gua Musang.
5–9. Specimens excavated in deposit in small cave at Gua Musang.

VII. Neolithic implements and pottery.
1, 2. Stone borers from the small cave at Gua Musang.
3. Atypical implement from small cave at Gua Musang.
4. Limestone pestle from small cave at Gua Musang.
5, 6. Inside and outside of an incised potsherd from small cave above Gua Madu rock-shelter.
7. Incised potsherd from some site.

VIII. 1. Incised and cord-marked potsherd from small cave above Gua Madu rock-shelter.
2–4. Fragments of incised and cord-marked vessels from Gua Musang.

IX. 1–6. Fragments of cord-marked (1–4) and incised (5, 6) vessels from Gua Musang.

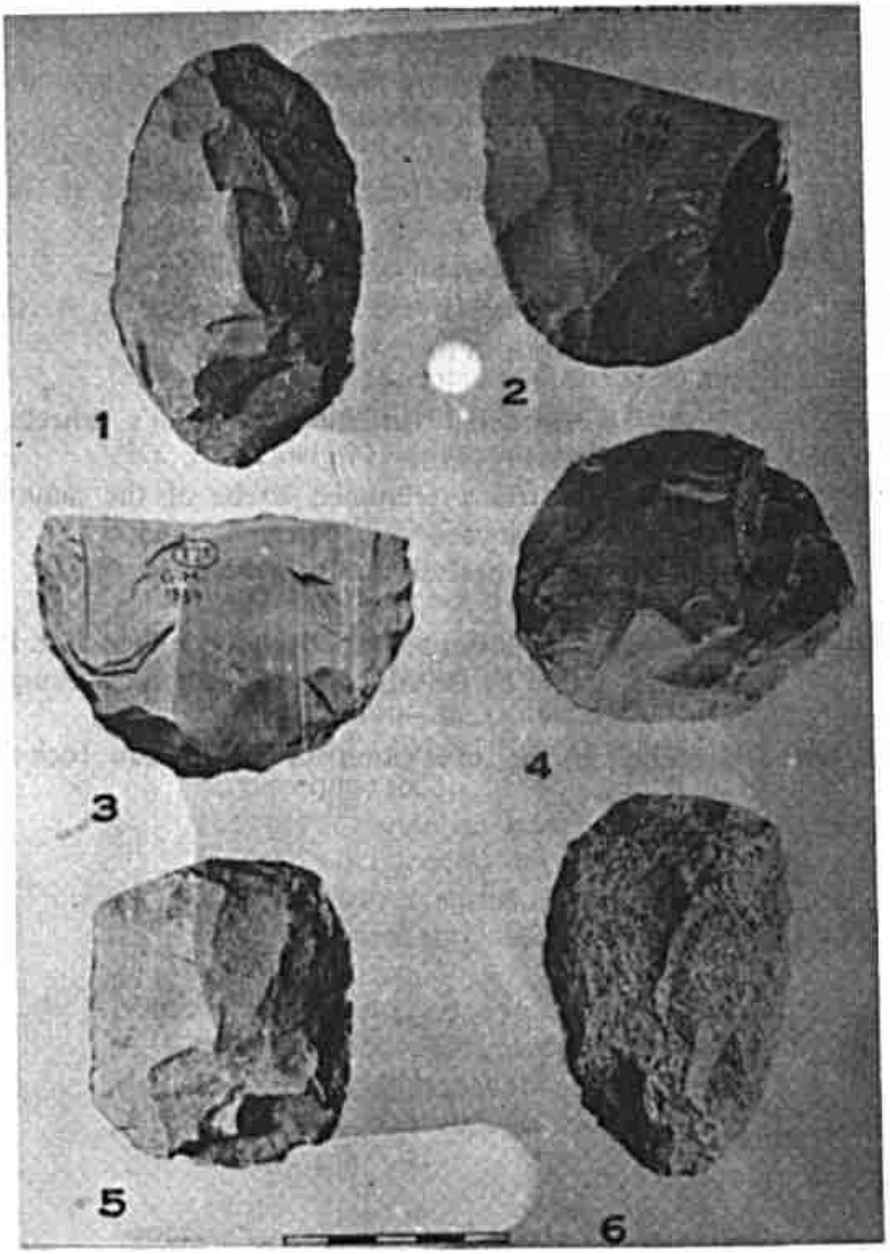
X. Vessels reconstructed from fragments found at Gua Musang.

XI. 1, 2. Parts of vessels from Gua Musang. 3, 4. Objects of burnt earth from Gua Musang.

XII. Partly reconstructed earthenware potter's wheels from Gua Musang (see text fig. 4).
1. Two portions presumed to be of the same wheel of dark-coloured ware, partly cord-marked.
2–5. Pieces of wheels of unornamented red ware.

XIII. An eartheware potter's wheel from Atjeh, Sumatra. Batavia Museum, photo by Dr. A.N.J. Th. a Th. van der Hoop.

XIV–XVI. Sections in the excavation in Gua Madu rock-shelter, see fig. 3.



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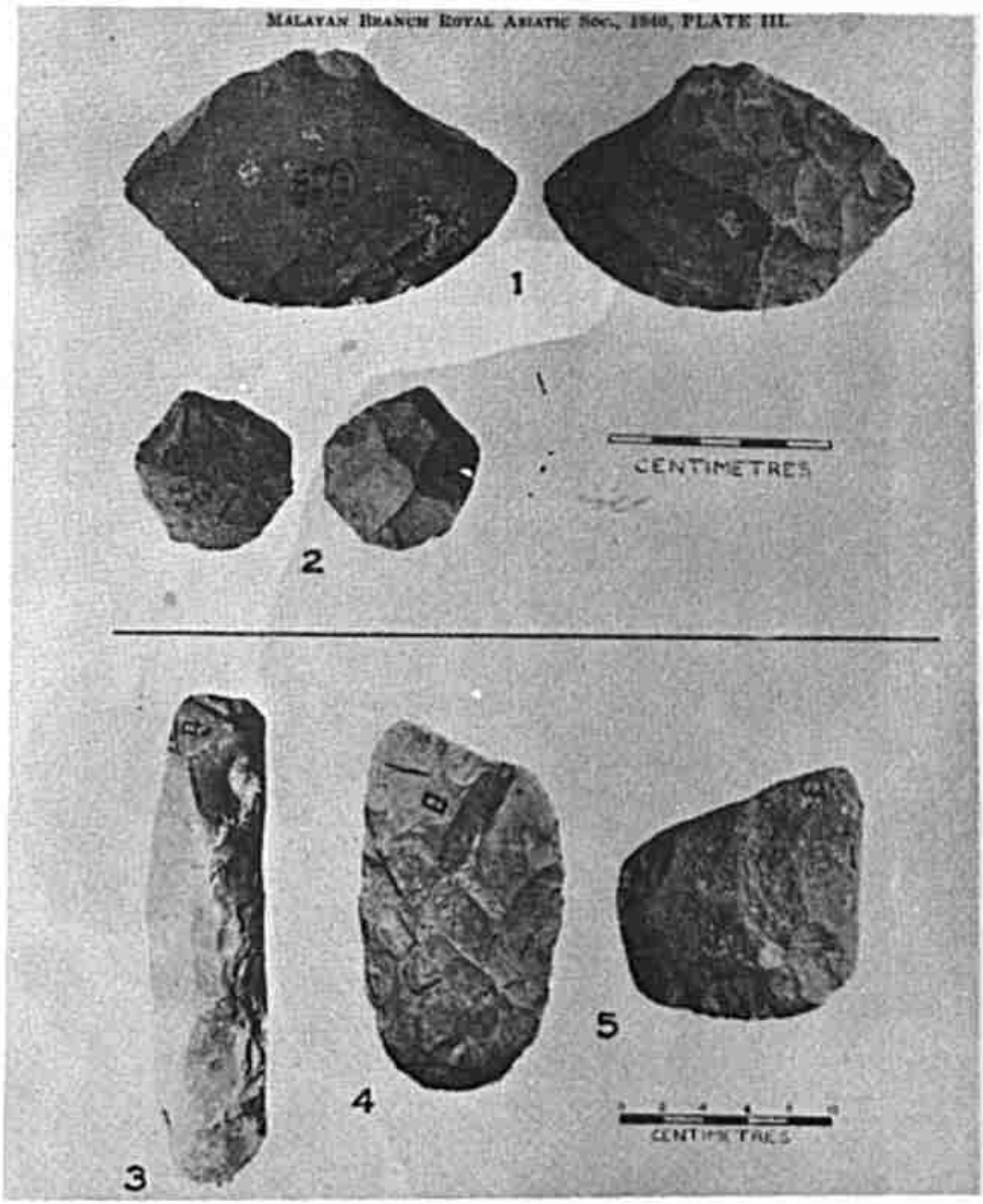
Stone implements from Gua Madu, Kelantan.



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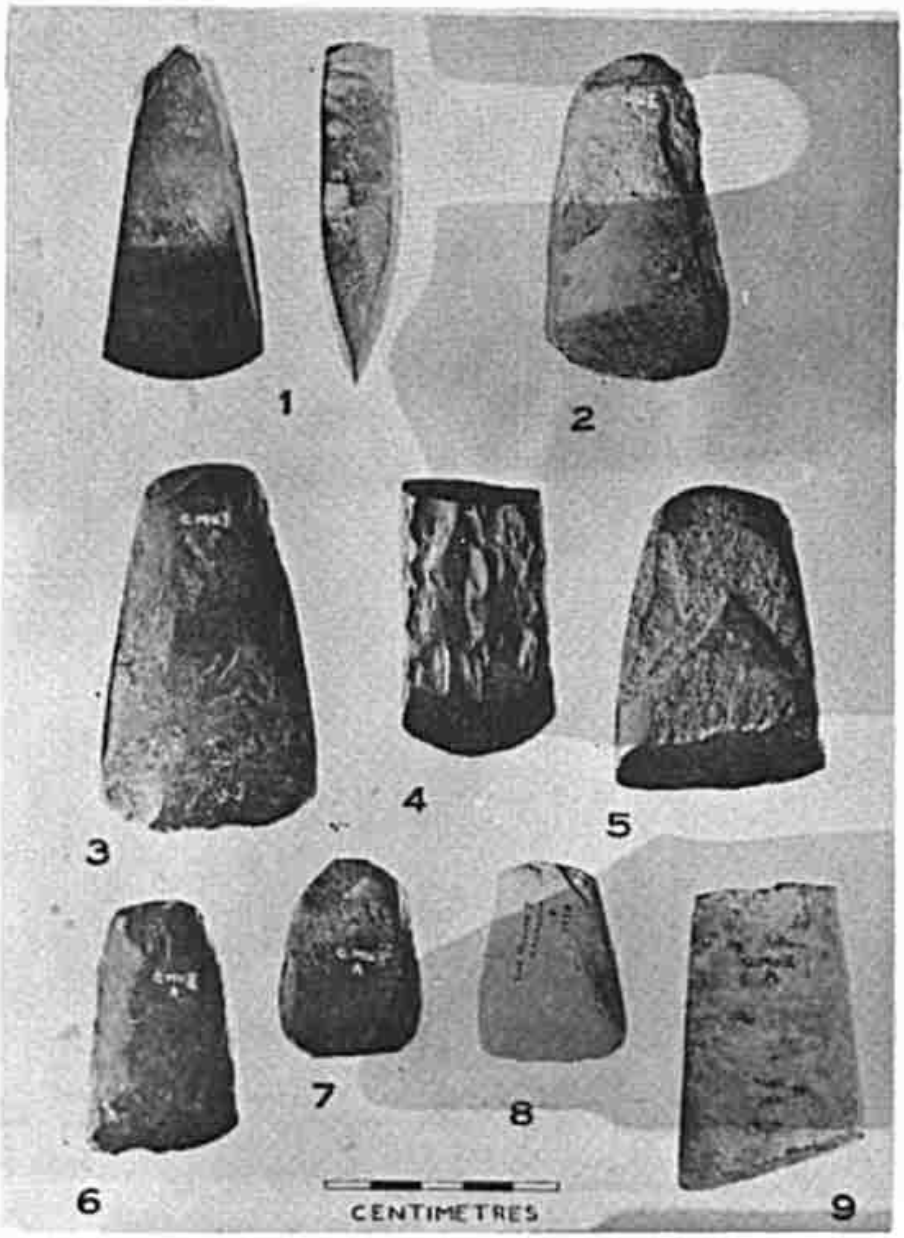
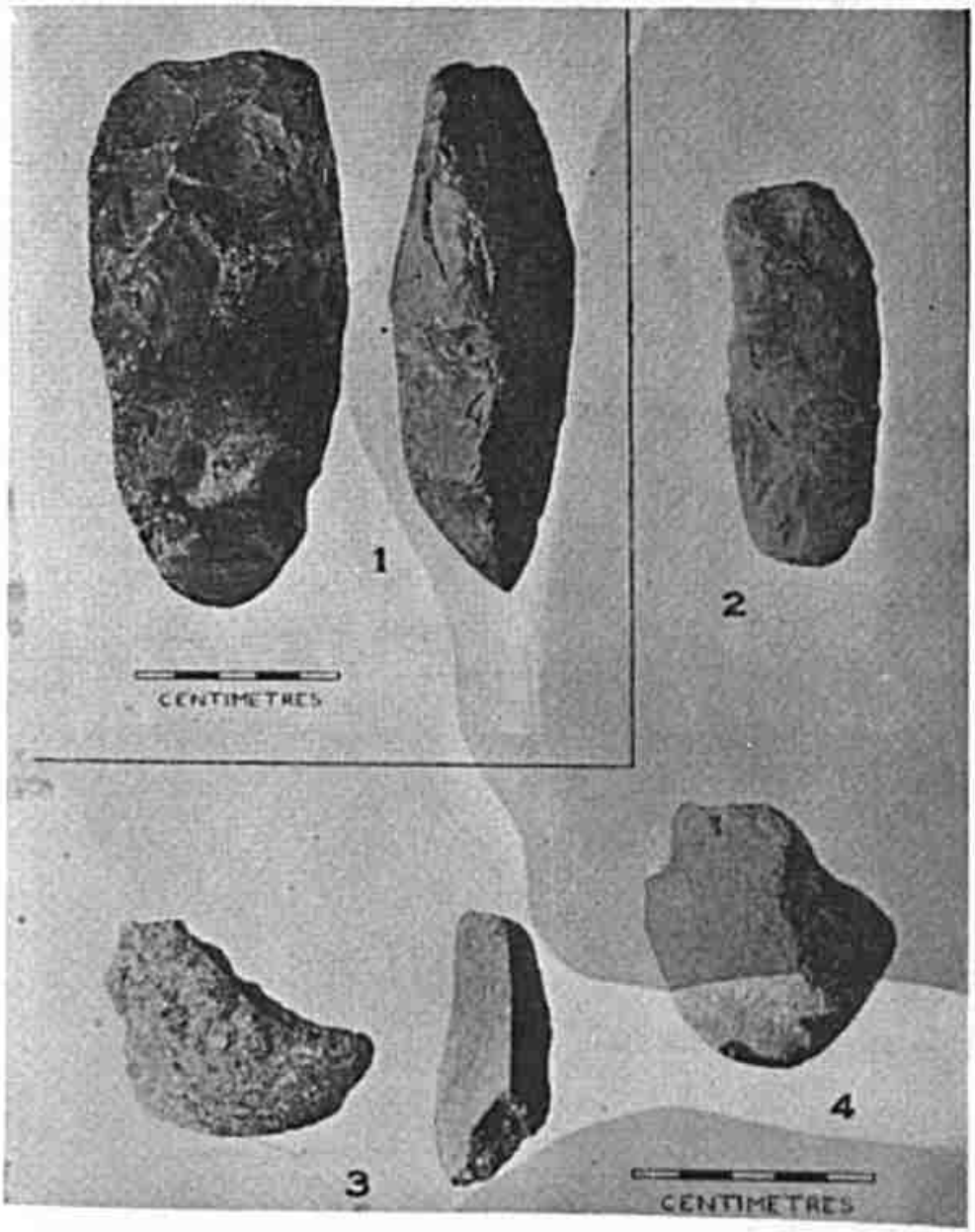
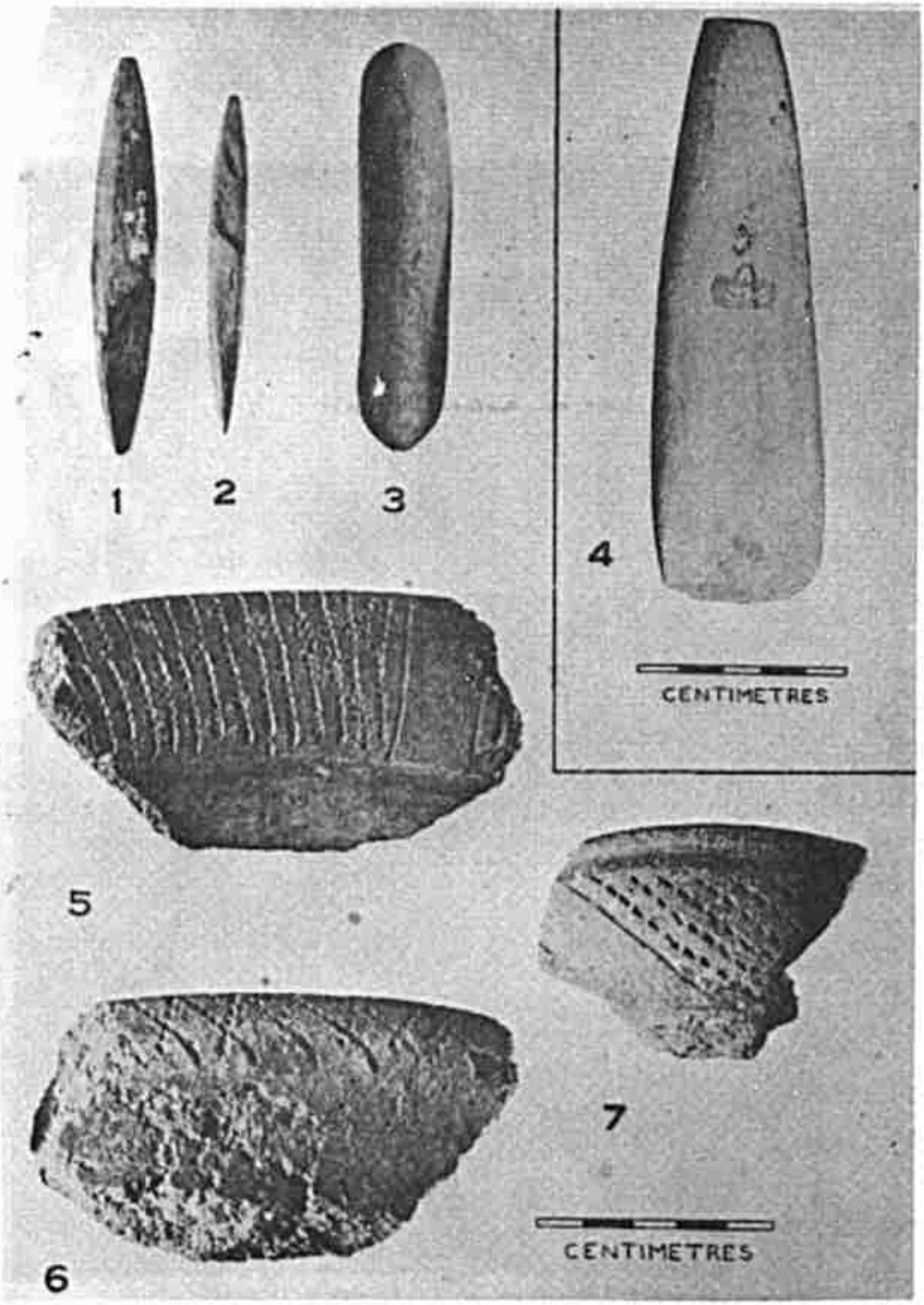


Neolithic implements from Gua Madu and Gua Musang, Kelantan.



Stone implements from Gua Madu, Ketantan.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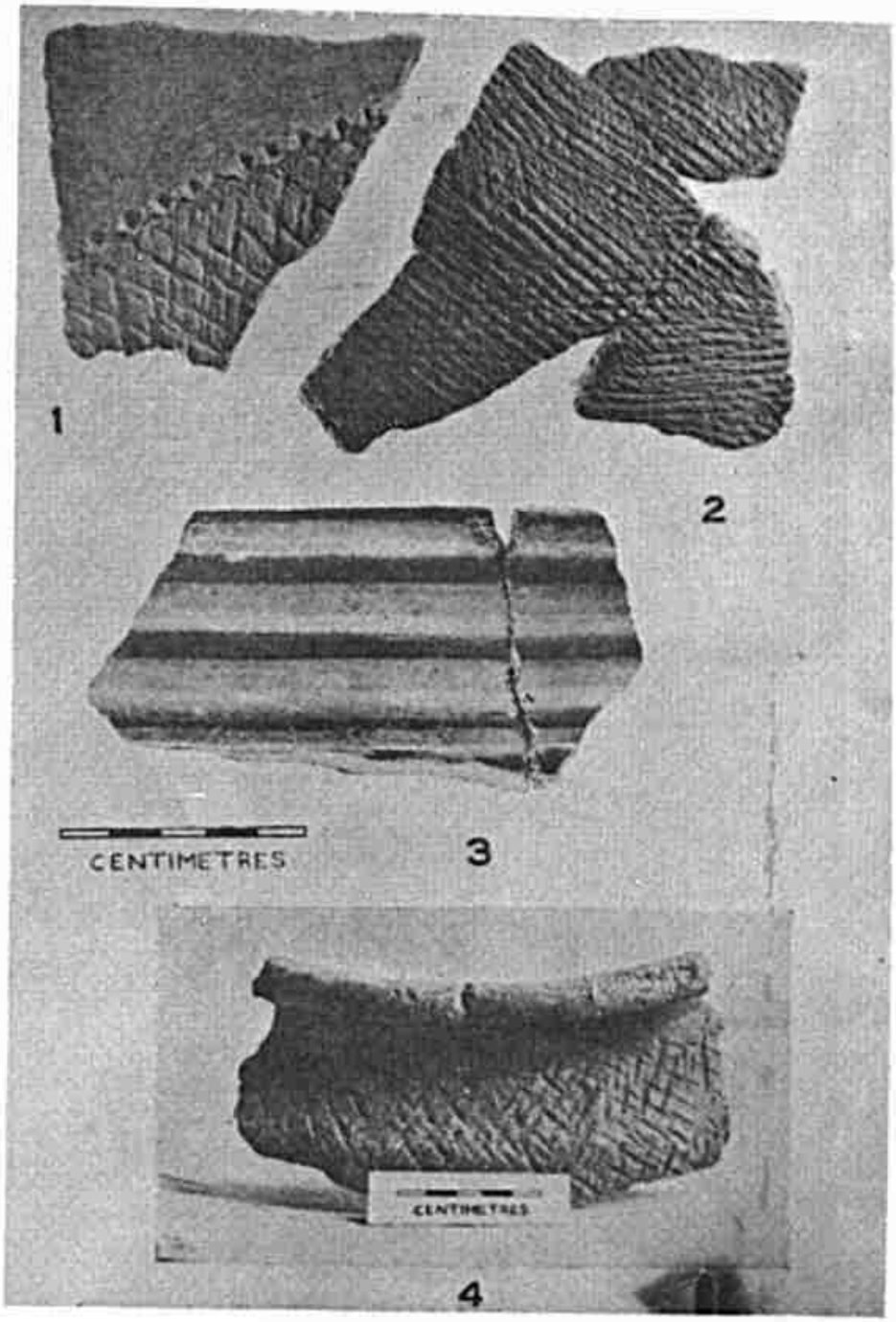
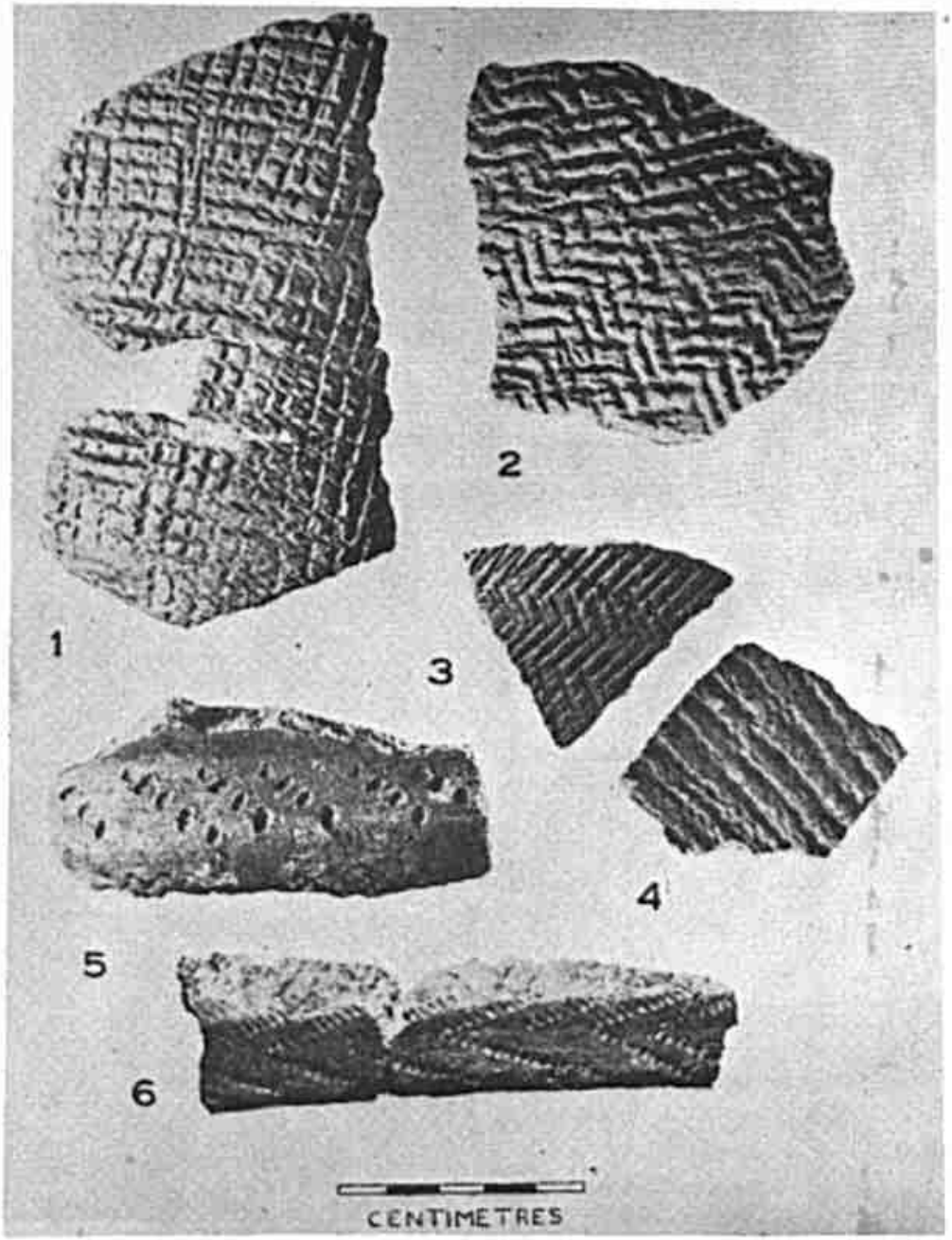


Postherds from Gua Madu and Gua Musang, Kelantan.



Potsherds from Gua Musang, Kelantan.

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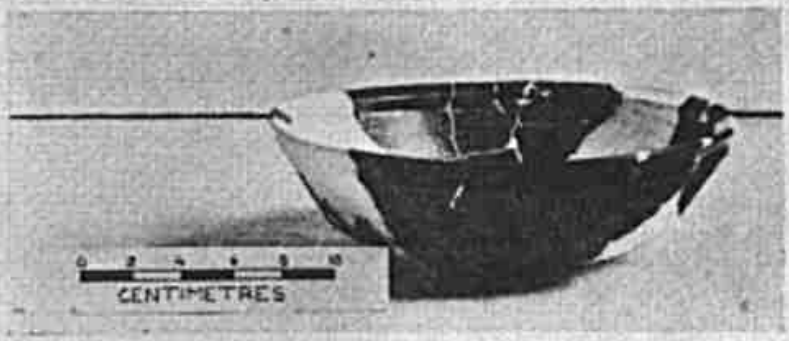

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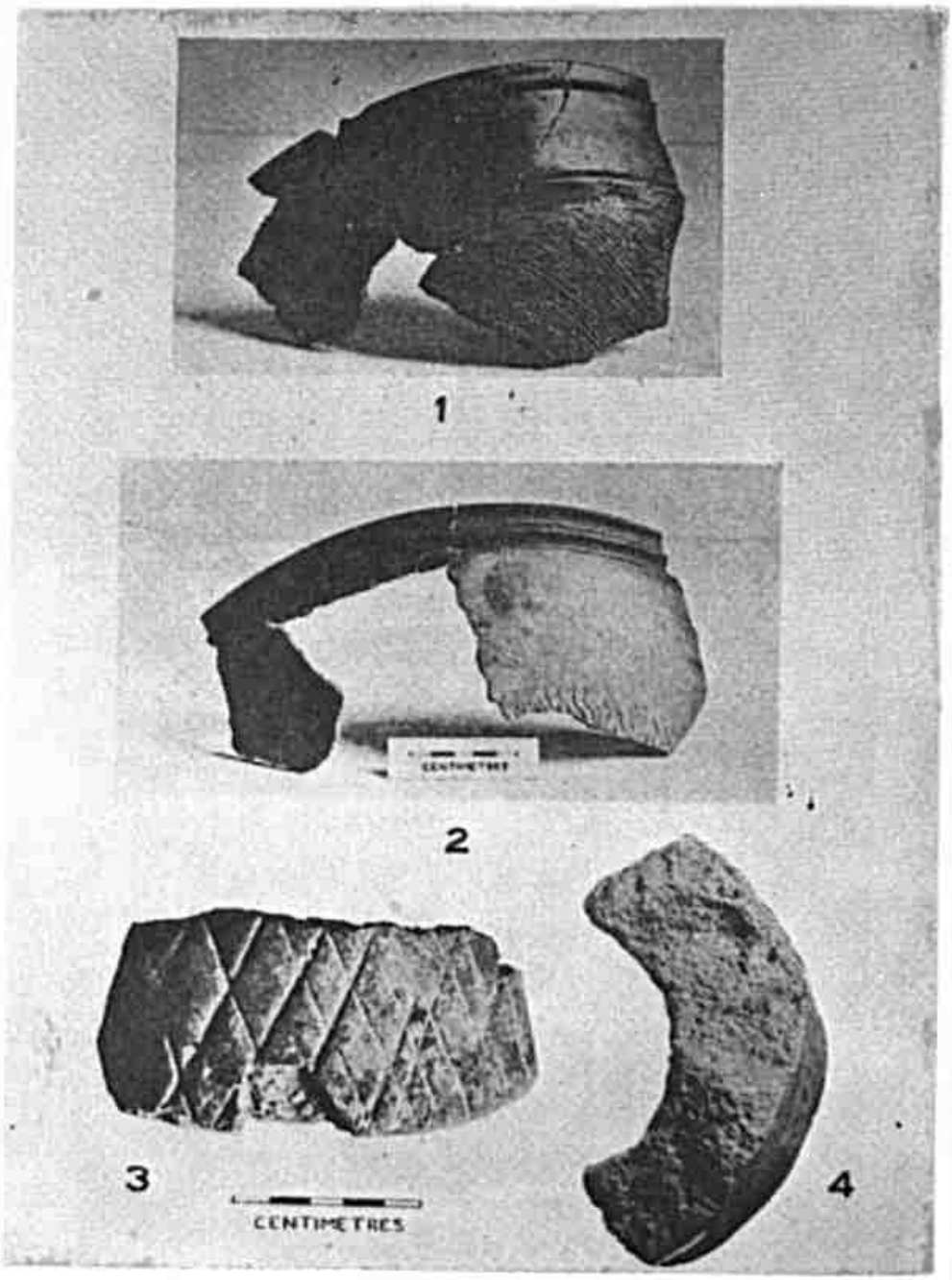
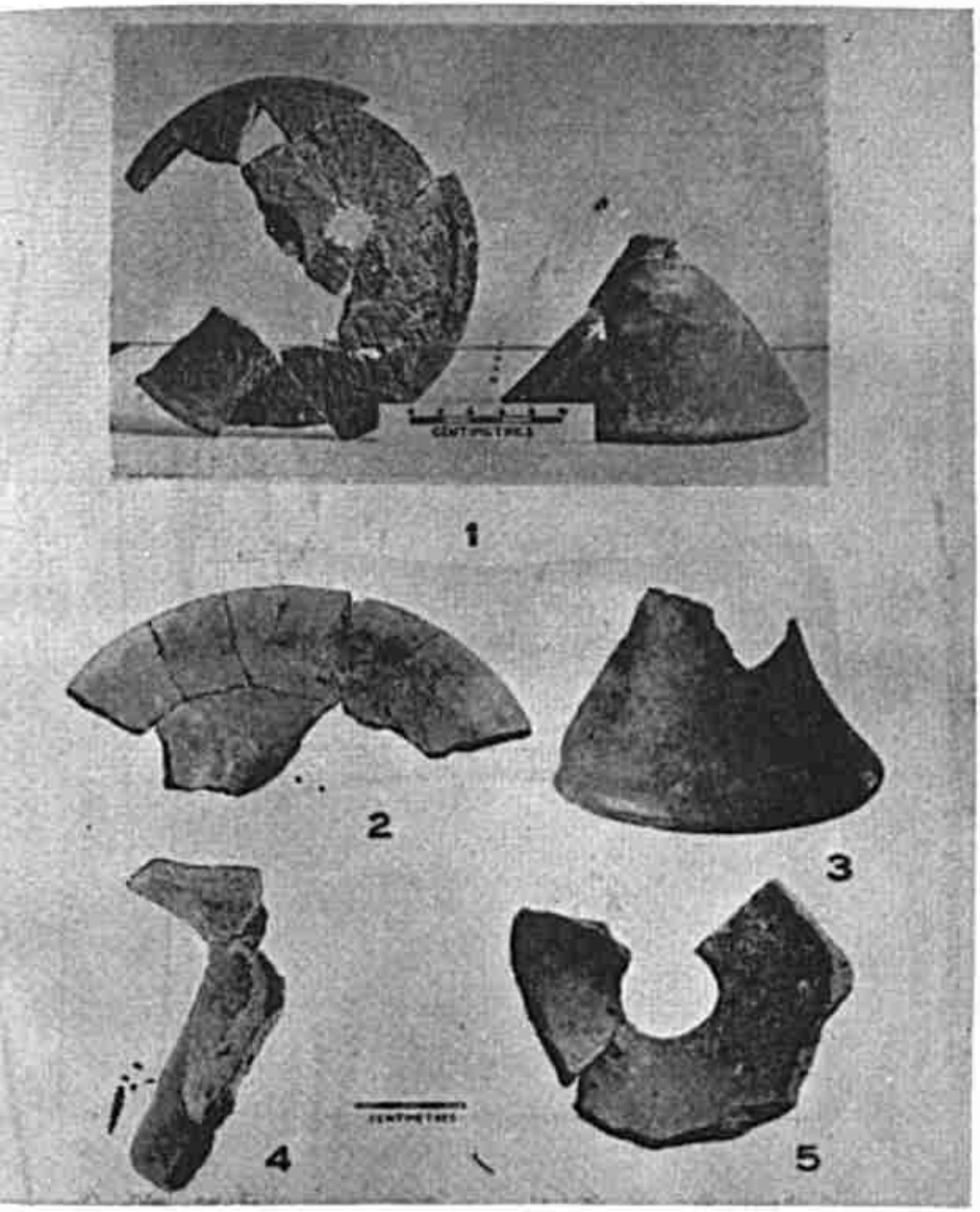
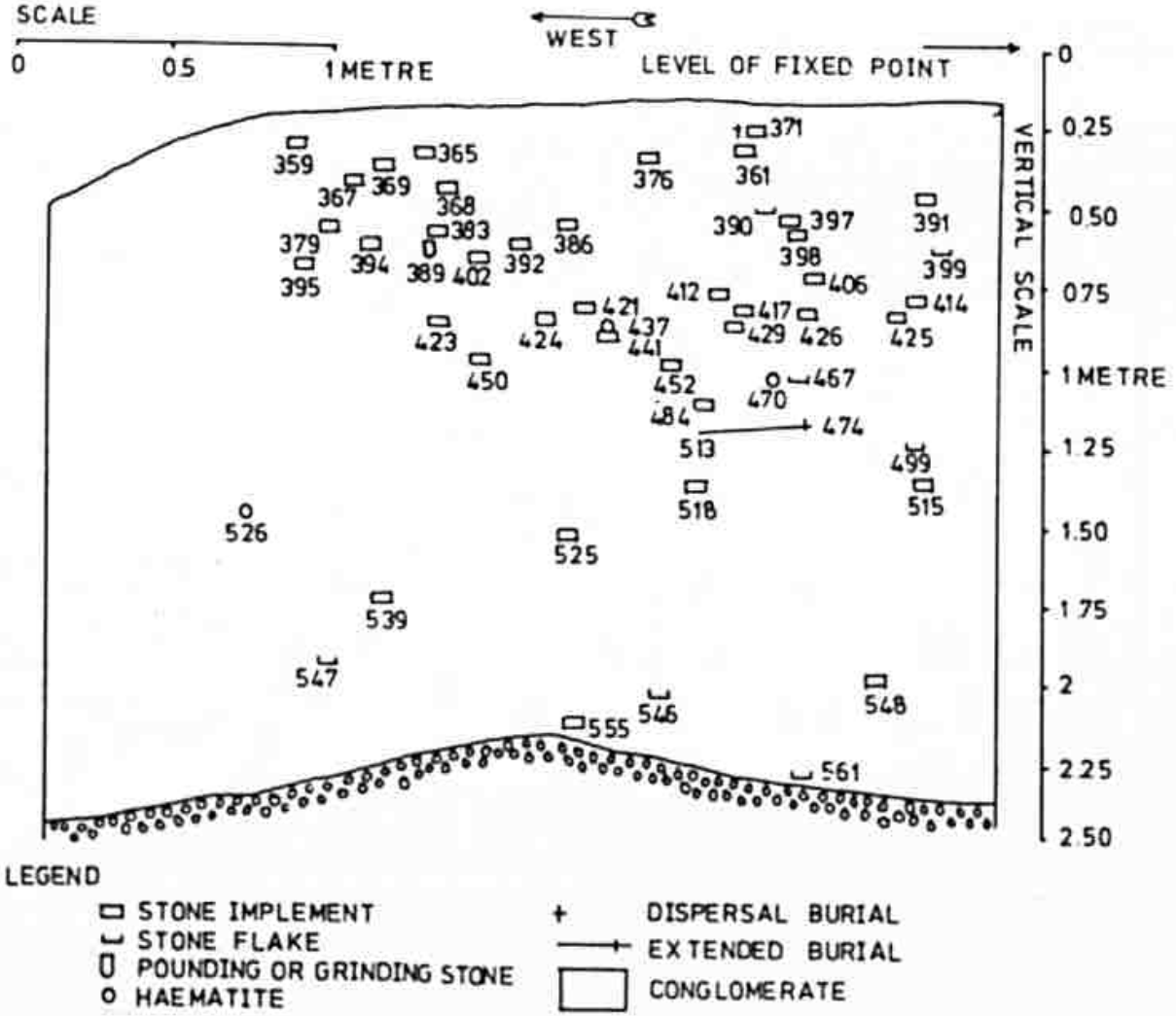


Pottery and objects of burnt earth from Gua Musang, Kelantan.



Objects presumed to be potters' turn-tables from Gua Musang, Kelantan

Recent earthenware potter's turn-table from Atjeh, Sumatra.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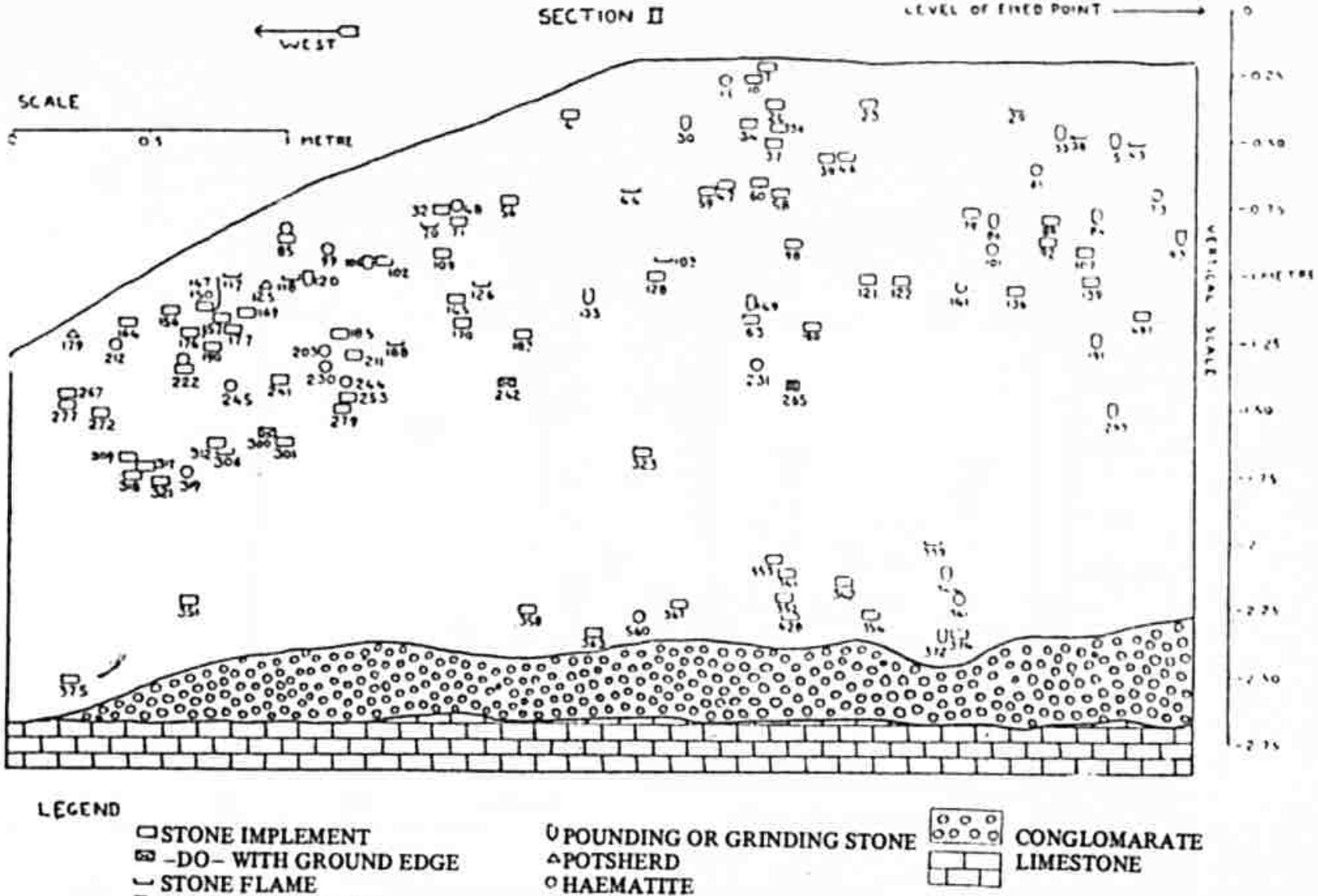
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HAEMATITE
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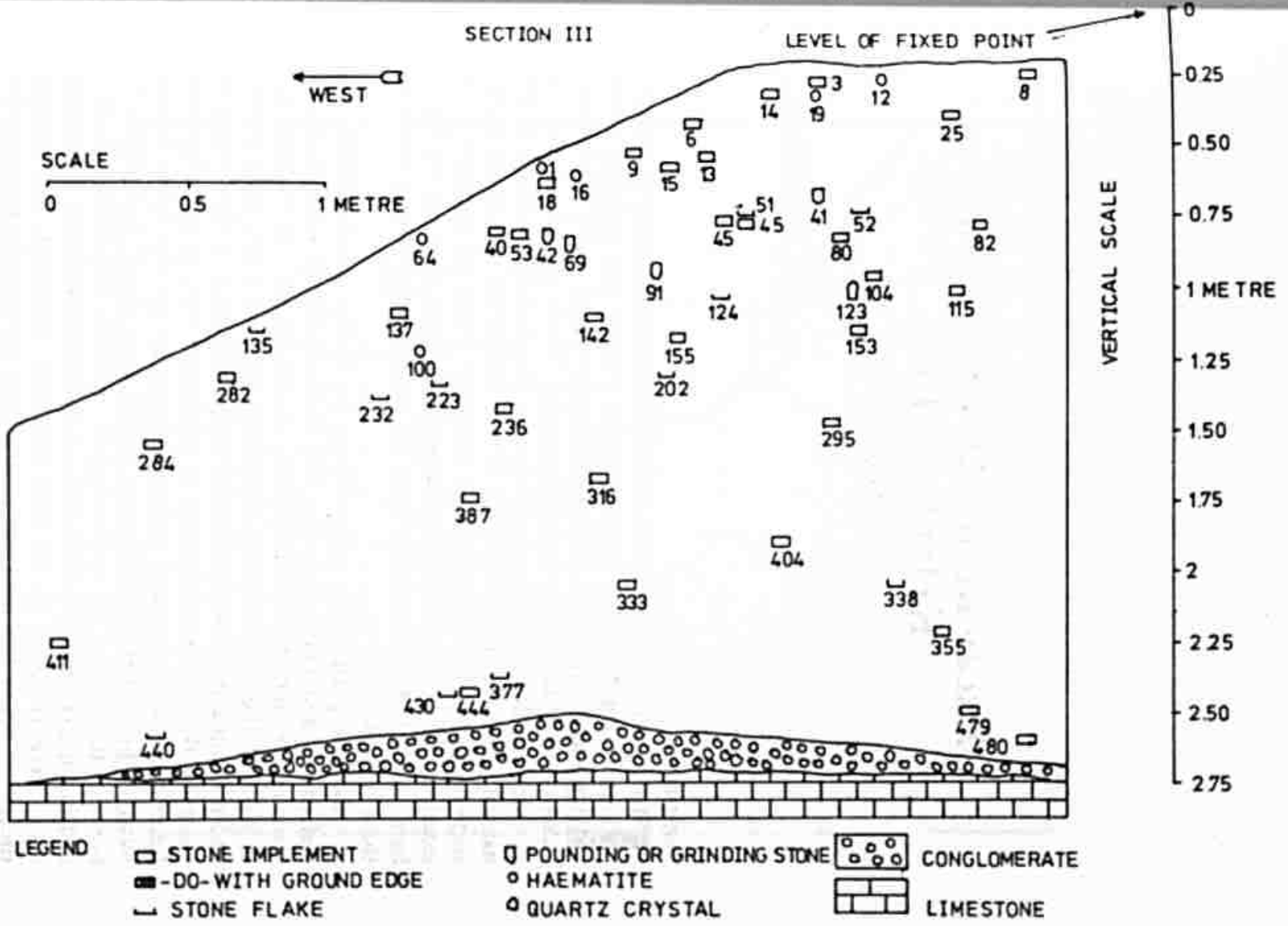
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LEGEND
STONE IMPLEMENT
-DO- WITH GROUND EDGE
STONE FLAKE
POUNDING OR GRINDING STONE
HAEMATITE
QUARTZ CRYSTAL
CONGLOMERATE
LIMESTONE

Excavations At Gua Cha, Kelantan. 1954 Part 1 *

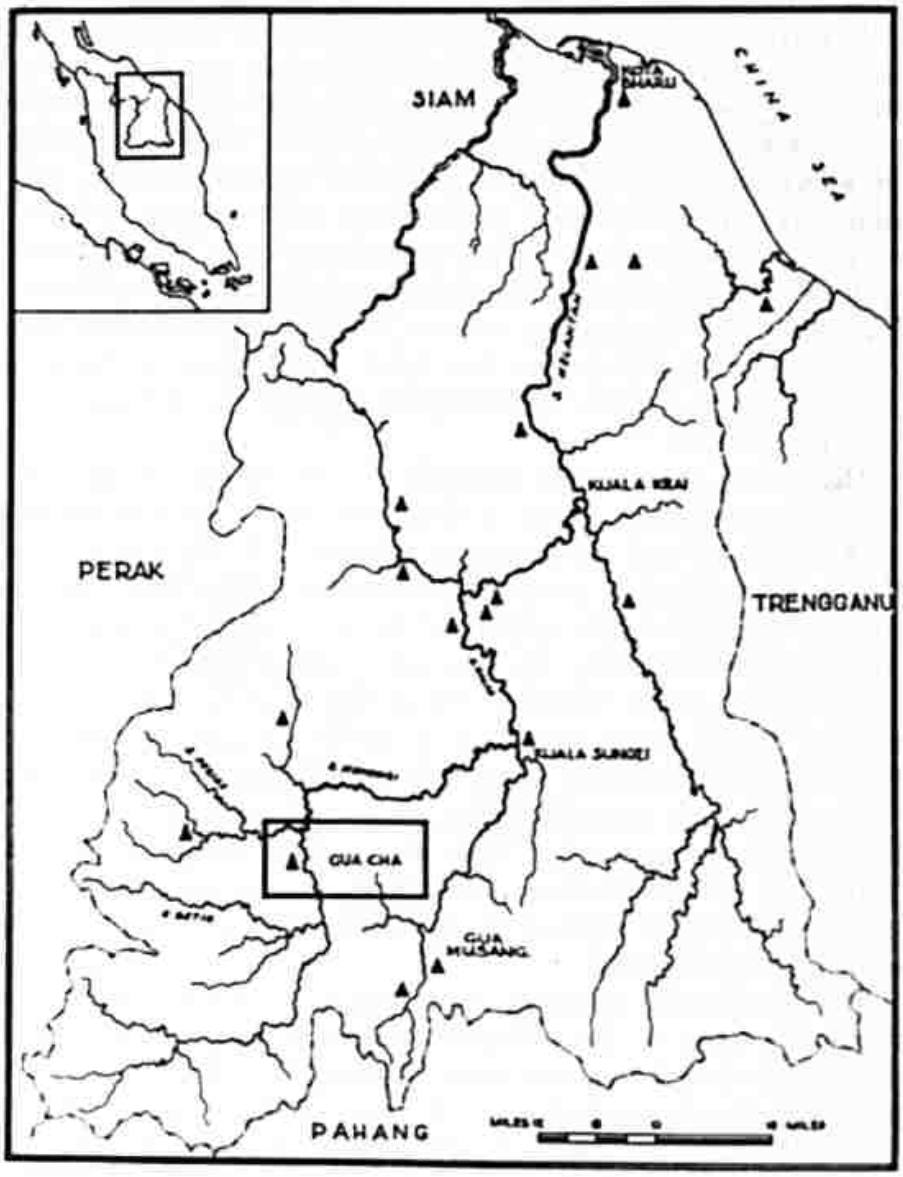
G. DE G. SIEVERKING

Summary

THE systematic excavations at Gua Cha revealed a series of deposits containing Neolithic cord-impressed pottery and polished stone tools and ornaments, flaked stone tools referred to the Hoabinhian industry and associated skeletal material. These collections will be examined in detail in subsequent reports. The first report describes the natural and human stratigraphy of the shelter by means of plans, sections and detailed descriptions recorded duing the excavation. A series of associated pottery types from Neolithic graves is published here so that the illustrations may be conveniently divided between these reports.

In those parts of the shelter where the surface was not broken by stalagmites and fallen stalacities two main soundings were excavated horizontally until an archaeologically sterile deposit was reached, and in part of the first sounding excavation was continued through this and preceding sterile deposits down to the solid rock. A third sounding adjoining the first was excavated to a depth of 4 ft., to gain additional Neolithic collections; and a fourth sounding on the lower terrace outside the shelter was excavated to the same depth, but proved to contain to contain no archaeological material. Superficial modern and historic (Chinese) hearths and a well-defined Neolithic occupation layer were recorded in the first and third soundings. The cultural succession below this level was substantially the same as that recorded by Noone (1939). Fragmentary burials accompanied by grave goods were found immediately beneath the Neolithic occupation level and

* Reprint from the *Federation Museum Journal.* Vol. I and II: 1954.



The Neolithic Colonization of Kelantan. (After Rentse).

well-preserved extended burials were found in graves dug deep in the deposit. A fine Hoabinhian habitation deposit, which included quantities of broken animal bones and numbers of characteristic implements, was recorded in the first cutting and sporadic Hoabinhian tools were also found at the same levels as the Neolithic burials. This stratigraphy was confirmed in the second sounding, though in this part of the shelter the Hoabinhian occupation was of greater importance. A small series of fragmentary Neolithic burials was found near the surface, and two well-preserved burials associated with cord-impressed pottery were recorded lower down in the section, while a comparatively large series of contracted burials and other skeletal material, differing markedly in appearance and colour from the Neolithic, was also recovered in this sounding. A rich stone industry of Hoabinhian type was present in this level of the deposit,and the contracted burials are attributed to the Hoabinhain culture. It is evident that some measure of time elapsed between the two main occupations of the shelters, but it is not yet possible to supply an absolute chronology for these prehistoric cultures.

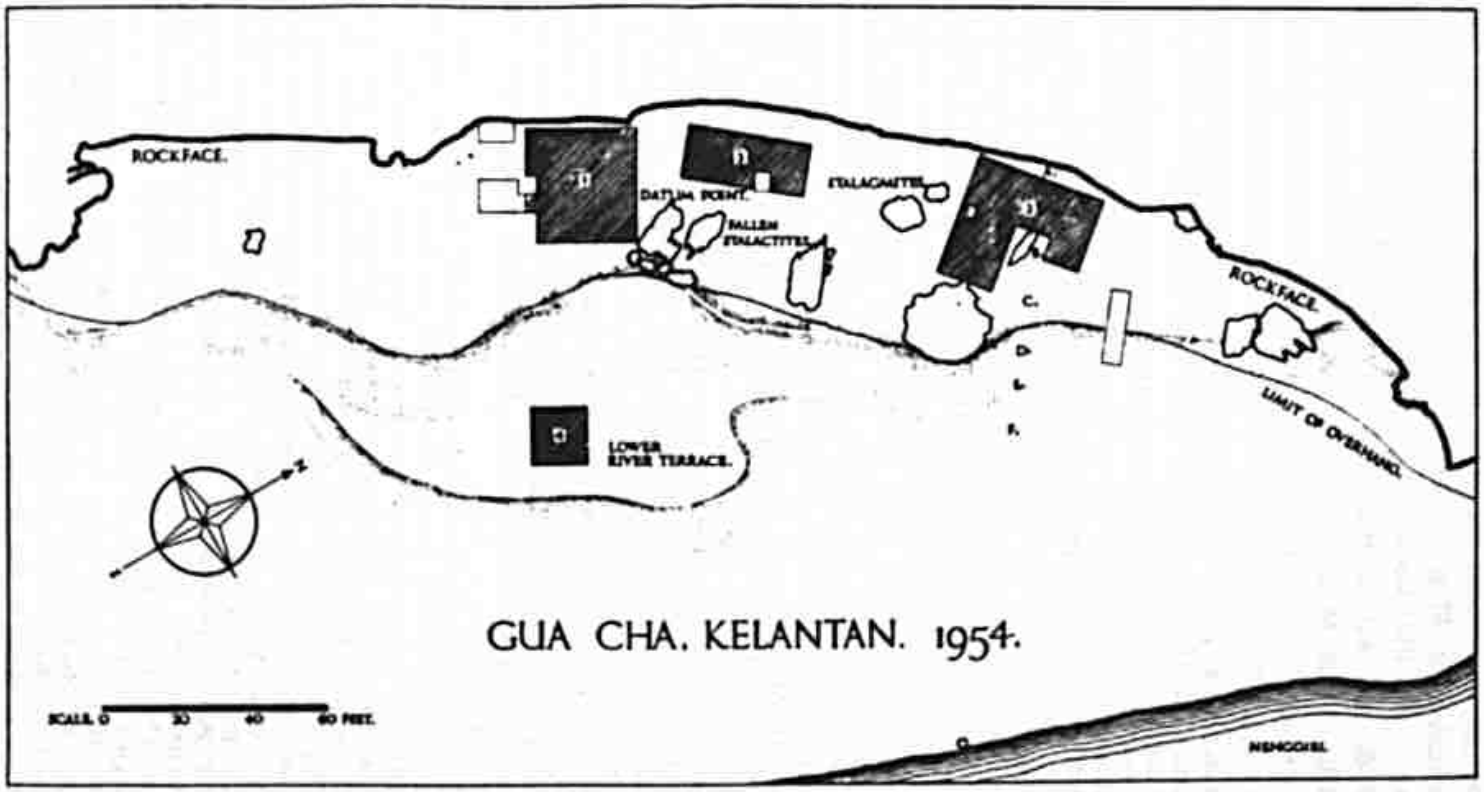
There was considerable variation in the design of the cord-impressed pottery vessels found at Gua Cha, and these may be divided into a primitive and an advanced series which are associated with differing types of stone tools and ornaments in the Neolithic graves. However, there does not appear to be a significant variation in the depth of burial between those graves containing primitive and late Neolithic grave goods. Some of the graves which would otherwise be attributed to the latest period are far below the rest, and deep graves may have been a necessity when the burial ground became crowded. It is probable that during Neolithic times the position of these graves was marked in some manner upon the existing surface of the shelter. All that can be said for certain is that the stratigraphy of the natural deposits offers some support to the evidence of cultural variation in the Neolithic grave-goods.

The Hoabinhian industry from the rock shelter showed some variation in size at the different levels, though no very distinct difference in tool design was noticed during the excavation. The evolutionary sequence suggested by Noone for the Hoabinhian at Gua Cha will be examined when the industry is described in detail in the next report.[1]

Introduction

The rock shelter of Gua Cha, or Gua Chah (Malaya I in. Reconnaissance Map, sheet 2 J/16 VE, 712223) is situated on the west bank

1 The technical and administrative part of the excavation, which included survey and other records, m ◆king and packing of finds and the training and control of Temiar staff, was undertaken by persons in the employment of the Governments of the Federation of Malaya and of Singapore Crown Colony who are listed below:



Text-fig. 1. General plan of the shelter.

of the River Nenggiri just above Kuala Perias and between seven and eight miles below Kuala Betis.[2] On the opposite bank of the river there is a Temiar settlement recorded, though not by name, on H.D. Noone's 'Reconnaissance Map of parts of Upper Perak and Ulu Kelantan' published by the Survey department of the Federated Malay States in 1936, and within the Ple-Temiar boundary shown on this map. Gua Cha is the Malay name for this settlement. The name is derived in accordance with Malay practice from the outstanding natural feature in the locality, the isolated limestone outcrop containing the rock

Museums Department, Federation of Malaya: Mrs A. de G. Sieveking, Archivist, Mr Oswald Theseira, Laboratory Assistant; Che' Ibrahim bin Bastam Museum Assistant.
Department of Aboriginal Research, Federation of Malaya: Che' Puteh bin Awang, Senior Assistant; Mat Yunus, Field Assistant; Jai, Field Assistant.
Raffles Museum, Singapore: Mr M.W.F. Tweedie, Director.
Mr M.W.F. Tweedie and Che' Puteh bin Awang were only able to attend during the first ten days of the excavation, but their assistance during this period was invaluable since they knew the district and its inhabitants and had previously excavated in other Malayan prehistoric sites. Mr Tweedie did much of the photographic recording in the earlier part of the excavation, and kindly undertook photographic studies of important specimen for this report during March 1954. He was also of great assistance in the discussion of the geology of the shelter, and in the identification of mammalian and invertebrate collections. Che Puteh was able to train Mat Yunus to succeed him as foreman of the Temiar labour before it was necessary for him to depart: his diplomatic but firm control of the staff and his universal popularity were a tribute both to his ability and to his strength of charater.
Mrs A. de G. Sieveking undertook the greater part of the recording and prepared the plans and sections which are illustrated with this report, and at the same time made a moving picture record of the progress of the excavations, which formed an additional check on the accuracy of recording.
The manual labour on the excavation was provided by Temiar Aborigines resident at the village of Gua Cha who are listed below: Alok, Ahan, A'mai, Busu, Dising, Akom, Ambon, Anjang, Angan, Abit, Atim, Tumrai (boatman) Awos boatman), Ali, Kambis, Balch, Pedek, P. Umbah, Ajing, A'yeng, Lutot Panis, Baharom, Suor, Along, Pais, Karong, Raut, Alang, Alig, Yabok, Abong, Litin.
The assistance of the following Government departments, Institutions and individuals, during the preparation for, and execution of, the field work at Gua Cha is gratefully acknowledged: The State Government of Kelantan; The Honourable the State Secretary, Kelantan; The State War Executive Committee, Kelantan; The Honourable the British Adviser, Kelantan; The Chief Police Officer, Kelantan; the Officer in-Charge District Gua Musang; Police-Lieutenant Munro; the O.C. Police Post Kuala Betis; the O.C. Police Post Gua Cha; the O.C. Police Post Bertam; the Adviser on Aborigines, Kuala Lumpur; Mrs P. Gouldesbury, Department of Aboriginal Research; Mrs. J.B. Perry Robinson and Che Bachik bin Mohd. Tahir, National Museum, Kuala Lumpur; and also the R.A.S.C. Air Dispatch Depot, Kuala Lumpur and The Royal Air Force, who undertook to supply expediation with weekly supply drops while it was in the field.
Funds were provided for the excavation by the Government of the Federation of Malaya, and by the Carnegie Institution of Washington, through their Prehistoric Research Grant to the Raffles Museum, Singapore, kindly made available by the director of the Museum.

2 Kuala – river-mouth estuary; place where a river debouches into another river or into the sea. Wilkinson (1932, p. 615). In the case of these inland rivers the Kuala is always named after the minor river or tributary, i.e. Kuala Betis – the conjunction of the River Betis (with the Nenggiri).

shelter. Gua (sometimes Goa) is the common Malay name for a cave, cavern, grotto, or hole in the side of a hill.[3] Where these occur the cave name seems to be preferred over that of the feature in which the cave occurs (Bukit, Gunong, etc.). Thus 'Gua Cha' may be used to refer to the shelter, the limestone outcrop, the settlement and the locality. The etymology of Cha (or Chah) is less certain. This is the Malay word for tea, and also for a number of different indigenous plants.[4] Williams-Hunt[5] has also recorded a Temiar name for this cave, 'Gua Chos', which may be a variant pronunciation of the Malay name; in any event its origin and etymology have not been studied. In earlier publications this rock shelter was referred to as Gua Menteri or Mentri,[6] and in 1935 the clearing beyond the shelter was in the hands of a Temiar called Menteri. The name 'Gua Menteri' is no longer in use. The only other limestone outcrop in the district, Gua Bukit Peraling at Kuala Yai,[7] is several miles away and the place name of Gua Cha refers to the Gua or rock shelter excavated in 1954.

The River Nenggiri joins the Galas at Kuala Sungai, and the latter becomes part of the River Kelantan, debouching into the China Sea on the Siamese border. A distribution map published by Rentse[8] shows that this river system was in general use in Neolithic times. Isolated finds are common in the lower reaches of the Galas and Kelantan rivers, but above Kuala Sungai occur numerous limestone outcrops in whose caves Neolithic and Hoabinhian occupations are frequently reported.[9] Along this main course of the Nenggiri there is a fine series of untouched caves and shelters between Kuala Perias and Kampong Perak,[10] those at Kuala Jenera (Jendera) and below Kg. Tebing Tinggi (e.g. Gua Bayam) are said to contain deposits of great size. Gua Cha may be regarded as an outlying member of this group. No outcrops have been recorded upstream of Gua Cha in the valley of the Nenggiri, but similar formations with traces of prehistoric occupation are reported in the adjoining valley of the Galas at Pulai and Gua Musang, and there is a well-marked valley and ridgeway track from Gua Musang joining the Nenggiri at Kuala Betis, some miles above Gua Cha. The River Galas and the River Nenggiri are the main north-south routes for penetration across the watershed into the lowlands of Central and Southern Pahang, while the tributaries of the Nenggiri and the Jelai, flowing from east to west, provide access to

3 From the Hindustani, cf. Clifford, H. & Swettenham (1894, p. 502).
4 Wilkinson (1932, p. 173), Burkhill (1935, index, p. 2320).
5 Williams-Hunt (1952a, p. 183).
6 Noone (1939). Also Rentse (1947, p. 36), Williams-Hunt (1952a, p. 183), Tweedie (1953, pp. 45 and 59). Noone's plan of the shelter shows a limestone stalagmite which he named the Menteri.
7 Williams-Hunt (1951, p. 187).
8 Op. cit. Pl. VIII Map I (p. 76) was prepared from this map.
9 Noone (1939). Map opposite pl. XLVI shows limestone outcrops.
10 Noone (1939). Map opposite pl. XLVI shows limestone outcrops.

adjoining tributaries of the Perak and Plus rivers leading into the western coastal plain of Perak; these routes are frequently traversed by modern travellers, and there is distributional evidence for their use in prehistoric times.

Gua Cha was first examined by H.D. Noone during field-work among the Ple-Temiar aborigines carried out in 1935.[11] The date of his excavation is not stated in his report,[12] but was ascertained from his assistant Che Puteh bin Awang, who is still a member of the department, and from painted inscriptions made in the shelter by Che Puteh and by Ariffin Pondok which are dated 8 September 1935. The trial excavations conducted by Noone lasted approximately ten days. Two small longitudinal trenches were excavated and their contents briefly examined.

The published report is a transcription of Noome's field notes, accompanied by a rough plan and elevation of the shelter and a schematic section of the deposits, which must have been drawn from his first trench: all measurements are 'approximate', and the account was only published four years later when a systematic excavation was no longer an immediate possibility. The most important discovery in the 1935 excavations was the occurrence of complete cord-impressed vessels, attributed to the Neolithic period in Malaya by analogy with similar wares found in Indo-China, in association with decomposed and fragile human skeletal material. In addition to these 'Neolithic Burials' isolated groups of cord-impressed pots were found in 'nests' and 'alignments' which may also be grave-furniture. Other formally Neolithic types included a variety of polished stone implements and quadrangular blocks of stone flaked into shape (probably axes in the first stage of manufacture) associated with numerous small flakes in what was evidently a working floor. Noone divides the deposits in the drawn section into layers characterized by changes in industry instead of changes in the character of the natural deposits, though he records the presence of two superficial natural layers–a fine yellow sand, 0–9 in. from the surface, and a grey clay with red stones between 9 and 15 in. Below this the fragmentary burials occurred at various depths between 3 and 4 ft., evidently protruding from the section and inaccessible to the excavator. In the lower layers of the shelter, above a sterile deposit of unknown depth, there occurred flaked stone tools of Hoabinhian type. Noone recognized a development in this industry since the 'lowest layers' at Gua Cha (i.e. lowest occupation layers–a sterile deposit 4 ft. thick is shown at the base of the drawn section) contained only 'rough and large biface implements', while a succeeding layer contained small 'more symmetrical and finer made' implements. The cord-impressed pottery, where it occurred in this

11 *Annual Report by the Resident of Perak*, 1935, Kuala Lumpur, para, 646.
12 Noone (1939).

layer, was part of the grave furniture and 'had been buried at a later date than the deposit in which it now occurs'.

Noone also compares the Hoabinhian collections from Gua Cha with those in the collection made by Mr. G.W. Thompson in the Kuantan district of Pahang,[13] and states: 'The fact that no implements worked on one side only turned up in the trial trench is suggestive'. These remarks refer to the industrial succession of the Hoabinhian of Indo-China, defined at the first Congress of Prehistorians of the Far East (Hanoi, 1932), as being characterized by the development of fine flaking techniques, a progressive reduction in the size of the industry and a change from bifacial to unifacial tool types. Callenfels attributed the implements in the Thompson collection to the oldest stage of the 'Melanesoid culture' since they were 'oval or ellipsoid artifact(s) of Paleolithic aspect worked on both sides. . . and of an unwieldy type recalling the large manufacts of Hoabinhian I',[14] and the presence of these tools at Gua Cha suggests that the Hoabinhian at this site might be attributed to an earlier stage of the industry. The rock shelter contained a series of undisturbed natural deposits over 8 ft. 9 in. in depth, and 'barely 10% of the area available for excavation' was examined by Noone.

When more extensive excavations were begun in the spring of 1954 the first object was to test the industrial succession of the Hoabinhian and Neolithic industries established at other sides in the Peninsula, and to obtain well-preserved human skeletal material in association with the cord-impressed pottery.

The excavation was undertaken by a combined expedition from the Raffles Museum, Singapore, and the National Museum, Kuala Lumpur, and lasted from April to 10 May 1954. With the permission of the Kelantan Government the finds have been deposited at the Raffles Museum, Singapore, the Perak Museum, Taiping, and a small type series has been donated to the University Museum of Archaeology and Ethnology at Cambridge (England).

The Excavation

The limestone outcrop of Gua Cha rises to a height of about 300 ft. beside the River Nenggiri. At the water's edge are small overhangs, which do not contain deposits and are too damp for human use, and where stalagmites and stalactites are still being formed. The main rock shelter (Text-figs. 1, 2) is between 100 and 200 ft. from the river (in 1954), where it is joined by a tributary stream (S. Cha), and the level of the river is 34 ft. below the surface of the deposits. In earlier times, when it was responsible for the excavation of the shelter, the river level must have been at least 50 ft. above that of the present day. A small

13 Collings (1937).
14 Callenfels (1936a, p. 45).

river terrace or sand-bar was observed outside, about 15 ft. below the surface of the shelter deposits, and Noone (1939) has recorded evidence of floods in the shelter in 1926 and perhaps in 1931. The river is cutting a deeper channel at the present time, and many similar rock shelters in all stages of excavation can be seen in the river valley between Gua Cha and Bertam.

The shelter is about 360 ft. long and never more than 60 ft. wide, and its sloping roof is 43 ft. above the surface at the limit of overhang. Considerable falls of broken rock have occurred at this point, and very large stalagmites and fallen stalactites break the otherwise horizontal surface in the interior. The plan (Text-fig. 1) shows the area available for excavation, as well as those places where cuttings or trial trenches were excavated in 1954 and on previous occasions. The surface in the interior had a thin cover of ground ivy, and the thick jungle growth outside gave adequate protection against bad weather. The prevailing winds appeared to be north or east, and the shelter was both dry and cool. Gua Cha is used as a path from a landing place on the north side of the outcrop to clearings farther up the valley, and there were traces of modern hearths on the ground surface.

The 1954 cuttings were excavated in the order in which they are numbered. The trenches excavated in 1935 can be seen alongside the first and beyond the second 1954 cuttings, and further trial pits (not more than 2 ft. deep) excavated by Williams-Hunt in 1951 were found and are shown within the area of the second and third cuttings. The layout of the excavation in 1954 was determined by the desire to avoid rock falls and boulders. The first cutting was placed near to Noone's Trench I, where the deposit was said to contain a fine industrial succession, and the remaining cuttings were limited in size and number by the time allowed for the excavation.

Cutting I

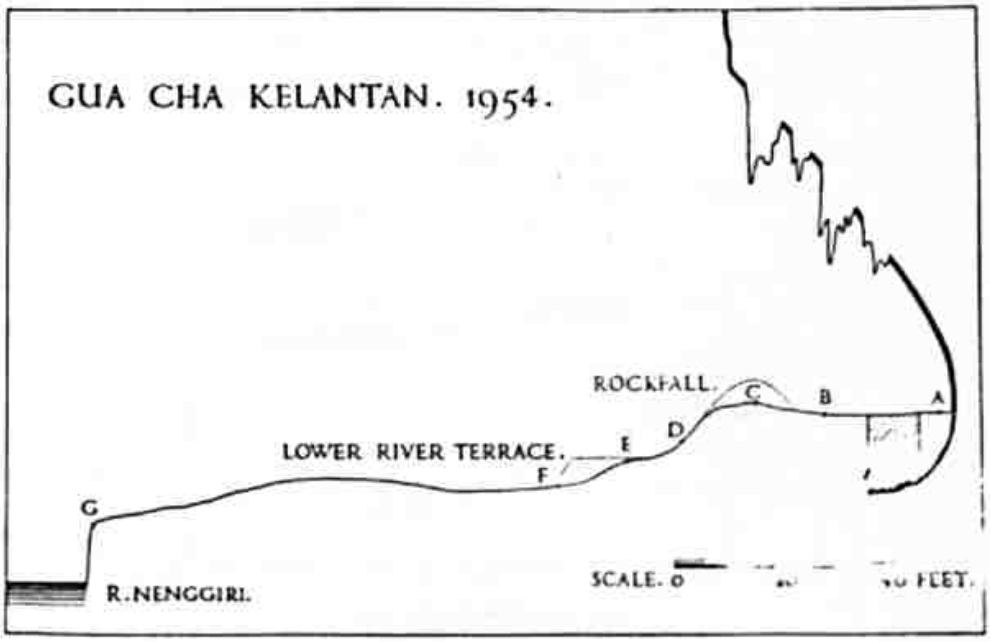
The first cutting (Text-fig. 3) was laid out with sides *ABCD*, each 30 ft. in length. A part of the region *SD* was left unexcavated, as this was too near the 1935 trial trench. A record section at *SQ* and 3 ft. towards *AB* on *SA* and *QB* respectively was left unexcavated until it was necessary to remove Burial 8 at its base. The natural stratigraphy (Text-fig. 5) is recorded in the seciions *DA* and *BC*, and the cross-sections *SQ* and *QS* (correctly *Q* + 3 ft. – *S* + 3 ft.). Burials (indicated by numerals) and whole Neolithic vessels are recorded in detail on the plan (Text-fig. 3) from photographs and scale drawings. The stratigraphical position of burials, pottery, stone tools and animal bones are illustrated by projection on to the outline section *SQ* (Text-fig.5*e*).

(1) *Natural stratigraphy*

Section *DA* (Text-fig. 5*a*) shows the general character of the

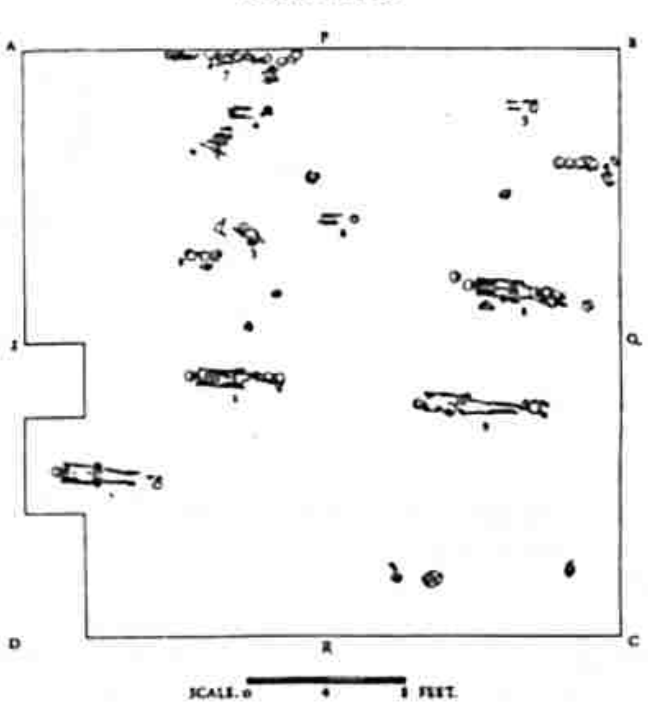
deposits. The rock floor of the shelter is visible in one part of the section. A compact yellow clay, with the consistency of solid brick, containing numerous large flakes of limestone packed closely together, lay directly upon the rock. Superimposed upon this clay was a closely packed yellow gravel, lensing out towards the rear of the section, and above this deposit was found a thick layer of chocolate brown earth, deposited subaerially, containing, in its lower limits, thin red bands stained with oxides of iron, and a quantity of land-snail shells. No discoveries of archaeological interest were recorded below the general level of the excavation, and the deep sounding and basal portion of the chocolate brown earth are accepted as archaeologically sterile deposits. Superimposed on the chocolate brown earth was a thick layer of yellow silt and fine gravel sand, which, for all practical purposes, may be regarded as extending to the surface of the deposits. The grey clay with red stones recorded by Noone (1939) in the adjacent trial trench, at depths between 9 and 15 in. from the surface, was not present in this cutting.

In the front part of the section *DA* a sterile layer of compact red gravel was laid down directly upon the large limestone stalactite, and this must clearly have been deposited at the same time as the silts found in the interior of the shelter. Layers of current bedded and separated by silt form the upper limit of this deposit. These are thickest in the mouth of the shelter and lens out towards the centre of the



Text-fig. 2. Gross-section of the shelter along the line A–G.

section. Dark layers, containing hearths of different ages, are stratified within the silt, and the deepest of these is associated with apparent falls of rock from the roof. As was recorded earlier in this report, the limit of overhang, at the mouth of the shelter, is marked by fallen stalactites which appear to have fallen subsequent to the deposition of the chocolate brown earth. The formation of humus associated with these rock falls may be seen in the front of the section, where the falls are most numerous, and was only observed within that area of the shelter, near the mouth, where the deposits would be affected by the weather. The thin layer of humus in the interior consists of altered silts. The silts and sands referred to above may be identified by the presence of small flakes of mica. These flakes are also to be found in the sands of the River Nenggiri below the shelter, and must be derived from a source rock upstream. Stalagmite formation in the mouth of the rock shelter can also be seen in section *B–C* (Text-fig. 5*b*), on the opposite side of the cutting, and rock falls ot stones perhaps deliberately placed in position, associated with the main hearth layer, are particularly noticeable in this section and in the cross-sections (Text-fig. 5*b*, *c*). The horizontal natural stratigraphy of the cutting should be noticed. It is a characteristic of rock shelters, formed by river action, to have a comparatively flat rock floor, and the subsequent waterborne deposits would trend to conform to the horizontal pattern.

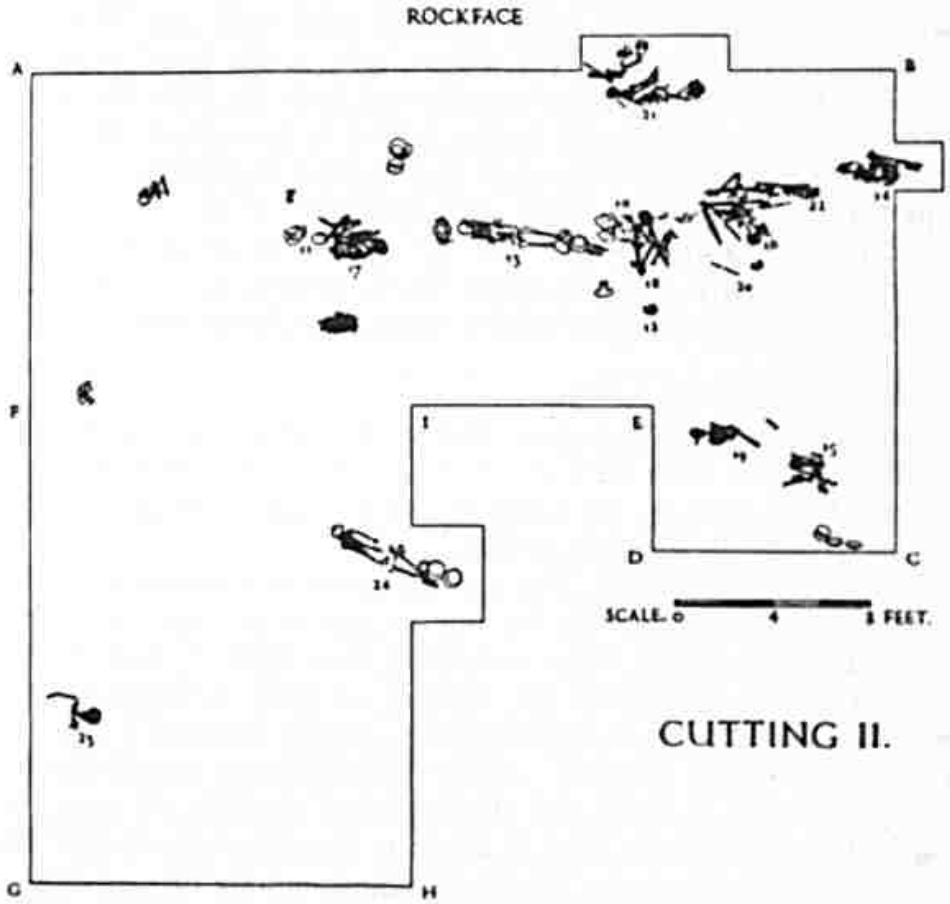


CUTTING I.

Text-fig. 3. Plan of Cutting I showing the position of graves.

The history of the shelter as recorded in this cutting may be divided into three main periods. The first is one of shelter excavation; the yellow brickish clay deposit and the coarse yellow gravels, found at the base of the section, represent the final stages of this process. The heavy limestone slabs, also found in the deepest part of the section, are derived from the solid rock beneath them and represent an old rock surface created during the cutting of the shelter. The coarse yellow gravel is the product of a swiftly running river and must have been deposited while the River Nenggiri maintain its level after the latest stage of shelter excavation.

During the second period the shelter was not disturbed by stream deposits. Stalagmitic formations must have commenced when the cutting of the shelter was still taking place and continued during the early part of the second period, when the interior was very damp and formed an attractive natural habitat for land snails. The reddish gravel at point *D*, associated with the main yellow silts and sands of period 3, is stratified above the stalagmite and gives a *terminus ante quem* for its formation. The stalagmitic formation seen in section *BC* (Text-fig. 5*b*) overlay a Neolithic votive deposit (two cord-impressed vessels), sug-



Text-fig. 4. Gua Cha, 1954. Plan of Cutting 2 showing position of graves.

gesting a further damp period; however, the sharp pinnacle of this rock shows that it is fallen stalactite and can simply be referred to the second period. The thick chocolate brown earth, characterizing this period, resembles earths found on the surface of Malayan shelters and cave mouths inhabited by modern Aborigines: it is clearly a humus formation and must have been uniformly deposited over a long period of time, in fairly dry conditions. The level of the river and the water-table must have fallen continuously, as signs of human habitation are observed in the upper levels of this humus. The cave was relatively dry at this time and the depth of humus suggests that it remained so for a long time.

The silt and current bedded sands of Period III seen in the upper part of the section may not all be of the same date or even have been deposited following closely one upon another. Noone (1939) related the latest current bedded sands to twentieth-century flooding. His informant had taken refuge with his boat in the shelter at the height of the 1926 flood which was unusually severe in Eastern Malaya and flooded Kuala Lipis to roof level. Some of the latest hearths observed in the cutting, including those at the top of the section *SQ* (Text-fig. 5*d*), are overlaid by current bedded sand and it seems unlikely that these hearths can be more than 50–100 years old. The band of humus at the mouth of the shelter, seen at the front of cutting *DA* (Text-fig. 5*a*), could have been formed since the 1926 flood, and the sand immediately beneath it may belong to this episode. However, the shelter must have been flooded on a number of different occasions in prehistoric and historic times, since the layers of human habitation material are stratified within the silt in chronological order, and separated from each other by sterile flood deposits. No serious disturbance of the deposits appears to have taken place during these floods.

(2) *Human habitation deposits*

Human deposits which form part of the natural stratigraphy are recorded on the main sections of the cutting, and other traces of occupation are seen on the schematic section *SQ* (Text-fig. 5*e*) with the natural divisions shown in outline.

(*a*) *The Hoabinhian.* The earliest traces of occupation are the deposits of animal bone in the middle and upper portions of the chocolate brown earth. These consist of quantities of broken bone often so closely juxtaposed that little or no earth is found between them. The deposits are in separate heaps, usually between 1 and 2 ft. thick and 3–4 ft. in diameter; twenty-five heaps were recorded in the cutting. In order to show the stratigraphical position of these, the height of the top of each heap is shown in the schematic section. The animal remains were found to consist almost entirely of two varieties

of wild pig, *Sus scrofa* and *Sus barbatus*. Isolated bones of rhinoceros and of a large ox were also present, and the skull-cap of a small human child was found in one of the deposits. The pig remains were confined to jaw bones and pieces of broken skull, and these deposits may be recognized as piles of kitchen refuse.

A marked concentration of Hoabinhian tools occurred at the level of the animal bone deposits, a few tools being actually embedded in the deposits, and others found in close proximity. Tools of this type also occur stratified above the bone deposits in the upper levels of the chocolate brown earth, and in the lowest silt formations. The tools are nearly always undamaged Hoabinhian bifacially trimmed pieces of fine workmanship, though one of two large primary flakes also occur. It is likely that these tools were all *in use* at the time of the Hoabinhain occupation and there are no signs of their being made in this part of the shelter.

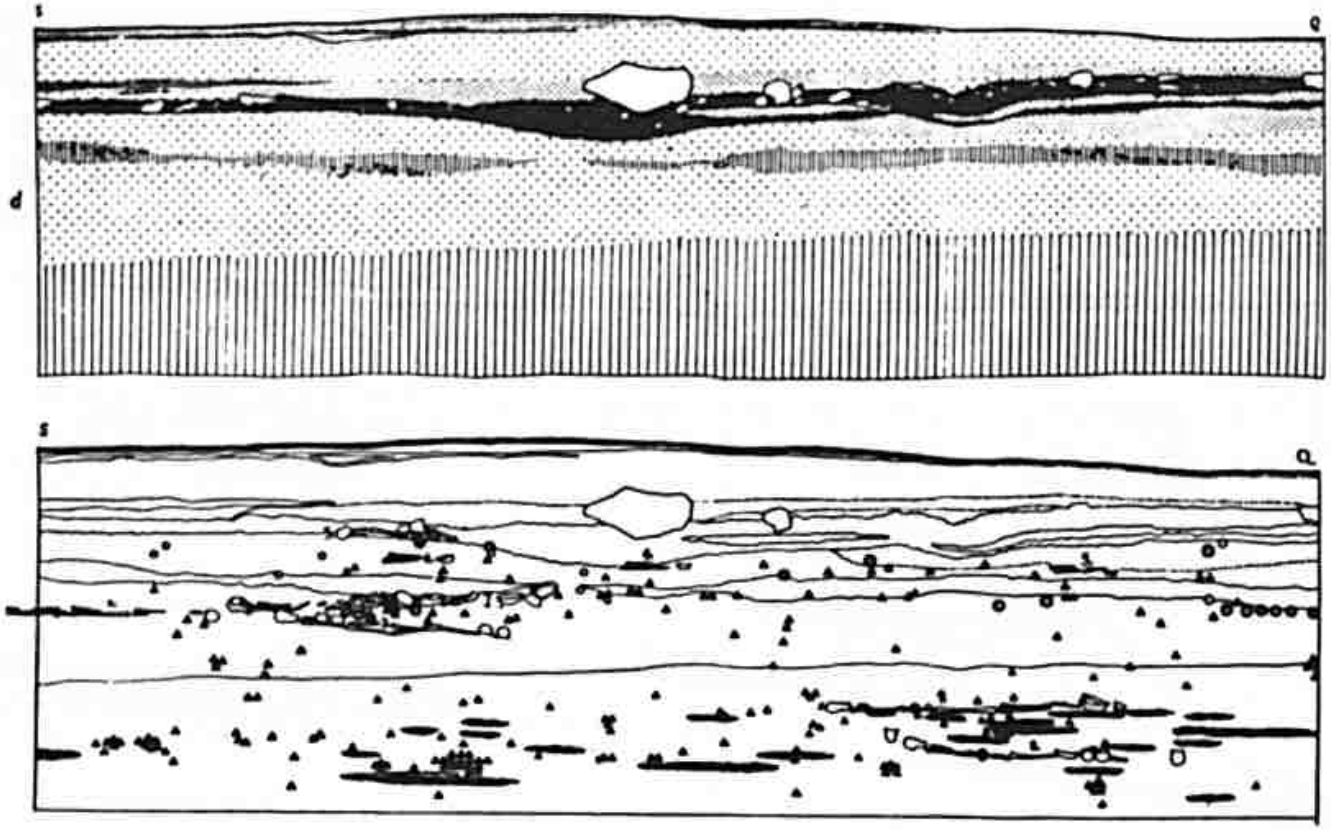
It was at first thought that the latest Hoabinhian tools might be strays derived from the old land surface and re-sorted by water action, but this is not substantiated by their distribution in depth. There was no sign that the older deposits were disturbed, and the nature of the silts does not suggest any violent eroding action. It must be concluded that the Hoabinhian occupation continued after the humus formation was replaced by the silts, at a time when this part of the shelter was subject to periodic flooding. Though it is hard to perceive on the schematic section, there is a clear division between the latest Hoabinhian levels in the silt and the main Neolithic occupation of the cutting, which was substantiated by the recorded three-dimensional positions of the artifacts from the two periods. The Neolithic flake layer is a localized phenomenon and if this, and certain Neolithic artifacts associated with it, are excepted, a thick band of almost sterile flood deposit underlies the main Neolithic occupation level—the black and stony layer. Two or three Hoabinhian tools were found at the base of this sterile silt deposit, and are seen stratified above the Neolithic flake layer in the section.

(b) Neolithic flake layer. In the trial trench (Noone, 1939), it was described as 'a deposit containing numbers of flakes of black stone which, when struck, behaves extremely like flint. . . it seems as if a tremendous amount of experiment in the handling of this type of stone had taken place. . .Two quadrilateral stones were found which were chipped all over, but with the ends squared off; . . .these may be. . . unfinished Neolithic axes.' (In the Perak Museum.)

The flake layer is seen in the section *SQ* (Text-fig. 5*d*) beneath, and separate from, the main Neolithic (black and stony) hearth, also particularly well recorded in this section. It is not recorded in the reverse section *QS*, or in the longitudinal section *DA*, though rich

Key
Superficial humus
Current bedded sand
Grey loam, Clinoan
Black and stony layer
Superficial loam
Intrusions of fine silt
Red pebbly deposit
Reddish bands
Reddish bands
Yellow pebbly deposit

Grave



Text-fig. 5. Sections through the deposits in Cutting 1 showing natural and human stratigraphy.

deposits were found in the corner *DSQ*. The contents of the layer are a compact mass of small stone flakes; a large number of primary flakes, sometimes showing cortex; and between fifteen and twenty roughed-out quadrangular axes, some of them broken. The layer may be interpreted as a number of flaking floors. The edges of each flaking floor are seen in section in Text-fig. 5*d*, and a related floor could be seen in the section of Noone's trench. A few small sherds of Neolithic pottery were found in this layer, and a poorly defined Neolithic hearth layer in Cutting 3 which occurs at the same level as the chipping floor may be correlated with it. This layer is undoubtedly Neolithic and contained no Hoabinhian material. The five Hoabinhian tools which appear to be stratified above or in the flake layer (Text-fig. 5*e*) actually occurred in another part of the cutting, where the flake layer was not recorded. The working floors contained the remains of one process of manufacture, differing from that employed in the manufacture of Hoabinhian tools (seen in Cutting 2) in the size of the waste product, and characterized by the presence of unfinished quadrangular axes or adzes of Neolithic type. These floors represent the earliest Neolithic habitation deposit in the cutting, and Burials 1 and 2, associated with primitive Neolithic grave goods, may also be attributed to this period.

(*c*) *The black and stony layer.* This layer was separated from the preceding Neolithic flake layer (where it was present) by a broad band of silt associated at some points with instrusions of current bedded sand. The stony layer has a fairly high carbon content, but was disturbed during Neolithic times by human agency, and district hearths can rarely be identified. The boulders and limestone flakes characteristic of this layer may have been deliberately placed in position. It was seen that few boulders and stones were recovered in the fluviatile sands and silts which represent the inundations of the shelter, and that boulders and fragments are found in the habitation layers in the other two cuttings. The black and stony layer was present throughout the cutting, and was the main Neolithic habitation level. It contained many thousand cord-impressed pot sherds and rims, often of minute size, and well worn round the edges. Other artifacts associated with this layer included small quadrangular polished adzes (broken), one complete and one broken bark cloth beater, and an unfinished arm-ring of polished stone. The Neolithic burials or votive deposits are stratified below the level of this living floor, but the enclosing silts do not contain any substantial traces of occupation.

(*d*) *Grey hearths.* These are separated from the preceeding Neolithic layer by silt and current bedded sand indicating further flooding of the cave. The contents of these hearths consist of grey ash, and fragments of three or more green glazed Chinese stone ware vessels are associated with them. The hearths are not more than 12 ft. in diameter and only occurred in two small areas of the cutting. In the

section *AS* a second small grey hearth was recorded (at *S*) stratified beneath the main Chinese hearth and separated from it by a flood deposit. This hearth contained red and black polished wares, probably of Chinese origin and a few fragments of Neolithic cord-impressed pottery.

(*e*) *Superficial hearths.* These hearths contain dense black carbon deposits and nothing else. No human artifacts of any kind have been recovered from them. They are restricted to the central part of the shelter on the modern Aborigine trackway, where it would be convenient to place a temporary fire while taking shelter for a few hours or one or two days, and there are no traces sufficient to suggest a prolonged occupation in modern times. A particularly well-marked fireplace is seen in section half-way along *BC* (Text-fig. 5*b*), and the restricted distribution of these hearths is well illustrated in Text-fig. 5 (*b*–*d*). The hearths are overlaid at some points by silts or undisturbed fluviatile sands identified with twentieth-century flooding.

(3) *Burials and votive deposits*

The burials, their associated grave goods and the votive deposits of pottery, are shown on the plan (Text-fig. 3), and the schematic section. The pottery associated with complete burials (nos. 1, 2, 7–9) is drawn on the section for reference purposes, while other pottery vessels are shown by a symbol. Text-fig. 8–14 illustrate the pottery found in the graves of the first cutting and other details are provided in the Appendices.

(*a*) *Fragmentary burials (nos. 3–6 inclusive).* These burials are found in the inner part of the shelter immediately below the main Neolithic habitation level (the black and stony layer). The thrid burial consists of a calotte and long bones, while Burials 4–6 are each represented by the pairs of lower leg bones laid parallel to one another as in life. The bones are nearly all broken and joints or condyles are generally missing. These deposits are ceremonial burials. They are all associated with cord-impressed or other Neolithic pottery, and have been laid out in the same orientation as the complete extended burials, parallel with the rear wall of the shelter, with the pottery vessels at the feet. The poor condition of the skeletal material may be due to disturbance or crushing during Neolithic or recent times, since the burials are near the surface. The whole skeleton was not buried, and these remains must represent a rite of 'secondary' burial in the sense that Callenfels & Noone (1940, p. 120) use this term in which the bones are dismembered and ritualistically eaten or placed in a temporary sanctuary before burial. There are no traces of fire, but the fragmentary state of the bones could be attributed to these or allied rites concerned with the propitiation of the spirit, assistance on its journey to the next world or the transference of the like force to still

living persons. In this connexion the poverty of the grave goods, as distinct from those associated with more complete burials, should be noted.

The majority of the pottery found with these fragmentary burials consists of roughly made cord-impressed wares in the primitive Neolithic tradition, alluded to elsewhere in this report. They are irregular in shape and have not been turned on the wheel. One of these is a tall bell-shaped jar with very thick walls and a distinctive comb decoration consisting of opposed spirals on the body, and horizontal and vertical bands round the neck which recall the method by which it or similar vessels may have been suspended. Small votive pots with similar decoration were also found in the cutting near to and at approximately the same depth as the burial (no. 3) with which this jar was associated. A shallow bowl of primitive Neolithic type found with Burial 4 is made of the undecorated red ware paralleled at the nearby site of Gua Musang (Tweedie, 1940).

(*b*) *Extended burials.* The five extended burials found in the first cutting are all associated with cord-impressed pottery vessels. Burials 1 and 2, associated with hand-made wares of primitive design, were stratified immediately below the Neolithic flake layer at the point where this was thickest alongside *S–Q*. Observations made during the excavation show that the flake layer was not disturbed during the interment and suggest that these graves should be directly associated with the earliest Neolithic occupation. Burials 7–9 are also formally stratified below the Neolithic flake layer. However, they were interred in area of the cave where the Neolithic flake layer was absent (Burials 7 and 9), or where it was difficult to ascertain whether this layer had been disturbed (Burial 8); in fact Burials 8 and 9 were buried in deep graves. The base of these graves was clearly visible since they were cut into the chocolate brown earth deposits and then filled in with bright yellow sand. The excavation of the grave for Burial 8 is shown in section *QS* (Text-fig.5*c*), but the earth balk on which this section was recorded had to be removed before Burial 8 could be removed and only the upper part ofthe deep grave is shown in this section. Burials 7–9 should be assigned to the main Neolithic occupation represented by the black and stony layer in the first cutting, and not to the earlier and relatively unimportant episode to which the working floors (Neolithic flake layer) and Burials 1 and 2 are attributed.

These extended burials all belong to the same formally Neolithic tradition, as can be seen by the grave goods which they in common, such as shell spoons make from half of a bivalve sea-shell (the mussel, *Mytilus viridis* L.), the cord-impressed pottery and the polished stone tools and ornaments; and also a common method of burial, in the extended position with the arms by the sides, and with pottery vessels on the legs and at the feet. The burials also appear to have been

orientated with regard to the rear wall of the shelter, the skeleton being placed parallel to this rock wall with the head at the southern end so that, in relation to the River Nenggiri, which runs past the shelter, the heads of these burials are pointing upstream. This orientation is common to the majority of Neolithic burials found in the shelter, including those fragmentary burials already described in the first cutting.

Though there is evidence of a common tradition among the graves under examination, a clear line of cultural demarcation may be drawn between the more primitive and the more advanced burials. The pottery associated with the first two burials (Text-fig. 8) is primitive, hand-made, roughly built, and in some cases very poorly fired. The associated pottery from the fragmentary burials which belong to the main Neolithic occupation shows that this primitive pottery represents part of the basic pottery tradition in the Malayan Neolithic. However, in the later burials it is associated with a highly formalized method of decoration. The pottery associated with Burials 7–9 (Text-figs. 10–14) is mostly of advanced design, and includes both carinated and footed bowls and other forms. The majority of these vessels have been made on a slow wheel. Cord-impressed rustication is defined by means of raised ribs and other devices. Undecorated vessels or pot-stands of red and black ware are also present. One or two cord-impressed vessels of simpe design present in these associations illustrate the continuation of the primitive Neolithic tradition. However, these collections represent a distinct advance on those recovered from Burials 1 and 2. A similar change may be discerned in the ornaments and stone tools found in the graves (see Appendix A). Two simple stone rings of D-shaped cross-section placed in the fingers of each hand (Pl. 5 (3)) were found in the first grave. A greenstone adze of simple design with an elliptical cross-section was placed in a longitudinal position beneath the left arm of Burial 2. In contrast with these simple grave-goods Burials 7–9 were associated with highly finished artifacts of advanced design, including nephrite and limestone bracelets of T-shaped cross-section (Pl. 6 (3, 4)) on the right foreram and small highly polished quadrangular chisels and adzes at the waist and feet. The association of pottery of advanced design with these miniature quadrangular stone tools was observed in other parts of the excavation, and these artifacts must belong to an advanced stage of the Malayan Neolithic. The fine quality grave goods of these late Neolithic burials and the deep graves in which they were interred must represent a ceremony complex by contrast to the summary treatment of the fragmentary burials attributed to the same period during the Neolithic occupation of the shelter.

Votive deposits. Noone (1939) recorded 'Nests' and 'Alignmentts' of cord-impressed Neolithic pottery which were not associated with

human skeletal material. Several deposits of this character were discovered during the 1954 excavations (Appendix B). Two primitive Neolithic vessels (P. 15, P. 15A) found in the frost of the cutting were formally stratified below the Neolithic flake layer and may therefore be attributed to the early Neolithic occupation. An alignment of cord-impressed vessels (P. 75) was found protruding from the section *BC* (Text-fig. 3), and these probably represent part of the grave goods of an unexcavated burial of late Neolithic date. The remaining votive deposits consist of one or more cord-impressed vessels of advanced design, usually in perfect condition, found near to and at approximately the same depth as the fragmentary burials, and not related in any way to the early Neolithic level. Three of the pottery groups are associated with miniature quadrangular polished stone chisels, and one of these groups also contained a typical musse shell spoon.

Cutting 2

The second cutting was placed at some distance from the first and was laid out as an irregular polygon with sides *ABCDEF* and an extension *FGHI* excavated concurrently (Text-fig. 4). The natural stratigraphy was recorded in the sections *GA*, *BC*, *IH* and *AB*. Burials (indicated by number), whole Neolithic pottery vessels and deposits of animal bone are shown in the plan, and their stratification and that of the Hoabinhian stone tools is recorded by projection on to the schematic section *AB* on which the natural deposits are shown in outline. Since the lower deposits resembled those in Cutting 1, and there little likelihood of the shelter being any deeper at this point, it was not necessary to excavate down to the solid rock, and work ceased immediately an archaeologically sterile deposit had been reached. The heights of the deposits in all cuttings were measured from the same datum and accurate correlations can be made.

(1) *Natural stratigraphy*

The section *AB* (Text-fig.6*b*) illustrates the general character of these deposits. The greater part of the section is taken up with a chocolate brown earth exactly resembling that found in Cutting 1, containing two hearth layers, and sealed in by a third hearth and stone deposit. Stratified above the latter are sands containing superficial modern hearths, just below the surface at the present day. These sands are much deeper in the front of the shelter (i.e. at *G* on section *GA*, and at *H* on section *IH*), containing intrusions of rough red gravel in the lower part (i.e. at *G*), and further intrusions of current bodded sand near the surface (i.e. in section *BC*, *IH* which may be correlated at *CI*), which penetrate into the interior of the shelter. The history of these natural deposits differs only in detail from those in the first cutting. It is clear that this region of the shelter lay away from the

main current of the river during the floods of Period III, though at the upstream end of the cutting gravel intrusions occur like those of Cutting 1 (Text-fig. 5*a*), and a certain amount of planing action of the deposits may have taken place at the edge of the deposit. The difference in the depth of silts and sands in the cuttings (as read from a present-day surface which can be taken as level) is significant. The latest prehistoric hearth (the black and stony layer), present in both cuttings, is at the base of these sands in the second cutting, though stratified above a considerable body of silt in Cutting 1. If these two factors are taken into account it may be inferred that the accumulation of chocolate brown earth continued to take place in Cutting 2, while the area of the shelter in which Cutting 1 is situated was subjected to flooding. Floods only occurred in Cutting 2 in the period following the main Neolithic occupation represented by the black and stony layer, and some of those floods, represented by the current bedded sands stratified just below the surface, may be of twentieth-century date. The superficial hearth at the same level (cf. section *BC*) may also be referred to modern times.

(2) *Human habitation deposits*

In this part of the shelter the cultural succession was not disturbed by flooding in prehistoric times, and the Hoabinhian and Neolithic occupation layers are clearly separated. Three series of hearths are recognized. The earliest consists of four hearths, all more or less at the same level, at about 3 ft. from the surface in section *AB*, undoubtedly associated with Hoabinhian stone tools, haematite and animal (pig) bone deposits, which can be interpreted as food remains. The Hoabinhian Burials 12, 15 and 16, which represent some form of 'secondary rite', are all approximately at this level. It may be seen in section *GA* that the main body of the Hoabinhain hearth lies in the centre of the shelter at about 4 ft. from the surface of the deposit. The sloping profile of this hearth line, which follows the contour of the present-day surface, is presumably due to the fact that the main pathway through the shelter occurs hereabouts (cf. Text-fig. 1). Large quantities of Hoabinhian stone stools were found in the front of the main cutting *ABCDEF* (i.e. along the line *FIE* produced to *C*) in or below this hearth. (A thin band of yellow earth seen below this hearth in section *GA* is purely of natural origin.) The second major hearth deposit, stratified above the first in the chocolate brown earth, is probably of Neolithic origin, and may be related to the Neolithic flake layer in Cutting 1, though no artifacts of any kind have been found in association with the hearth. The Neolithic burials and votive pottery found at this level, like similar finds at greater depths, have been inserted at a later period, while the Hoabinhian tools and associated

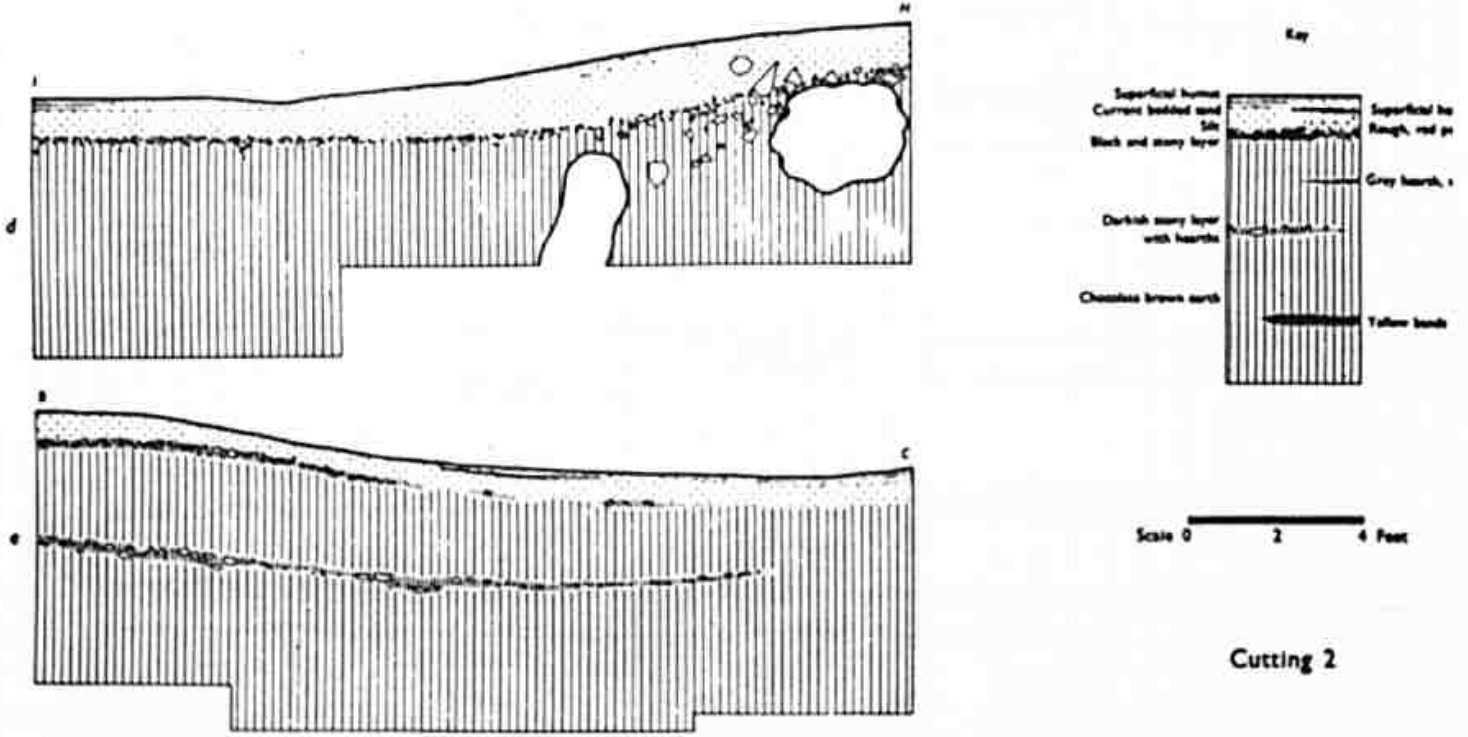
skeletal material are stratified below the hearth, though without leaving a clearly defined sterile layer between the latest Hoabinhian and the earliest Neolithic occupation. This early Neolithic hearth is only represented at the rear part of the cutting and is of sporadic occurrence (cf. section *GA*). The main Neolithic hearth level—the black and stony layer—at the top of the chocolate brown earth in the section, contained broken fragments of cord-impressed pottery, though not in such quantity as in Cutting 1, and a few examples of broken Neolithic stone artifacts; it must clearly be related to the same phenomenon in the first cutting.

The stratigraphical position of the Hoabinhian burials and stone tools in relation to the supposedly early Neolithic hearth level and to the main Neolithic habitation level shows that a break in the succession of industries occurred. This was not so clearly demonstrated in the first cutting where the occupation was interrupted by a series of floods; however, none of the evidence from Cutting 1 explicitly contradicts this thesis. The archaeological position of Hoabinhian Burial 14 in this sequence must be due to some anomalous local phenomenon. This burial lay outside the cutting (for the most part) and at the edge of a complex of surface stalagmites present in Hoabinhian times. It may have been buried in an artificially created earth mound on the edge of the rock wall, but the nature of the chocolate brown earth deposit in which it was found does not allow this interpretation to be verified.

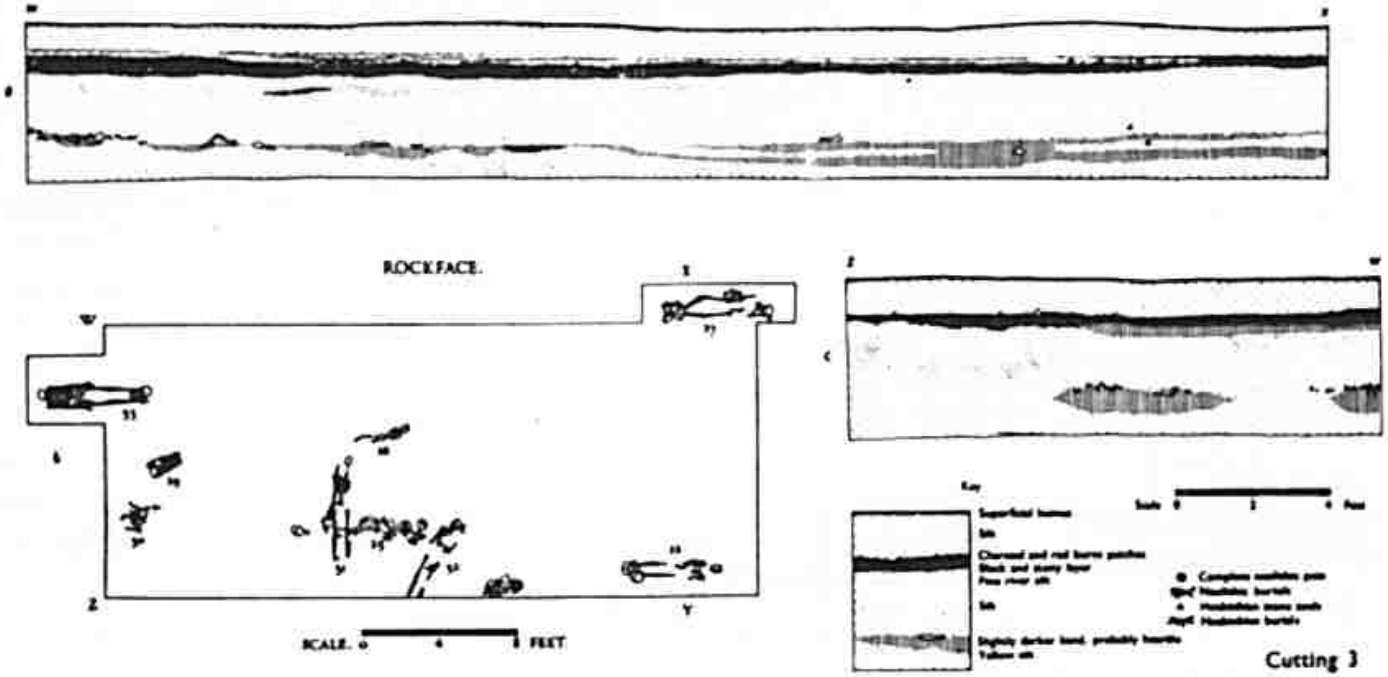
(3) *Burials and votive deposits*

(*a*) *Hoabinhian burials.* The Hoabinhian skeletal material in this cutting is distinguished from that the Neolithic by differences, both of preservation and of physical type. The Neolithic skeletal material is whitish in colour, though burials occur in the sands and (in Cutting 2) in the chocolate brown earth. The Hoabinhian specimens may be described as partly fossilized; an outer skin, probably derived from dissolved limestone in the earth, has been deposited on these specimens. This deposit is stained a deep brown by the chocolate coloured earth in which the burials occur. Hoabinhian skulls and long bones appear to be more heavily built than those associated with Neolithic grave furniture. The skulls have low rectangular orbits with developed supra-orbital and high vaulted foreheads and crania. The teeth appear to be very worn, and perhaps slightly larger in size than the teeth of the Neolithic specimens. There is some evidence that the individuals were, on an average, taller than those of the Neolithic period. In all a distinct racial difference is suggested.

Two varieties of ceremonial burial, burial in the contracted position and burial in the extended position, can be distinguished among the human skeletal remains found in association with Hoabin-



Text-fig. 6. Gua Cha, 1954 Sections through the deposits in Cutting 2 showing natural and human stratigraphy.



Text-fig. 7. Plan and sections of Cutting 3.

hian stone tools in this cutting and, since these occur at approximately the same level in the deposits, it is not possible to suggest a priority for either form. The best preserved of the contrated or flexed burials are nos. 14, 17 and 18 (Pls. 11 (1), 12 (1, 2)). In these burials the human skeleton has been carefully arranged with the arms bent, the hands in front of the face, and the knees drawn up beneath the chin. Two Hoabinhian stone tools were found close to the left arm of Burial 14, and a single large tool just beyond the head of Burial 17; these may be interpreted as grave goods, though their association is not entirely proven. Burial 21 is believed to be the remains of four contracted burials. However, though the main parts of these individuals were present, and indeed very well preserved, these burials were interred together, and their bones were not separable. Burial 16 may also follow the same ceremony (Pl. 11 (3)). The lower limbs are flexed, though wide apart, but the upper limb bones are scattered here and there, and the rib-bones have been subjected to the fire. It is possible that this is a case of 'secondary' burial associated with some form of cannibalism.

Before the remaining cases of this sort are discussed the extended Hoabinhian burials deserve brief mention. Burials 19 and 22, at approximately the same level as the contracted Burials 16, 18 and 21 (Text-fig. 6*c*) fall into this category. Burial 12 (Pl. 11(4)), which was stratified below Burial 16, is reasonably well preserved, though the skull is crushed and the feet are missing. It appears to be an extended burial, of very much the same character as those of the Neolithic period, with the head in the erect position and the arms by the sides. Burial 19, at a slightly lower level, is not so well preserved, and the lower limb bones of this burial have been scattered. This appears to be another extended burial. The right arm is crossed over the body. Burial 23, which is one of the latest Hoabinhian burials in the cutting, may be another case of burial in the extended position, though in this instance only the head and shoulders of the individual were placed in the grave (Pl. 11 (2)), so that no certain conclusions can be drawn regarding the mode of burial.

The evidence for 'secondary' burial deserves careful consideration. The burials under discussion are nos. 12, 15, 16 and 20 (cf. Text-Fig. 4). Burials 12 and 20 consist of fragmentary Hoabinhian skulls, found with a large quantity of Hoabinhian stone tools, the latter also having associated long bones. Burial 15 consists of the leg bones of at least three individuals. Burial 16 consists of the articulated lower limbs of a single individual associated with a large collection of smaller bones. None of these can really be interpreted as conventional burials. The bones in Burial 15 and, excluding the articulated limbs, in Burial 16 are artificially broken, and in some cases perhaps split to remove the marrow Burial 16 was associated with a considerable localized pile of ash (Pl. 11 (3)), and many of these bones show traces of fire.

In the case of Burials 12 and 20 were are on less firm ground. Nevertheless, these fragmentary skulls show some signs of artificial breaks, and the Hoahinbian child's calotte or skull cap, recovered from a mass of animal food bones in the first cutting, should be taken into account when interpreting these later examples. It appears to be likely that all the 'secondary' Hoabinhian burials represent some form of simple cannibalism, probably not for ritual purposes, since little care has been taken in the burial of these remains and they appear to lie where they have fallen.

The Hoabinhian burials and the stone tools found in the same deposits are plainly not all of the same date, but represent the accumulation of a considerable period of habitation in the shelter. Though the Hoahinhian burials are fewer in number than the Neolithic burials, the majority of which should be associated with the main Neolithic hearth deposit, and which represent a more intensive occuption for a short period of time, this is not surprising if the Hoabinhian culture has had a predominantly hunter-fisher economy, which could only support a much smaller population than an agricultural economy such as that attributed to the Malayan Neolithic. When the typology of the Hoabinhian stone tools is discussed in detail in the second part of this report, it may be possible to attribute certain burials to an early or late Hoabinhian stage, and it is clear from the stratigraphy of the cutting that there are two main concentrations of stone tools referable to this culture at differing depths. The skeletal material has not yet been examined scientifically and it is possible, but not likely, that a change in human type may accompany an evolution of the stone industry, if the latter is recognizable. Yet it does not seem at all likely that any change in the mode of ceremonial burial, or in the usage of secondary' burial, can be documented in the time-scale provided by the stratigraphy of this cutting.

(b) *Neolithic burials.* The Neolithic remains in the second cutting consist of four complete burials in the extended position, associated with the usual complement of cord-impressed pottery, and in some cases with quadrangular axes or adzes of polished stone. Burials 10 and 11, stratified immediately below the main Neolithic habitation level, at about a foot from the present-day surface and on the main north-south pathway through the shelter, are necessarily in poor condition. The crushed skull and ribs of Burial 11 can be seen in the foreground, with associated pottery vessels at the head and feet of the burial (Pl. 3(1)), and a detail photograph (Pl. 3(3)) shows the position of the foot bones below the Neolithic pottery vessel. Burial 10 is also illustrated (Pl. 3(2)) and, though fragmentary, the burial is of some interest, since the individual would appear to have been nearly 6 ft. in height (see Appendix A). Cord-impressed and other Neolithic pottery vessels are the only grave goods found with these burials

(Text-fig. 15), and these vessels, though simple in shape, often possess the stylized forms of decoration associated with the more evolved forms of pottery in the first cutting. From their stratigraphical position Burials 10 and 11 should be attributed to the main Neolithic occuption.

Burials 13 and 24 were found at greater depths in the cutting, the feet of Burial 13 lying vertically below Burial 10. Though formally stratified below the first (early Neolithic) hearth line there was no evidence of the occurrence of this hearth in the immediate vicinity of the burials, and they cannot therefore be assigned to either of the occuption levels with any certainty. The grave goods of Burials 13 and 24 include small flat-section quadrangular axes and chisels of the type assigned to the late Neolithic period in the first cutting, and, while the cord-impressed pottery (Text-figs. 16 (2, 3), 17) includes bowls of simple shape, there is a general sophistication of form and a single large ring-footed bowl of late Neolithic type was found in one of these associations. The grave groups should therefore be attributed on stylistic grounds to the late Neolithic period, and the burials must necessarily have been deposited in deep graves.

The position of some of the grave furniture in these burials may be of significance. In the case of Burial 13, two quadrangular stone implements were found by the right hand, and two flat disc-shaped beads of ground and polished shell were placed on the pelvis and an unworked piece of quadrangular-sectioned stone was placed upright by the left hand (Pl. 4(2)). Burial 24 was equipped with a quadrangular polished axe laid across the neck, and a polished stone bark-cloth beater by the left leg (Pl. 5 (1,2)).

All the Neolithic Burials in this cutting are orientated in the same manner as those in Cutting I, that is to say, parallel with the rear wall and with their heads pointing towards the upstream end of the shelter.

Votive deposits. Those found in this cutting may be seen in Text-fig. 5 and Pl. 3 (1, 2), where they are to one side of the illustrated burials. They consist of whole Neolithic cord-impressed vessels or pot-stands which, with the expection of S. 2, are without further associations. A single deposit (Appendix B, S. 1) may be mentioned here. This consisted of a pot-stand (Pl. 3(2)) of a type found in quantity at the site of Bukit Tenku Lembu Perlis (Williams-Hunt), 1952a; Tweedie, 1953, pp. 56–7). The stratigraphical position of the deposit shows that it should be attributed to the main Neolithic period at Gua Cha. A further vessel with lines of cord-impressed decoration resembling those found in Cutting I was also discovered in this cutting in a similar stratigraphical position (Appendix B, S. 3).

Cutting 3

The third cutting was laid out in the form of a rectangle with sides *WXYZ* (Text-fig. 7b), alongside Cutting 1, and was excavated to a

depth of 4 ft. in order to provide further Neolithic material. The recording follows the conventions adopted in other parts of this report. No schematic section was prepared since the stratigraphy can be shown to compare closely with that in the adjacent cutting, and since the conditions obtaining in this part of the shelter can be explained in simple terms.

Natural stratigraphy and human habitation deposits

Section *WX* (Text-fig. 7a) shows the general character of the deposits, and it can be seen that the main natural deposit consists of fine yellow sands and silts. In this two layers of human occuption occur, similar in stratigtaphical position and general character to the two Neolithic habitation layers recorded in the first cutting. No later deposits were recorded. It may be noted that fine river silts showing some traces of current bedding occur immediately beneath each occupation layer throughout a considerable area of the cutting.

The early Neolithic habitation deposits, identified in the cutting by a slightly darker band containing hearth material, represents an evanescent, though widespread, occupation. Few Neolithic artifacts of any kind were recorded in this deposit, and its sporadic character is demonstrated in section *ZW* (Text-fig. 7c).

The main Neolithic occupation layer, on the other hand, contained quantities of broken potshereds in small fragments and broken Neolithic artifacts of polished stone, including the small quadrangular axes and adzes characteristic of the late Neolithic in this site, and an unfinished stone bracelet. It is further distinguished by the presence of actual hearths clearly defined in the section and must represent a considerably longer period of occupation. Broken fragments of limestone are present in both the habitation deposits, as in the other cuttings, while the stratified sands and silts are barren of these or other signs of human habitation.

Burials

The burials in this cutting may all be attributed to the main or early Neolithic occupations, whose hearth layers can be seeen in the sections, since, with the exception of Burial 29, they are all associated with characteristic grave goods of this period (cf. Appendix A); the latter must represent a form of deposit similar to Burials 3–6 in the first cutting.

Burials 25–28 were all stratified immediately below the main Neolithic occupation level with which they must be associated. The grave furniture includes small thin section axes and adzes attributed to this period and cord-impressed pottery vessels, among which have some of sophiscated shape with cord impression confined to certain

zones on the body of the vessel by means of raised ribs and other devices, in addition to simple cord-pressed pots representing the continuation of the primitive pottery tradition in this culture. These remarks apply also to Burial 33, though the burial was formally stratified below the early Neolithic hearth level. Associations with Burials 25 and 27 included a cylinder jar and two cylindrical pot-stands respectively, made of the characteristic plain red pottery recorded from Gua Musang (Tweedie, 1940), and also found with Burial 4 in the first cutting. These deposits (with the exception of Burial 26 which is too fragmentary to classify) are, on the evidence of the existing skeletal material, extended burials of the normal Neolithic type and were interred parallel to the rear wall of the shelter. The heads of Burials 27 and 28, however, are pointing north, in opposition to the usual orientation to the south observed in the Neolithic burials so far discussed.

Two further extended burials were recorded in Cutting 3 (nos. 31 and 32). These were both found below Burial 26 and, as they are by comparison with section *WX* formally stratified below the early Neolithic hearth line, they may be assignable to the period of its deposition. A long beaked adze of polished stone was laid upside down over the right shoulder of Burial 31 (Pl. 8)1)), and four strip beads of mussel (*Mytilus* L.) shell were found lying across the neck and upper ribs of Burial 32, in the manner of a breast plate or an elaborate necklace (cf. Neolithic or Early Bronze Age Jet necklaces from Great Britain). There were no further associations with these burials though, since the feet of Burial 32 disappeared into the section beyond the area of excavation, it is always possible that pottery vessels were originally placed beyond the feet in this grave. The available associations give no clear indication of the date of these burials, but there is no doubt that they belonged to the Neolithic period. While they might, on stratigraphical evidence, be assigned to the earlier phase of Neolithic occupation, there is reason to believe that the beaked adze is a late Neolithic type, and since the early Neolithic hearth layer was not observed in this part of the cutting no direct stratigraphical observations could be made.

On the basis of the preceding discussion it is not possible to assign Burials 31 and 32, with any certainty, to their correct period. These burials are also anomalous, in that they are the only Neolithic extended burials which are not orientated parallel to the rear wall of the shelter.

Two further recognizable burials deposits remain to be discussed, these are Burials 29 and 30, which may be compared with the fragmentary burials occurring in Cutting 1. Burial 29 (Pl 8(2)) consisted of three calottes and other skull and bone fragments enclosed between two femur. In many ways this is a unique Neolithic deposit, since it contained the remains of more than one individual; however, the

method of enclosing grave furniture between the leg bones can be paralleled in Burials 4 and 5, while the ceremonical burial of the calotte is also seen in Burial 3. The last burial in this series, no. 30, also compares closely to the fragmentary burials of the first cutting. The skeletal material consists of broken leg and foot bones and a dismembered lower jaw enclosing a small flat section polished stone chisel and the remains of two cord-impressed pottery vessels (Fig. 23). These burials should, on comparative grounds, be attributed to the main Neolithic occupation, although they occurred at a depth below that at which the early Neolithic hearth was identified in the nearest section (Fig. 7c).

Votive deposits

A single votive deposit (Appendix B, N. 9) was found in the cutting, lying close to the section *Zr* and on a level with Burial 32. It consisted of two-footed bowls with cord-impressed and circumferential rib decoration of an extremely sophisticated design. The larger of these had a maximum rim diameter of 470 mm. and is both the largest and finest Neolithic vessel recovered in the excavation. These vessels must undoubtedly be attributed to the main Neolithic occupation period by analogy with vessels of similar design found in Cutting 1 and 3. Their occurrence in close proximity with Burial 32 strengthens the case for a late Neolithic dating of this burial and of Burial 31.

Funerary Ritualand the Rite of Reserved Burial

The Hoabinhian culture

Contracted or flexed inhumation burials are characteristic of the Hoabinhian culture at Gua Cha. Seven typical burials were recorded from occupation levels assigned to this culture, one of these being a communal burial consisting of four contracted inhabitants, all apparently buried at the same time. Similar burials have also been recorded in Hoabinhian deposits at Gua Kerbau (Gunong Pondok) and Gol Bait (Sungei Siput) in Perak.[1] Here our main interest is in the ritual involved in placing or binding the limbs in the appropriate position which must be regarded as an integral part of the burial caremony, though it may have been carried out some time before the actual interment. Furthermore, the arrangment of the corpse must also have been undertaken, either before the onset of rigor mortis, or after the cessation of this condition.[2] In discussing a similar case, Piggott[3] has assumed that the

1 Callenfels & Evans (1928, pl LIX (2)); Callenfels & Noone (1940, pp. 120–1).

2 It is unlikely that the corpse was forcibly arranged during rigor mortis though it is possible 'if a muscle is forcibly stretched the rigor is destroyed and does not return', Smith & Fiddes (1949, p. 23).

3 Keiller & Piggot (1938, p. 124).

arrangement prior to burial took place after rigidity had worn off, because of the short interval of time between death and the onset of this condition, and because a dead body would be easier to manipulate subsequent to the cessation of rigor mortis than prior to its onset. This may well have been so in a temperate climate and under reasonanly dry conditions; however, in a moist tropical climate putrefaction is accelerated, and burial has to take place within twenty-four hours of death, even when the body is stored (as in modern hospitals) in an air-conditioned room after death. The Malayan Aborigines usually bury their dead within twelve hours. Though no accurate figures are known, rigor mortis, which can last as much as three days, usually begins to pass off in about thirty-six hours in summer (in a temperate climate?) and in about forty-eight to seventy-two hours in winter.[4] It is therefore likely that the arrangement of the limbs in the Hoabinhian burials must have been undertaken prior to the onset of rigidity, and other forms of burial may possibly be explained by a failure to undertaken this arrangement at the appropriate time.

Though it is seen elsewhere in South-East Asia in prehistoric communities with a similar economic organization (e.g. at Gua Lawa, Sampung, in Java),[5] and among many modern primitives in different parts of the world,[6] the rite of contracted burial is not appropriate to most tropical conditions and must have originated in a dry probably temperate or subarctic climate where putrefaction is retarded or replaced by natural mummification. The ceremony is, in fact, customary among hunter-fishers of the Paleolithic and Mesolithic periods, both in Europe and Western Asia, and among groups with a marked hunter-fisher ancestry in the Early Bronze Age of Western Europe, where, with the onset of wetter Atlantic conditions, it is less suitable and must be regarded as a survival. The contracted burials of the Hoabinhian culture in Malaya may, by the same line of reasoning, be thought to illustrate the cultural ancestry of the group in continental Asia.

Though characteristic flake tools were found with two of the contracted burials at Gua Cha, these associations can be regarded as fortuitous, and grave furniture does not form part of the ritual associated with these or other Hoabinhian burials at this site. At Gol Bait, however, large stones appear to have been used to prop up the skulls during the burial, while at Gua Kerbau a boulder was placed on the centre of the contracted Hoabinhian skeleton.[7] No further

4 Smith & Fiddes (1949, p. 22). No data are available from tropical countries as burial usually takes place before rigor has worn off. In the only case with which I have been associated rigor was still present 36 hr. after death.

5 Callenfels (1932, pls. XV, XVI).

6 Bendann (1930). The rite is usually only one of many different forms adopted by the same community.

7 Williams-Hunt (1956, fig. 1).

instances of ritual observation have been recorded. Though haemetite has been found in the Hoabinhian levels at Gua Cha, where some of the characteristic tools were stained with this substance, and at the Perak sites, where red-stained grindstones were also revovered, the use of this mineral dye or colouring matter does not seem to have been associated with the burials.

There is no evidence that the extended or dismembered burials found in the Hoabinhian levels can be any later, or indeed any earlier, than the contracted burials considered typical of this culture. Their stratigraphical position makes it necessary to assume that they were all buried at much the same date. However, the excavators at the Hoabinhian station of Gol Bait, previously mentioned in this report, claim to have observed a succession or development in the burial rites; burial in the contracted position, in the earliest stage of the culture, is replaced first by dismembered or 'secondary' burials, and later by burial in the extended position.[8] This site, which is a rock shelter similar to that of Gua Cha, contained a shell midden deposit of comparable depth (i.e. approximately 10 ft.). A single contracted burial was recovered in the lowest layer, four fragmentary burials were present in the middle layers and three extended burials in the uppermost layers.[9] A corresponding change in the Hoabinhian industrial complex was also recogmized at Gol Bait, and the excavator believed that the distinct forms of burial ritual should be referred to different stages of the stone industry. Unless a distinct technological development can be traced at Gua Cha, it appears more likely that all forms of ritual were in use throughout the Hoabinhian culture, and that the single cutting excavated at Gol Bait does not give an adequate picture.

The extended inhumation burials and dismembered human remains found in Hoabinhian associations at Gua Cha may be dismissed briefly. Extended burial appears to be another simple form of ritual, not associated with any special observances though parts of the body are missing from the two examples of this rite found in the shelter, this may be regarded as accidental and, since comparative information from other Hoabinhian sites is altogether lacking, the significance of these burials cannot be evaluated. The dismembered human remains are more interesting. These show no signs of having been arranged in any formal manner and, as they have no common indentity of disarray, they should not be regarded as formal burials. The broken condition of the skulls and the deposit of leg boners, and the blackened and burnt rib and arm bones all suggest some form of cannibalism, not necessarily

8 Callenfels & Noone (1940, pp. 120–1 and pl. XLI).

9 The sketal remains (published by Snell, 1949) were all of the? Melanesian type also found at Gua Cha, though, due to the death of the excavators before the report was prepared, it was not possible to ascertain whether material from each type of burial was submitted for examination.

for ritual purposes, and this is confirmed by the presence of a fragment of a child's skull among a pile of kitchen-refuse in the first cutting.

The Malayan Neolithic culture

Two forms of burial rite are characteristic of the Neolithic culture at Gua Cha. The first of these is a form of dismembered burial in which some formal disposition of the remains can be observed; the fragmentary burials in Cutting 1, and two further examples in Cutting 3, fall into this category. At first sight it would appear that the fragmentary burials in the first cutting could be merely the remains of extended burials, which, due to their having been so close to the present-day surface, were not preserved in their complete state. The graves might have been disturbed by animals, or the skeleton attacked and mostly destroyed by ground acids. This interpretation of the evidence cannot easily be dismissed for the orientation and the arrangement of the fragmentary burials bear a close resemblance to those of the extended burials found in the majority of these Neolithic graves. Another interpretation is, however, preferred here. There seems to be little reason why the leg or skull bones should be the only ones to be preserved in every case of this type of burial and it is more likely that the form of these burials was due to deliberate selection.

In another part of this report it has been noted that Burial 29 (Pl. 8 (2)) combined the features of the three fragmentary burials in Cutting 1, where leg bones alone are carefully preserved and arranged in a similar manner, with the character of Burial 3 in the first cutting, where a deliberately mutilated skull was ceremonially buried with grave goods. Burial 29, unlike the others, is a case of multiple burial, since three mutilated skull-caps were recovered from this grave, but its analogies with the fragmentary burials in the first cutting cannot be overlooked. Furthermore, this burial was so well preserved that the possibility of more having been buried than was recovered during the excavation is excluded. It seems, therefore, that these fragmentary remains do represent some peculiar form of burial rice, in which the skull and leg bones are regarded as of particular importance. Callenfels uses the term 'Secondary burial' for dismembered skeletons or parts of skeletons found in Malayan cave deposits, by which he means burial of human bones (rather than bones and flesh) subsequent to the exposure of the human body in the open air, as practised, for example, by the Dyaks of Borneo. In prehistoric archaeology the term Secondary burial is used in another sense, and the ceremony desribed by Callenfels may be referred to as 'Reserved' burial.[10] However, the ritual represented by the fragmentary Neolithic burials at Gua Cha may not be a simple form of reserved burial. Since the skulls appear to have

10 E.g. Keiller & Piggot (1938, p. 123).

been artificially broken some form of ritual cannibalism may conceivably have found part of the rite, though the presence of grave goods with the majority of these burials, which must indicate some form of assistance to the departed on his journey to the next world, suggests that the spirit of the departed remained to be buried with the bones of his dismembered skeleton.

The second and more usual burial rite associated with the Malayan Neolithic culture at Gua Cha is that of inhumation in the extended position. The legs of the individual are placed together, the arms are by the side of the body, and the burial is accompanied by an adequate provision of grave furniture. The distinction between the early and late Neolithic burials has already been commented upon. It is necessary here to comment upon the content and disposition of the grave goods and the interpretation which can be placed upon the arrangement of these graves.

First, it will be seen that adequate provision is made for the individual on his journey to, or after his arrival in, the next world. The large number of pottery vessels associated with these burials is of interest, and it can hardly be doubted that the majority of these vessels were food containers. In one burial animal food remains (in one case the skull of a small rodent, such as are eaten by the modern Aborigines) were found in two of the associated vessels, and further animal bones between the feet suggest that a joint of meat had been placed there for the sustenance of this individual (Pl. 7). Similar remains have not been found in the other pottery vessels, and we have no evidence as to whether they contained vegetable or meat stews, grain or other cereals such as tapioca, or possibly fermented liquids. Under normal conditions any food remains would be consumed by ants, or burrowing insects, soon after they had been buried.

The provision of axes and adzes for cutting wood and other smaller polished stone implements, such as chisels, may also be noticed. These tools are usually in good condition, and their blades are particularly sharp and the disposition of these minor grave goods is of particular interest. Ornaments such as stone or shell beads may be placed round the neck, or, in one case (Pl. 4(2)), worn on the pelvis, having been strung, perhaps from the waist. Small stone adzes, axes and chisels are usually in the region of the waist, or of one of the hands, though they are also found near the neck or at the feet of the individual. Shell spoons are sometimes placed in the hands, though they are also found in association with the pottery food containers; large stone axes and adzes are placed above or beneath the upper arm; and, in one case, a stone bark-cloth beater was found to have been placed beside the left thigh (Pl. 5(1, 2)). This last implement is usually interpreted as a bark-cloth beater by comparison with similar implements in use at

the present day,[11] and it seems likely that the clothing of the Malayan Neolithic peoples must, like that of all modern Malayan Aborigines, have been made from bark cloth. The modern Aborigines usually wear a strip of bark cloth around the waist, which serves as a pouch, or pocket, for personal possessions, and from which larger items, such as blowpipe quives and knives may be suspended. Their only other form of dress consists of an occasional necklace of beads, or strung buds and leaves, and a bamboo bracelet, accompanied on occasion by body-paint and flowers in their hair. By analogy, it would appear that the position of the implements in the Malayan Neolithic graves illustrates their form of dress. The bark-cloth beater has perhaps been slung by a long band strip of bark from the waist. Other objects are found in the bark cloth waist band, attached by a thong to one wrist, or hung around the neck.

The bracelets of polished stone, however, found in three of the Malayan Neolithic burials, are not only an item of dress but, in one case, an item of funerary ritual. The stone bracelets of elaborate design found with Burials 8 and 9 (Pl. 6 (2, 4)) were evidently placed upon the right arm of the individual in childhood as the internal diameter of these bracelets is smaller than that of the hand.[12] (It is still a well-known Chinese custom to place a stone bracelet, usually of jade, on a child's right arm as a symbol of good fortune.) In the case of Burial 8 the individual had clearly worn the bracelet for some time, for it had a piece broken off which was not present in the grave. In Burial 1, however, the bracelets, which have an equally small internal diameter as those already discussed, had been placed in the forefingers of either hand (Pl. 5 (3)) during the burial ceremony, and must obviously have had some ritual significance.

These associated objects have, in the majority of cases, been deliberately placed in the grave as part of the funerary ritual, and the pottery vessels should also be associated with the burial ceremony, though vessels of similar design, found in the votive deposits at Gua Cha, was probably in everyday use among the living inhabitants of the shelter. The funerary pottery is generally placed beyond the head, or on the legs and feet of each burial, for use during the journey to or on arrival in the next world. The presence of sea-shells, for use as spoons, in the hands in certain of these individuals, may also be associated with the conception of a journey to the next world: it is at least evidence of long distance travel by the living inhabitants of the shelter. Finally, it may not be too imaginative to see the specialized 'local' orientation of these burials, where the bodies have been placed parallel to the rear wall of the shelter with the heads lying upstream, as related

11 The Temiar staff employed on the excavation recognized the use of this tool.
12 Noone of the adult Temiar, a small race, were able to put these bracelets on their wrists.

to the position of the Neolithic canoes moored by their heads in the river just outside the shelter, awaiting a journey downstream to the sea. The bracelets of sophisticated design, which have been alluded to above, may be actual imports from China or Indo-China, and the cord-impressed pottery characteristic of the Malayan Neolithic is related to similar types from these regions. The folk memory of their arrival may well have played a part in the funerary ritual, and the realm of the dead lain to the north-east, in the regions in which they originally lived.

Kitchen Refuse Deposits

The main kitchen refuse deposits were those recoveded from the base of the section in the first cutting, in association with a representative collection of Hoabinhian flaked stone tools. A preliminary report[13] reveals that over 90% of the fauna consists of pig, among which specimens both of *Sus barbatus* and *S. scrofa* have been recognized, though for the most part the material cannot be identified specifically. Many of the examples are of fairly young animals. A nice feature is the apparent absence of the shafts of long bones, which, with the jawbones (in the collection) were presumably broken up to extract the marrow.

The level at which the animal bone refuse deposits occurred may be regarded as a single level representing the accumulation of one or two seasons' hunting. There was a maximum variation of about 1 ft. in the height of the top of the bone deposit, and this may easily be explained by the presence of one or two more pig skulls on a particular pile. There were twenty-five isolated heaps of broken skull and jawbone, and the presence of Hoabinhian stone tools among and actually in some of the heaps suggests that the skulls were broken on the spot, though the greater part of the carcases of these animals may have been consumed beforehand, since long bones, trotters and rib bones are generally absent from these heaps. There is no evidence, such as hearths, to suggest that cooking and eating took place in this part of the shelter and, since the stone industry is relatively sparse in Cutting 1, it may be suggested that these activities were pursued at the far end of the shelter (i.e. in or near Cutting 2) where abundant habitation deposits have been recognized. In this period the floor of Cutting 1 would seem to have resembled a butcher's shop, placed conveniently down wind of the main living space, to which the fruits of the chase were brought, and where refuse of cooking was later deposited. Modern parallels[14] suggest that the individual piles of refuse were carefully wrapped in palm-leaves and left to dry out.

13 From G.A. Gibson-Hill, Curator of Zoology, Raffles Museum, Singapore.
14 Cf. Appendix D, where museum specimens of this character are desribed.

It would not be necessary for them to be buried.

The homogeneity of the mammalian fauna is of some interest. It is not necessary to assume that the Hoabinhian hunters lived exclusively on a diet of pork, and we know that the other Malayan sites are usually shelter or cave midden deposits suggesting a diet on inland, or brackish and marine mollusca.[15] These invertebrates do not appear to have been readily available in Kelantan, and we may conclude that the Mesolithic inhabitants of Gua Cha depended on hunting rather than gathering for their supplies of animal protein.The predominance of pig among the refuse deposits can be further explained by considering the habits of these animals at the present day. Both varieties identified at Gua Cha are known to live in herds and to migrate. Recorded instances decribe how they are killed in great numbers by the modern Aborigines, both tin North Borneo and in Malaya, while crossing rivers, where they are more easily seen and killed than in the dense jungle.[16] The numerous examples of young or not fully mature pig among the faunal remains at Gua Cha support the assumption that similar methods were in use among the Hoabinhians. The animals would have been slaughtered on the spot, and those parts of the body which were more easily consumed may have been eaten before the hunters retired to their shelter for the night taking with them the head and shoulders of each animal. Thus the kitchen-refuse remains at Gua Cha may be largely the result of a few hunting trips undertaken during one or two years' occupation of the shelter.

General Stratigaphy and Chronology of the Site

The history of the shelter is best seen in Cutting 1 and has been discussed in detail (pp. 83–5). Some time after the creation of the shelter the height or course of the River Nenggiri altered, enabling the formation of a sub-aerial deposit – the chocolate brown earth. This may have been desposited under fairly damp conditions, and in any case the shelter was not immediately occupied since a sterile layer of chocolate brown earth underlies the earliest traces of human habitation. The two main periods of occupation which occurred in the shelter are referred to the Hoabinhian and the Malayan Neolithic cultures respectively. These may be further subdivided, and traces of historic hearths also were recorded at the top of the section.

The period of time during which the shelter was occupied by Hoabinhian groups could not have been less than a hundred years and was very probably more. In Cutting 2 between 3 and 4 ft. of earth accumulated during this period of occupation, while in the first Cutting about 2 ft. of silt was laid down by floods, the contained tools having

15 Tweedie (1953, p. 15). A small shell-midden deposit was found at Gua Madu (Kelantan).

16 See Appendix E.

presumably been left there between each period of flooding. We have already seen that the animal refuse deposists at the base of the section represent occupation during one or two seasons, but the stratigraphical distribution of the flaked stone industry in the second cutting, especially, suggests a much longer period of time. Allowing for the fact that the chocolate brown earth is a form of humus, and that its formation may have been accelerated by the accumulation of leaves and wood, brought into the shelter for use as bedding, and as a result of other human activities, the depth of deposit in Cutting 2 containing these stone tools would take at least 100 years to form if the shelter was occupied at all times of the year.

However, it is likely that the Hoabinhian occupation was sporadic or seasonal in character. The available evidence suggests that the economy of these peoples was based on hunting and food gathering, as distinct from food cultivation or stock breeding. Hoabinhian industries are associated with shell midden deposits – either in caves and rock shelters, or in the open air – both in Malaya and in Sumatra, and here, as in Northern and Western Europe, the presence of an assured food supply may allow these sites to be inhabited all the year round.[17] But the inland hunting and food gathering economy must have been nomadic, if not strictly seasonal. Mesolithic groups in Northern Europe follow a seasonal mode of life, and certain sites are known to have been revisited season after season 'thus corroborating the commonplace of anthropological observation that during their seasonal wanderings food-gathering peoples will often follow closely in the tracks of previous years'.[18] The biological seasons are difficult to recognize in the tropical lowland evergreen rain-forest formation of Malaya, which is distinguished by a heavy well-distributed rainfall, and a high even temperature and humidity. However, the local effect of the monsoons, and of other restricted rainfall types, though not marked, does cause a series of strictly localized seasonal variations of comparatively wet and dry weather, differing in time from place to place, and the evergreen plants usually develop new leaves and flowers (and consequently fruits) two and more times a year after dry weather. Though little is known about the movements of game-animals, or of the hunting and food-gathering aboriginal groups in Malaya, it is reasonable to assume that they are related to these local vegetational seasons. Thus the hunting ground of a single nomadic Negrito group, where its limits can be defined, may cover several hundred square miles,[19] and in different parts of the hunting ground the dry season will take place at different times. Williams-Hunt[20]

17 Cf. Clark & Rankine (1939, p. 104).
18 Clark & Rankine (1939, p. 103).
19 Cf. Noone (1956b).
20 Williams-Hunt (1952b, p. 45).

estimates the normal residential period among these groups as a week to 10 days after which 'the possibilities of the neighbourhood will be exhausted and the whole community will move a few miles to new base'. Skeat and Blagden and Vaughan-Stevens quote similar but shorter periods of occupation.[21]

If the Hoabinhian occupation at Gua Cha can be regarded as intermittent rather than permanent, the length of time represented by these deposits may well be greater than has been suggested. One can postulate at least 1500 years for this period in the cave's occupation. The human remains in these deposits confirm the estimate. Remains of fifteen individuals are represented, and since only the part of the shelter nearest to Cutting 2 appears to have been occupied as a living space and burial ground, we may perhaps add four or five more burials in unexcavated ground to make a possible maximum of twenty individuals. The size of the Hoabinhian group may be inferred as consisting of ten or fifteen individuals. Williams-Hunt's estimate for the Negrito groups is in the order of 'six or seven families usually not more than thirty persons of all ages in total',[22] but this is probably an overestimate as it was based on the study of groups in contact with modern society. There is reason to believe that fully nomadic groups range between five and fifteen individuals in all. The normal encampment consists of two or three lean-to shelters, each containing (cf. Skeat & Blagden) sleeping places for not more than three to five persons in all.[23] The Negrito burials usually take place within, or near to, the temporary camp, and it is likely that the Hoabinhian burials are those of individuals who have actually died while the shelter was occupied, and not brought from a distance for the purpose of burial. Therefore, assuming a seasonal occupation by a group whose size is similar to that of a modern group of a similar economic status, fifteen to twenty burials may well be representative of an occupation stretching over 1500 years.

A break in the industrial succession was recorded in the stratigraphy of the two major cuttings at Gua Cha (p. 91), and it is clear that a considerable period of time, represented by sterile deposits, elapsed between the Hoabinhian and Neolithic occupations respectively. This may also be illustrated by the condition of the surviving skeletal material from these periods. The Neolithic skeletons are relatively fresh, and whitish in colour, even when buried in the chocolate brown earth. The Hoabinbian burials, though in general they are far better preserved than those of the Neolithic, have been coated with a thin calcareous accretion, probably derived by percolation from the roof of the sheleter. This shows conclusively that they were buried at a

21 Skeat & Blagden (1906, no 1, pp. 172–3). Vaughan-Stevens is quoted here.
22 Williams-Hunt (1952b, p. 45).
23 Skeat & Blagden (1906, no. 1, pp. 168–80).

much earlier period than the Neolithic burials in the same deposits. If, as seems probable, we may assume that 2000 years have elapsed since the Neolithic period of occupation,[24] the Hoabinhian remains, associated with a modern (i.e. post-Pleistocene) fauna, may well be at least 5000 years old, assuming that the same local climatic conditions prevailed as at the present day. This dating accords well with that originally suggested by Heine-Geldern[25] for the migration of these peoples from continental Asia.

What is known of the post-Pleistocene climatic history of Malaya leads us to believe that conditions during the whole of this period were similar to those of the present day. Since the excavations at Gua Cha, a number of field trips have been made to examine Malaya rock shelters used as temporary sites by the modern inhabitants, and used by the Malay and Chinese market gardeners as tool sheds and for storage purposes, and in most of these shelters a humus similar to the chocolate brown earth at Gua Cha has been recognized. As the shelters have a rock floor and are protected from the rain they cannot support a heavy vegetational cover, thus the formation of this humus takes a considerable time, and the depth of soil in the smaller rock shelters was normally between 3 and 6 in. The chocolate brown humus at Gua Cha has not been disturbed by vegetational growth, as far as could be seen, during the excavation, and it is probable that these deposits formed extremely slowly except at periods when the shelter was occupied, and vegetable refuse was brought in by the inhabitants. This has to be taken into account when we examine the relationship between the two occupation layers atrributed to the Neolithic. In Cutting 1, a series of workshop floors, associated with the manufacture of quadrangular stone tools and attributed to the Malayan Neolithic, are shown to be earlier than the main Neolithic occupation, since they are separated from it by a broad band of silt laid down over an unknown period. It has, however, been pointed out that all this silt could theoretically have been laid down during a single flood. It is of interest, therefore, to see that a similar stratigraphy was recorded in the humus deposits in the second cutting. Here, an early hearth line, provisionally correlated with the Neolithic working floors, is separated by a band of humus of similar depth, from the main Neolithic black and stony layer which is clearly recognizable in both cuttings. Under the circumstances described above we may assume a time interval, perhaps consisting of 100–200 or more years between these two occupations. This is of distinct importance in view of the recognizable differences in the pottery and stone tools associated with these habitation deposits.

It is noticeable that traces of each Neolithic occupation appear to be of equal importance in all parts of the shelter, whereas the Hoa-

24 Tweedie (1953, pp. 63–5).
25 Heine-Geldern (1932).

binhian occupation is concentrated at the northern end. It is inherently likely that the Neolithic groups involved were of larger size than the Mesolithic hunter-fishers, since they were probably engaged in agricultural pursuits, which would involve a more complex form of social organization. The Neolithic habitation layers spread uniformly throughout the shelter suggest that it was occupied during these periods by a group of between thirty and forty individuals. Since the shelter is extremely large and commodious this may occassion no surprise. Moreover, as stated in the introduction to this report, Gua Cha is the only shelter of any size in this district, and is a natural centre for agricultural settlement. However, the different nature of the two Neolithic occupations seems to suggest that, while the later inhabitants were definitely settled in Gua Cha district, the earlier group were merely camping in the shelter for a short period of time. The Neolithic flake layer in the first cutting, and the early hearth layers in the second and third cuttings, are remarkably barren of traces of permanent habitation such as broken stone implements and fragments of pottery, while the late Neolithic black and stony layer contains a great guantity of such material and suggests a continuous habitation. It may well be that we have recorded, in the stratigraphy of Gua Cha, traces of the first migrant groups of Neolithic settlers on their way into Malaya by the main River Kelantan route, and then the arrival of a similar group with a more sophisticated pottery and stone industry at a later period. The large number of late Neolithic burials at Gua Cha suggests that this group was settled in the region for some time, whereas two burials definitely associated with the earlier period suggest that the shelter at this time only served as a temporary camping site for one season, while sufficient food was grown and harvested for the next journey farther south.

The Cultural Evidence

A detailed discussion of the Hoabinhian and Neolithic industries at Gua Cha will be postponed until the pottery and stone tools have been described in Part 2 of this report. Howhowever, certain general cultural conclusions may be put forward, and attention drawn to comparative evidence from Malaya and Indo-China.

The Hoabinhian industry at this site may be compared on general grounds with that of the 'Malayan cave-industries'. Two sites of major importance, those of Gua Kerbau and Gol Bait, have been referred to elsewhere in this report. The lowest layers of these rock shelters contained an industry characterized by squat unifaced pebble tools with steep flaking on the worked side and a nearly circular cross-section, formally quite distinct from the flat uniface industry of the North Sumatran and Achinese middens. One tool of the Perak uniface

or 'Gua Kerbau' type was recognized in the industry at Gua Cha, and others of this type may be identified when the industry is further examined. Callenfels & Noone (1940) provisionally recognized a development in the Hoabinhian of Malaya at the Gol Bait rock shelter. Here two separate levels were identified, a lower level containing uniface tools of Perak type, and an upper horizon containing flat biface tools made of a fragile schistone rock. The industry at Gua Cha contained a considerable number of tools made of this material, which appears to decompose very readily, making it difficult to identify actual flake scars. However, the majority of the Gua Cha industry is made of better quality material, and if there is any technological difference between the late industry, apparently recognized at Gol Bait and Gua Cha, and the early uniface industry, first described at the type site of Gua Kerbau, a detailed examination of the stone tools from the Kelantan site ought to bring this out. It was stated in the introduction to this paper that a contrary development from biface to uniface pebble tools has apparently been recognized in the Hoabinhian industry of Indo-China, though neither the Malayan nor the Indo-Chinese evidence is entirely satisfactory. A further difficutly is that the uniface industry from the Sumatran middnes may be taken to repersent a later stage of the Hoabinhian industry than that of the Malayan cave and shelter sites, while the industry from the Guak Kepah kitchen midden in Province Wellesley (Malaya), geographically related to North Sumatran sites, shows signs of Neolithic influence, and should represent the latest phase in development of this industry.[26] It is difficult to accept an industrial succession where biface and uniface industries alternate in this manner, and the industrial content of the Hoabinhian will have to be examined in detail before any acceptable scheme can be drawn up. For the moment no conclusions can be drawn as to the status of the Hoabinhian industry of Gua Cha, though it may provisionally be allocated to a secondary phase in the local succession.

Two phases of the Malayan Neolithic culture are recognized at Gua Cha. During the early phase poorly made cord-impressed pottery of relatively primitive design was in use, quadrangular stone axes and adzes were being manufactured, though no completed example of this type of tool was recovered, and the sole representatives of the finished stone industry consist of two simple rings of polished stone, and a single long polished axe with a lenticular cross-section. This culture complex cannot be identified from other Malayan sites, but the stone industry is undoubtedly present among the many thousand stray polished stone tools and ornaments that have been recovered from open air sites and river banks in Malaya. A single stone ring identical

26 Callenfels (1936b).

with those at Gua Cha has been found in Pahang.[27]

The main late Neolithic occupation at Gua Cha is notable for the rich grave furniture associated with its burials, and among these associations may be recognized pottery vessels of many different designs comparable to those which have been recovered from other caves and rock shelters in various parts of Malaya, as well as a class of bracelets of advanced design, of which a number of Malayan examples have recently been published.[28] The beaked adze and bark cloth beater are two additional types, traditionally recognized as part of the Malayan Neolithic industry, which are found in supposedly late Neolithic associations at Gua Cha. Beaked adzes are of advanced design, and have been found elsewhere – at Bukit Tenku Lembu[29] – in what appears to be a very late Neolithic association, since a black pottery vessel believed to be imported from Greece in the third or fourth century B.C. was discovered at this site. A single pot-stand of Bukit Tenku Lembu type, found at Gua Cha, suggests that the late Neolithic occupation of these two sites should belong to the same period.

While the small thin-section quadrangular polished stone axes, adzes and chisels characteristic of these late Neolithic burials at Gua Cha are without close parallels in the Malayan industry, they are perhaps grave furniture, and to other graves of this date have yet been systematically excavated in this country. However, parallels for these stone tools may be found in the Upper Neolithic in Indo-China.[30] At the site of Ba-xa in Upper Tonkin, which must have been a disturbed burial ground, the grave furniture (it cannot well be anything else) included numerous examples of small thin-sectioned quadrangular stone tools closely comparable with those at Gua Cha, both in their design and in the raw material from which they were manufactured, and a bracelet of the same design as those found with the late Neolithic burials at Gua Cha, also pierced sea shells which may have formed part of a necklace, and a large number of very small disc-shaped shell and stone beads exactly like those found in one of the early Neolithic burials from Gua Cha.[31] The Tonkinese sites illustrate once more the ancestry of the Malayan Neolithic and the maritime connexions of the two cultures.

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27 Linehan (1928, pl. 38, fig. 11). This bracelet appears to have been one of a pair found together. In 1940, when Mr Tweedie was journeying up the Tembeling River in Pahang, a Malay showed him an identical bracelet and said that he had had two and had sold one to Linehan in 1928. He was unwilling to part with the bracelet which he had retained.

28 Linehan (1951).

29 Williams-Hunt (1951).

30 I.e. Mansuy (1924, pl. XI, figs. 3–5); Mansuy & Colani (1925, pl. V, fig. 5).

31 Mansuy & Colonia (1925, pl. XIII, 6–12, pl. XIV).

Appendix A

The burials and their associations

BURIAL 1. Complete extended burial with arms at the sides of the body. Length *ca.* 5 ft.

Orientation. Parallel to the rear wall of the shelter. Head at southern end (Pl. 2 (3)).

Associations. Forefingers of right hand: ring of poslished black stone interior diam. 56 mm. Forefingers of left hand: ring of polished limestone. Interior diam. 56 mm. (Pl. 5 (3)). Above toe bones: small cord-impressed pottery vessel and mussel-shell spoon (*Mytilus viridis* L.) (Text-fig. 8 (1), Pl. 3 (4)).

A further pottery vessel (index no. P. 55) was found with fragments of the missing shin bone 4 in. below the feet, and is associated with this burial.

BURIAL 2. Complete extended burial with arms at the sides of the body. Length *ca.* 5 ft. 2 in.

Orientation. Parallel to rear wall of shelter. Head at the southern end (Pl. 4 (3)).

Associations. Under skull: mussel-shell spoon (*Mytilus viridis* L.). Round the neck: nine limestone beads, fourteen green stone beads. One barred-shaped limestone bead with traces of red paint or resin. Under left forearm: axe of polished green stone with lenticular cross-section, length 290 mm. On the chest: two cord-impressed pottery vessels. At the feet: three inverted cord-impressed pottery vessels.

Two further pottery vessels (index no. P. 25) and a tooth (? Rhinoceros) were found beyond the head, and are probably associated with the burial.

BURIAL 3. Calotte: two humerus and two femur bones all broken.

Orientation. With head at southern end.

Associations. With calotte: small broken rim fragments of different vessels with cord-impressed decoration. With femur: tall bell-shaped jar with zonal decoration and cord-impressed bowl (Text-fig. 9).

BURIAL 4. Two pairs of leg bones (tibia and fibula) broken. Overall length with association 2 ft. 6 in.

Orientation. Parallel to rear wall of shelter. With feet at northern end.

Associations. At feet: shallow bowl of plain red ware (Text-fig. 8 (3)) and large semi-cylindrical cord-impressed jar (cf. Text-fig. 13 (2)). Between the legs: a quartz pebble and two limestone blocks.

BURIAL 5. Fragments of tibia and? fibula. Very small bones and therefore child's burial.

Orientation. Parallel to rear wall of shelter with feet at northern end.

Associations. Cord-impressed pottery vessel at feet (cf. Text-fig. 9 (1)).

BURIAL 6. Fragments of tibia and fibula. Overall length with association 2 ft. 1 in.

Orientation. Parallel to rear wall of shelter with feet at northern end.

Associations. Cord-impressed pottery vessel at feet (Text-fig. 11 (2)), and mussed-shell spoon (*Mytilus viridis* L.).

BURIAL 7. Complete extended burial in poor condition only. Head, ribs, femur and toe bones survived. Estimated length 5 ft. 1 in.

Orientation. Parallel to rear wall of shelter with head at southern end.

Associations. On the lower part of the body: three cord-impressed pottery vessels and fragments of two others. On waist: one chisel or miniature quadrangular adze. By feet. a second chisel and three more pottery vessels (pottery, Text-figs. 10, 11 and for the third cf. Text-fig. 11 (2)).

BURIAL 8. Complete extended burial in fine condition. Arms by the sides of the body (Pl. 9 (2)). Overall length from skull to toes *ca.* 5 ft. 1 in.

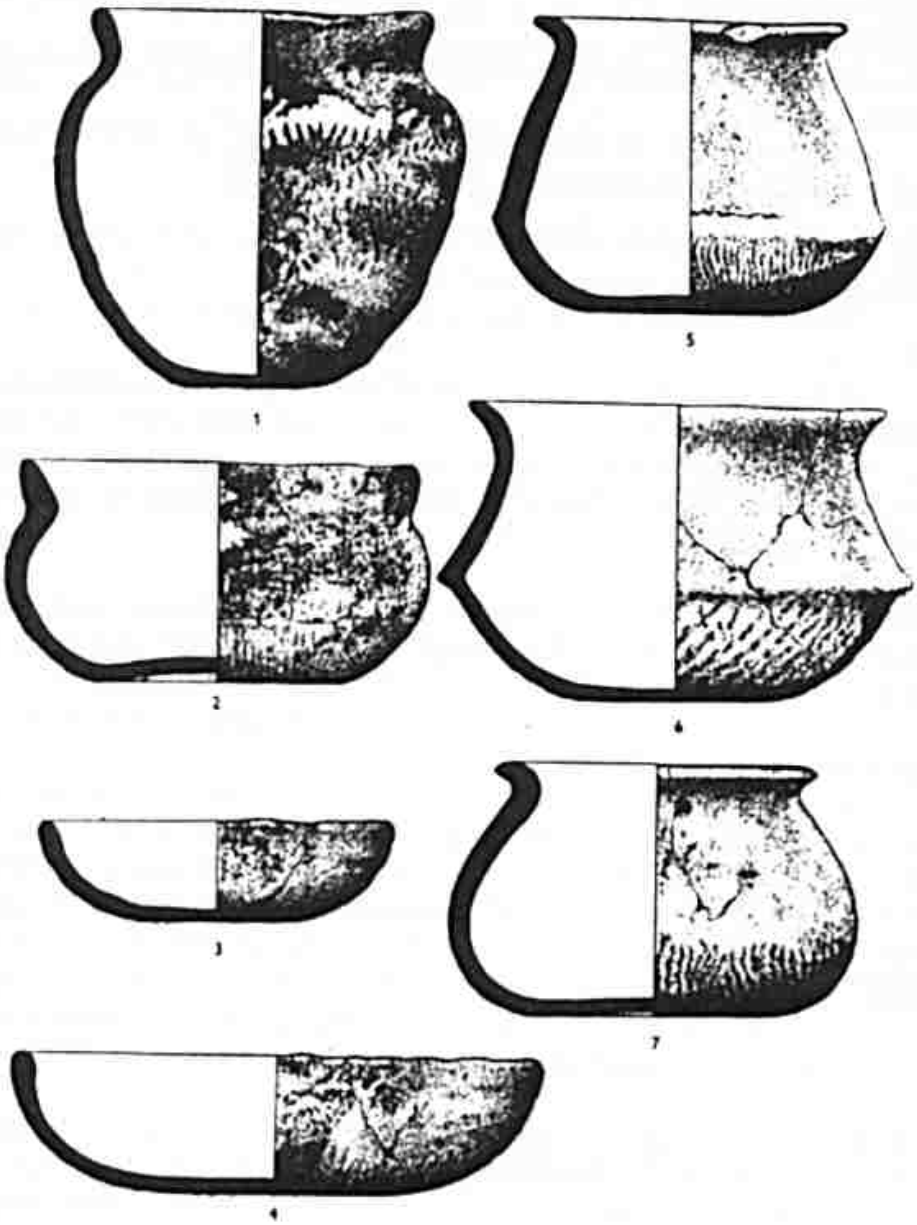
Orientation. Parallel to rear wall of the shelter and with head at southern end.

Associations. Beyond the head: a single bucket-shaped undecorated pottery vessel with holes for suspension beneath the rim. On right forearm: bracelet of polished nephrite, internal diameter 50 mm. In left hand: mussel-shell spoon (*Mytilus viridis* L.). On pelvis: two quadrangular polished stone adzes or chisels (Pl. 6, no. 4). One legs five cord-impressed pottery vessels, one containing rat skull, another miscellaneous animal bones. Beyond feet: a further cord-impressed pottery vessel (Pls. 7, 9 (2); Text-figs. 12, 13).

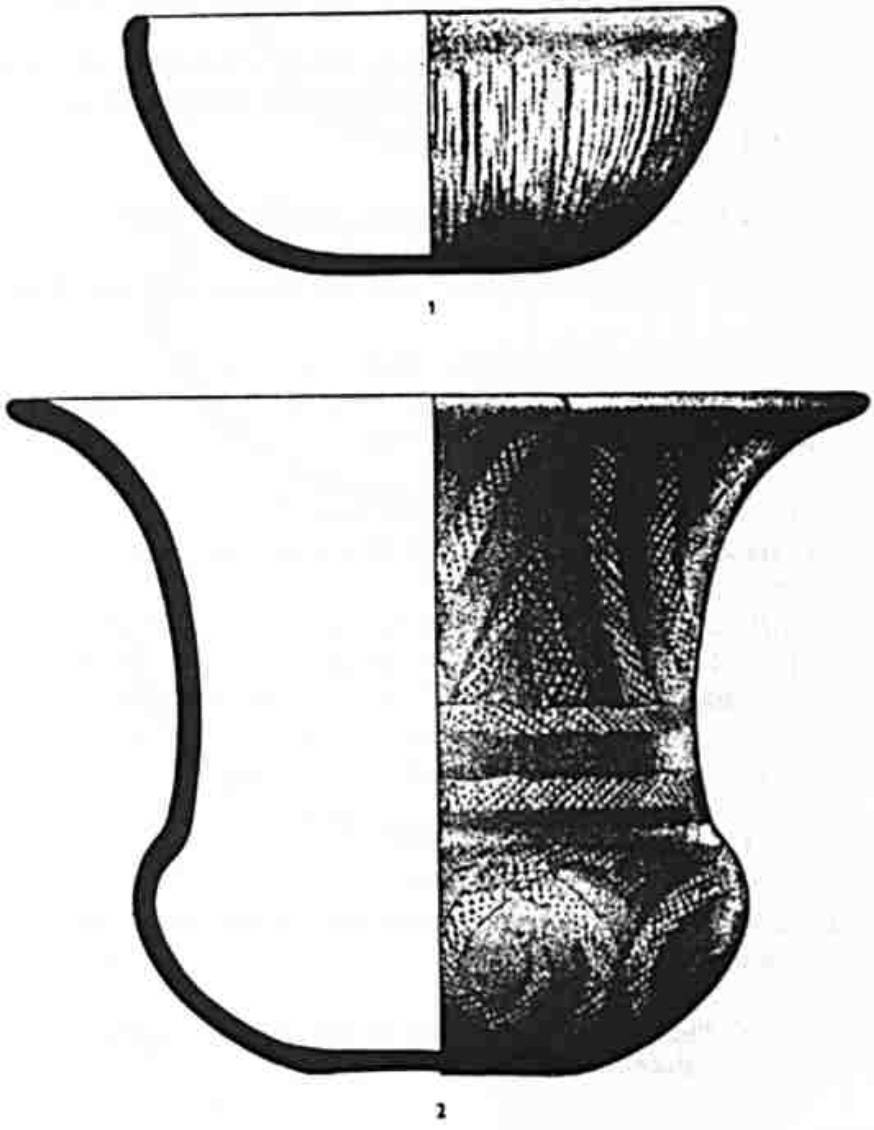
BURIAL 9. Complete extended burial in poor condition. Arms by the sides of the body. Overall length from skull to toes 5 ft. 4½ in.

Orientation. Parallel to rear wall of shelter and with head at southern end.

Associations. On right forearm: bracelet of polished limestone, internal diamater 50 mm. In left hand: mussel-shell spoon (*Mytilus*



Text-fig. 8. Gua Cha, 1954. Cord-impressed pottery except 3 which is plain red ware. 1 from grave 1, 3 from grave 4; 2, 4, 5–7 from grave 2. Rim diam. 117, 135, 121, 180, 108, 144, 110 mm. Heights 129, 75, 34, 47, 101, 102, 87 mm. Scale 5/11.



Text-fig. 9. Gua Cha, 1954. Pottery from grave 3. 1, cord-impressed decoration; 2, spiral decoration and zones filled with pointille comb-impressed decoration. Rim diam, 188, 265 mm. Heights 81, 208 mm. Scale 5/11.

viridis L.). On feet: three cord-impressed pottery vessels, fragments of a fourth and flaked stone tool (Pl. (1–3); Text-figs. 14, 16 (1)).

BURIAL 10. Extended burial in poor condition. Head missing, ribs and some limb bones missing (Pl. 3 (2)). Length 5 ft. from shoulder to feet.

Orientation. Parallel to rear wall of the shelter. Head at southern end.

Associations. At head: two pottery bowls (Text-fig. 15 (3–4)). One with zones of decoration on interior bevel. Fragments of a third (cf. Text-fig. 15 (4)).

BURIAL 11. Extended burial in poor condition. Head squashed. (Pl. 3 (1)). Length from feet under pot to skull 6 ft. 3 in.

Orientation. Parallel with rear wall of shelter and with head at southern end.

Associations. At head: single plain bowl with cord-impressed base (Tex-fig. 15 (1)). At feet: single bowl with lines running round interior of rim (Text-fig. 15 (2); Pl 3 (3)).

BURIAL 13. Length skeleton, head to toes, 5 ft. 5 in. (Pl. 4 (1)).

Orientation. Parallel to rear wall of shelter and with head at the southern end.

Associations. By right hand: quadrangular bevelled adze, length 96 mm. and chisel. On pelvis: two large shell-disc. By left hand: upright quadrangular stone flake (Pl. 4 (2)). On legs: three cord-impressed pottery vessels (Text-fig. 16 (2–3) and for the third cf. Text-fig. 16 (3)). By feet: a number of small snail shells.

BURIAL 14. Contracted burial (Pl. 11 (1)).

Orientation. Head at southern end.

Associations. By feet: two Hoabinhian flaked tools. Association probably not deliberate.

BURIAL 15. Collection of limb (leg) bones and with traces of fire. More than one individual present.

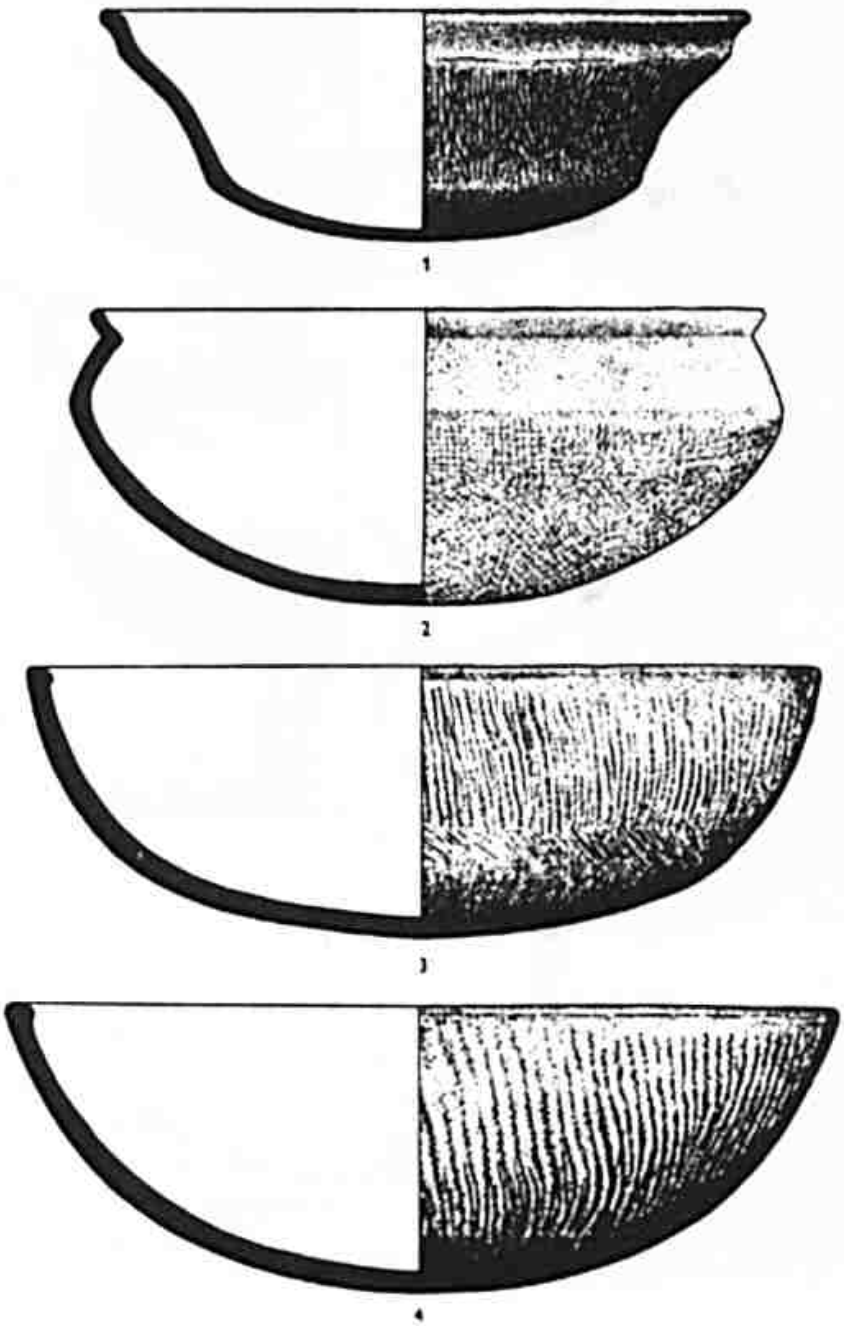
BURIAL 16. Contracted burial. Legs flexed. Arms and head missing. Sundry rib bones broken with traces of fire (Pl. 11 (3)).

BURIAL 17. Contracted burial (Pl. 12 (2)).

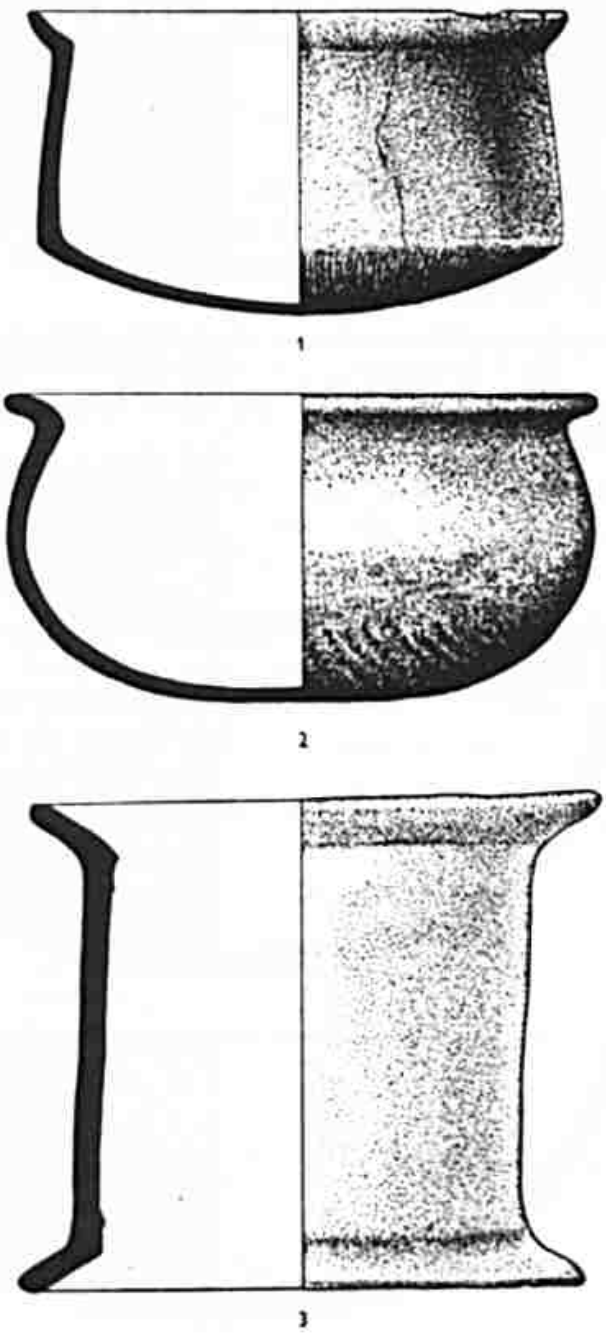
Orientation. Head at nothern end of shelter.

BURIAL 18. Contracted burial (Pl. 12 (1)).

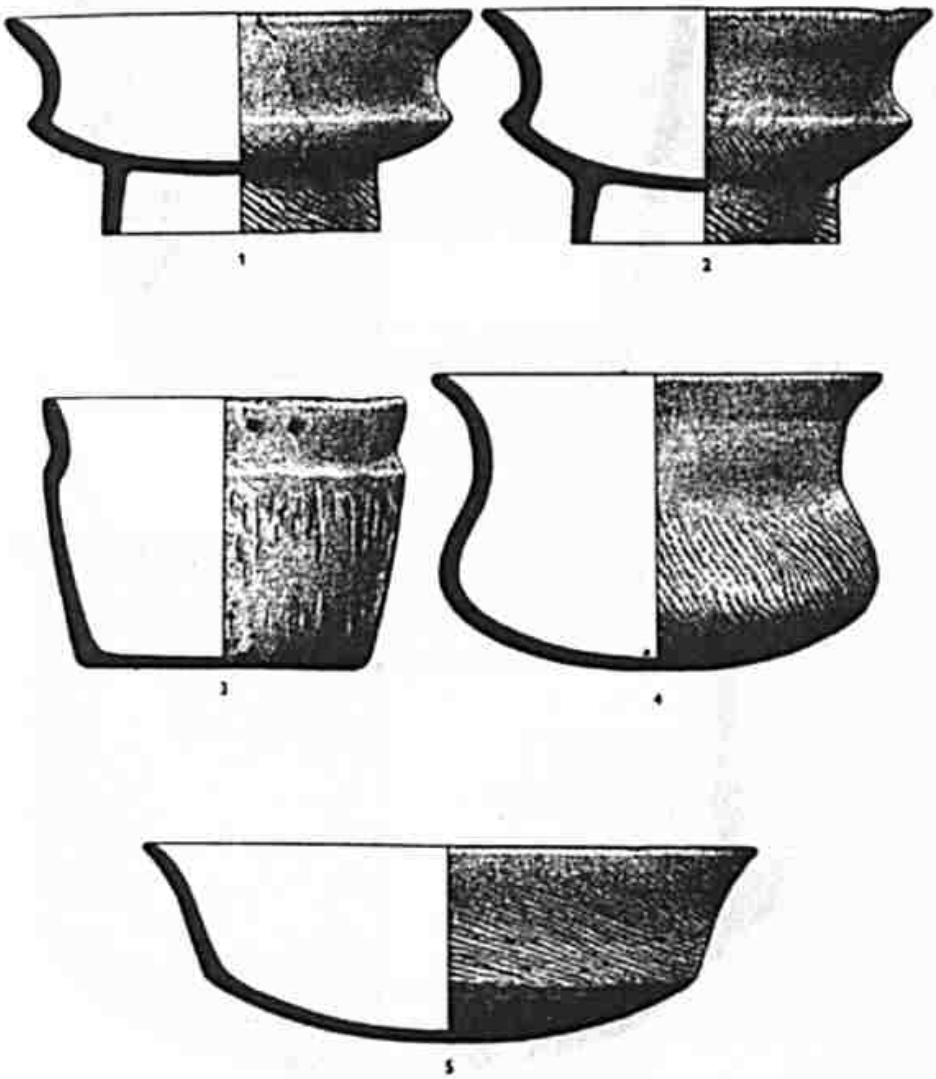
Orientation. Head nearest rear wall of shelter.



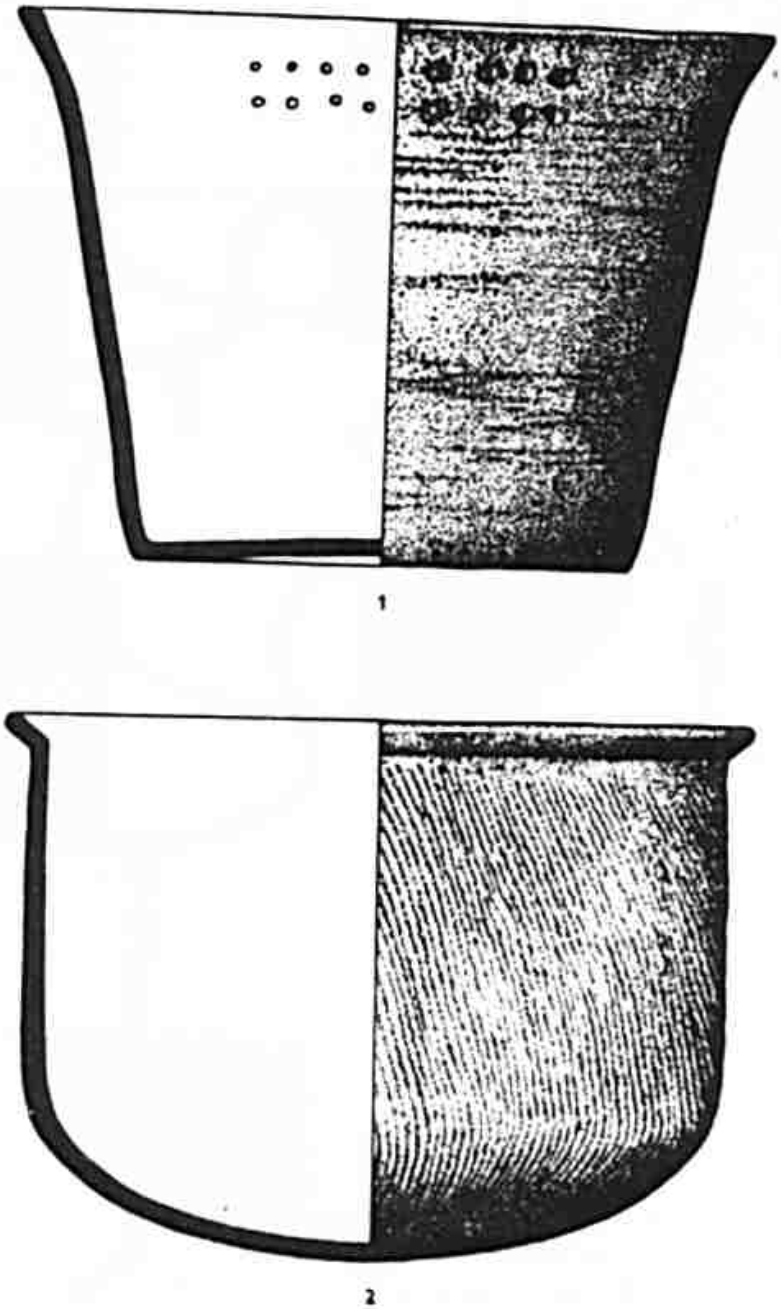
Text-fig. 10. Gua Cha, 1954. Cord-impressed pottery (except 2) from Grave 7. Rim diam. 199, 208, 244, 255 mm. Heights 72, 91, 83, 88 mm. Scale 5/11.



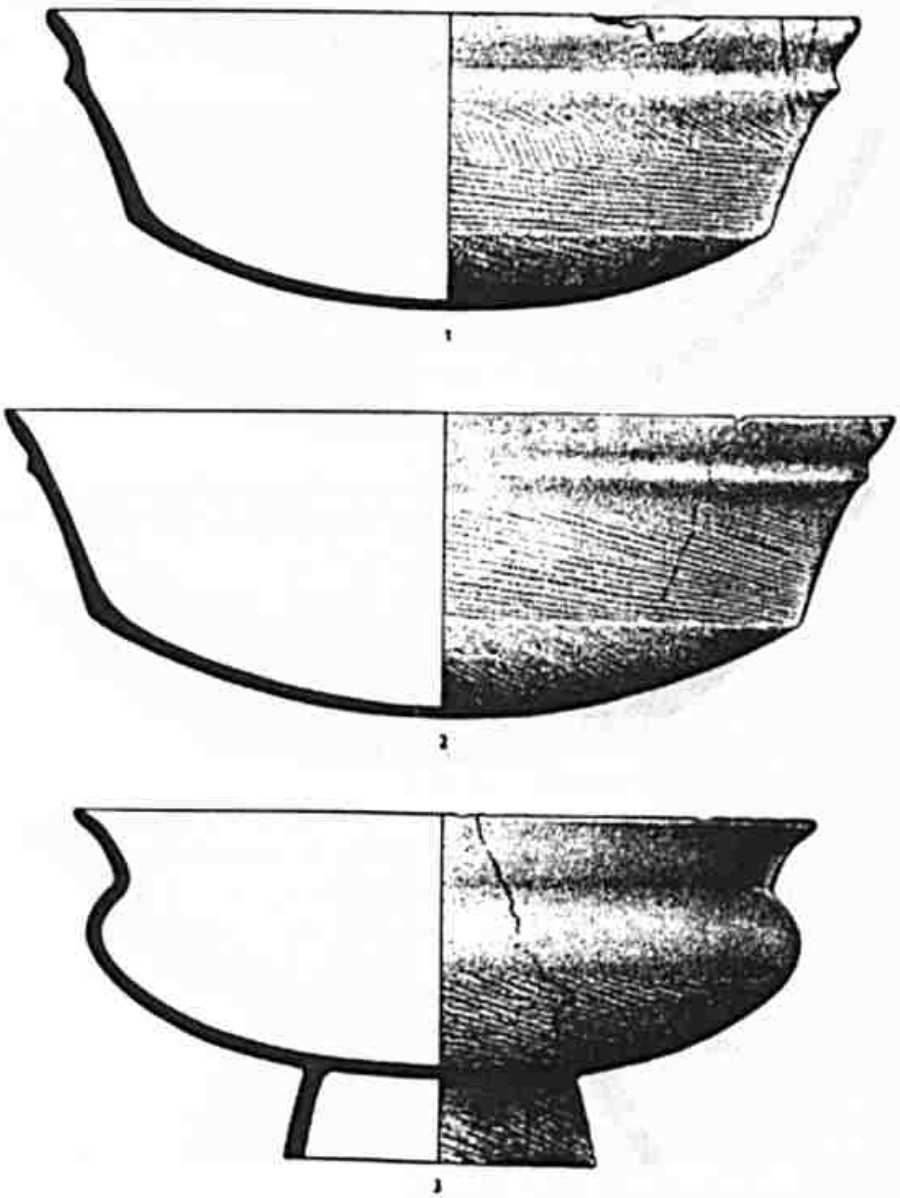
Text-fig. 11. Gua Cha, 1954. 1, cord-impressed pottery from grave 7; 2, cord-impressed pottery from grave 6, 3, pot-stand of plain red pottery from grave 7. Rim diam. 163, 178, 170 mm. (at top). Heights 145 mm. Scale 5/11.



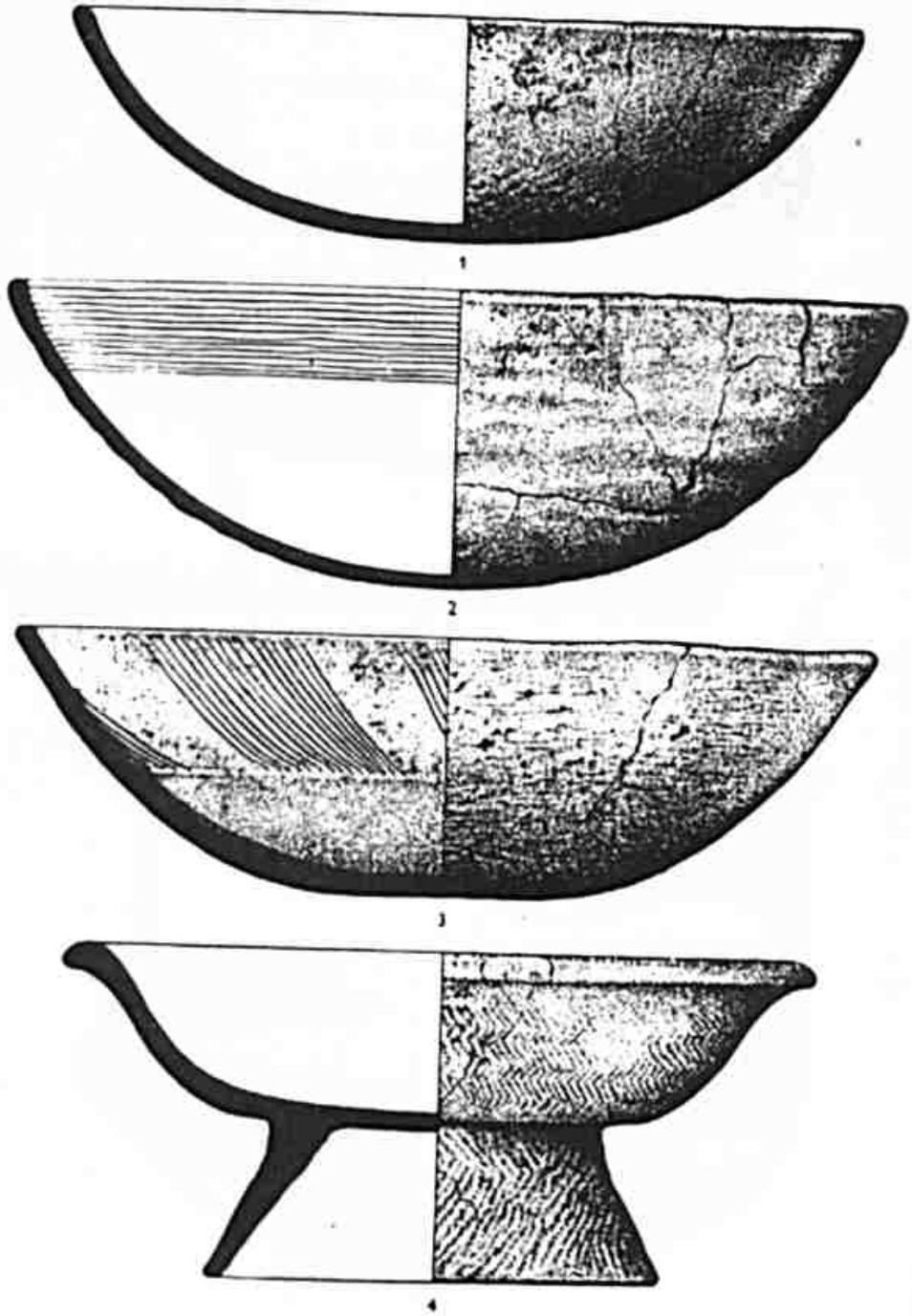
Text-fig. 12. Gua Cha, 1954. Cord-impressed pottery from grave 8. 3 and 5 have suspension holes near the rim. Rim diam. 165, 157, 128, 157, 205 mm. Heights 78, 83, 96, 104, 69 mm. Scale 5/11.



Text-fig.13. *Gua Cha, 1954. Pottery from grave 8. 1, plain ware with suspension holes near the rim; 2, cord-impressed decoration. Rim diam. 230, 163 mm. Heights 167, 163 mm. Scale 5/11.*



Text-fig. 14. Gua Cha, 1954. Cord-impressed pottery from grave 9. Rim diam. 287, 313, 260 mm. Heights 105, 107, 122 mm. Scale 5/11.



Text-fig. 15. Gua Cha, 1954. 1–2, bowls with impressed decoration on base, from grave 11. No. 2 has lines running round the interior below the rim. 3–4 from grave 10. No. 3 has zoned decoration in the interior. No. 4 exterior cord-impressed decoration. Rim diam. 255, 291, 278, 240 mm. Heights 73, 97, 82, 105 mm. Scale 5/11.

Associations. One Hoabinhian flaked stone tool. Association probably not deliberate.

BURIAL 19. Skull and fragmentary extended burial. One arm across body, legs missing.

Orientation. Parallel to rear wall of shelter, head at southern end.

BURIAL 20. Skull and two isolated arm bones.

BURIAL 21. Four contracted burials placed by the side or on top of each other and inextricably mixed.

BURIAL 22. Extended burial in fair condition. Skull slightly compressed, feet missing (Pl. 11 (4)). Stratified below Burial 16.

Orientation. Parallel to rear wall of shelter, head at the northern end.

BURIAL 23. Skull, shoulders and one broken humerus (Pl. 11 (2)). The skull is in particularly good condition.

BURIAL 24. Extended burial with arms by the sides of the body in poor condition. Skull badly squashed. Overall length 5 ft. 2½ in.

Orientation. Not parallel with rear wall. Head at southern end.

Associations. Across neck: quadrangular polished stone axes, left. Left side below waist: polished stone bark-cloth beater. On feet: four cord-impressed pottery vessels, two pottery rings, one with holes for suspension (Text-fig. 17).

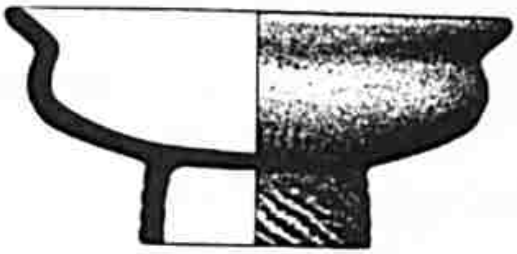
BURIAL 25. extended burial in poor condition. Compressed skull and miscellaneous broken limb bones in approximately correct positions.

Orientation. Parallel to rear wall of shelter and with head at southern end.

Associations. Below left shoulder: small quadrangular polished stone chisel and single cord-impressed pottery vessel. On pelvis and lower limbs: five cord-impressed pottery vessels and one cylindrical jar of plain red pottery (Text-figs. 18–20). Below waist: one small broad quadrangular polished stone chisel with develled edges. By feet: one disc-shell bead, one strip shell bead.

BURIAL 26. One arm bone, one leg and foot bones.

Associations. On feet: four cord-impressed pottery vessels and one small quadrangular polished stone chisel.



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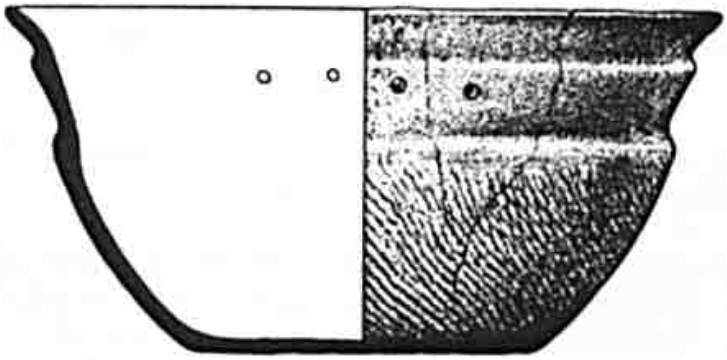

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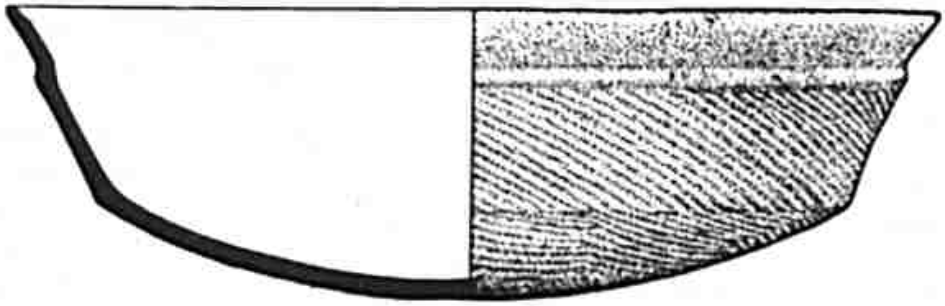

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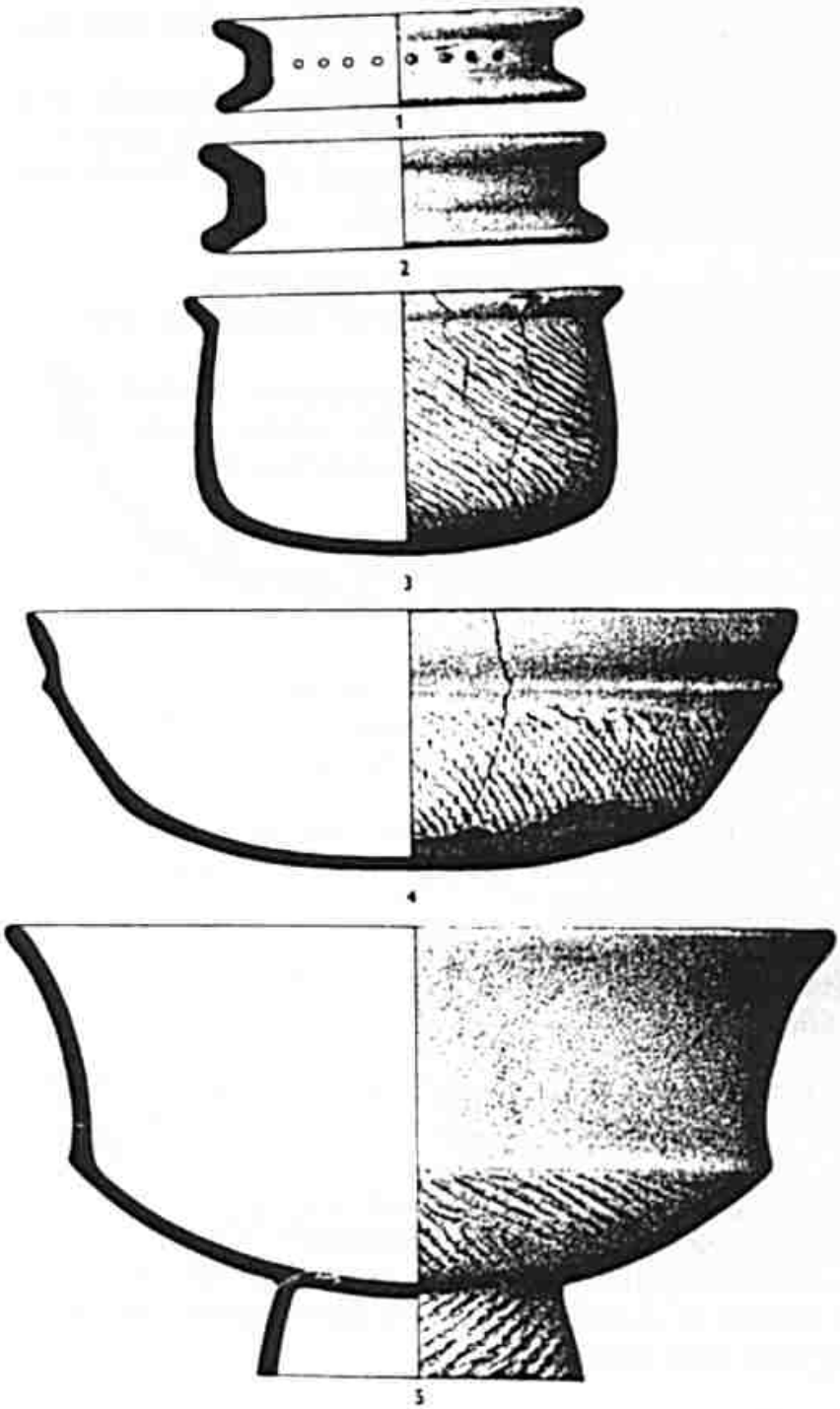
Text-fig. 16. Gua Cha, 1954. Cord-impressed pottery. 1, from grave 9; 2–3, from grave 13. Rim diam. 142, 200, 260 mm. Heights 67, 80, 76 mm. Scale 5/11.



Text-fig. 17. Gua Cha, 1954. Pottery from Burial 24. 1–2, pottery rings or pot stands undercorated. No. 1 has holes for suspension. 3–5, cord-impressed pottery. Rim diam. 111, 124, 230, 246 mm. Heights 28, 33, 79, 78, 133 mm. Scale 5/11.

BURIAL 27. Complete extended burial in poor condition.

Orientation. Parallel to rear wall of shelter and with head at northern end.

Associations. By left hand: small broad quadrangular polished stone chisel with bevelled edges and a mussel-shell spoon (*Mytilus viridis* L). On feet: three cord-impressed pottery vessels and two cylindrical pot-stands of plain red pottery.

BURIAL 28. Extended burial in very poor condition.

Orientation. Parallel to rear wall of shelter and with head at northern end.

Associations. On chest small quadrangular polished stone axe. By right hand: two small quadrangular polished stone chisels, one broken. On feet: two cord-impressed pottery vessels.

BURIAL 29. Ceremonial deposit consisting of three calottes and other portions of skull, ribs and human bones enclosed by two femurs (Pl. 8 (2)).

BURIAL 30. Fragmentary burial. Broken jaw, leg and foot bones.

Associations. One small quadrangular polished stone chisel and two cord-impressed pottery vessels. (Text-fig. 23).

BURIAL 31. Extended burial in poor condition. Skull badly compressed, left arm and feet missing. Stratified below Burial 25 and at right angles to it (Pl. 8 (1)).

Orientation. Head towards rear wall of shelter.

Associations. Above and on right shoulder: inverted beaked adze of polished black stone.

BURIAL 32. Extended burial in poor condition. Stratified below and at right angles to Burial 25 with feet (not excavated) running into section *YZ*.

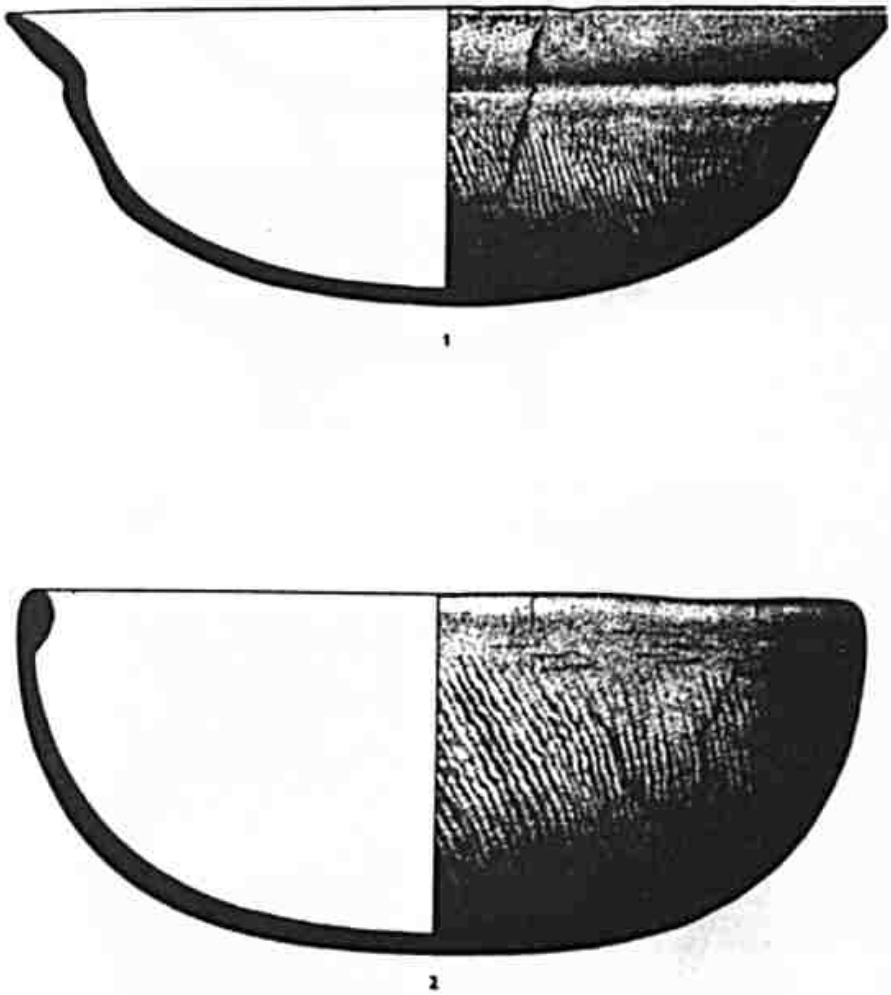
Orientation. Head towards rear wall of shelter.

Associations. Across shoulder and upper ribs: four strip shell beads and remains of several others placed longitudinally on the body in the manner of a necklace or breast plate. Further associations (i.e. pottery) may exist beyond the feet.

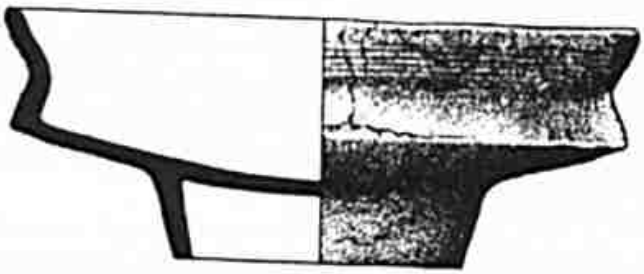
BURIAL 33. Complete extended burial in good condition.

Orientation. Parallel to rear wall of shelter and with head at southern end.

Associations. On stomach: two small quadrangular polished stone chisels (bevelled). At feet: three cord-impressed pottery vessels (Text-fig. 22).



Text-fig. 18. Gua Cha, 1954. Cord-impressed pottery from Burial 25. Rim diam. 316, 295 mm. Heights 105, 126 mm. Scale 5/11.



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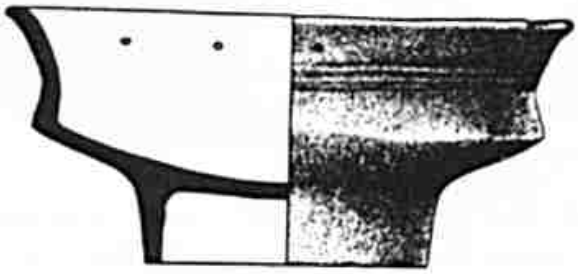

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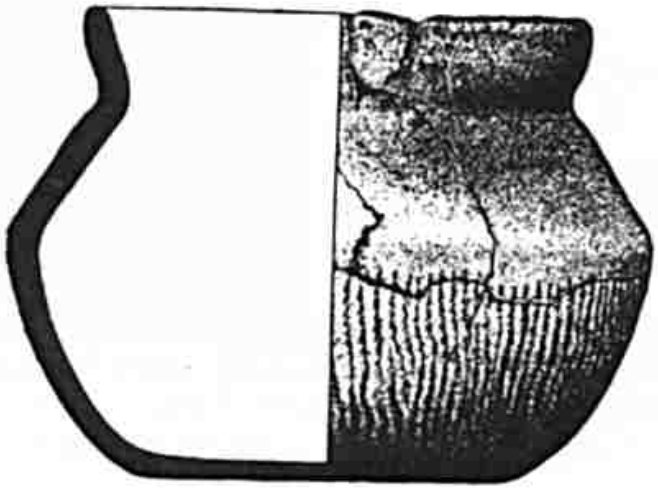

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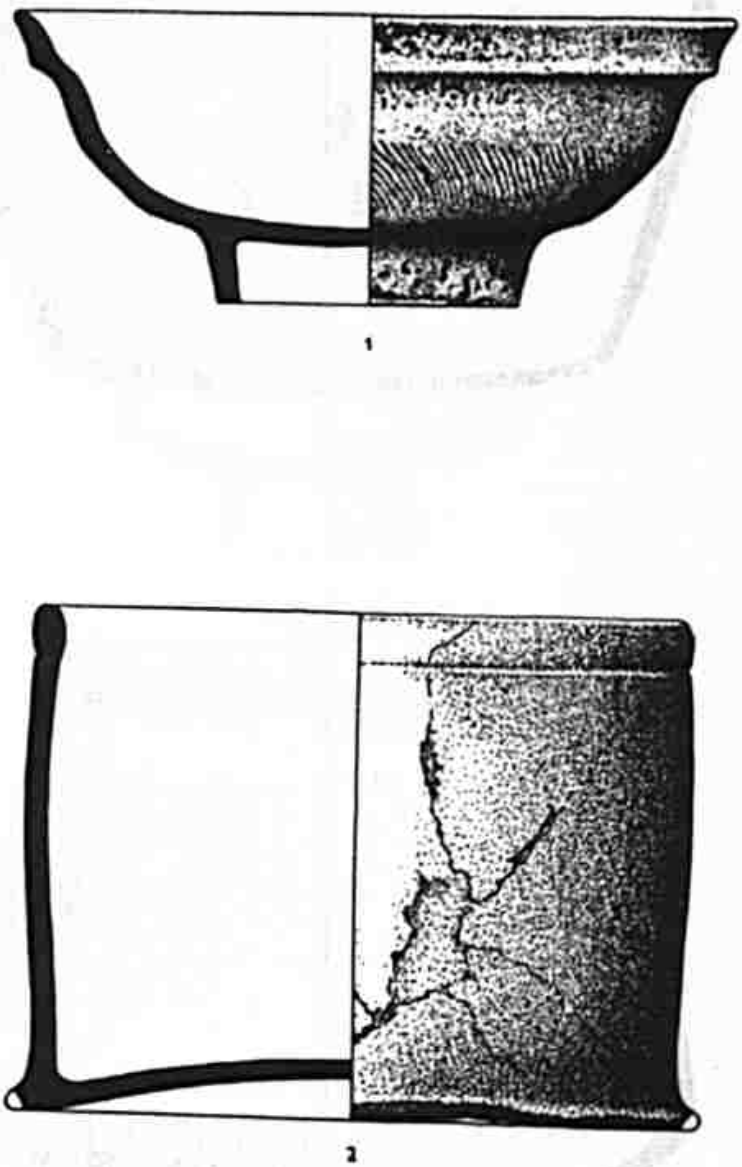
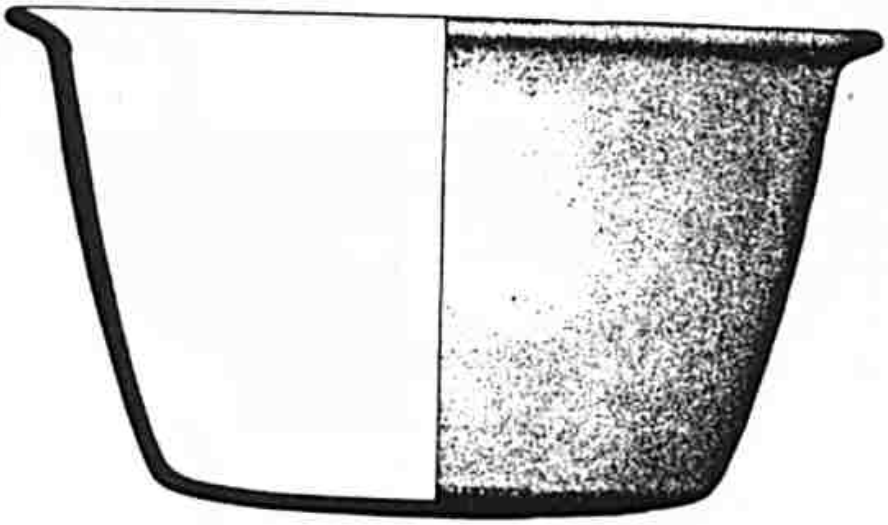
Text-fig. 19. Gua Cha, 1954. Cord-impressed pottery from Burial 25. 1 and 2 have a group of impressed lines running round the body. No. 2 has holes for suspension beneath the rim. Rim diam. 186, 164, 148 mm. Heights 73, 73, 135 mm. Scale 5/11.



Text-fig. 20. Gua Cha, 1954. Pottery from Burial 25. 1, cord-impressed decoration; 2, plain red ware. Rim diam, 223, 203 mm. Heights 90, 156 mm. Scale 5/11.



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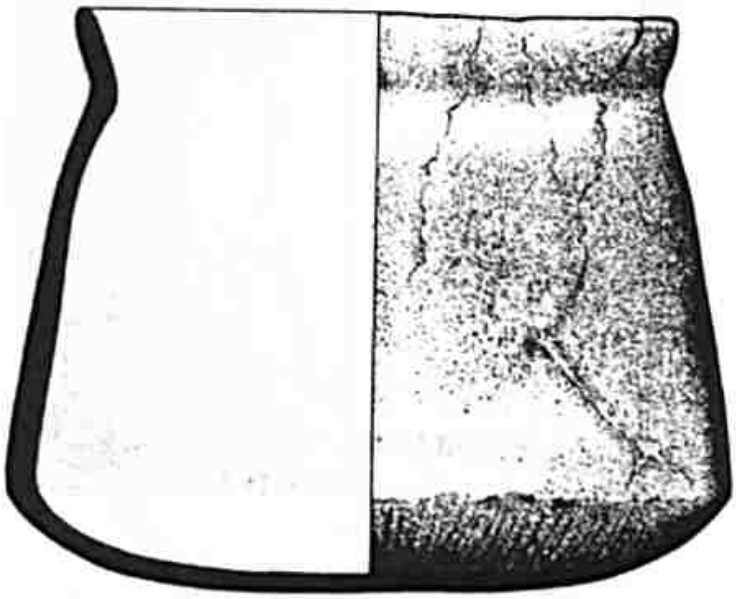

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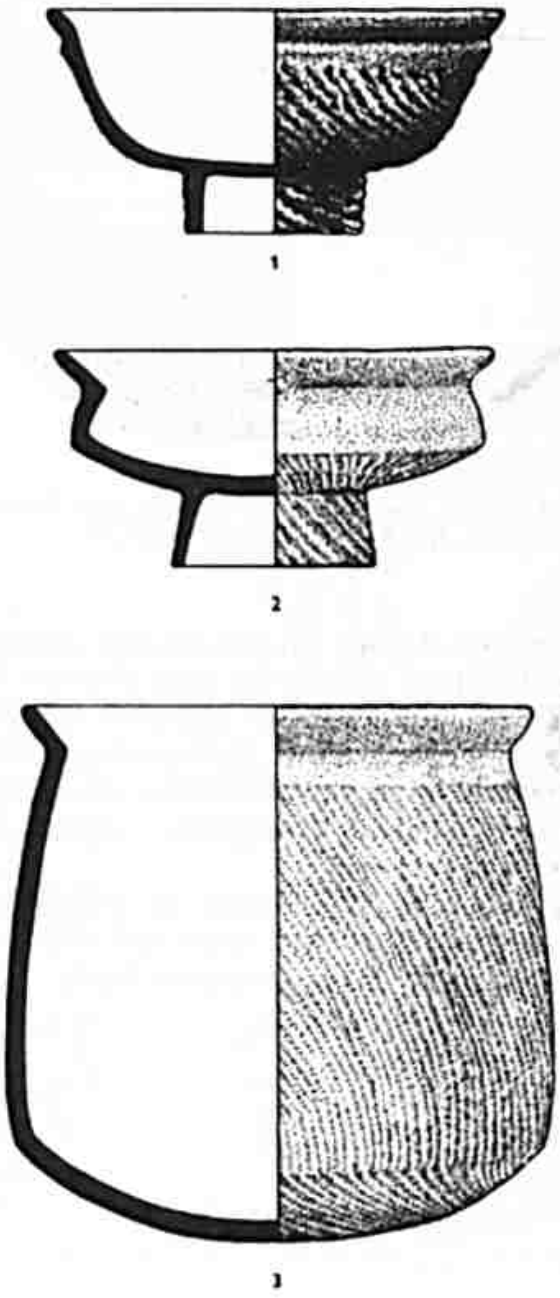
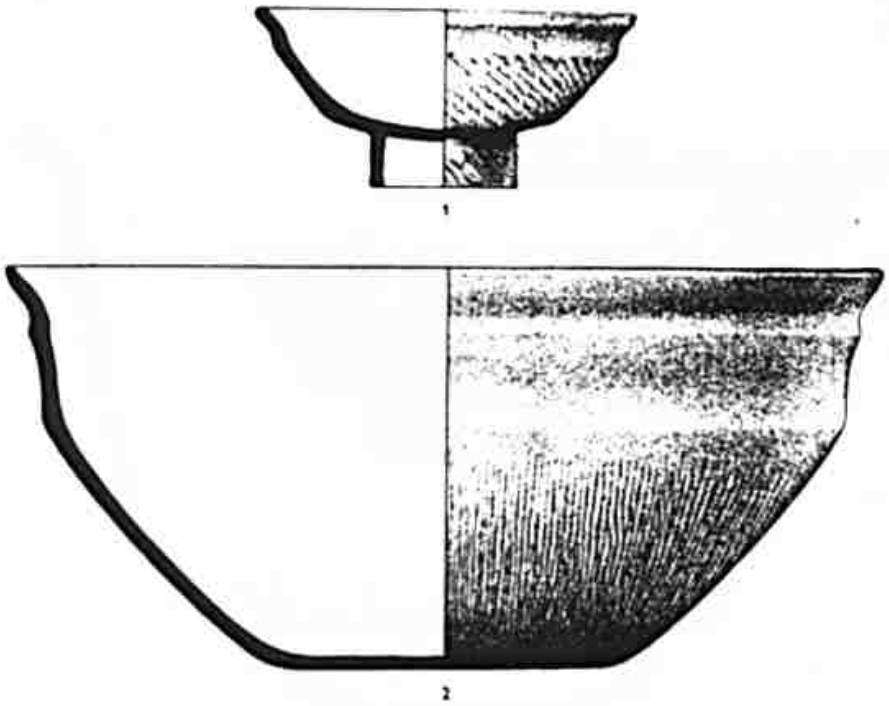
Text-fig. 21. Gua Cha, 1954. Pottery with cord-impressions on base from Burial 28. Rim diam. 256, 174 mm. Heights 147, 166 mm. Scale 5/11.



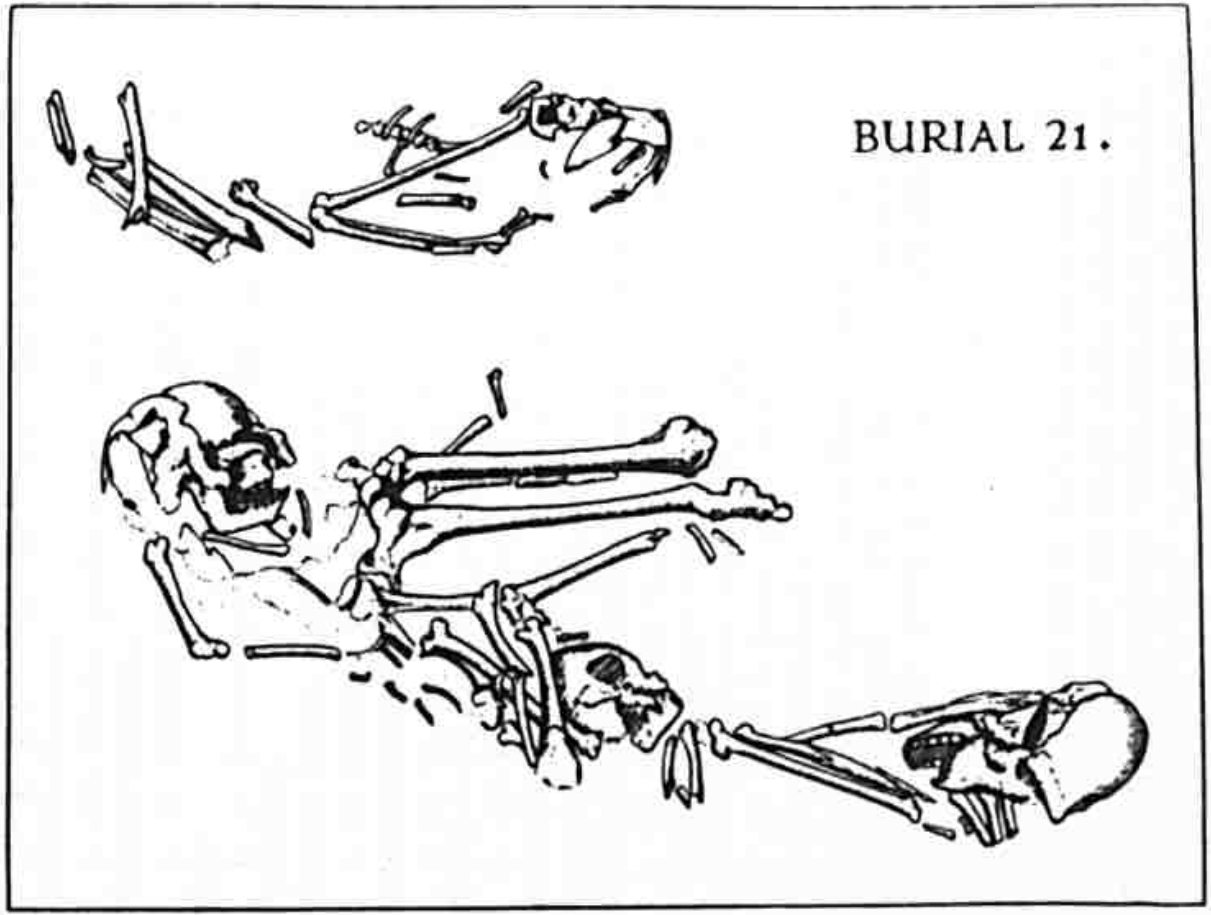
Text-fig. 22. Gua Cha, 1954. Cord-impressed pottery from Burial 33. Rim diam. 141, 135, 156 mm. Heights 69, 66, 163 mm. Scale 5/11.



Text-fig. 23. Gua Cha, 1954. Cord-impressed pottery from Burial 30. Rim diam. 135, 310 mm. Heights 64, 141 mm. Scale 5/11.

Burials 12 and 14–23 are not conclusively associated with any artifacts or grave furniture, though the thick deposits of Hoabinhian flake tools occur close to them and at the same depths. The physical anatomy of these burials sharply distinguishes them from those associated with Neolithic grave goods, and they are assigned to the Hoabinhian culture on grounds of stratigraphy, posture, and condition of preservation as well as anatomy.

The pottery associated with Burials 26 and 27, and the stone tools and ornaments associated with these and other burials, will be illustrated in the second part of the excavation report.



Text-fig. 24. A multiple Hoabinhian burial.

Appendix B

Votive deposits

The index numbers of the vovite deposits which are referred to below are those with which their position and that of other small and important finds was recorded during the excavation. The system of recording is described in Appendix C. All votive deposits are shown on the plans, but for reasons of clarity these index numbers have been omitted. A short description of the position of each votive deposit is therefore given below. The pottery vessels and stone tools found in these votive deposits will be illustrated in the second part of the excavation report.

Cutting 1

P. 11. Between Burials 4 and 6 and at the same depth. Single cord-impressed pottery vessel represented by most of the rim and fragments of base. It was not possible to repair the vessel from these fragments. One small polished stone chisel.

P. 12. Close to Burial 3 and between 4 and 6 in. below it. Fine cord-impressed pottery vessels, one small quadrangular bevelled chisel of polished greenstone and a mussel-shell spoon (*Mytilus viridis* L.).

P 14. In the front of the cutting beneath a fallen stalactite. Fragments of a simple cord-impressed pottery vessel. Not restored.

O. 15–15A. In the front of the cutting beneath a fallen stalactite. Two cord-impressed pottery vessels, one inverted upon the other.

P. 18. Between Burials 3 and 4. Broken vessel of softly fired red clay, perhaps pottery 'turn-table'.

P. 19. In the front of the cutting. Broken cord-impressed pot. It was not possible to repair the vessel from the remaining fragments.

P 21. Alongside the feet of Burial 7 and at the same depth. Cord-impressed pottery vessel (broken) and a small quadrangular polished stone chisel.

P. 71. Between Burials 5 and 8. Alignment of six cord-impressed vessels.

P. 74. Between Burials 5 and 8. Single-footed bowl with cord-impressed decoration.

P. 140. Between Burials 2 and 3. Single bowl with lines of comb-impressed decoration.

P. 142. Between Burials 2 and 3. Single small bowl or cup with flared rim and zoned decoration including point-filled triangle motif.

Cutting 2

S. 1. Alongside Burial 10 (Pl 3 (2)). Pot-stand of variety found at Tenku Lembu Perlis (cf. Tweedie, 1953, fig. 43c).

S 2. Alongside Burial 11 (Pl. 3 (1)). Two cord-impressed vessels and one small polished stone chisel.

S. 3. On *F1*. Single bowl with lines of comb-impressed decoration.

S. 4. Above Burial 15. Small square pottery vessel of plain black ware with holes for suspension beneath the rim.

S. 5. On *CD*. Three cord-impressed pottery vessels.

Cutting 3

N. 9 On *YZ*. Two-footed bowls with cord-impressed decoration. One of them very large.

Appendix C

Recording

The following information will be of value in examining collections from this site of Gua Cha in the Raffles Museum, Singapore, the Perak Museum, Taiping, and in the United Kingdom. Finds made in natural layers are marked with the name of the site and a number indicating their depth and approximate position, i.e. CHA 18. The burials, and some small and important finds. are marked under a separate reference system indicating their depth and three-dimensional position to the nearest inch. A copy of the stratigraphical records from the excavation is preserved in Perak Museum File 26/54, vol. IV. Burials and small finds from each cutting are prefixed by a separate letter in the following manner:

Cutting 1

Burials index nos. CHA B 1–CHA B. 9. Small finds index nos. CHA P 1–CHA P. 161.

Cutting 2

Burials index nos. CHA H 1–CHA H 13. Small finds index nos. CHA S. 1–CHA S. 168.

Cutting 3

Burials index nos. CHA A. 1–CHA A. 9. Small finds index nos. CHA N. 1–CHAN. 8.

All small finds burials associations are still marked under the system described above, but for the purpose of this report the burials are numbered from 1–33 in order of their discovery in each cutting, and a concordance is given below.

Original classification	Revised system	Original classification	Revised system
CHA B. 1	Burial 1	CHA H. 9	Burial 20
CHA B. 2	Burial 2	CHA H. 10	Burial 21
CHA B. 3	Burial 3	CHA H. 11 }	Burial 22
CHA B. 4	Burial 4	CHA H. 117 }	
CHA B. 5	Burial 5	CHA H. 12	Burial 23
CHA B. 6	Burial 6	CHA H. 13	Burial 24
CHA B. 7	Burial 7	CHA A. 1	Burial 25
CHA B. 8	Burial 8	CHA A. 2	Burial 26
CHA B. 9	Burial 9	CHA A. 3	Burial 27
CHA H. 1	Burial 10	CHA A. 4.	Burial 28
CHA H. 2	Burial 11	CHA A. 5	Burial 29
CHA H.3	Burial 12	CHA A. 6	Burial 30
CHA H. 4	Burial 13	CHA A. 7	Burial 31
CHA H. 5	Burial 14	CHA A. 8	Burial 32
CHA H. 6	Burial 15	CHA A. 9	Burial 33
CHA S. 7	Burial 16		
CHA H. 6	Burial 17		
CHA H. 7	Burial 18		

Appendix D

Disposal of animal bones and other food remains

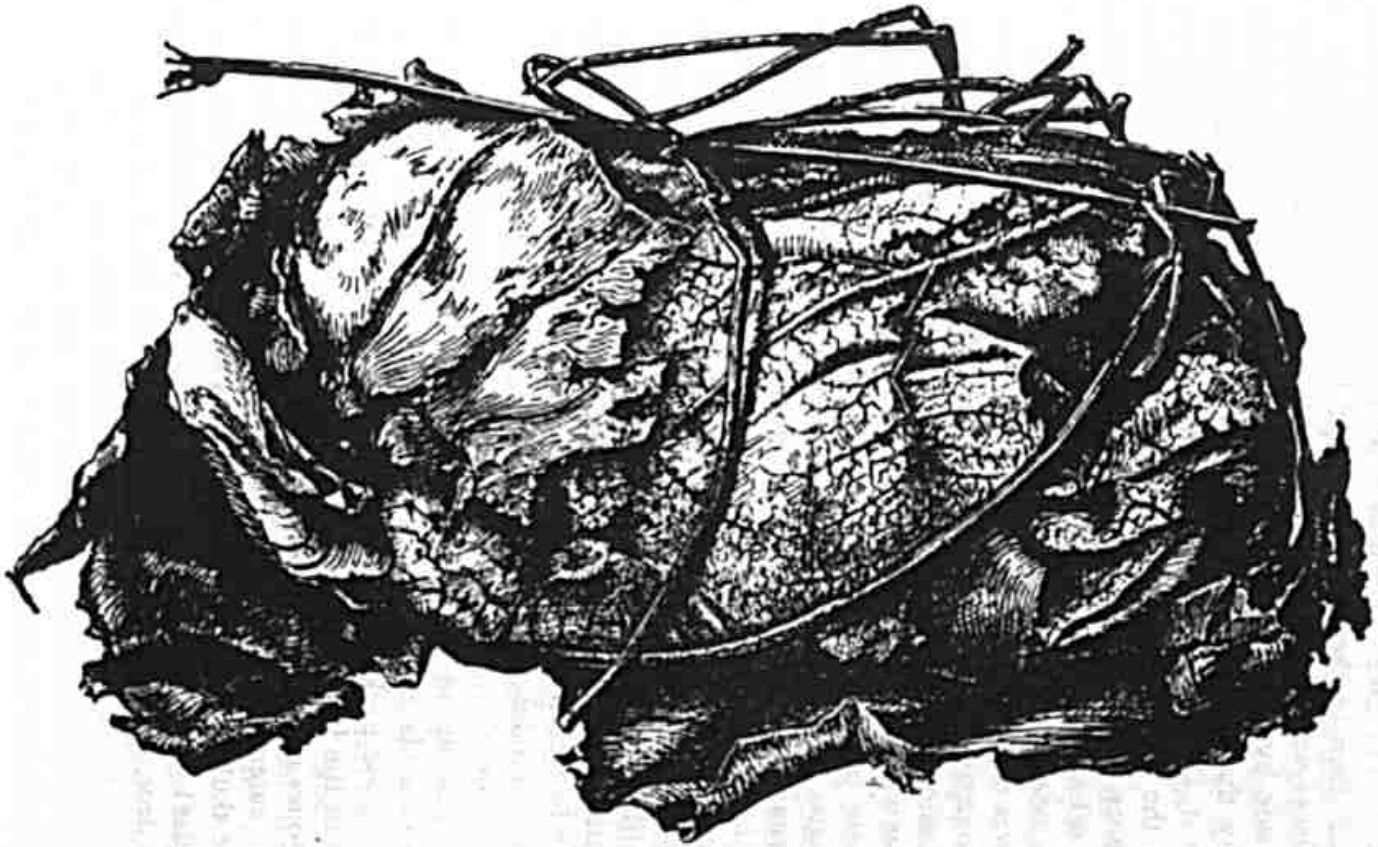
It has been noted that the animal bone deposits associated with Hoabinhian stone tools at Gua Cha do not consist of a single spread around a hearth, but of a number of small well-defined heaps. These heaps appear to have been deposited in a part of the shelter which was not used as a living space. Many of the rock shelters inhabited by the modern Aborigines are much smaller than Gua Cha, and refuse has to be wrapped up and pushed into a convenient corner. It is possible that the well-defined refuse heaps at Gua Cha were wrapped in a similar manner before being deposited at the far end of the shelter.

Text-fig. 25 A broken packet containing shells and bones from a cave at Kota Glanggi, Pahang. Perak Mus. no. 2101/06. Scale 2/3.

We illustrate here (Text-figs. 25–27) three packets of bones and shells wrapped with leaves 'found with many others in the caves at Kota Glanggi, Pahang' and now in the Perak Museum (nos 2099/06, 2100/06, 2101/06). They were collected by L. Wray, the Curator of the Perak Museum in 1906, from an Aborigine living-site described by this author in the *Journal of the Federated Malay States Museums* (vol 1, pp. 14–15).

In Wray's description, reprinted below (p. 134), the term 'Sakai' is used in a general sense, as the Malay word for the wild tribes of the Peninsula. Kota Glanggi is within the Negrito area of distribution (as distinguished from the areas inhabited by other racial or cultural groups), and the size of the group would appear to be that of a nomadic hunting group of Negrito type.

Text-fig. 26. A packet of bones wrapped in leaves 'found with many others in the caves at Kota Glanggi, Pahang'. Peral Mus. no 2100/06. Scale 2/3.



Text-fig. 27. A packet of bones wrapped in leaves 'found with many others in the caves at Kota Glanggi, Pahang'. Perak Mus. no. 2099/06. Scale 2/3.

I have seen near Pulau Tawar, in Pahang, quite a number of Sakai living-places, in the caves of a limestone hill called Kota Glangii and a hill near it. The caves were mostly of the rock-shelter type. There were no Sakais then in them, but they had been there quite recently. The living-places were quite simple, consisting of a number of small sticks placed side by side on the ground, forming a small lanti on which to sleep; by the side of it was a raised lanti of sticks, with the fireplace beneath it. On this shelf they keep firewood, edibles, etc. The fireplace was on the ground and the fire of sticks was made between three or four stones. In some cases there were two beds with a fire in the middle and in others only one; each bed being just large enough to accommodate one person, measuring about 5 ft. long by 2 ft. wide. The whole was more or less enclosed by a fence of sticks, some 4 to 4½ ft. high. Sometimes this fence was on one side, sometimes on two sides and occasionally on three sides. In one case the hedge was formed of sticks on which the branches and dead leaves still remained. The others were mere open-work fences of small sticks tied together with rattan and jungle creepers. In some of the caves there were five or six of these separate sleeping places. In most cases, near each was a stick planted in the ground, having two or more forks, formed by cutting off the branches some 6 or 8 in. from the main stem, at the upper end of it. It appeared to be used for hanging baskets, etc., on, and also for leaning blowpipes and spears against, and in fact to take the place of our hatstand. On the ground near the sleeping places were many bones, shells, Indian corn husks and the shells of kapayong and other jungle fruits. The molluscan shells were both land and fresh water. In one place there were a number of Unio shells.

Wrapped up in leaves were bundles of bones of animals. These packets were placed in holes in the walls and roof of the caves. I found many of these packets, and brought some away with me. These latter are now in the Perak Museum. The packets did not contain the whole of the bones of an animal, but portions only, apparently the bones of the part eaten by a single individual at a meal. In three cases there were the skulls of gibbons; other packets were of the bones of musangs (Viverridae), while lying about were some fragments of large bones, possibly deer.

Appendix E

Notes on the migration of bearded pig

By J.A. Hislop

Game Department, Pahang

The following notes were prepared for the Museums department by Mr. Hislop, who also refers to his general papers on this mammal printed in the *Malayan Nature Journal*, vol. IV, no. 2, and vol. VII, no. 1. Extracts are also given below from the writings of E. Banks, lately Curator of the Sarawak Museum, Kuching, who has described the habits of bearded pig in North Borneo.

(1) It has been established beyond any doubt that the bearded pig (*Sus barbatus*) has migratory tendencies and, in fact, it is only from these periodical mass movements that any information concerning this animal comes to light.

Their habitat is in the large, low-lying, swampy jungle areas in south-east Pahang and Johore, and from there they appear in certain areas elsewhere in the states at certain times of the year. In south-west Johore, notably in the Kluang and Kahang districts, they arrive from June onwards, stay for a month or two, and have all gone by the end of November. They appear in Pekan district between November and April, and I have it on record that a number were shot towards the end of February 1953, while raiding padi crops on the Pekan-Nenasi road.

They move in large numbers, in herds of unknown strength often numbering several hundreds, and they leave large well-defined trails. I have it on reliable authority that, in Sumatra, they appear on occasion on rubber estates in hordes, and during their passing no labour can work anywhere in proximity to their route.

Those who know most about the occurrence of the bearded pig in Malaya are, naturally, the Aborigines of south-east Pahang, and they all state that they appear generally once a year, and then in large numbers. They move *en masse* on a seemingly fixed line and nothing will deviate them from it. They are excellent swimmers and cross the largest rivers without hesitation, and it is during such crossings that they suffer most at the hands of Aboriginal hunters.

About the middle of July 1953, a large cohort of these pigs appeared near Kg. Denai on the Endau River, *en route* from Pahang to Johore, and it took about three days for them to pass. They did not come in a continuous stream, but in spasmodic lots, and the Kampong Aborigines killed about sixty of them with spears as they crossed the river swimming, and while climbing out on the far bank. I was there a few days later and saw many bones and a quantity of smoked meat. The bulk of the meat, however, was sold in Endau to Chinese for the Singapore market.

The bearded pig is considerably larger than the common wild boar, and it stands to reason that in order to be able to kill such a large number, they would of necessity have to be taken at a disadvantage. The boars, especially, are very large and could be dangerous.

All reports indicate a single annual appearance on migration and there is no evidence that they return by the same route, and it would seem that they spend the months from April to June, with a bit to spare, perhaps, on either side, away from human ken, possibly at farrowing time.

These pigs also exist on the western side of the Peninsula in the Sungei Bernam swamps, west of the main road, but there is no record of migrations or the appearances of large numbers of animals in that area.

(2) The following extract is from a paper by E. Banks, printed in the *Journal of the Malayan Branch Royal Asiatic Society*, vol. IX, pt. II, pp. 22–3:

The bearded pig

Pigs are subjected to irregular migrations, seeming to follow the fruit when in season so that one year a particular spot may swarm with them but not be troubled again for many years after. The actual individuals are not met in more than twos and threes until it comes to swimming across rivers when there may be anything from 30 to 300; the Aborigines wait all day in favoured spots on the river for 'babi Sebrant' as they can be caught in the water and held until a blow on the nose with a stick finishes them off. They swim well but low in the water, just the snout and crown showing, and though they don't sink when hit, bullets seem to ricochet off the water and one might as well wait for them to come to land. In the evenings upriver it is a common sight to see them loafing about on shingle banks before crossing and as a rule they choose a shallowish place where the noise of the running water, as a matter of fact, enables one to get fairly close to them in a boat; downriver they are said to cross more frequently just after it has rained, though I don't know how much truth there is in this.

(3) The following notes are extracted from a volume by E. Banks entitled *Bornean Mammals* and published by the Kuching Press, Sarawak. Certain grammatical and printer's errors have been left as originally published since the meaning of the text is clear.

Bearded pig

Habitat. Found from sea shore to highest mountain tops, in estuarine swamps, secondary and all kinds of old jungle. On beaches, river banks, all kinds of plantations, clearings, and will come into

outskirts of towns. Most often seen rooting on river banks exposed at times of low water, when it may easily be shot with a rifle by day or with a 12-bore, S.G. and a reflector lamp at night. Usually gregarious, but often solitary in old jungle and high up on mountain. Branches are bitten off or broken off, piled in a nest-like heap beneath which pigs rest either from heat, rain or flies.

Hunting pigs for food and in defence of crops is main native sport, ordinary hunter-farmer averages about fifteen annually. Few use blowpipe, stalk game with poisoned arrow, a method mostly confined to Punan nomad hunters, who live by such means. Can be shot with rifle from boat as they feed on river bank but escape if hit in soft parts and do not die easily. Harder to shoot in jungle where a short carbine is handier than long rifle as pigs have keen scent and are usually running before the shot is fired. Many hunters watch fruit trees or salt licks but usually successful in evening or late at night, as pigs retire to lie up before dawn. 12-bore shot gun and S.G. (9 pellets) is almost universal weapon, very deadly used with reflector lamp at night paddling along river banks, where pigs always feeding. Pigs known to be raiding cultivation and lying up in near-by jungle are often driven by men and dogs along well-used paths and shot by waiting hunters. Sense of smell keenest, hearing fair, eyesight poor.

Pigs are often trapped in snares (jaring) small sized, overlapping nooses set out through the jungle in a long line, against which the animals are driven by men and dogs. On well-used paths in thick secondary jungle a conical bag net (baba) of black-sugar palm fibre (*Arrenga*) receives the driven pig. A trigger trap with a sharpened bamboo spear (*blatik*) is very deadly, but not much used for fear of accidents.

Natural enemy is the crocodile, lying concealed in water or buried in muddy river bank as pigs root there at nightfall. Small ones are taken by clouded leopard and by large pythons which are no match for grown up pigs. Fresh pig meat is quite wholesome and plesant.

Pigs swim very well, family party crossing the river in line with tops of their heads out of the water look like a floating, notched log. Fond of salt licks and on mountain sides, dig and rub wallows beneath overhanging banks, becoming completely covered with mud. Frequently stand erect on hind legs with forefeet against a tree trunk, apparently in hopes of reaching or shaking down fruit or berries.

The bearded pig is subject to lemming-like mass migrations, quite distinct from the annual local movements damaging rice fields, since food is not main purpose of these changes. In seventeen years' collecting I have seen one and heard of another migration. For five to six weeks, at points sixty to a hundred miles apart, moving a steady stream of wild pigs, a few solitary, some family parties of seven or eight, many packs from fifteen to thirty or forty, occasionally convoys

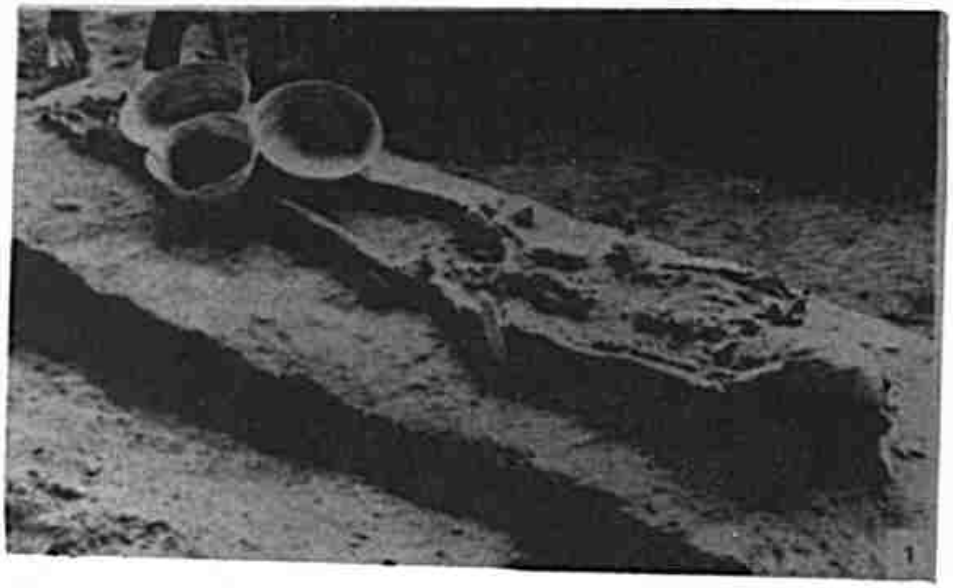
estimated at two hundred, sufficiently large to deter the natives from attack. Every ten minutes or quarter of an hour pigs pass by, a few large, old individuals, many of medium size, none in very fat condition. Rice crops on route are utterly destroyed but they do not deviate in search of others off line of march and food is not objective. Silent, not quarrelsome, almost furtive, intent on something, looking round but little, they push on undeterred by waiting natives, who club and spear them at river crossing until weary of pork. Whence came the pigs, and where they go none know, over a narrow front travelled this horde of pork, not to be turned from its path until exhaustion.

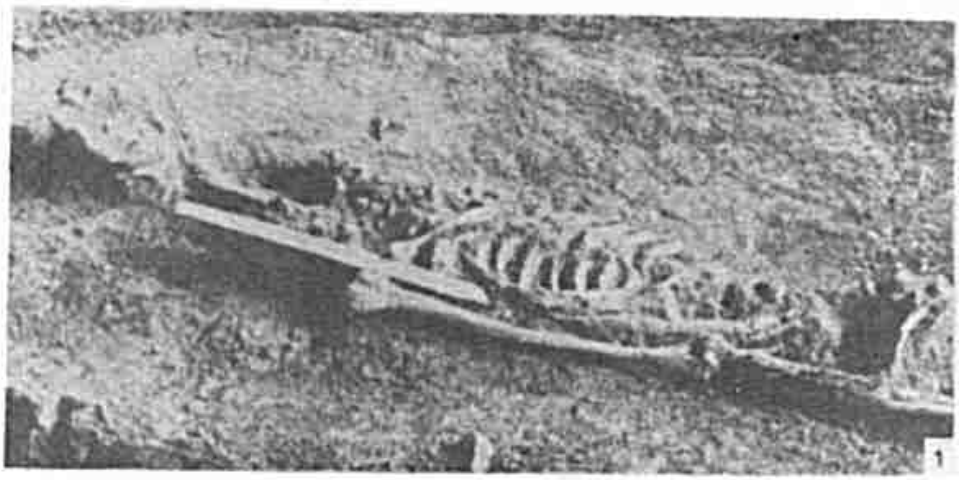
As a source of profit such migrations are of only moderate value. Repeated attempts by qualified and other people have failed in curing hams and preserving of wild pork by hunters for commercial purposes, such as feeding oilfiled coolies, has followed certain lines. Bones cannot be cured, meat is filleted, drained of blood, but on no account washed in water, cut in two inch cubes rolled in mixture of a large tea-spoon of salt-petre to twenty pounds of salt and hung up in shade to dry, ready for packing about three weeks later.

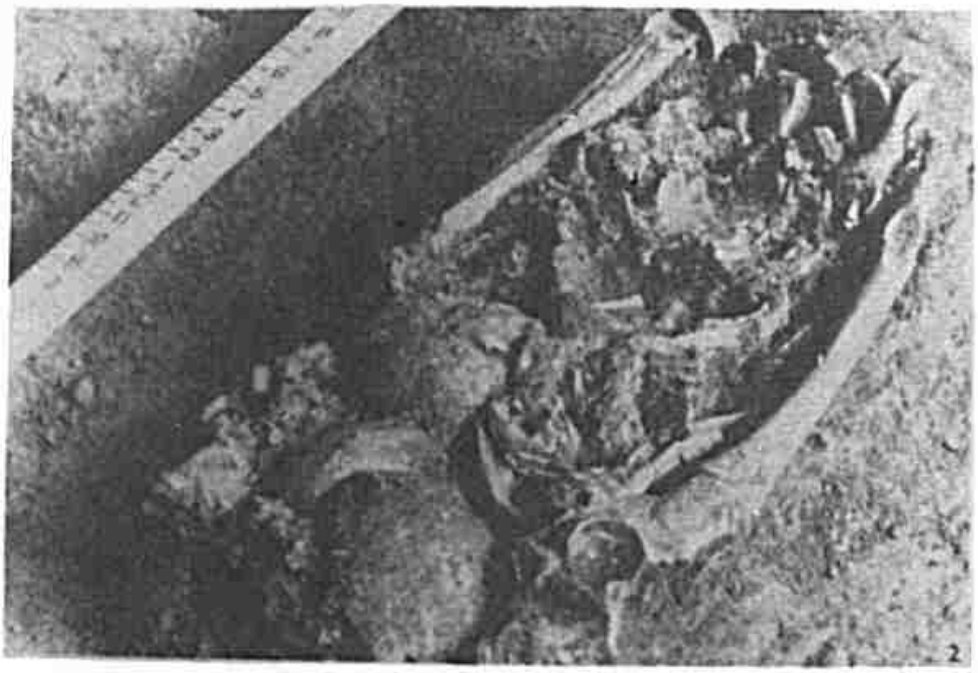
In October 1935 over 800 Dayaks arrived from down river for a mass assault on the pigs which were migrating across the Batang Rejang below the Pelagus rapids. The District Officer reported that well over 1500 had been killed, in November information was received that the great pig migration had ceased; later in the month it recommenced, hundreds of Dayaks applied for permission to proceed up river. The migration of pigs across the Batang Kejang continued in December, lasting for three months, unprecedented even in the memory of oldest men.

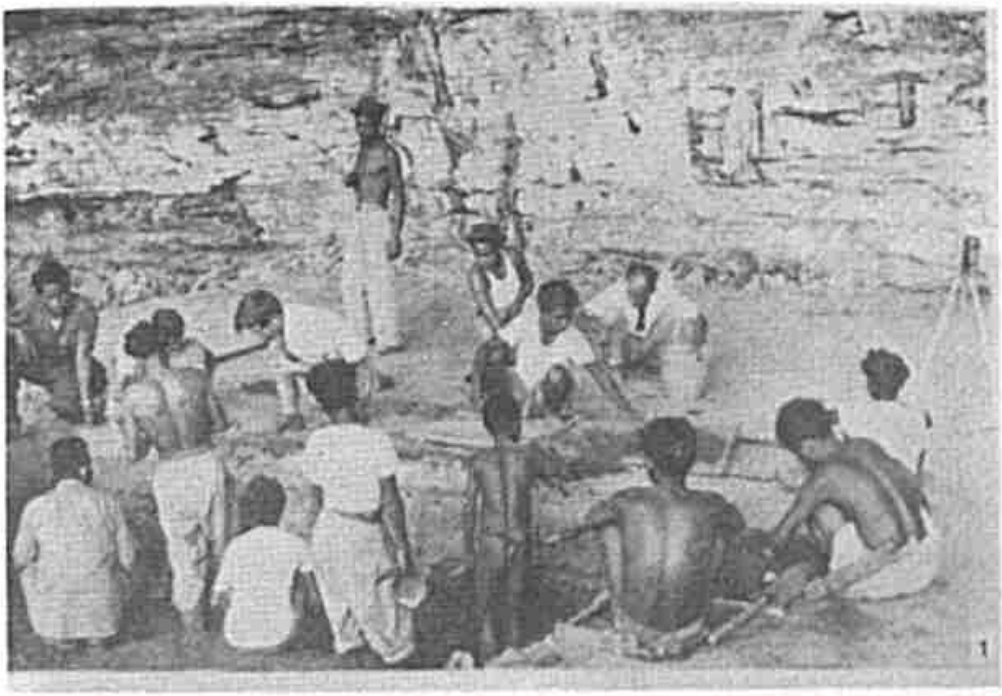
The migration I witnessed took place in the Baram River during the same months of 1953.

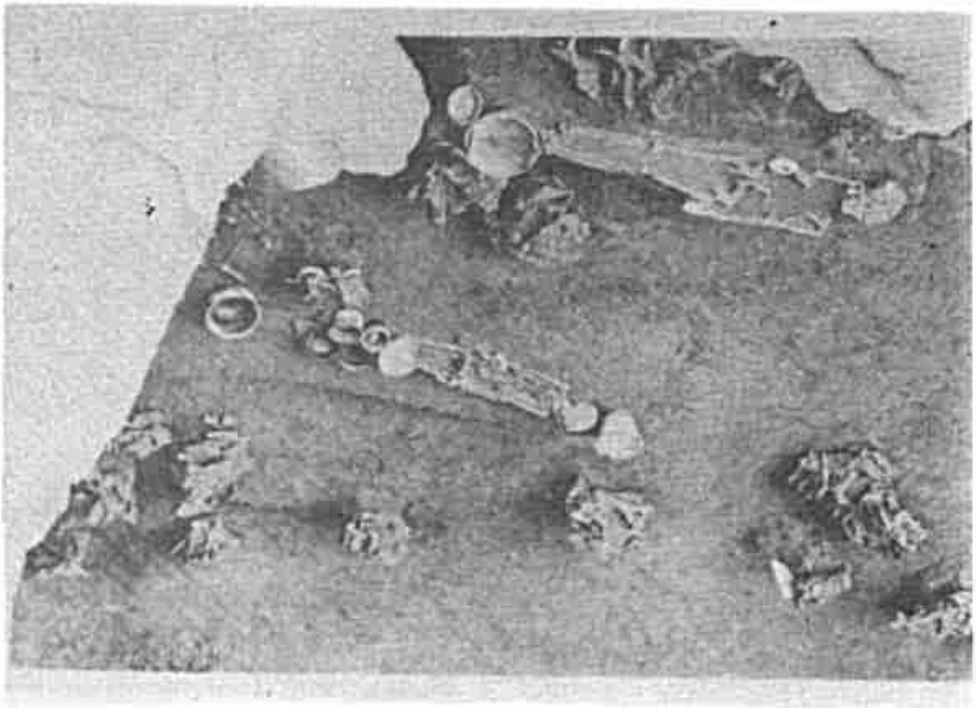
These two migrations occurred in different places and further information may link them with illipe nut or some other Dipterocarp, seven-year cycle.











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Explanation of Plates

Plate 1. Gua Cha, 1954. The southern end of the shelter. (Photo M.W.F. Tweedie).

Plate 2. Gua Cha, 1954. 1, Burials 8 and 9; 2, Burial 8; 3, Burial 1. (Photo M.W.F. Tweedie).

Plate 3. Gua Cha, 1954. 1, Burial 11, from the head; 2, Burial 10, from the feet; 3, Burial 11, detailed at foot of grave; 4, Burial 1, detail at foot of grave. (Photo M.W.F. Tweedie).

Plate 4. Gua Cha, 1954. 1, Burial 13; 2, Burial 13; detail; 3, Burial 2. (Photo M.W.F. Tweedie).

Plate 5. Gua Cha, 1954. 1, Burial 24; 2, Burial 24, detail; 3, Burial 1, detail. (Photo M.W.F. Tweedie).

Plate 6. Gua Cha, 1954. 1, Burial 9; 2 and 3, Burial 9, detail; 4, Burial 8, detail.

Plate 7. Gua Cha, 1954. Burial 8, to show associations.

Plate 8. Gua Cha, 1954. 1, Burial 31; 2, Burial 29. (Converted from colour cine photos).

Plate 9. Gua Cha, 1954. 1, excavation in progress, Cutting 1; 2, Burial 8 after removal of grave goods.

Plate 10. Gua Cha, 1954. 1, view of Cutting 1; 2, water-transport carrying specimens. (Photo M.W.F. Tweedie).

Plate 11. Gua Cha, 1954. 1, Burial 14; 2, Burial 23; 3, Burial 16; 4, Burial 22.

Plate 12. Gua Cha, 1954. 1, Burial 18; 2, Burial 17.

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Abbreviations

BRM	*Bulletin of the Raffles Museum* (Singapore), Series (B).
CPE	*Proceedings of the Third Congress of Prehistorians of the Far East* (Singapore, 1940).
FMJ	*Federation Museums Journal.*
JFMSM	*Journal of the Federated Malay States Museums.*
JMBRAS	*Journal of the Malayan Branch Royal Asiatic Society* (Singapore).
MSGI	*Memoires du Service Geologique de .'Indochina* (Hanoi).
PPS	*Proceedings of the Prehistoric Society* (Glos., England).

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A Short Description of Malayan Prehistoric Pottery*

B.A.V. PEACOCK

1. INTRODUCTION

The Collections

THE humid, tropical climate of Malaya does not favour the archaeological record. States in exposed positions soon vanish before the joint onslaught of weather and vegetation. Even where some measure of natural protection is afforded, as for example in the caves and rock shelters which riddle the limestone in the northern half of the Peninsula, only the most durable artifacts survive. Given such extreme conditions, it is not therefore surprising that pottery, one of the most lasting products of primitive technology, should form a major item in any collection of Malayan prehistoric material. What is surprising, in view of its preponderance in the later periods, is that no attempt should have been made so far to describe the Malayan ceramics in detail.

The earliest recorded archaeological excavations in Malaya were those of Mr. L. Wray, the first Curator of the Perak Museum, Taiping. Between 1880 and 1891 Wray investigated rock shelters in the limestone hill known as Gunong Cheroh near Ipoh in the State of Perak. However, these pioneer efforts were not very enlightening and he found no ceramics. '. . . except for some fragments of coarse earthenware in the superficial layers of some of the caves. . . undoubtedly of comparatively speaking recent Malayan origin' (Wray 1897: 45).

* Extract from an article of the same title in *Asian Perspectives*, vol. 3: 121–136, 1959.

Mr. I.H.N. Evans was more fortunate during his long career in Malaya. In 1917 he excavated caves and rock shelters at Lenggong and Batu Kurau in Perak and at Gunong Sennyum and Kota Tongkat in Pahang. From 1926 to 1927, with the collaboration of Dr. P.V. van Stein Callenfels, he continued the excavation of Gua Kerbau, a rock shelter in the limestone massif of Gunong Pondok in Perak, which Mr. W.M. Gordon had started in 1921.

All these sites revealed traces of ancient occupation including quantities of pot sherds, but it was not until 1935, after Mr. H.D. Noone's discovery of the rock shelter of Gua Cha in Kelantan, that unbroken pottery vessels were found in an archaeological context. Gua Cha was destined to prove one of the most important sites in the country.

The later course of pre-war archaeology was for the most part in the hands of the Raffles Museum, Singapore, with financial assistance from the Carnegie Corporation of New York. Between 1936 and 1939 several excavations were carried out by H.D. Collings, M.W.F. Tweedie, H.D. Noone and P.V. van Stein Callenfels in caves and rock shelters ranging from Perlis, Kedah and Perak on the west coast, to Kelantan and Pahang on the east coast. Most of the sites explored added something useful to our knowledge of Malayan prehistoric ceramics.

After the war intensive field work was hampered by troubled conditions in the country. Meanwhile the depredations of guano-diggers, always a nuisance to archaeologists in Southeast Asia, were proceeding apace. Fortunately, Major P.D.R. Williams-Hunt, while Acting Director of Museums and Adviser on Aborigines in the Federation of Malaya and before his tragic and premature death in 1953, was able to revisit most of the known sites and to discover a number of new ones before the removal of their deposits for fertilizer had destroyed all traces of the cultures contained in them. In this way Williams-Hunt discovered the important site of Bukit Tengku Lembu in Perlis and the strange pottery cones of Kodiang in Kedah. In these and other instances he was able to act before it was too late, but not before much valuable archaeological data had been irrevocably lost. But, sad to say, in the seven years since the death of Williams-Hunt, despite the introduction of legal devices, most if not all the potentially rich cave and shelter sites on the west coast, apart from those to which access has been barred to guanodigger and archaeologist alike by the activities of Communist terrorists and Government security forces, as for example the limestone hills in the Ipoh district of Perak, have been lost to science.

A few sites may remain intact in the remote and undeveloped hinterland of Malaya. But probably these areas were just as difficult to reach in ancient times as they are today and they could hardly have been more attractive then to prospective settlers. The great rock shelter

of Gua Cha is on the fringe of just such an area. Its incomparably rich deposits remained unviolated after their discovery by Noone in 1935 until they were excavated by Sieveking in 1954.

Of the few open sites recorded in the annals of Malayan prehistory, the settlement of Nyong on the banks of the River Tembeling in Pahang (Evans 1931 *b*), the stone slab-built graves of Perak and Selangor with their iron implements (Evans 1928 *a* and 1931 *c*; Collings 1937 *a*) and the site of Tanjong Rawa in the mangrove swamps in Kuala Selinsing in Perak (Evans 1932) have been the only significant sources of pottery. The latter site, by virtue of its late date—it has probably to be regarded as proto-historical—is outside the terms of reference of the present paper. The Nyong ceramics, in poor condition when excavated, have not stood up well to the passing of several decades in a tropical museum. Indeed, their state of decay has been exceeded only by some of the pottery from the slab-graves, much of which has mouldered away completely for want of proper preservative treatment. This material can now only really be studied through the relevant reports, a poor substitute for acquaintance with actual specimens, and so, despite its importance, it has not been possible to deal with it in great detail.

Today there are two main collections of Malayan prehistory which are housed in the Raffles Museum, Singapore, and the Museums Department of the Federation of Malaya respectively. For the specialist in ceramics the latter is the more important of the two. At one time the archaeological material in the Federation was shared between the National Museum in Kuala Lumpur and the Perak Museum in Taiping. However, while the writer was Curator of Museums between 1956 and 1959 all the specimens were brought together in Taiping in order to facilitate cataloguing and the formation of a nucleus for a comprehensive reference collection. The amalganation incidentally created an excellent opportunity for an exhaustive study of the prehistoric ceramics. Several visits to Singapore during this time and the invaluable co-operation of Dr. C.A. Gibson-Hill, Director of the Raffles Museum, enabled the writer to complete a survey of all the available material.

Methody of Study

The study and description of the complete vessles presented few problems. The Federation Museums Department collection was photographed and accurate half-section drawings were made of every specimen by Che Abdul Wahab, the staff artist. Unfortunately, there was insufficient time to have drawings made of the complete vessels in the Raffles Museum, but it was possible to photograph the centre collection. This does not represent a real deficiency, since the Raffles Museum collection is made up primarily of a selection of the main

types from Gua Cha which could be studied adequately in the Federation. It was possible to classify the few remaining items from other sites by means of photographs and notes.

The extensive sherd material was quite another matter. No attempt had previously been made to study, or even to sort, the sherds from most of the sites. In the case of sherds from one or two of the localities investigated by Williams-Hunt, they were still enshrined unwashed in the boxes in which they had been brought in from the field. After sorting, accurate profiles of a series from each group were drawn, the groups being arranged according to a number of objective criteria of which type of paste, rim form, surface finish and decoration were the most important.

Despite the quantity of the material available for analysis, certain serious limitations to its value were obvious from the outset. Chief among these was the almost complete absence of stratigraphy at most of the sites. Until Sieveking excavated at Gua Cha no real effort had been made to link finds to natural stratigraphy, even on those rare occasions where the latter had been observed. The nearest approach to honest stratigraphical methods was the often employed technique of quoting bare measurements from a datum, sometimes further elaborated by bearings taken by theodolite, or clinometer and compass, with utterly fatal disregard for the natural levels which such an artificial system cuts through unobserved.

Generally speaking the published excavation reports are inadequate and were of little value to this analysis. All too frequently ceramics are dismissed in a few brief sentences, or, where some consideration is given to pottery, descriptive terms are employed so loosely as to nullify their effect.

In the case of Williams-Hunt's collections lack of data must perforce be accepted without too much complaint. They were made, for the most part, in the course of emergency operations in which the sites were threatened with imminent destruction, or otherwise in hurried and necessarily superficial examinations conducted as offshoots of more pressing work connected with the administration of the aborigines.

But, in the face of these sad realities, it is the more tragic, since valid excuses are wanting, that it should not have proved possible to study the large assemblage of sherds from Gua Cha stratigraphically owing to the absence of vital field data.[1]

Last but not least of the difficulties which had to be surmounted during the preparatory work was the chaotic state into which the archaeological collections had fallen during the Japanese occupation and its aftermath. Much time and effort had to be directed to unravelling the tangled confusion resulting from bad labelling or no labelling at all—and the inadequate storage facilities. Only material

which could be identified and localized beyond any doubt was drawn upon for his analysis a principle which had to the rejection of a large quantity of sherds and a number of complete pieces.

However, despite these drawbacks and the hopelessness of trying to set up a relative chronology in the present state of our knowledge, it was felt that a complete descriptive corpus would at least have the virtue of putting on record the range and distribution of known ceramic types and perhaps form a basis for tentative outside correlations. Of course the absence of a chronological scheme would necessarily impose the utmost caution on any typological comparisons, even between material from the Malayan sites themselves. Finally, certain internal distributional features emerged which are of great interest in indicating cultural links between the slab-grave culture and that of at least one of the cave sites.

In order to fit in with the aims of the present volume with its emphasis on the ceramics of Sa-huynh, this paper presents a summary of certain selected aspects of the main work which it is hoped will be published in complete form at some future date. The intention has been to convey a clear and accurate overall impression of the types of pottery found in Malayan sites, without burdening the text with superfluous detail. To this end greater stress has been laid on the complete vessels. Limitations of space and scope have made it both impossible and undesirable to deal with the sherd material. The sherds have been used to supplement a discussion of decoration and manufacturing techniques. It is also impossible to publish here full sectional drawings of each specimen. Instead we give semi-diagrammatical drawings to a scale of 1/7 covering the different groups from each site. This seems to provide a better perspective for the purposes of comparison. Some drawings and photographs of particularly noteworthy specimens have been included.

2. THE COMPLETE VESSELS

Complete vessels or major restorable fragments have been recovered from the following sites:

State of Kelantan
- A. *Gua Cha*
- B. *Gua Musang*

State of Perak
- *Lenggong* complex of caves and rock shelters

State of Kedah
- A. *Gua Berhala*, Kodiang
- B. *Pulau Tuba*, Langkawi Islands

State of Perlis
- A. *Bukit Wang Pisang*
- B. *Bukit Tengku Lembu*

We shall deal separately with the specimens from each of these localities in the above order, giving a resume of such other relevant archaeological data as it has been possible to derive from published reports or independent field observations.

STATE OF KELANTAN

A. *Gua Cha, (also Gua Menteri, Gua Chos)*

The Excavation. The rock shelter Gua Cha is situated in an isolated limestone outcrop on the west bank of the Nenggiri River in Kelantan. It lies about eight miles below the confluence of the Betis with the Nenggiri and a short distance above the mouth of the Perias. Gua Cha stands back about seventy yards from the present-day Nenggiri close to the point where the Sungai Cha, a rivulet, enters the main stream. The rock shelter is about one hundred yards long and some ten yards a height to the point of overhang. The strip of ground protected by the roof is roughly twenty yards wide.

The potentialities of the site were apparent as early as 1935 (Noone 1939). Mr. H.D. None, who was carrying out field-work among the Temiar of the Perak–Kelantan border region, made two trial trenches in the deposits which brought to light two human burials and no less than eight unbroken pottery vessels. These pots, the first to have been found intact in Malaya, seemed to have been associated with the interments as grave furniture. The war years intervened and although Gua Cha was revisited in 1951 by Williams-Hunt (1952), it was three more years before security conditions permitted a full scale excavation.

In 1954 the Federation Museums Department, collaborating with the Raffles Museum, Singapore, sent an expedition under the direction of the Curator of Museums, Mr. G. de G. Sieveking, and his wife (Sieveking 1954–55). Sieveking excavated two cuttings in the main part of the shelter down to archaeologically sterile levels and, in the case of part of the first cutting, to bedrock itself. A third cutting was made to secure additional Neolithic cultural material and a fourth, in a terrace outside the shelter, which proved to be quite unproductive.

The stratigraphy of Gua Cha is best illustrated from the sections revealed in the first cutting. The sequence below topsoil was as follows:

i. Silt and current bedded sands . . . Modern and Historical (Chinese) hearths.
ii. Black and Stony Layer . . . Main Neolithic occupation level.
iii. Fine silt . . . Sterile.
iv. Neolithic Flake Layer . . . First phase of Neolithic occupation.
v. Silt . . . Sterile.
vi. Chocolate Brown Earth . . . Hoabinhian level.
vii. Yellow Gravel . . . Sterile.
viii. Compact Yellow Clay . . . Sterile.
ix. Bedrock.

The Hoabinhian culture was represented by contracted burials and other fragmentary human skeletal material all differing markedly in colour and general appearance from burials found in the later levels.

These contracted burials and quantities of characteristic chipped stone implements were confined to the stratum of Chocolate Brown Earth which was sealed off by a sterile band of silt from the rest of the deposits. The Hoabinhian, being a pre-ceramic culture, is not, of course, of direct concern to us here.

In interpreting the important Neolithic remains, it is vital to understand that the earliest evidence of this period at the site, namely the so-called Neolithic Flake Layer, is a purely localized feature found only in part of the first cutting and by no means co-extensive with the floor of the shelter. This level consisted in the main of compacted stone flakes and some roughly chipped but otherwise unfinished quadrangular adzes. Only a few sherds of pottery were found. Sieveking recognized this, beyond doubt correctly, as a working floor.

The Black and Stony Layer, the level of main Neolithic occupation, was thought to have been continually disturbed by human agency during its formation. For this reason no distinct hearths were discovered, but these were inferred from the relatively high carbon content of the stratum. Sherds were in great abudance and some polished stone implements were found.

Burials of the Neolithic period were of two kinds and in view of the apparent difference of funerary custom it is interesting to note that both were oriented in precisely the same way, that is to say parallel to the rear wall of the shelter with the head, where present, pointing upstream. The first group of burials were fragmentary, only the long bones and sometimes the skull being present. These were associated with fewer and poorer grave goods. The second group, on the other hand comprised complete skeletons interred in a prone position and accompanied by a comparatively elaborate grave furniture including fine polished implements, stone bracelets, shell ornaments and several complete pottery vessels disposed round the corpse.

The Ceramics. Apart from quantities of sherds in excellent preservation, a large number of fine unbroken pots were recovered. Many of these were excavated in association with Neolithic burials, while others were found in isolated 'nests' or 'alignments' which are referred to in the report as votive deposits.

From the wide range of types present Sieveking distinguished two stages of ceramic development which he referred to as a Primitive and an Advanced Neolithic Tradition. These two stages were correlated with the Early and Main Neolithic levels respectively.

According to Sieveking, pottery in the Primitive Tradition was irregular in shape and roughly built by hand. In some cases too it was very poorly fired. The Advanced Tradition, however, showed a much more sophisticated treatment of design and greater skill in manufacture. Shapes had been elaborated to include carinated and footed vessels and most were turned on the slow wheel.

This is the first time that a serious claim has been made to have observed a definite chronological progression in the ceramics from a Malayan site. If it could be substantiated, it goes without saying that its importance would be very great indeed. Unhappily close investigation reveals little evidence in support of Sieveking's theory and some in direct contradiction.

Turning to Sieveking's own stratigraphical observations and the plans and sections accompanying his report, we find that in the first cutting two extended burials associated with pottery of the 'primitive' type were found stratified below the Flake Layer. This layer showed no signs of having been disturbed in the vicinity of the burials (Cutting 1, burials Nos. 1 and 2) and we may confidently accept their attribution to an early phase of Neolithic occupation (Sieveking 1954–55:88).

Difficulties however arise when 'advanced' burials are seen to occur below the Flake Layer in the same cutting. Sieveking explained this by the assumption that in later Neolithic times increasingly over-crowded conditions in the cemetery necessitated deep graves. He went even further and suggested, though seemingly without evidence, that graves were marked in some way on the Neolithic ground surface. It will be recalled that the Flake Layer has but a restricted distribution and Sieveking was obliged to admit that the 'advance' burials in question (Cutting 1, burials Nos. 7 to 9) occur in parts of the cutting where the Flake Layer is either totally absent or 'where it was difficult to ascertain whether this layer had been disturbed' (Sieveking 1954–55:88).

Harder to explain is the fact that four fragmentary burials (Cutting 1, burials Nos. 3 to 6) associated with pottery of 'primitive' type actually occur above the Flake Layer and either in or at the base of the Black and Stony Layer (Sieveking 1954–55:87). Clearly these cannot date from before the main period of Neolithic occupation. The stratigraphy of the other cuttings is similarly inconclusive.

While it cannot be denied that some of the complete vessels do show a simpler concept of design and technique (*cf.* Fig. 5 *j, k, l*) than the remainder, there seems to be far too little evidence to suggest a chronological distinction. Indeed stratigraphy would appear to be more in favour of contemporaneity. The excavator himself seems to have entertained doubts on this score since he says, 'there does not appear to be a significant variation in the depth of burial between those graves containing primitive and late grave goods' (Sieveking 1954–55:77).

No argument upholding a relative chronology can be held valid if it has to rely purely on stylistic grounds. So tenuous in fact is his argument, that Sieveking was forced to explain the not infrequent association of both 'primitive' and 'advanced' pottery in the grave furniture of a single burial as a continuation of primitive Neolithic traditions in later times (Sieveking 1954–55:89). In one noteworthy

instance (Sieveking 1954–55:88) a small bowl of characteristic red slipped ware first recorded from Gua Musang (Tweedie 1940) is referred to as 'primitive' and in another (Sieveking 1954–55:95) a cylindrical jar and two cylindrical pot-stands of an identical plain red pottery are associated with two 'advanced' burials (Cutting 3, burials Nos. 25 and 27).

If the evidence for a relative chronology of the complete vessels is disappointingly negative, it is still more frustrating to find that no evidence at all can be adduced for the sherds which Sieveking does not take into account at all. In view of the very large quantities recovered from the site it is just possible, though on the whole unlikely, that a statistical approach combined with minute attention to detailed stratigraphy may have yielded useful results. In the event, however, the absence of field records, to which reference has already been made, precludes any possibility of relating the numbered sherds to actual levels.

Figures 1 to 5. Under these circumstances it seems safer to regard the collections of complete pots as a unified whole and simply to describe the main types which occur. These types are as follows.

B. Gua Musang

In 1939, Mr. M.W.F. Tweedie of the Raffles Museum carried out a survey in the region of the Gua Musang railway station on the main Kota Bahru–Kuala Lipis line. This led him to discover a number of caves and rock shelters bearing traces of prehistoric human occupation. He first investigated a large rock shelter known as Gua Madu some three miles south of Gua Musang station. Although the shelter, or rather a small cave leading off from the rear wall, produced quantities of sherds and it is stated that reconstruction of two vessels was possible, these vessels unfortunately have not been illustrated and their present whereabouts a not known (Tweedie 1940).

Tweedie then turned his attention to a group of caves and shelters overlooking Gua Musang station itself. Here in a small cave in the southwest face of the fill he excavated in undisturbed deposits and once again brought to light large quantities of sherds. From this collection several reliable reconstructions were found to be possible.

We learn from Tweedie's report (Tweedie 1940: 11) that the deposits of Gua Musang were excavated in layers or spits of 15 cm. each in depth. By far the majority of the sherds and of the nine associated Neolithic stone implements occurred in a concentration in the first or superficial layer. Within the first 15 cm. there was also found a thin stratum of ash. It will be seen that on the evidence available no attempt can be made even to speculate on a chronological development of the pottery from this site.

The complete and restored vessels from Gua Musang are illustrated in Fig. 8.

i. Large containers. Fig. 8 *a, b*
Red-brown in colour coarsely cord-marked.

ii. Bowl with triple rim. Fig. 8 *c*
Dark brown, undecorated; burnished.

iii. Stands. Fig. *8 d, e*
d. slipped red wash; undecorated.
e dark brown; pedestal smoothed; under side of bowl cord-marked.

iv. Bowl. Fig. 8 *f*.
Dark brown in colour; body cord-marked; rim burnished.

i. Footed Vessels. Fig. 1 *a–n*

1.1 High footed vessels: *a, b, c*

a, b: undecorated, slipped, red wash.

c: rim and foot burnished, sides of bowl cord-marked. Red-brown in colour.

1.2 Vessels with cylindrical ring foot: *d–l*

Light red-brown in colour; lower half of body and foot cord-marked; rim burnished, note horizontal grooving on rim and shoulder of *e* and perforations in *j*.

1.3 Vessels with conical or inverted hemispherical foot: *m, n*

Light red-brown in colour; lower half of body and foot cord-marked; rim burnished, note perforations in *n*.

ii. Carinated Bowls. Fig. 2 *a–i.*

Ranging in colour from light red-brown to almost black; body cord-marked as far as carination; rims burnished; note perforations in *b* and *i*.

iii. Bi-conical Vessels. Fig. 2 *j, k.*

Dark brown or black with patches of dark red; lower half of body cord-marked, upper half polished.

iv. Globular Vessels. Fig. 2 *l, m.*

l: light brown in colour; body decorated with irregular pattern produced with cord-wrapper beater.

m: dark red-brown; lower part of body cord-marked, upper part smoothed.

v. Simple Bowls. Fig. 3 *a–n.*

Ranging in colour from buff to dark red-brown; bodies cord-marked except for rims in *j, l* and *m;* note incised decoration on the insides of *a* and *b*–these two speciments are unique.

vi. Rounded Containers. Fig. 4 *a, b, c.*

Pale red-brown; body cord-marked.

vii. Bucket-shaped Vessels. Fig. 4 *d–i.*

e: *pale red-brown, body cord-marked.*

e: pale red-brown, body cord-marked.

d, f, g, h, i: dark brown or black with patches of black; *d cord-marked*

d, f, g, h, i: dark brown or black with patches of black; *d* cord-marked as far as ridge, *g, h, i:* cord-marked on bottoms only; *f* undecorated apart from perforations; all surfaces not cord-marked are burnished.

viii. Beakers. Fig. 5 *a, b, c,*

a: dark red-brown; surface smoothed; decorated with pattern of spirals and chevrons made up with 'comb-impressions' bounded by incised lines. See Fig. 6.

b: dark red-brown; body cord-marked; rim and neck burnished.

c: light red-brown; surface smoothed; decorated with bands and chevrons of 'comb-impressions' bounded by incised lines. See Fig. 7.

ix. Pot-stands, Fig. 5 *d, e, f.*

9.1 Ring stands: *d.*

Black burnished pottery; note perforations in upper specimen.

9.2 Waisted stand: *e.*

Dark brown; smoothed surface.

9.2 Cylindrical stand: *f.*

Dark red-brown; burnished.

x. Perforated Cups. Fig. 5 *h, h, i.*

Dark red-brown to black with patches of red; undecorated apart from perforation; burnished.

xi. Jars. Fig. 5 *j, k, l.*
Red-brown in colour; note perforation in *k*. The bottom of this specimen is cord-marked.

xii. Miscellaneous. Fig. 5 *m, n, o.*

m: darik brown; rim polished; body decorated with zigzag pattern of 'comb-impression'.

n: bowl, dark brown in colour; bottom cord-marked; remainder of body burnished; now horizontal grooves on sides.

o: lid? bottom cord-marked; rim burnished; light red-brown in colour.

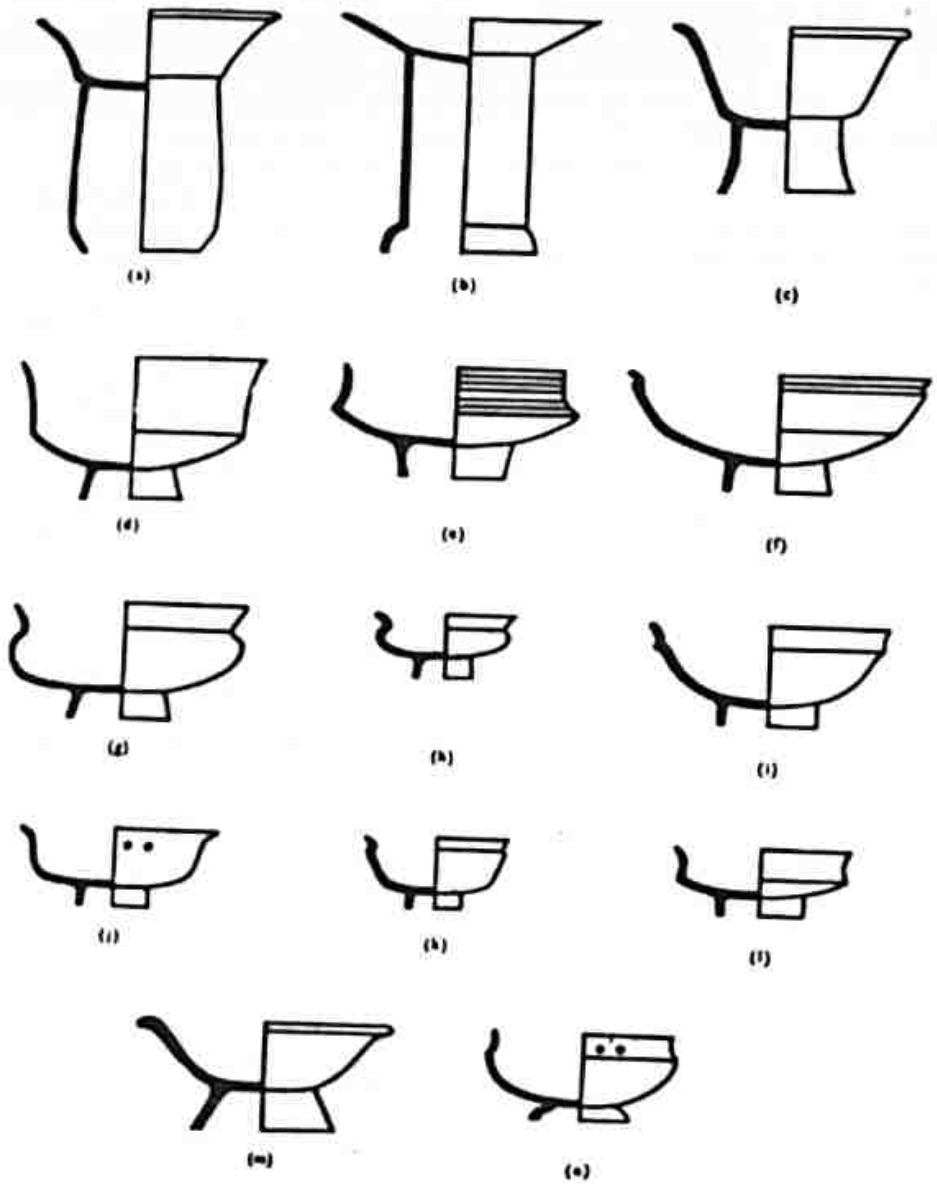

Figure 1. Gua Cha. See opposite page (Scale: 1/7 natural size)

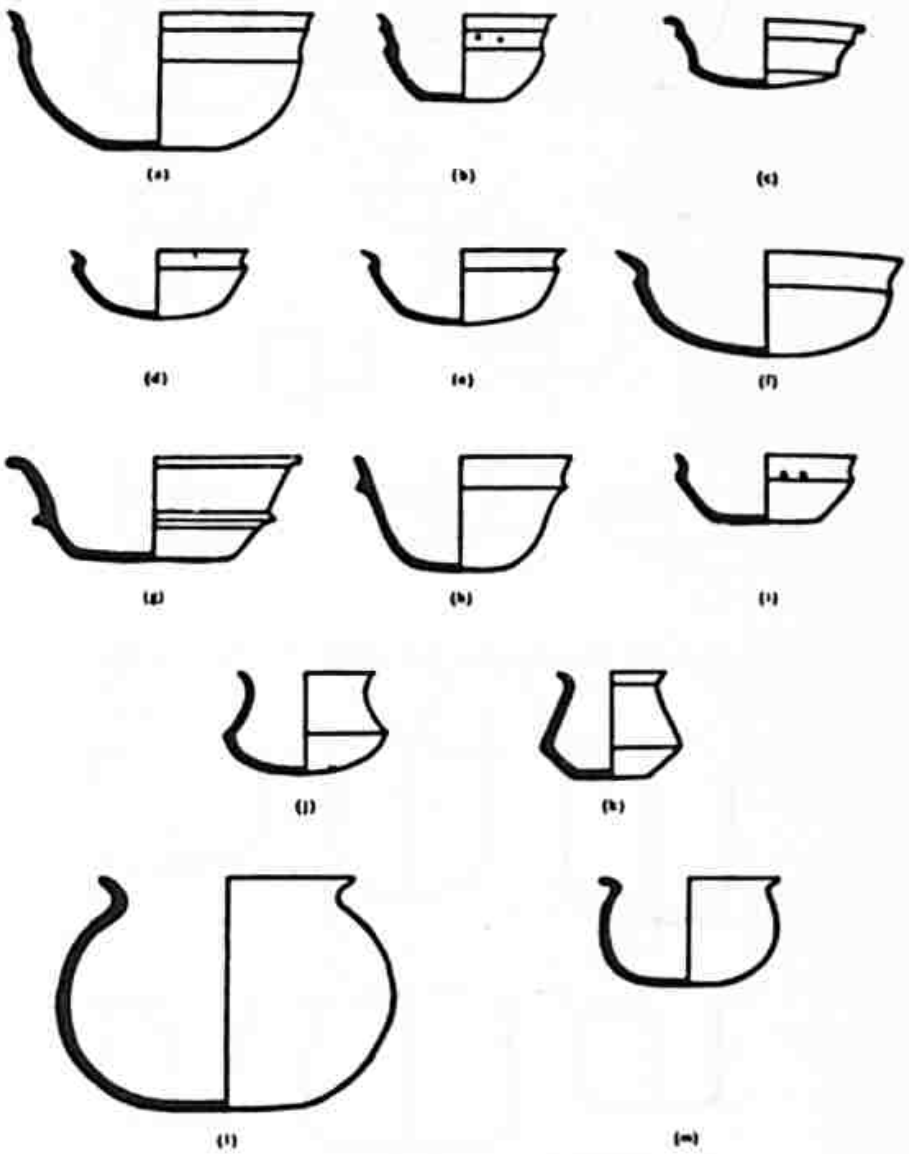

Figure 2. Gua Cha. See page 128 (Scale: 1/7 natural size)

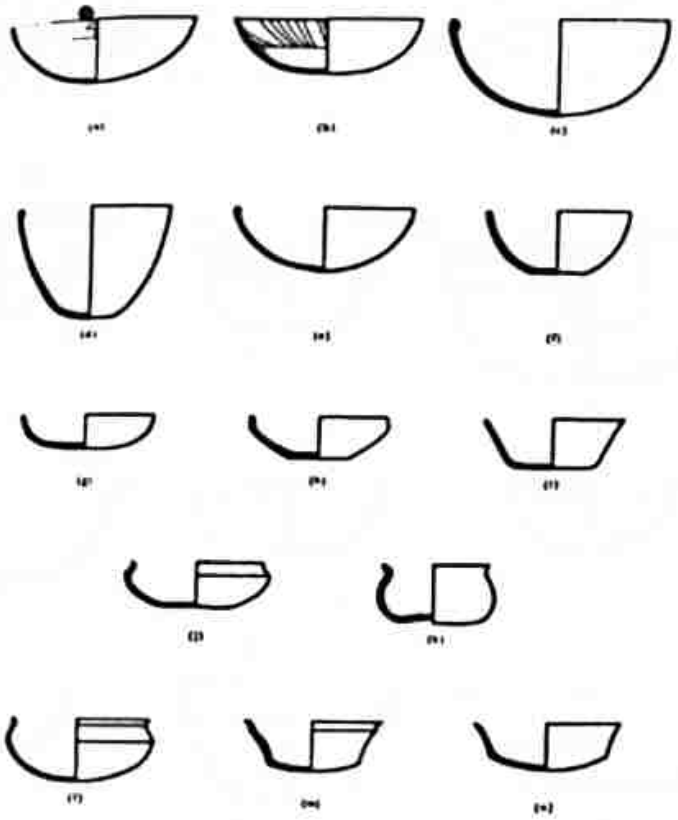

Figure 3. Gua Cha. See page 128 (Scale: 1/7 natural size)

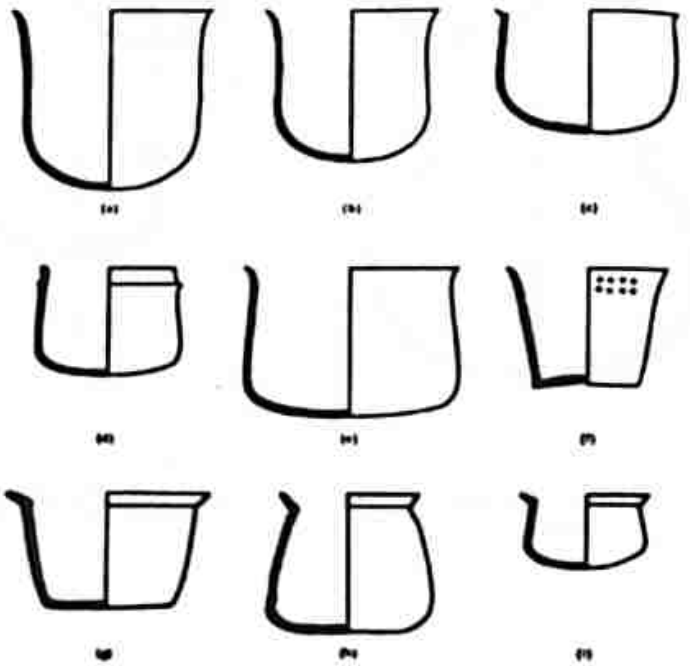

Figure 4. Gua Cha. See page 128 (Scale: 1/7 natural size)

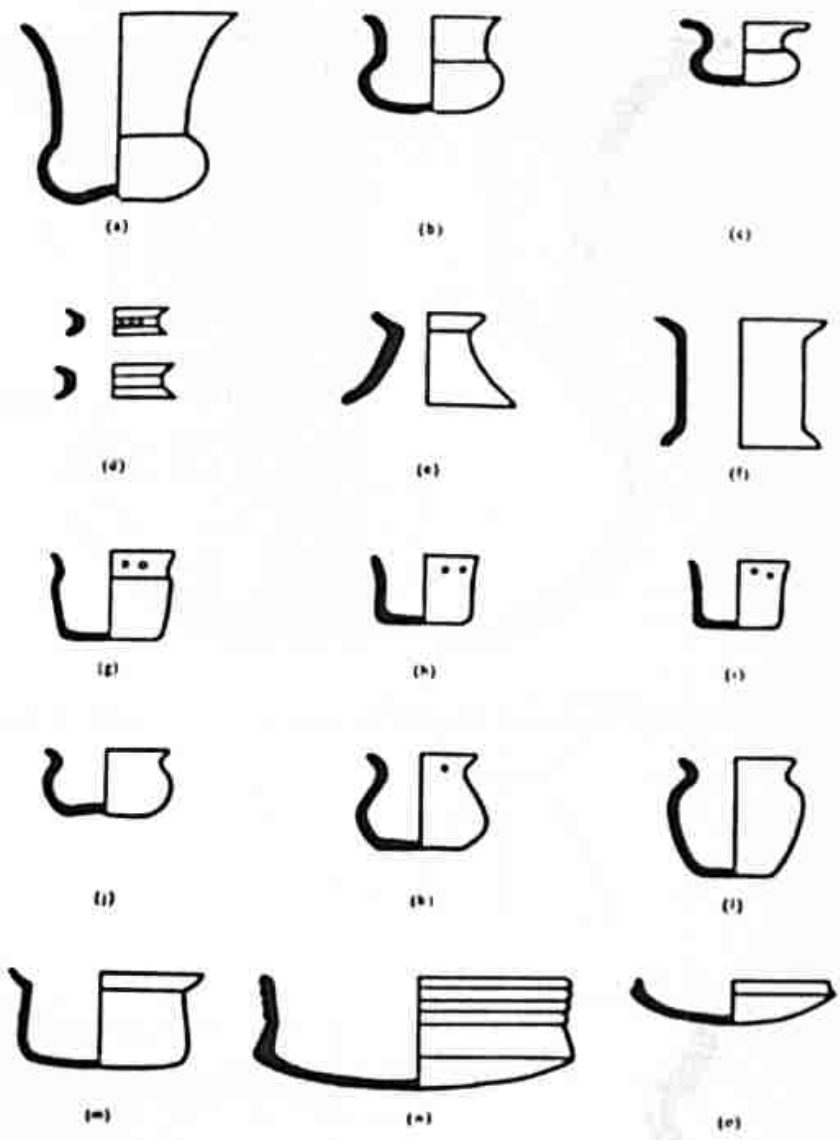

Figure 5. Gua Cha. See page 128 (Scale: 1/7 natural size)

a. *Samrong Sen. Coupe, d'apres H. Mansuy: Stations prehistoriques de Somron Seng et de Longprao (Cambodge), Hanoi, 1902, pl. viii, p. 15.*

b. *Poterie neolithique de Gua Cha, Kelantan (Malaisie), d'apres M.W.F. Tweedie: Prehistoric Malaya, Singapore, 1955, p. 10.*

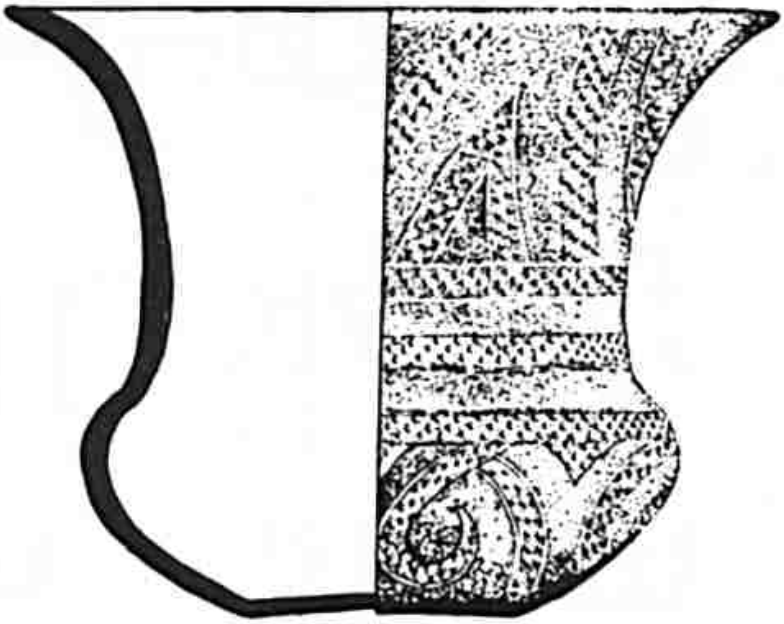

Figure 6. Gua Cha. Beaker (cf. Fig. 5a). See pages 128, 150. (Scale: 3/8 natural size)

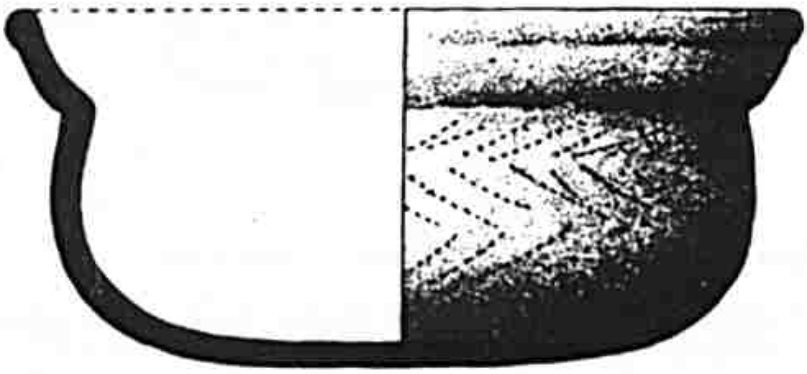

Figure 7. Gua Cha. Bowl with 'comb impressed' decoration. (Scale: ½ natural size)

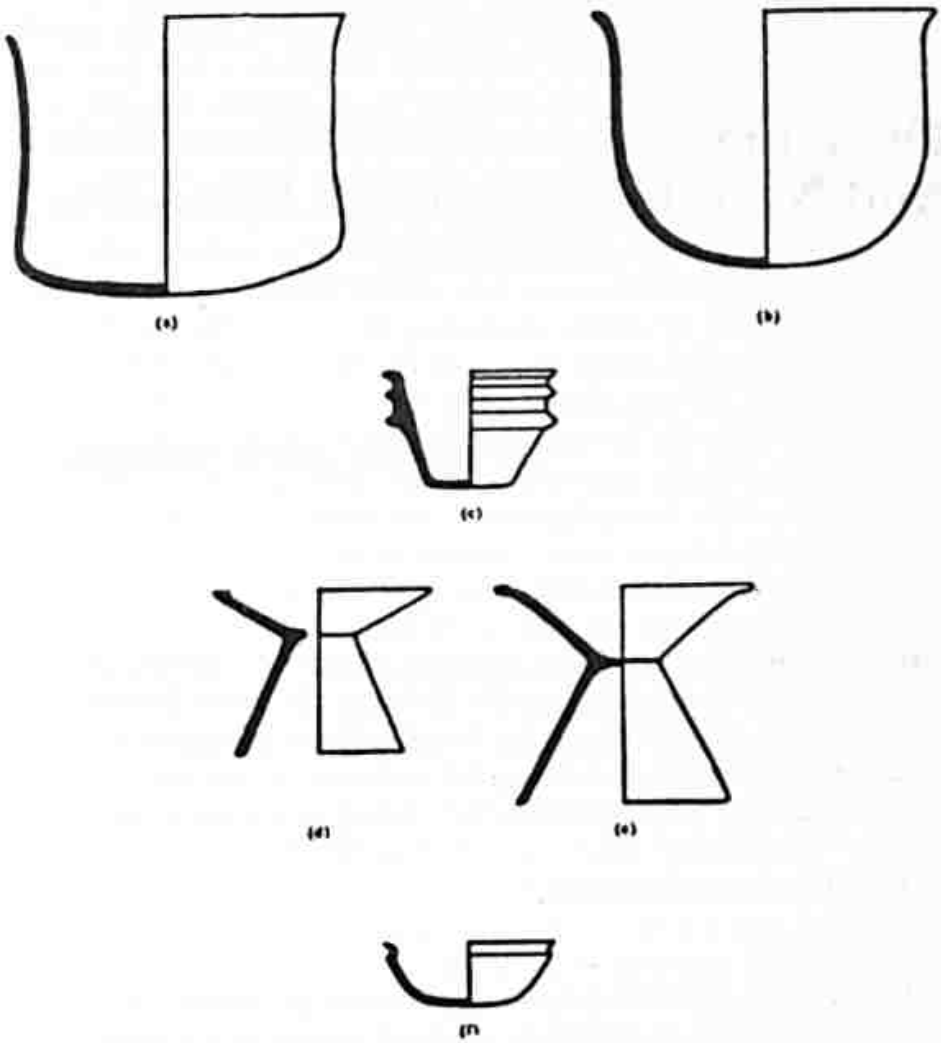

Figure 8. Gua Musang. See page 136. (Scale: 1/8)

The Human Remains Of Mesolithic And Neolithic Date From Gua Cha, Kelantan *

J.C. TREVOR and D.R. BROTHWELL

THE material discussed below, which is preserved in the Duckworth Laboratory, was excavated by Mr. and Mrs. G. de G. Sieveking at the Gua Cha rock-shelter on the Nenggiri River, Kelantan, in 1954. In accordance with the archaeological evidence, it has been divided chronologically into a Hoabinhian (Mesolithic) and a later, Neolithic, series. For convenience' sake the osteological remains *sensu stricto* and the teeth are treated separately.

Osteology (*J.C.T.*)

Although the skeletons were removed with the utmost care, their anthropological study is extremely difficult owing to breakages and distortion caused by earth-pressure, the fate of so many remains of comparable age and interest from south-east Asia. As much restoration as was felt would be profitable has been carried out on them in the Laboratory by Mr. C.B. Denston, and such of the quantitative observations as it is possible to record on the skulls and post-cranial bones must be credited to his labours.

References to individual specimens are indicated first by the Laboratory catalogue number followed in brackets by the identification letters and numbers given by the excavators. While in all but a single

* Reprint from the *Federation Museums Journal*, Vol. VII: 1962.

case the adults represented could be sexed with a fair degree of confidence, attempts to assess age except within the widest limits appeared especially hazardous because the normal criteria for this are incomplete or obscure. The ages of the immature subjects can be determined with far greater accuracy on the basis of their dentition and are noted in the section dealing with teeth.

Fourteen persons comprise the Hoabinhian sample, nine of them being adjudged adult males, three females, one an adult of uncertain sex, and one a child. Of the adults, two, As. 33.6.4 (H6), male, and As. 33.6.7A (H10A.2), of indeterminate sex, were classed as 'old', and two more, As. 33.6.1 (H3) and As. 33.6.7. (H10A.1), both males, as 'probably young' and 'young' respectively. Apart from the child As. 33.6.3 (S7.2), the rest may be regarded as having died in middle-life.

The number of Neolithic individuals is ten. Eight of these are adult males, one is an adult female, and one a child who is likely, from the size of the yet unerupted permanent teeth, to be made. Two adults, As. 33.5.5 (H4) and As. 33.5.8, both males, fall in the 'old' category and another two, As. 33.5.3 (B8), female, and As. 33.5.9 (A5), male, in the 'young'. Again with the exception of the child As. 33.5.7 (A1), the five remaining seem to have met their death when middle-aged.

The fact can never be over-emphasized that estimates of the distribution of the sexes in ancient burials may be seriously misleading as the result of the effects of post-mortem selection on fragile female bones, which are less likely to survive the rigours of time than those of more robust males. The same caution applies *a fortiori* to the presence of immature subjects. The preponderance of adult males in both the short Gua Cha series must be considered with similar reservations in mind, although local usages regarding preferential spots for the interment of notables, whether by rank or birth, may also have been operative.

Curiously enough, in view of the remarks in the preceding paragraph, the only instance of a fairly well-preserved post-cranial skeleton is that furnished by the young adult Hoabinhian female As. 33.5.3. (B8). The measurements of the limbbones of this subject have been restricted to their lengths, certain of which can be employed to determine her probable stature, together with the antero-posterior and transverse diameters of the femoral and tibial shafts, from which the meric and cnemic indices may be calculated. They are as follows: maximum length of femur (FeL_1) 384 (R), total length of tiba from lateral condyle (TiL_1), 325 (R), 329 (L); maximum length of fibula (FiL_1), 320 (R), 322 (L); maximum length of humerus (HuL_1), 268 (R), 265 (L); maximum length of ulna (UlL_1) 232 (R), 265 (L); antero-posterior diameter of femur below lesser trochanter (FeD_1), 21.6 (R), 21.3 (L); transverse diameter of shaft at same level as and perpendicular to FeD_1 (FeD_2), 27.7 (R), 27.7 (L); maximum antero-

posterior diameter of tibia at level of nutrient foramen (TiD_1), 31.8 (R), 31.3 (L); projective transverse diameter of shaft at same level TiD_2 (TiD_2), 22.2 (R), 20.2 (L); 100 FeD_2/FeD_2, 78.0 (R), 77.7 (L); 100 TiD_2/TiD_1 69.8 (R), 66.5 (L). Based on the general formulae of Dupertuis and Hadden (1951), used as suggested by Boyd and Trevor (1953), the reconstructed stature from FeL_1 (R) and the means of TiL_1 (R and L) and HuL_1 (R and L) is 151.5 cm. or 59.6 inches. The index 100 FeD_1/FeD_2 shows a slight degree of platycnemia or antero-posterior flattening of both femoral shafts, but there is no normally associated platycnemia or side-to-side flattening of those of the tibiae (Buxton 1938), the values of 100 TiD_2/TiD_1 lying well within the upper limts of the mesocnemic class (Vallois 1938).

Since previously-known early skeletal remains from Malaya are for the most part in an even more fragmentary condition than those here considered, it has been thought desirable to make as full f record of the metrical features of the Gua Cha crania and mandibles as their state permitted, if only to serve as a foundation for future research. No really definitive conclusions can be drawn from very small samples, and the progress of regional authropology has often been bedevilled by sweeping statements based on material which is far too exiguous to support them.

The techniques of measurement used is the biometric, recent accounts of which are given in Mukherjee, Rao and Trevor (1953) and in Trevor (1958). The cranial and mandibular characters taken are shown in Tables I and II. The indices are self evident, apart from the occipital index (*Oc.I.*), which measures the radius of curvature of the occipital bone to the occipital chord, viz. S_3/S'_3 $/[S_3/24\ (S_3-S'_3)]$ and the values of which may be found in the table compiled by Tildesley (1921). The nasal, alveolar, and basal angles (*NL*, *AL*, and *BL*) of the upper facial triangle have the nasion, the alveolare, and the basion as spices. They were found with the aid of a trigonometer. The mandibular angle (*ML*) is that between the bone's standard horizontal and standard rameal planes (Morant 1936, Trevor 1950), the second represented in practice by the hinged wing of a mylometer. A figure in the two tables followed by a query denotes a close approximation to the true value of the character concerned.

It will be apparent from Table 1 that only in the case of one Hoabinhian male, As. 33.6.11 (H12), and one Neolithic female, As. 33.5.3 (B8), can the majority of the characters listed be taken. The situation is a little better as regards the mandible (Table II), since measurements of more than half of the characters listed are available for three Hoabinhian males, As. 33.6.4 (H6), As. 33.6.7 (H10A.1), and As. 33.6.11 (H12), and exactly half for one Neolithic female, again As. 33.5.3 (B5). If allowance is made for differences in sex, the measurements as a whole do not show greater variability than might

be expected to occur in samples of similar size drawn from a racially homogeneous population. Thus it is impossible to maintain on the present evidence that any appreciable divergence in physical type exists between the people who were buried in the Gua Cha rock-shelter in Mesolithic and Neolithic times. More extensive material, which would justify statistical comparison, might lead to other opinions, but that now dealt with does and lend support for these. On the assumption, then, that a single group is represented, it may be asked (*a*) what its principal features are, (*b*) whether they tally with those of previously-described specimens of like antiquity from Malaya, and (*c*) if any resemblance is displayed by them to modern racial types in south-east Asia or Oceania.

Both the Gua Cha males, As. 33.6.11 (H12) and As. 33.5.9 (A5), for which the calvarial indices 100 *B/L*, 100 *H'/L* and 100 *H'/B* can be calculated fall within the conventional limits of dolichocephaly, orthocephaly, and acrocephaly, the brain-case being noticeably high in relation ot its breadth but not to its length. The female As. 33.5.3 (B8) has a higher value for 100 *B/L*, which is just mesocephalic, but this is quite consistent with a difference in sex. As far as the bimaxillary upper facial index, 100 *G'H/GB*, is concerned, As. 33.5.11 (H12) and As. 33.5.1 (B1) are clearly euryprosopic or broad-faced according to the classification of Trevor (1949). The nasal index, 100 *NB/NH*, in these two spcimens and in As. 33.5.3 (B8) is markedly platyrrhine, and all three are chamaeconchic or have orbits that are low in relation to their breadth. Values of the palatal index, 100 G_2/G'_1, are available for As. 33.5.1 (B1) and As. 33.5.3 (B8) and show palate to be brachystaphyline or broad in relation to its length. The nasal angle, *NL*, can be determined for As. 35.6.11 (H12) alone and, in terms of some recently-proposed categories (Trevor 1958), indicates a marked degree of total facial prognathism. As expressed by the index 100 *GoGo/CpL*, the mandible in As. 33.6.4 (H6), As. 33.6.7 (H10A.1), As. 33.6.11 (H12), and As. 33.5.3 (B8) is moderately broad in relation to its length.

As the archaeological context of the specimens from rock-shelters and caves in Perak, Pahang, and Perlis and from the island off the coast near Kuala Selinsing described by Duckworth (1934) is doubtful, any comparison of this writer's results with the observations made on the Gua Cha remains would seem rather pointless. Indeed, as far as the "Selinsing" series is concerned, Duckworth was inclined "definitely to limit the antiquity of these individuals, perhaps even to a matter of decades" (*ibid.* p. 166). Snell (1949) has considered some definitely Hoabinhian remains from the Gol Ba'it it rock-shelter, near Sungai Siput, Perak, and Mijsberg (1940) a mandible from a kitchen-midden at Guak Kepah, Province Wellesley, Straits Settlements, which he calls 'Neolithic' but which Vallois and Movius (1952) are disposed to regard

as perhaps Mesolithic.

With the exception of the upper facial skeleton, Snell was able to reconstruct two Gol Ba'it male skulls, Nos. 94 and 98. The maximum length (*L*) of each of them is exceeded by that in As. 33.6.11 (H12) and As. 33.5 g (A5) and both are mesocephalic. Other metrical characters of the cranium and mandible that can be compared do not, however, reveal any striking disparity between the male individuals from either site. On the country, resemblance rather than divergence is suggested by their common possession of low orbits associated with a well-developed glabella and prominent superciliary arches.

While the male Guak Kepah mandible No. B185, studied in detail by Mjsberg, displays greater bigonial and minimum rameal breadths (*GoGo* and *RB'*) and a considerably greater projective length of corpus (*CpL*) and projective height of coronion (*CrH*) than are to be found in lower jaws of the same sex from Gua Cha and Gol Ba'it, its coronial breadth (*CrC*) is less than that of AS. 33.6.7 (H10A.1), and in bimental breadth (*ZZ*) and projective height of corpus. (M_2H) it coincides for practical purposes with the largest Gua Cha male values . Yet the exceptional dimensions of *CpL* (95 mm.) and *CrH* (74 mm.) in B185 fall so far beyond the upper limits of the ranges of the corresponding Gua Cha and Gol Ba'it measurements that its relationship to a group represented by either of these series would seem to be remote.

The final issue to be faced in regard to the Gua Cha remains is whether it is possible to assign them to any of the more widely recognized racial entities in the general region from which they were recovered. Before this is attempted, the conclusions reached by other workers who have actually studied similar material should be mentioned.

As has been stressed, some at least of Duckworth's specimens are of unertain date, but concerning the Perak cave-dwellers he observed that they seemed "to fall naturally and definitely within the confines of a group of humanity spread over a large area of south-eastern Asia and traceable even into Australia", adding that he believed such a group to be identical with that designated Dravidian by some authorities and Pre-Dravidian by others (Duckworth 1934, p. 151). This cautiously-expressed opinion suggests that he had what have been widely termed the Australiforms in mind.

Summarizing the results of his investigation of the Gol Ba'it crania, mandibles, and teeth, Snell remarked that he was forced to admit that no characters had been found which in themselves "would indicate with some certainty the real racial position of the people concerned". At the same time he felt that a claim could be made that the Gol Ba'it remains might well represent members of "the Melane-

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The last three characters were not recorded for the Gol Ba'it material.

sian, racial group very much resembling the recent living Neo-Melanesians or Papuans" (Snell 1949, pp. 24–5).

Mijsberg concludes that the combination of the traits shown in the Guak Kepah mandible 'seems to be confined to the New Caledonians and the peoples directly related to them'. Accepting the distinction made by von Eickstedt (1934) between 'Palae-Melanesians', for example New Caledonians and Loyalty Islanders, and 'Neo-Melanesians', for example most of the population of New Guinea, he further states that 'It is not sufficient to say that the lower jaw B 183 presents some Melanesoid features, one is compelled to admit that this really is a Palae-Melanesian jaw' (Mijsberg 1940, p. 117).

In making a tentative assessment of the racial position of the owners of the Gua Cha remains, even the most cursory glance at the craniometric data for southeast Asia assmbled by von Bonin (1931) will show that any link they might have with the Negritos or Mongoliforms is tenuous enough to be discounted from the start. Again, although it is probable that the skulls from Gua Cha could be accommodated among the Australians on the basis of calvarial measurements (Wagner 1939, Table XXVIII) and those of the mandible (Cleaver 1937, Table IX), their very low upper facial and orbital and high nasal indices suggest that such a contingency is remote. Moreover the small size of the Gua Cha teeth, noted below, argues against an Australoid connexion. One is thus left with the possibility of a relationship with the Oceanic Negroes or, in the usual terminology, Papuans, Melanesians, and Tasamnians.

In his extensive memoir on the craniology of Oceania (Wagner 1939, p. 134) comments on the "inordinately" high variation of skull-form among the present-day population of New Guinea. None of his male means for that island shows any clear instance of dolichocephaly and acrocephaly associated as at Gua Cha with greatly reduced upper facial and orbital heights and marked platyrrthiny. This complex occurs in crania from the Gazelle Peninsula, New Britain (von Bonin 1936), and from Santa Cruz, Solomon Islands (Speiser 1923), but it would be difficult to claim on such evidence alone that the affinities of Gua Cha are Melanesian rather than Papuan. The Oceanic Negro series closed to Gua Cha in respect of the absolute values for upper facial, orbital, and nasal heights is undoubtedly the "full-blood" Tasmanian studied by Wunderly (1939). A more general resemblance, however, is negatived by the lowness of the Tasmanian brain-case. To summarize, while certain physical features of the Gua Cha people, *as now known*, appear to be paralleled among modern Oceanic Negroes rather than among Australian aborigines, to venture any definitive opinion regarding their racial status would be premature.

The Teeth (*D.R.B.*)

Except for two individuals, all the jaws examined were front adults, and although precise age estimates are not possible, it is likely that most person were below the age of 40 years at the time of death. As 33.6.3A (S7.2) of the Hoabinhian culture was a child of 4½ years ± 6 months; and the Neolithic individual As. 33.5.7 (A1) was only 5 years ± 9 months.

There is considerable variation in the degree of preservation of the jaws and teeth both in the Hoabinhian and later remains. In the case of the very crushed specimens, a minimum of cleaning was undertaken for fear of the specimen's disintegrating. The majority of Hoabinhian teeth were covered by a calcareous deposit, and in the case of the better specimens this was removed by a dilute solution of acetic acid. Although in so doing much of the calculus (tartar) was removed, it did enable a far more thorough examination of the teeth.

Most of this section is concerned purely with the teeth of these early Malayans but it has been thought of value to comment on degrees of alveolar resorption caused by periodontal disease, and on the form of the dental arch.

Tooth Morphology

Owing to considerable wear, both occlusal and at contact points, it was thought inadvisable to embark upon a metrical analysis of the teeth. However, a visual comparison of the Gua Cha specimens with one another and with comparative specimens has revealed some differences.

Perhaps the most outstanding morphological difference is to be seen in the premolar region. In all but two of the Hoabinhian jaws, the premolars, especially the second premolars, are nearly as broad (labio-lingually) as the molars (Plate IIB), whereas in one Neolithic jaw the premolars are smaller and more rounded in form (Plate IVB). A further exception is in the Hoabinhian skull As. 33.6.11 (H12), which displays small and very rounded premolars. Photographs given by Mijsberg (1940) of a Hoabinhian mandible from Guak Kepah, Straits Settlements, show that this specimen also had large premolars, especially the posterior ones.

The molars of both periods look very similar in size and shape and only slight reduction of size was noted in the third molars. Also, unlike the teeth from Gol Ba'it, described by Snell (1949), neither display much size variability. None of the molars was as large as comparative Australian ones, but they tended to be more comparable in size to modern teeth of moderate size from Malaya, New Guinea, and Java. The presence of shovel-shaped incisors was difficult to determine owing to the considerable wear in some specimens, but this incisor form was noted in the Hoabinhian skull As. 33.6.11 (H12), particu-

larly in the lateral incisors. Both lateral incisors of the Neolithic skull As. 33.5.3 (B8) display a pseudo-canine form, considered by Tratman (1950) to be frequent in Mongoloid peoples from eastern Asia. The upper medial incisors in both Gua Cha groups tend to be much broader both at the crown and root than the lateral incisors, a feature already noted by Plunin (1953) in modern Malays and Malayan aborigines. No evidence of taurodontism was noted in the few molar roots exposed.

On the buccal aspects of some mandibular molars from both Gua Cha series the extension of an occlusal fissure ended in a fairly well defined pit (Plate IVA). Tratman (1950) found this feature occurring both in the Mongoloid and Indo-European groups which he studied, although perhaps more markedly in the former.

Tooth Positioning

The form of the dental arch was to some extent variable in both Gua Cha groups, but even in these small series of jaws there is evidence to suggest that the arches of the Neolithic group were more rounded. In at least five Hoabinhian skulls the arch displayed little if any curvature in the pre-molar and molar regions, a well marked example being shown in Plate IIB.

The majority of jaws displayed only mild alveolar prognathism, but in the Hoabinhian specimen As. 33.6.11 (H12), there is noticeable protrusion of the upper anterior teeth, as seen in Plate I. In this individual, there was also a 90° roration of the lower right second premolar, slight rotation of all first premolars, and almost horizontal impaction of the upper right third molar against the upper right second molar.

Only one case of a congenitally absent tooth was noted, being an upper left third molar in the Neolithic skull As. 33.5.10 (A8).

Caries

Dental decay was recorded only if a cavity could be distinctly noted, and it is thus possible that a few cases of superficial enamel caries may have been missed. Position and type of cavity made it possible to differentiate with certainty between real caries and post-mortem erosion. Diagnosis was in one or two cases made difficult by the cavity's being covered by calcareous matrix. Caries frequencies for both groups combined are given in Tables III and IV, and it will be seen that both show overall frequencies of over 5 per cent. This figure is very low when compared with modern civilized groups, but is probably moderate for pre-Iron Age cultures. The fact that twelve of eighteen individuals had one or more cavities suggests that the frequency was not determined by one or two particularly unhealthy mouths but rather that the majority were susceptible. As in modern and other early series, the molars were most affected, but it is unusual

to find such a relatively high frequency in the canines. It is evident from data given by Polunin (1953) that the Gua Cha frequencies are noticeably higher than in modern Malayan aboriginal adults, although it may be significant that in modern Malayan aboriginal adults, although it may be significant that in persons who do not chew betel the caries frequency is very similar.

Ante-Mortem Tooth Loss

Loss of teeth caused by disease, was evident in ten of the eighteen jaws, and it seems very likely that the primary factor leading to the loss was caries. However, it is extremely difficult to determine the number lost in this way and those lost through alveolar resorption as a result of periodontal disease. In the circumstances, therefore, it was thought advisable to consider ante-mortem tooth loss as a separate pathological category, rather than as an end-product of caries or periodontal disease. There was no evidence of tooth loss through the practice of tooth evulsion. In Tables IV and V, the tooth loss frequencies are given for the Gua Cha jaws and early European groups.

Abscesses

It was extremely difficult to determine the number of abscess cavities owing to the poor condition of the jaw, and the percentages given should therefore be regarded as minimum estimates. The majority of cases of sepsis were associated with caries or ante-mortem tooth loss, but in three cases, exposure of the pulp-chamber would appear to have been the primary fault. It will be evident from Table VI that the two to four per cent levels are usual in later prehistoric groups, including the Gua Cha people.

Periodontal Disease

As only the later stages of periodontal infection cause the recession of the alveolar margins, estimates only early skull material will clearly be smaller than those expected in the living. It does, however, give some idea of the minimum level of the infection. Of fifteen Gua Cha jaws, six (or 40%) showed slight or medium degrees of periodontal infection. In the Mesolithic Teviec material, half of the subjects were affected (Pequart, Boule & Vallois, 1937), and in early British material from Neolithic to Saxon times, at least 74 per cent, showed some alveolar recession (Brothwell, 1959). The disease frequency, therefore, seems to be quite variable in earlier populations, the Gua Cha individuals perhaps being one of the less affected groups.

Although comparison with the living can only be tentative, it is interesting to note that Polunin (1953) recorded some degree of periodontal infection in about 62 per cent. of living Malayan aborigines, suggesting little difference in prevalence from the Gua Cha people.

Various factors may contribute to the development of periodontal

disease, including the amount of calculus (tartar), chewing strength, vitamin and protein deficiencies (Bradford, 1959). In the case of the Gua Cha people it is impossible to suggest which of these factors may have predominated, owing to the poor condition and small amount of the material and our inadequate knowledge of their diet.

Enamel Hypoplasia

The Gua Cha teeth, both adult and immature specimens, were examined for any surface irregularities of the enamel. In 10 of the 20 individuals examined, slight hypoplasia was noted. In most cases, the molars and canines were principally affected.

Tooth Wear

Considerable wear was recorded in some skulls. Generally, more extreme degrees were present in the Hoabinhian jaws. Also, in the case of the Neolithic teeth, wear was mainly restricted to the molar region, whereas most of the earlier skulls displayed as much anterior wear, and indeed in As. 33.6.4 (H6) the molars are less affected than the anterior teeth (Plate IIB). There is probably a number of reasons for the difference in degree of wear between the two groups. First of all, it is possible that the hardness of the food may have differed (through variations in cooking and drying it). Snell (1949), in discussing the considerable attrition on the Hoabinhian Gol Ba'it teeth, suggests that the "extensive use of the masticatory apparatus in chewing" is also an important factor. Changes in the mode of preparation of some foodstuffs may also have affected the amount of abrasive eaten. Lastly, it seems very likely that cultural factors played their part in wearing down the teeth of the Hoabinhian population. Abrasives and chewing pressures alone seem unlikely to have produced the degree of anterior wear found in some Hoabinhian jaws. Skull As. 33.6.6 (S8) is particularly notable in this respect (Plate IIIA and B), and the incisors are so worn that an open-bite has resulted. Moreover, in both the incisors and canines, the wear extends to the labial surfaces. A very similar case of open-bite and rounded antero-incisal parts of the lower inches was figured recently by Pedersen (1952) in an Eskimo adult, the anomaly being produced by hide-chewing. In the Gua Cha specimen, however, both upper and lower incisors are equally affected, suggesting that a different cultural practice was involved. Another interesting difference is that whereas this form of attrition is limited to Eskimo females, the Gua Cha individual was a male, but owing to the fragmentary nature of the Malayan material, it is not possible to suggest a sex-difference for this feature.

It is probable that the degrees of attrition generally noted in Mesolithic and Neolithic Malayan teeth, are greater than in the modern aborigines. This is supported by Polunin (1953, p. 131) who writes that the "attrition found in Malayan Aborigines is never as marked

as is usual in the remains of ancient man, such as the neolithic human skulls found in Perlis, North Malaya by Williams-Hunt in 1951".

Acknowledgements

Our thanks are due to Mr. G. de G. Sieveking for making the Gua Cha remains available for study, to him and to Dr. I. Polunin of the University of Singapore for advice on and provision of earlier literature, and to Dr. K.P. Oakley of the Sub-Department of Anthropology of the British Museum (Natural History) for permitting access to comparative material in the Museum's collections.

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Plate I. Hoabinhian male As. 33.6.11 (H12), lateral and facial views.

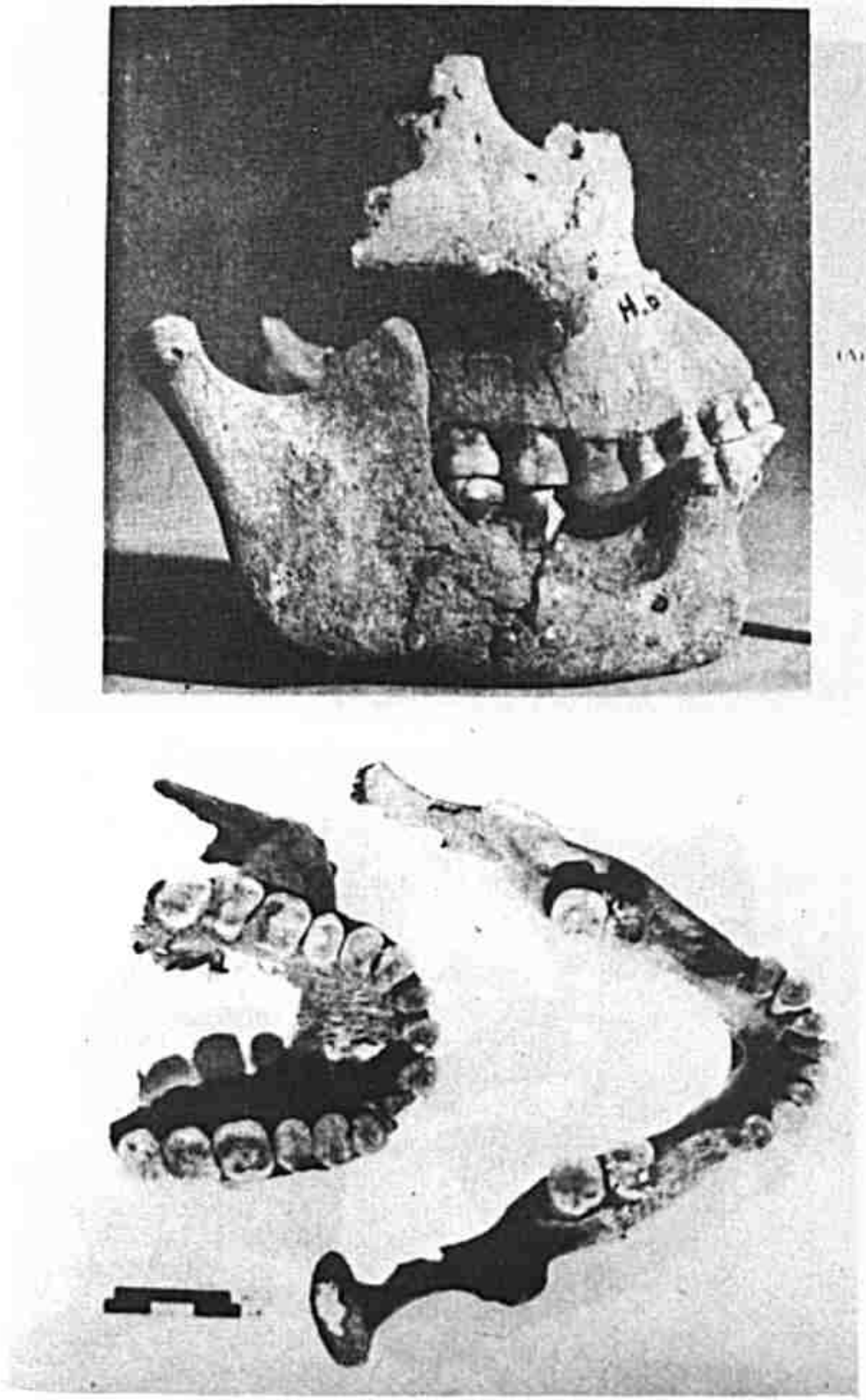


Plate II. *Hoabinhian male As. 33.6.4 (H6), lateral and occulusal views of the toothrow.*

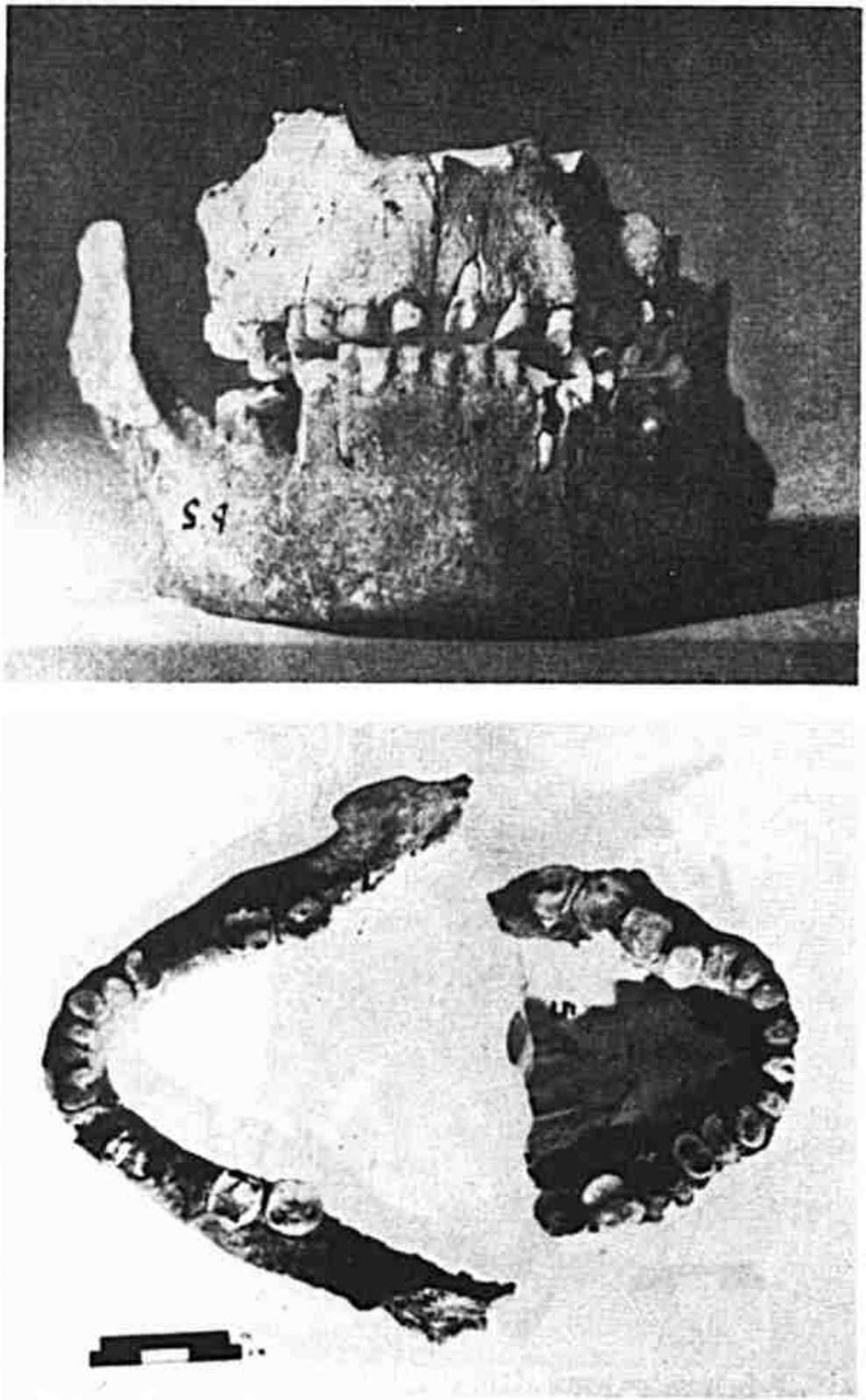


Plate III. Hoabinhian male As. 33.6.6. (S9), facial and occulusal views of toothrow.

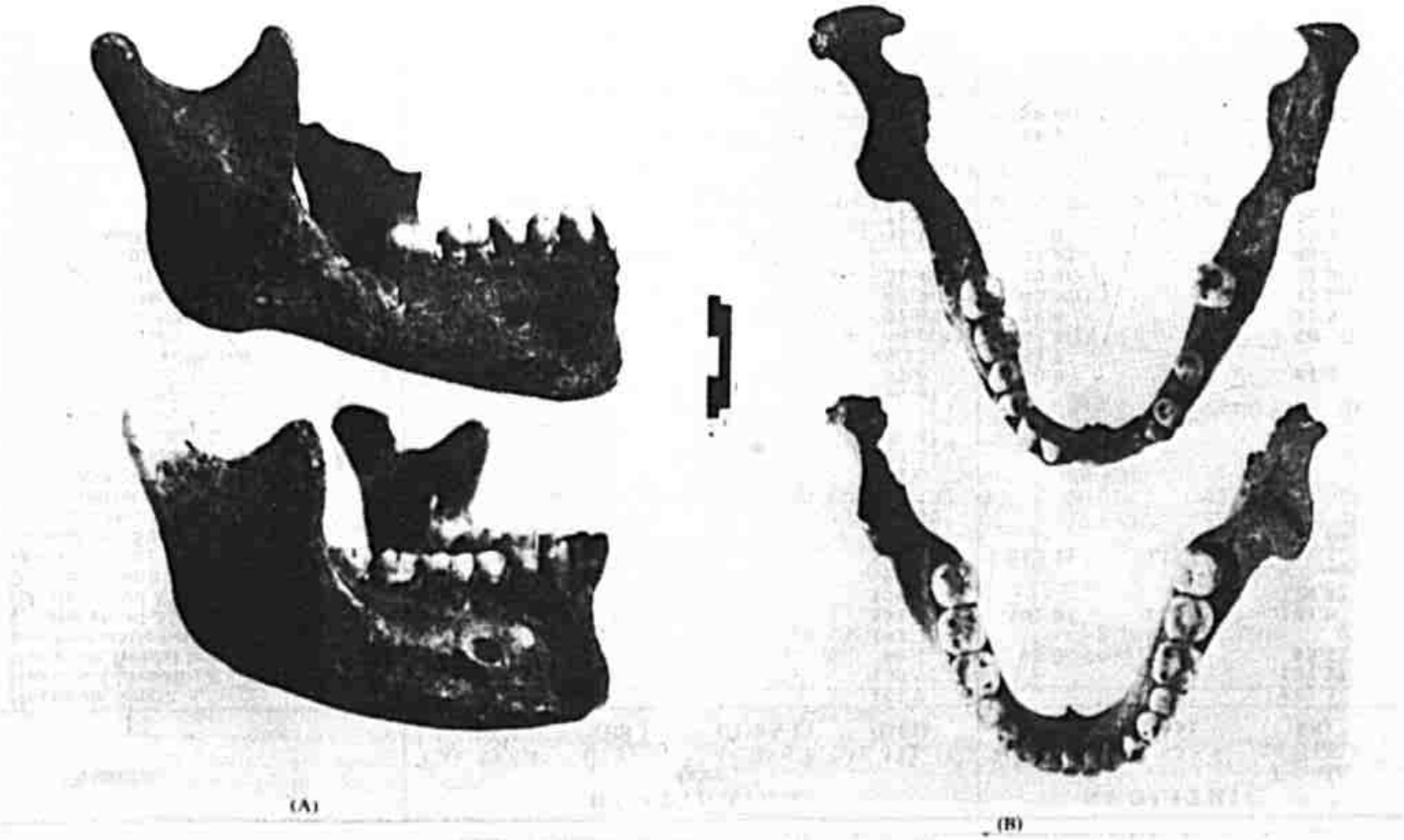


Plate IV. Above, Hoabinhian male As. 33.6.11 (H12): Below, Neolithic female As. 33.5.3 (B8)

Table. 1. Measurements of Crania from Gua Cha

Characters	HOABINHIAN Males				NEOLITHIC Males		Female
	As. 33.6.4 (H6)	As. 33.6.5 (H8.1)	As. 33.6.7 (H10A.1)	As. 33.6.11 (H12)	As 33.5.1 (B1)	As. 33.5.9 (A5)	As. 33.5.3 (B8)
Maximum length, *L*				191.2		185.1	180.3
Maximum breadth, *B*				135.7?		136.8	137.2?
Minimum frontal breadth, *B'*				99.1	90.0		93.4
Basi-bregmatic height, *H'*				143.3?		132.6?	
Frontal chord *S'1*				121.3	102.0?	119.9	101.0
Parietal chord *S'2*				124.9?			114.9?
Occipital chord, *S'3*				93.0?			
Frontal arc, *S1*				141.8	110.7?	133.4	112.5
Parietal arc, *S2*				139.4?			130.0?
Occipital arc, *S3*				109.5?			
Total sagittal arc, *S*				390.7			
Transverse bregmatic arc, *T"*				321.6			
Maximum horizontal perimeter, *U*				523.3?			
Foraminal length, *FL*				40.8?			
Basi-nasal length, *LB*				94.1?			
Basi-alveolar length, *GL*				100.4?			
Upper facial height, *G'H*				57.0	60.8		64.6
Bimaxillary breadth, *GB*				96.1?	104.7		
Nasal height, *NH*				44.0(R)	47.8(L)		50.1?(L)
Nasal breadth, *NB*	30.0?		29.2	27.8?	28.4		31.8
Orbital breadth, *O1*				43.9(L)	43.9?(L)		42.8(R)
Orbital height, *O2*				31.4(L)	29.5(L)		32.0(R)
Palatal length, *G'1*		49.0?			45.2?		42.1
Palatal breadth, *G2*	37.3?		40.0	41.1	42.8		37.3
100 *B/L*				71.0?		73.9	76.1?
100 *H'/L*				74.9?		71.6?	
100 *H'/B*				105.6?		96.9?	
Oc. I.				62.0?			
100 *G'H/GB*				59.3?	58.1		
100 *NB/NH*				63.2(R)	59.4(L)		63.5?(L)
100 *O3/O1*				71.5(L)	67.2?(L)		74.8(R)
100 *G2/G1*					94.7?		88.6
NL				78.9°?			
AL				67.1°?			
BL				34.0°?			

Table II. Measurements of Mandibles from Gua Cha

Characters	HOABINHIAN Males				Female	NEOLITHIC Males		Female
	As. 33.6.4 (H6)	As. 33.6.6 (S9)	As. 33.6.7 (H10A.1)	As. 33.6.11 (H12)	As. 33.6.9 (H10C)	As. 33.5.1 (B1)	As. 33.5.5 (H4)	As. 33.5.3 (B8)
Bigonial breadth, *GoGo*	94.8?		93.9?	87.4?				
Coronial breadth, *CrCr*			101.1					90.8?
Bimental breadth, *ZZ*	45.3	45.3	48.0	48.7	45.2			91.1?
Condylar length *CyL*	22.9(R)			23.0(R)		22.3(L)	20.0(L)	45.7
Projective length of mandible, *ML*	100.5?		93.8?	114.3?				
Projective length of corpus, *CpL*	76.3		76.9?	85.1?				71.2?
Minimum rameal breadth, *RB'*	33.3(R)		32.9(R)	32.2(R)		37.4(L)	32.6(L)	34.0(L)
Molar-premolar chord, *M2P1*		29.0(R	29.3(R)	27.3(R)		28.8(L)		27.9(R)
Symphyseal height, *H1*	32.9	35.9	30.4		29.9			
Projective height of corpus, *M2H*		28.2(R)	23.2(R)		27.4?(R)	29.3?(L)		
Projective height of corosion, *CrH*	54.9(R)	55.8(R)	53.8(R)	60.8(R)	49.5(R)	60.0?(L)	63.7(L)	52.9(R)
Projective length of ramus. *RL*	53.4(R)			54.9(R)		56.8?(L)	57.3?(L)	5r.3?(L)
100 *GoGo/CpL*	124.2?		122.1?	102.7?				127.5?
100 *GoGo/CrCr*			92.9?					99.7?
100 *CrCr/ML*			107.8?					
100 *CrH/ML*	54.6?(R)		57.4?(R)	53.2?(R)				
100 *RB/RL*	57.0(R)			58.7(R)		65.8?(L)	56.9?(L)	66.3?(L)
ML	131.5°?		116.0°?	117.2°?		108.0°?		123.5°?

Footnote: Measurements not included in the table above are as follows: *Hoabinhian males:* As. 33.6.3A (S7.2), *Cy L* 21.8(L), *RB'* 39.4(L); AS. 33.6.8 (H10B), *M2 P1* 315(R), *M2 H* 28.9? (R); As. 33.6.10 (H11), *RB'* 35.0 (R), *M2P1* 29.1 (R), *M2 H* 26.4? (R), *Hoabinhian female:* As. 33. 6.5A (H8.2), *M2 P1* 28.0 (L). *Neolithic males:* As. 33.5.2(B2), *RB'* 37.4 (L), *M2 H* 30.3 (L), *Cr H* 64.6? (L); As. 33.5.8 (A3), *RB'* 37.2 (R); As. 33.5.9 (A5), *RB'* 32.2 (L); As. 33.5.10 (A8), *ZZ* 48.1.

Table III. Average Numbers of Carious Teeth in Combined Adult Male and Female Cua Cha and other series

Group	Period	No. of carious teeth	No of of teeth examined	Percent carious
Early Malayan				
Gua Cha	Hoabinhian	20	214	9.3
Gua Cha	Neolithic	7	129	5.4
Cua Cha	Both groups	27	343	7.9
Prehistoric European				
Teviec[1]	Mesolithic	16	415	3.9
Greece[2]	Neolithic	32	267	12.0
France	Neolithic	37	513	7.2
Britain	Neolithic	36	1151	3.1
Greece[2]	Bronze Age (Mid)	34	601	5.7
Britain	Bronze Age	159	4967	3.2
Malayan Aborigines[3]				
Low Level (Semai-Senoi)	Recent			3.1
High Level (Semai-Senoi)	"			4.0
Lanoh Negritos	"			4.6
Orang Seletar	"			3.3
Total Aboriginal frequency	"			3.8
Aboriginals not chewing betel	"			7.5
Malayan (skulls)[4]	"	20	450	4.4

[1]Data from Pequart, Boule & Vallois (1937). [2]Data from Angel (1944). [3]Data modified from Polunin (1953), being the average of frequencies for five adult age-grades. [4]Data from Klatsky & Fisher (1953).

Table IV. Incidence of Caries and Ante-Mortem Loss in Combined Adult Male and Female Series from Gua Cha in Relation to Tooth Category

	Period	INCISORS		CANINES	PREMOLARS		MOLARS		
		Medal	Lateral		First	Second	First	Second	Third
Caries	Neolithic	0 in 11	1 in 11	0 in 13	0 in 17	0 in 17	3 in 18	2 in 18	1 in 15
	Mesolithic	0 „ 26	1 „ 23	3 „ 27	3 „ 31	1 „ 28	2 „ 23	6 „ 31	2 „ 25
	Total	0 „ 37	2 „ 34	3 „ 40	5 „ 48	1 „ 45	5 „ 41	8 „ 49	3 „ 40
	Total %	0.0	5.9	7.5	10.4	2.2	12.2	16.3	7.5
Ante-Mortem Tooth Loss	Neolithic	2 in 18	3 in 17	0 in 18	0 in 19	0 in 20	2 in 20	2 in 22	5 in 20
	Mesolithic	0 „ 31	0 „ 31	0 „ 34	1 „ 43	2 „ 33	8 „ 33	1 „ 33	4 „ 33
	Total	2 „ 49	3 „ 48	0 „ 52	1 „ 53	2 „ 53	10 „ 53	3 „ 55	9 „ 53
	Total %	4.1	6.3	0.0	1.9	3.8	18.9	5.5	17.0

Table V. Average Numbers of Teeth lost Ante-Mortem in combined Adult Male and Female Gua Cha and other Series[1]

Group	Period	No. of teeth lost	No. of teeth possible	Percent Loss
Early Malayan				
Gua Cha	Hoabinhian	16	262	6.1
Gua Cha	Neolithic	14	149	9.3
Gua Cha	Both groups	30	411	7.3
Prehistoric European				
Greece	Neolithic	62	570	10.9
France	Neolithic	128	893	14.3
Britain	Neolithic	223	2058	10.8
Greece	Bronze Age (Mid)	70	848	8.5
Britain	Bronze Age	235	5940	3.9

[1]Published data from same sources as for caries-frequencies.

Table VI. Frequency of Abscesses in Combined Adult Male and Female Gua Cha and other series[1]

Group	Period	Number with Abscesses	No. of teeth possible	Percent with Abscesses
Early Malayan				
Gua Cha	Hoabinhian	10	235	4.3
Gua Cha	Neolithic	4	107	3.7
Gua Cha	Both groups	14	342	4.1
Prehistoric European				
Greeze	Neolithic	20	570	3.5
France	Neolithic	33	800	4.1
Britain	Neolithic	49	1870	2.6
Greece	Bronze AGe (Mid)	20	848	2.4
Britain	Bronze Age	131	5562	2.3

[1]Published data from same source as for caries frequencies.

Rhinoceros Sondaicus Desmarest From The Hoabinhian Of Gua Cha Rock Shelter, Kelantan *

D.A. HOOIJER

A few years ago, through the courtesy of Mr. C.A. Gibson-Hill of the then Raffles Museum, Singapore, and of Dr. F.C. Fraser of the British Museum (Natural History), London, I received for study rhinoceros teeth found at Gua Cha rock shelter, Kelantan, Federation of Malaya. This material, excavated under the direction of Mr. and Mrs. G. de G. Sieveking (Sieveking, 1954–1955, 1955), originates from the Hoabinhian level below the Neolithic river sands, and represents the first record of the lesser one-horned rhinoceros from the Mesolithic of Malaya. Only upper teeth were sent, representing four individuals, as follows:

Individual A (subadult): right DM^2 (incomplete), right and left DM^3 (much worn), left P^{2-4} (unerupted and unworn, but enamel calcified except at base of P^4), right M^1 (ectoloph missing), and right M^2 (portion of protoloph only, unworn).

Individual B (young adult): right P^{2-4}, and right and left M^{2-3}. Superb specimen, with weak cristae in the premolars, and a duplicated crochet in the right M^{1-2}.

Individual C (aged): right P^3 (incomplete), left P^4–M^3, and right M^3.

Individual D (aged): right M^{1-3}, also fragments of P^4.

Prehistoric and fossil material of rhinoceroses from the Malay

* Reprint from the Federation Museum Journal. Vol 7: 1962.

Archipelago and India have been described in detail in a previous publication (Hooijer, 1946). All the comparative data mentioned in the present report are derived from this source.

The Gua Cha molars differ from those of *Rhinoceros unicornis* L, in being less hypsodont, in the shape of the ectoloph, which is sinuate in its course (prominent paracone style, outer surface behind this style concave, posterior half more inclined inward than anterior half, but with raised metastyle) instead of being approximately straight as in *Rh. unicornis*, in the absence of a protocone fold, in the less backward extension of the internal portion of the protoloph, and in the absence of full cristae in the molars. Although the Indian rhinoceros has never been found to occur in Malaya this species should not be left out of account here since it has a Pleistocene subspecies in Java (*Rh. unicornis kendengindicus* Dubois).

On the other hand, the Gua Cha dentitions resemble closely those of *Dicerorhinus sumatrensis* (Fischer) as well as *Rhinoceros sondaicus* Desmarest, species that are known to occur, or that until very recently did occur in Malaya. With well-preserved upper premolars and molars such as those of Gua Cha a specific determination is possible. The Gua Cha teeth differ from those of *D. sumatrensis* and agree perfectly with those of *Rh. sondaicus* in the abscence of a protocone fold, in the postsinus being decidedly less deep than the medisinus, and in the posterior basal width of M^1 and M^2 being less relative to the anterior basal width than in *D. sumatrensis* (Table 1).

Table 1.
Width ratios of upper molars of *Rh. sondaicus* and *D. sumatrensis*

	Rh. sondaicus	Gua Cha	*D. sumatrensis*
M^1 $\frac{\text{post. width}}{\text{ant. width}}$	0.85–0.94	0.88–0.9-	0.91–0.96
M^2 $\frac{\text{post. width}}{\text{ant. width}}$	0.79–0.91	0.82–0.84	0.88–0.94

I have further compared the dimensions of the Gua Cha teeth with those of subfossil Sumatran cave material and with Pleistocene teeth of *Rh. sondaicus* from Java. In general, the Pleistocene and the prehistoric teeth show an excess in average size over their recent homologues. As is evident from Table 2 the variation ranges of the dimensions of the rhinoceros teeth overlap to a considerable extent. The Gua Cha milk molar (DM^3) is slightly larger than the recent DM^3 from Java and Sumatra, and it is as large as its subfossil counterpart from Sumatra. The permanent teeth (P^2–M^3) are within the limits of size of those of recent *sondaicus*, and except of one P^2 (individual A)

Table 2.
Tooth measurements of *Rhinoceros sondaicus* (in mm)

		Gua Cha Individuals								Recent	Subfossil (Sumatra)	Pleistocene (Java)
		A		B		C		D				
		l.	r.	l.	r.	l.	r.	l.	r.			
DM^3	ant. w.	46	47	–	–	–	–	–	–	40–44	43–46	42
	post. w.	40	42	–	–	–	–	–	–	35–41	40–43	ca. 37–39
P^2	ant. w.	38	–	–	42	–	–	–	–	34–44	37	39–45
	post. w.	40	–	–	43	–	–	–	–	39–44	40	41–45
P^3	ant.	–	–	–	49	–	–	–	–	47–57	–	48–57
	post. w.	47	–	–	48	–	–	–	–	45–51	–	ca. 45–53
P^4	ant. w.	50+	–	–	55	57	–	–	–	51–60	51–52	51–62
	post. w.	–	–	–	51	53	–	–	–	47–54	ca. 48	48–59
M^1	ant. w.	–	–	57	58	58	–	–	57	51–60	–	54–59
	post. w.	–	–	51	51	52	–	–	51	45–52	–	49–56
M^2	ant. w.	–	–	57	58	60	–	–	60	53–60	57–64	55–62
	post. w.	–	–	48	48	49	–	–	49	45–52	44–51	47–54
M^3	ant. w.	–	–	54	53	51	51	–	–	43–55	57	48–56
	length outer surface	–	–	52	53	52	52	–	–	44–58	58	50–62

that is rather smaller, they are all in the broad zone of overlap of dimensions of the recent and the Pleistocene teeth.

Hooijer, D.A., 1946. Prehistoric and fossil rhinoceroses from the Malay Archipelago and India. *Zool. Med. Museum Leiden* **26**: 1–138.

Sieveking, G. de G., 1954–1955. Excavations at Gua Gha. *Federation Mus. Journ.* **1–2**: 75–158.

Sieveking, G. de G., 1955. Recent archaeological discoveries in Malaya. (1954). *Journ. Malayan Branch Roy. As. Soc.* **28**: 196–217.

A Note On The Gua Cha Small Sherds*

AL RASHID BIN MOHAMED IBRAHIM

THE rock shelter of Gua Cha, the largest and to date the most important prehistoric site in West Malaysia, was briefly examined in 1935 by H.D. Noone. In 1954, it was excavated by the then Curator of Museums, G. de G. Seiveking. The first report on the excavations, with notices of more detailed examination of the archaeological material to follow, was published in this Journal.[1] Since then no further report has been forthcoming from the excavotor. The more complete pieces were mentioned by B.A.V. Peacock in his pioneer study of the prehistoric ceramics from West Malaysia.[2]

The collection in the National Museum of the small sherds from Gua Cha is almost impossible to study because of the lack of field data. It is hoped that the National Museum will eventually be able to get the field notes from the excavator, to enable publication of a detailed account of the sherds. In the meantime, with a preliminary examination of the small sherds, it has been possible to reconstruct some of the pot and vessel shapes. These are published here with notes.

The small sherds from the Gua Cha excavation total some 3553 sherds. For the purpose of recording, the total number or sherds in each category as classed by the excavator is herewith appended, though without the field notes it is not possible to do any statistical

* Petikan daripada *FMJ*, 14, 1969.

1 G. De G. Seiveking, 1954–55. Excavation at Gua Cha, Kelantan 1954. *Fed. Mus. J.* 1–2 (*N.S.*), pp. 75–138.

2 B.A.V. Peacock, 1959. A Short Description of Malayan Prehistoric Pottery. *Asian Perspectives* Vol. III (2).

or other detailed analysis. Of the total, some 489 sherds are unclassified, that is they lack *'Cha'* numbers. The rest fall within the following categories:

Cha 1	25 sherds,	*Cha 17*	75 sherds,	*Cha 27*	1 sherd,	*Cha 48*	6 sherds
Cha 3	1 sherd,	*Cha 18*	503 sherds,	*Cha 28*	390 sherds,	*Cha 51*	13 sherds
Cha 4	27 sherds,	*Cha 19*	335 sherds,	*Cha 37*	6 sherds,	*Cha 52*	4 sherds
Cha 6	88 sherds,	*Cha 20*	122 sherds,	*Cha 40*	2 sherds,	*Cha 57*	1 sherd
Cha 9	6 sherds,	*Cha 21*	68 sherds,	*Cha 43*	5 sherds,	*Cha 58*	22 sherds
Cha 10	38 sherds,	*Cha 22*	1 sherd,	*Cha 44*	3 sherds,	*Cha 59*	3 sherds
Cha 14	2 sherds,	*Cha 23*	70 sherds,	*Cha 45*	4 sherds,	*Cha 60*	35 sherds
Cha 15	82 sherds,	*Cha 25*	13 sherds,	*Cha 46*	1 sherd,	*Cha 64*	571 sherds
Cha 16	203 sherds,	*Cha 26*	30 sherds,	*Cha 47*	2 sherds,	*Cha 65*	1 sherd

This classification of the Gua Cha sherds in groups numbered *Cha 1* to *Cha 65* comprises 2,759 sherds. These sherds are noted by the excavator as being found in natural layers. They are 'marked with name of the site and a number indicating their depth and approximate position, *i.e. CHA 18'*.[3]

Lacking field notes, it has only been possible to group the sherds according to appearance:

Sherd type	*Total*		*As percentage*
Red-slipped	93		3
Burnished	303		11
Plain (light)	345	891	32
Plain (dark)	546		
Cord-marked (light)	593	1,341	49
Cord-marked (dark)	748		
Cord-marked with reverse side burnished	72		3
Blackish	59		2
TOTAL	2,759		100

The next category of Gua Cha sherds are classified by the excavator as follows, with a total of 305 sherds:

Cha A4, 2 sherds, *Cha B2*, 7 sherds, *Cha B3*, 26 sherds, *Cha B4*, 20 sherds, *Cha B5*, almost one complete vessel of 8 sherds, *Cha B7*,

3 G. De G. Seiveking, ibid. p. 130.

2 sherds, *Cha N4*, including 2 ring stands, 33 sherds, *Cha P2*, 1 sherd, *Cha P5*, 1 sherd, *Cha P6*, 1 sherd, *Cha P11*, 48 sherds, *Cha P12*, 43 sherds, *Cha P15*, and *P15A*, 24 sherds, *Cha P36*, 11 sherds, *Cha P75*, 2 sherds, *Cha S2*, 11 sherds, *Cha S3*, 25 sherds, *Cha S5*, (including one complete vessel of 25 sherds) 39 sherds, *Cha S163*, 1 sherd.

Though a little more information is available for these sherds, again detailed analysis is not possible in the absence of the excavator's field data. All that can be culled from the excavators' published report is that the group *Gua Cha N4* is derived from Cutting 3, that the sherds *Gua Cha P2*, to *Gua Cha P75* are associated with Cutting 1, and that the small finds *Gua Cha S2* to *S163* are from Cutting 2.

Whilst examining the material, the author have been able to reconstruct some of the pot and vessel shapes. These reconstructions were drawn by the Museum artist Enche Abdul Halim bin Nasir, and are here produced. The measurements and other available data of the reconstructed vessels are also included.

Fig. 1 -CHA 16
BOWL

Light brown in colour. Cord-marked all over surface except at rim. Rim and reverse are burnished. Diameter at rim 20.3 cm. Height 4.6 cm.

Fig. 2 –CHA 18
BOWL

Light brown in colour. Base cord-marked whilst rim is burnished. Note rim shape. Diameter at rim 24.6 cm. Height 7.9.

Fig. 3–CHA 19
BOWL

The vessel is light brown in colour. Cord-marked at base whilst the rim is burnished and incurved. Diameter at rim 27.4 cm. Height 7.4 cm.

Fig. 4–CHA 18
BOWL

The colour of the vessel is light brown. Note rim is burnished and incurving. Cord-marked all over the base. Diameter at rim 27.1 cm. Height 8.7 cm.

Fig. 5 -CHA 16
BOWL

Light brown in colour. Base was possibly cord-marked, though rim is burnished. Diameter at rim 30.2 cm. Height 9.2 cm.

Fig. 6–CHA (unnumbered)
BOWL

The vessel is light brown. Note cord-marking – the vessel is cord-marked all over the base except the rim. The rim is plain whilst the reverse side is burnished. Diameter at rim 33 cm. Height 9 cm.

Fig. 7–CHA A1
BOWL

Possibly from burial *CHA A1* (or 25) in Cutting 3. The vessel is light red in colour. No cord-marking visible on surface. Note perforation at base of rim. Diameter at rim 28.9 cm. Height 8.7 cm.

Fig. 8–CHA N4
CARINATED BOWL

With high rim. Light brown in colour. Base is cord-marked but rest of body is burnished. The vessel was possibly footed. Diameter at rim 27.6 cm. Height approximately 9.8 cm.

Fig. 9–CHA 20
BOWL

With high rim. Light brown in colour. Bottom is cord-marked, with remainder of body burnished. Note horizontal grooves on rim. Diameter at rim 33.2 cm. Height 12.7 cm.

Fig. 10–CHA 36
BOWL

With high rim. Note rim has horizontal grooves and perforation. Dark brown in colour with body burnished all over. Diameter at rim 24 cm. Height 9.8 cm. (reconstruction).

Fig. 11–CHA 21
CARINATED BOWL

Light brown in colour. Cord-marked at base. Rim is burnished. Note perforation at base of rim. Diameter at rim 20.2 cm. Height 6.3 cm.

Fig. 12–CHA S5
BOWL

The vessel is of mixed black and light brown colour. Cord-marked all over the base while the rim and reverse is burnished. Diameter at rim 15.9 cm. Height 6.1 cm.

Fig. 13–CHA S5
BOWL

Reddish brown in colour. Base is cord-marked whilst rim is burnished. Diameter at rim 17 cm. Height 7.8 cm.

Fig. 14–CHA B5
BOWL

Possibly from Burial 5 in Cutting I.
The colour of the vessel is mixed black and light brown. Note incurving rim. Diameter at rim 16 cm. Height 9.4 cm.

Fig. 15–CHA S2
BOWL

Dark brown in colour. Base except the rim is cord-marked. Rim is burnished. Note bottom of bowl is slightly concave. Diameter at rim 25.2 cm. Height 9 cm.

Fig. 16–CHA B4
BICONICAL VESSEL

Possibly from burial 4 in Cutting I.
The vessel is light-brown in colour. Cord-marked all over except at rim. which is plain. Diameter at rim is 16.2 cm. Height 13.6 cm.

Fig. 17–CHA 19
BOWL

This large vessel is very light brown in colour. Note rim shape. No visible cord-making on surface but is burnished all over. It is possible that base was cord-marked. Diameter at rim 41 cm. Height approximately 16.8 cm.

Fig. 18–CHA 14
CLOBULAR VESSEL

The vessel is light brown in colour. Though it is a plain vessel, note groove at top of rim surface. Diameter at rim 29.2 cm. Height 16 cm.

Fig. 19–CHA (unnumbered)
DEEP BOWL

The vessel is light brown in colour. Cord-marked all over the base, rim plain. Diameter at rim 29 cm. The height is approximately 15.1 cm.

Fig. 20–CHA P2
BEAKER

The colour of the vessel is light brown. It is cord-marked all over. Diameter at rim 29 cm. Height of vessel is approximately 20.6 cm.

Fig. 21 -CHA 34
CUP

Light brown. Base and side have mat-impressed decoration; flat-bottom. Diameter at base 13.6 cm. Height approximately 11.9 cm. Diameter at rim approximately 10.1 cm.

Fig. 22–CHA 47
FOOTED VESSEL WITH CYLINDRICAL RING FOOT

The colour is very light brown – almost white. Diameter of ring foot 8.8 cm. It was not possible to measure height. Possibly surface was plain, whilst inside or reverse side was burnished.

Fig. 23–CHA 18
JAR-LIKE VESSEL

Light brown. Note parallel grooved cord-marking. Diameter at greatest width 16.7 cm. Diameter at base of rim 9.5 cm.

Fig. 24 –CHA 21
POT-STAND–RING STAND

The colour is light brown. Note perforation. Plain ring stand. Diameter 12 cm. Height 2 cm.

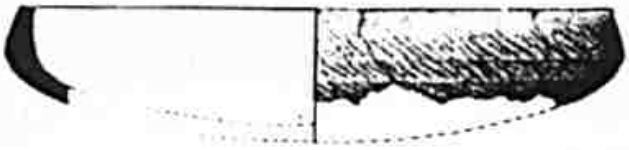


Fig.1

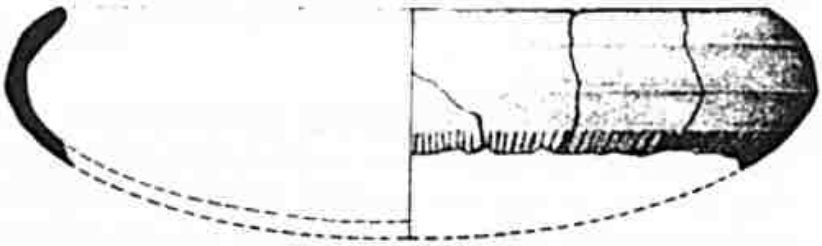


Fig.2

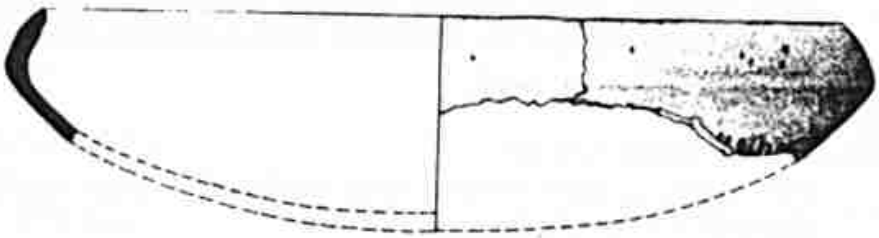


Fig.3

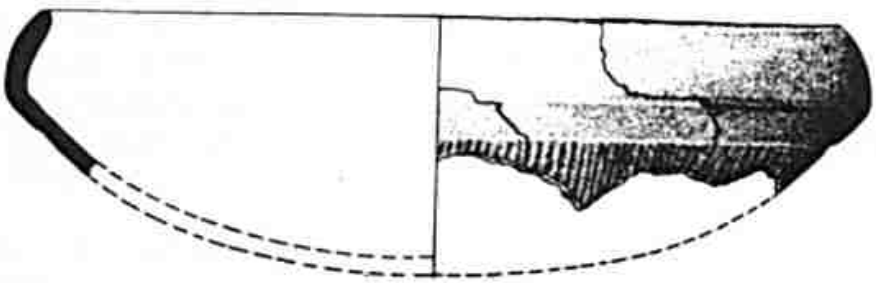


Fig. 4.

cm.

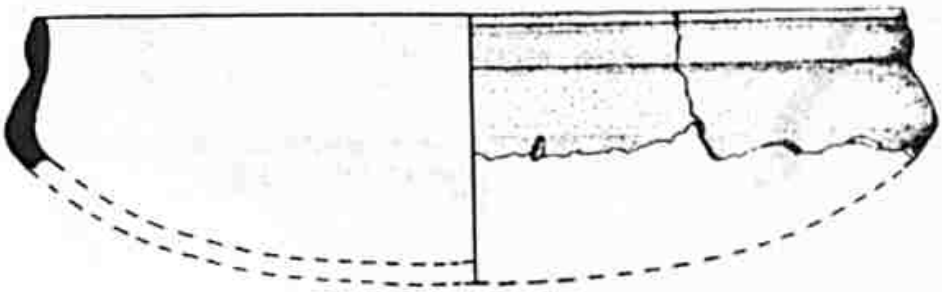


Fig. 5.

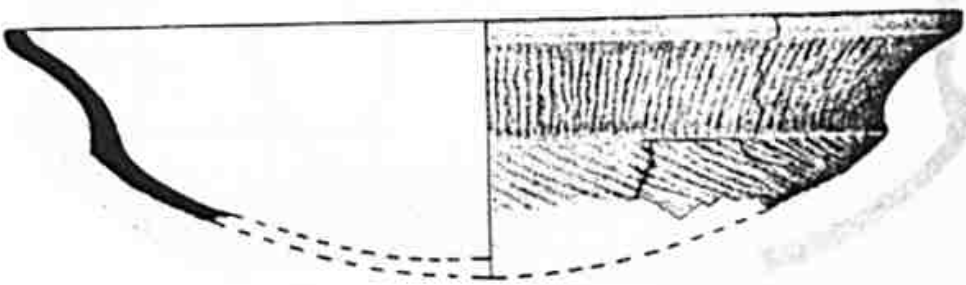


Fig. 6.

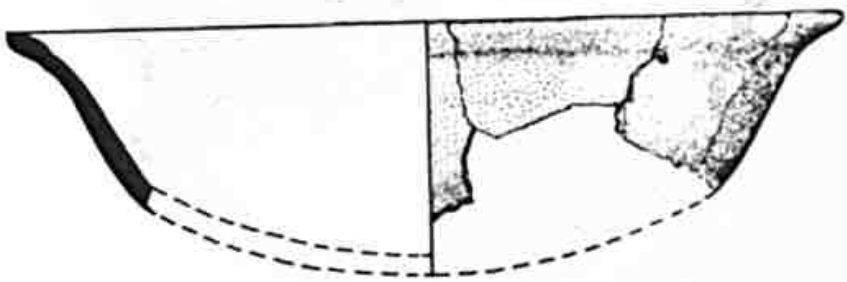


Fig. 7.

cm.

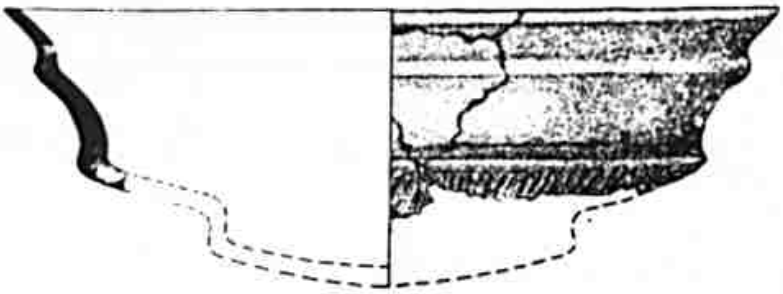
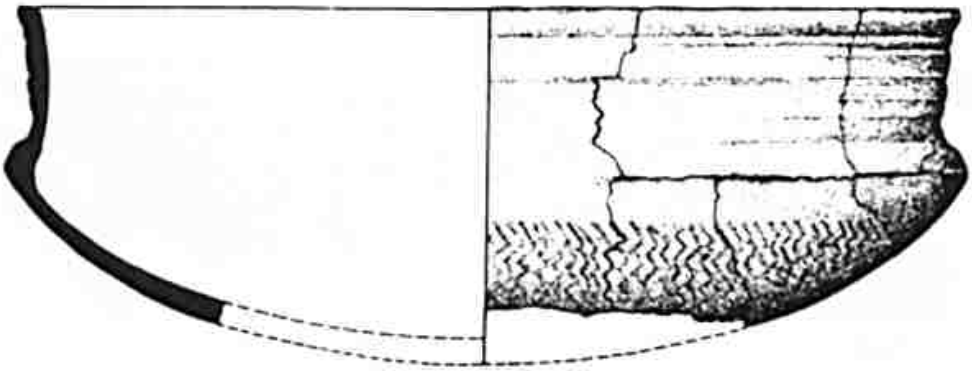


Fig. 8



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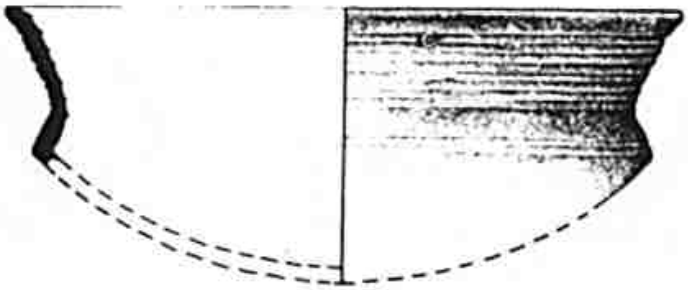

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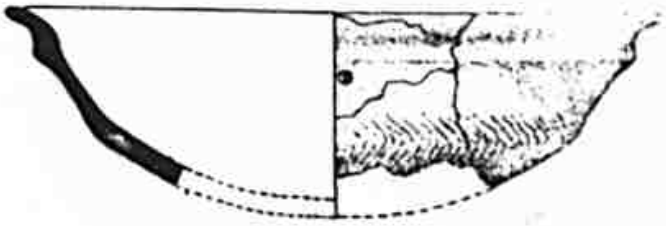

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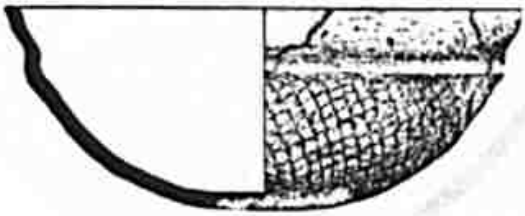

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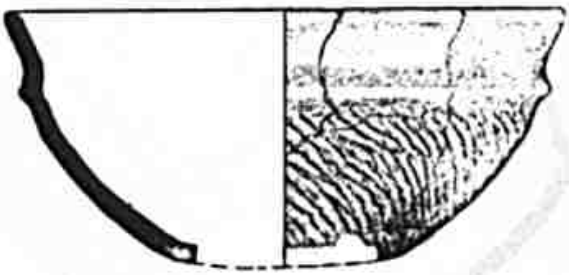

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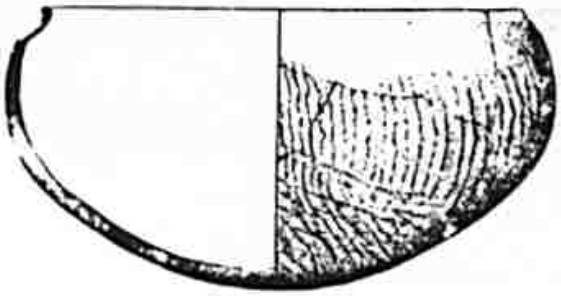

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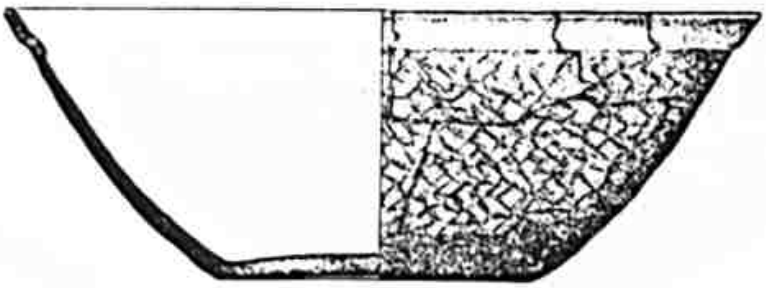

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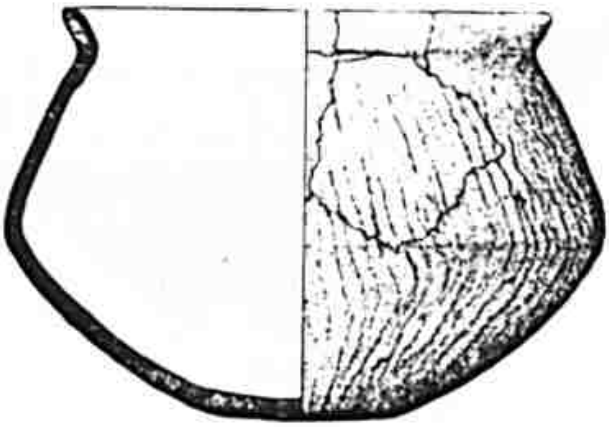

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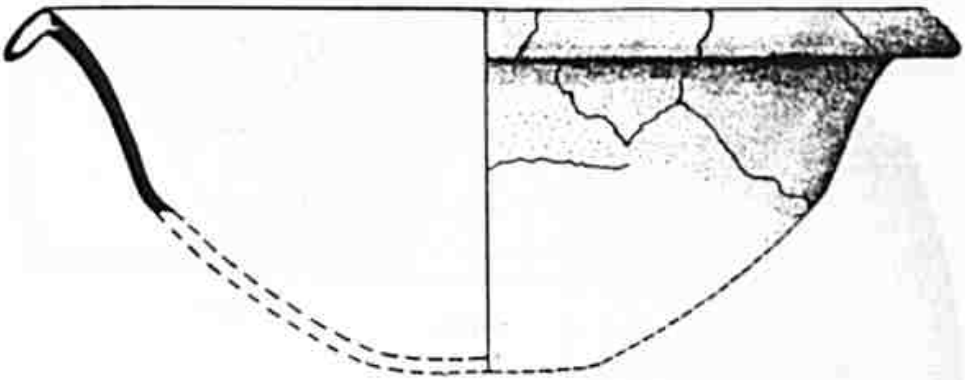

Fig. 17

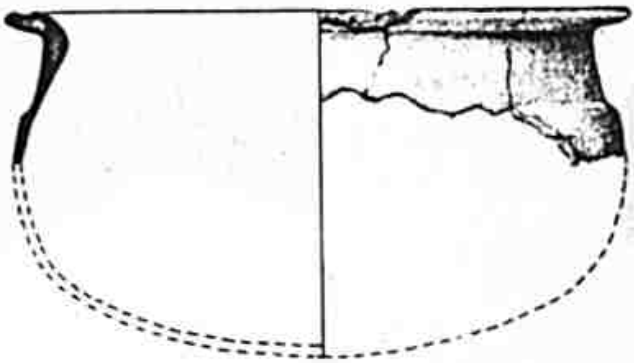

Fig 16

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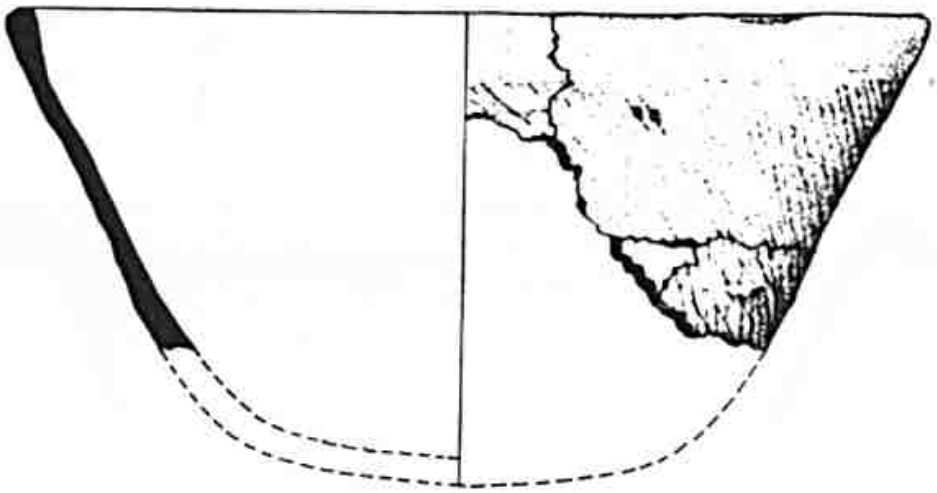

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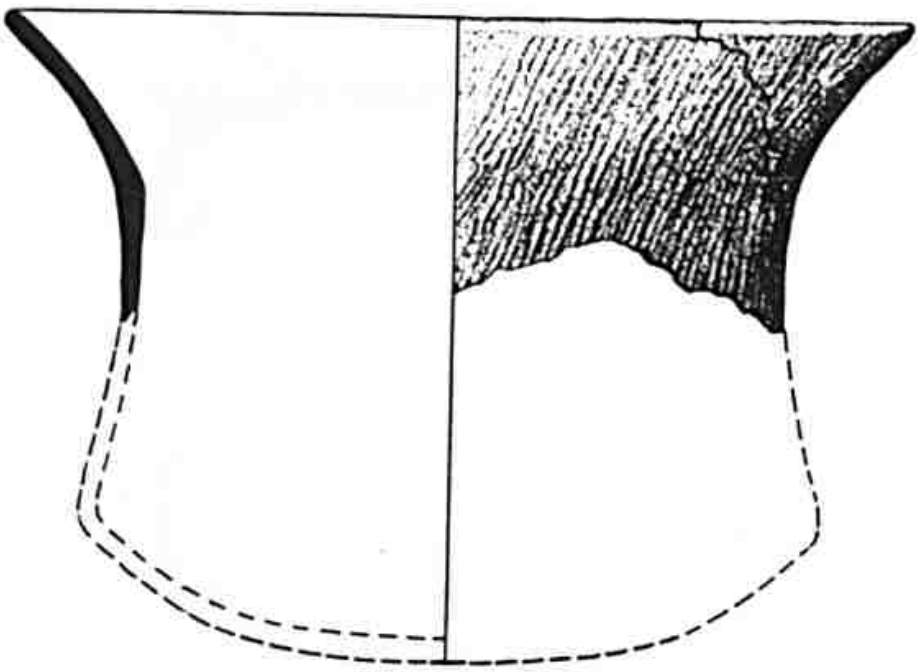

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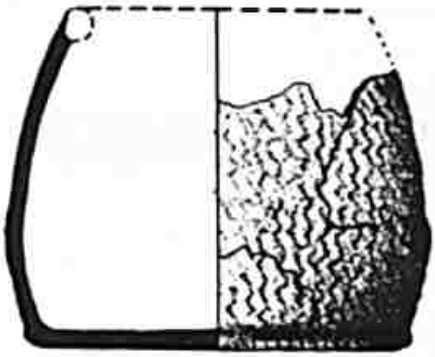

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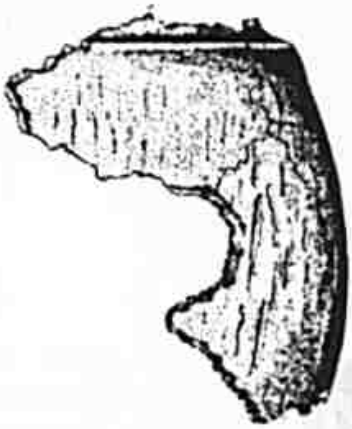

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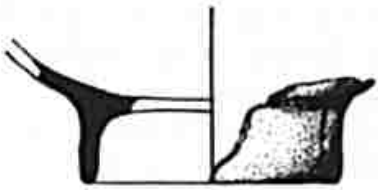


Fig. 22.

Fig. 24.

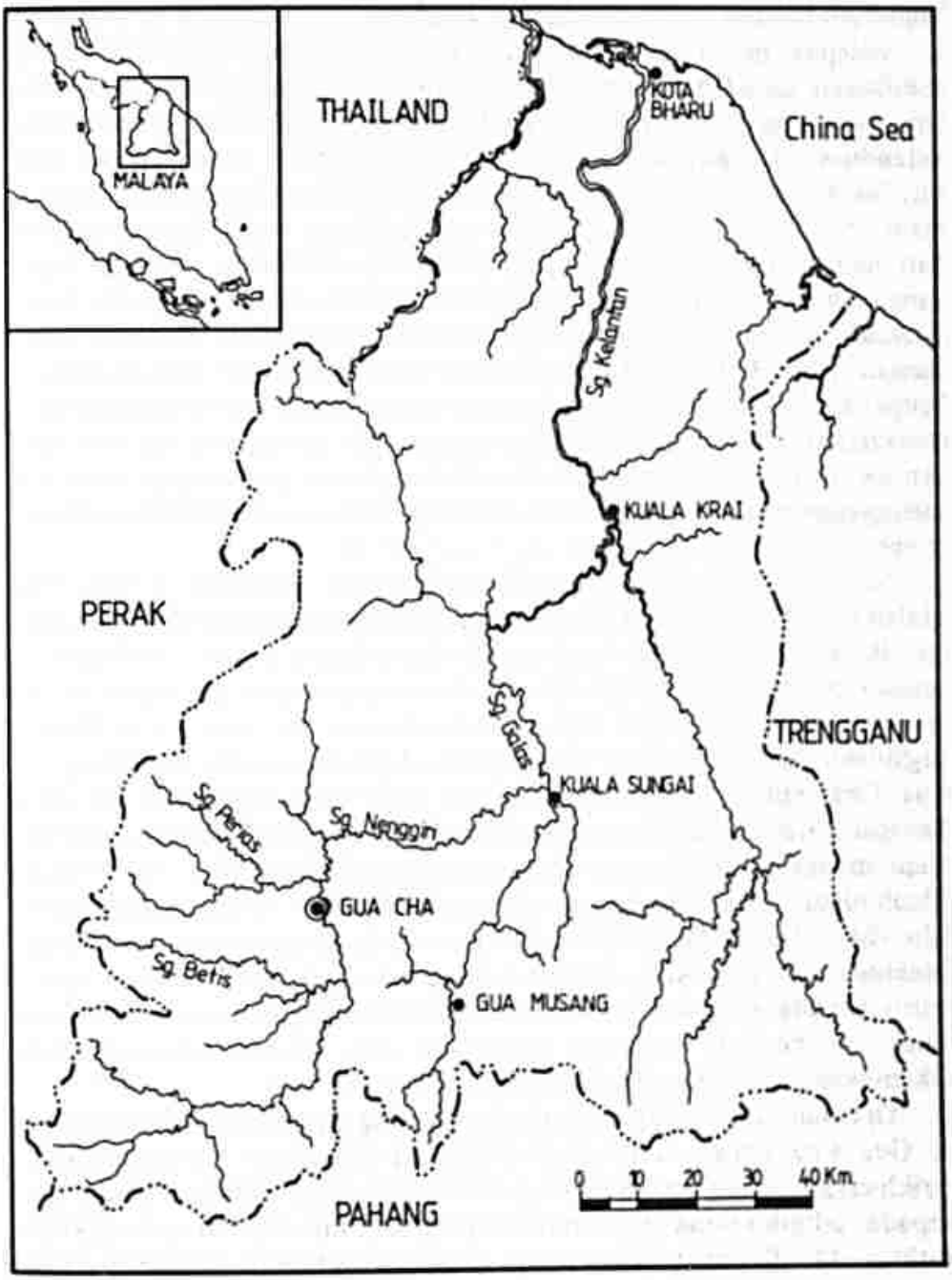
Gua Cha — Satu Perkampungan 10,000 Tahun Silam

ADI HAJI TAHA

GUA Cha di dalam artikata sebenarnya bukanlah satu gua tetapi adalah batu lindungan atau *rock shelter* yang terletak di tebing utara Sungai Nenggiri di pendalaman Ulu Kelantan, kira-kira 16 kilometer ke hilir Kampung Kuala Betis. Semasa kajian dijalankan, kawasan Gua Cha yang terletak di kawasan keselamatan tidak dihuni oleh sesiapa pun. Keadaan sedemikian secara tidak langsung telah menyelamatkan gua tersebut dari dicerobohi oleh penggali-penggali baja asli seperti yang berlaku pada gua-gua lain di negara ini.

Perjalanan ke Gua Cha adalah penuh dengan cabaran kerana tiada jalan darat yang menghubungi Gua Cha dengan kawasan lain. Semasa kajian ini dijalankan rombongan kami terpaksa mengharungi Sungai Nenggiri dengan menaiki rakit buluh yang dibuat oleh penduduk Orang Asli dari Kampung Kuala Betis ke Gua Cha yang mengambil masa hampir 6 jam. Dari Gua Menteri ke Kuala Betis pula kami menaiki jeep Jabatan Kerja Raya dan Pejabat Jajahan melalui jalan balak yang licin dan becak. Pada ketika itu Gua Musang hanya dihubungi oleh jalan keretapi sahaja.

Gua Cha mula mendapat perhatian ahli-ahli arkeologi pada awal tahun 1930-an apabila H.D. Noone yang sedang membuat kajian mengenai Orang Asli di kawasan tersebut membuat penggalian secara ringkas di dalam gua itu (Noone 1936) tetapi kajian yang lebih menarik telah dijalankan oleh G. de G. Sieveking pada tahun 1954, yang ketika itu adalah Kurator Muzium-muzium Negeri Tanah Melayu (kini bertugas sebagai 'Keeper of the Prehistoric and Romano – British Antiquities di British Museum).


MALAYA
THAILAND
KOTA BHARU
China Sea
Sg Kelantan
KUALA KRAI
PERAK
Sg Galas
TRENGGANU
KUALA SUNGAI
Sg Perak
Sg Nenggan
GUA CHA
Sg Betis
GUA MUSANG
0 10 20 30 40 Km
PAHANG

Seiveking telah menggali 3 petak besar yang meliputi keluasan 101 meter persegi (2124 kaki persegi), sedalam kira-kira 2 meter di dalam gua tersebut. Pada lapisan bawah, beliau menemui artifek-artifek batu, rangka manusia dan sisa-sisa makanan yang terdiri dari longgokan tulang-tulang anak babi, yang keseluruhannya digulungkan sebagai komplek kebudayaan 'Hoabinhian' iaitu satu tahap kebudayaan yang tersebar luas di daratan Asia Tenggara dan Timur Laut Sumatera. Masyarakat ini tidak mempunyai kepandaian bercucuk tanam dan mereka bergantung kepada aktiviti mengumpul tumbuhan liar dan memburu haiwan untuk sara hidup seharian.

Selepas pendudukan masyarakat 'Hoabinhian' tadi, Sieveking mendapati Gua Cha tidak didiami untuk satu jangka masa yang panjang yang menurut anggarannya lebih kurang 2000 tahun berdasarkan ketandusan artifek pada lapisan atas 'Hoabinhian' tadi. Selepas dari itu, Sieveking mendapati Gua Cha telah sekali lagi dihuni oleh masyarakat yang menghasilkan artifek yang berlainan sekali dengan artifek dari lapisan bawahan tadi, yang terdiri dari tembikar, alat-alat batu yang halus buatannya, alat perhiasan batu dan rangka manusia yang ditanam secara membujur, iaitu ciri-ciri masyarakat Neolitik atau Zaman Batu Baru di Tanah Melayu. Masyarakat ini menampakkan keupayaan dan pencapaian teknologi yang tinggi berbanding dengan masyarakat sebelumnya di dalam penghasilan tembikar yang berbagai bentuk dan ragam hias, dan ada kemungkinan masyarakat tersebut menggunakan roda pemutar di dalam penghasilan tembikar-tembikar tersebut.

Sesungguhnya kajian yang dijalankan oleh Sieveking di Gua Cha adalah satu kajian yang paling penting yang pernah dijalankan di negara ini. Banyak bukti-bukti baru telah diperolehinya, dan berdasarkan kepada penemuan tersebut kita telah mendapat satu gambaran kasar mengenai perkembangan sejarah kebudayaan di negara ini. Walau bagaimanapun sejak dari kajian yang dijalankan oleh Sieveking di Gua Cha banyak sudah kajian-kajian lain yang dijalankan di Asia Tenggara. Kebanyakan penemuan diperolehi dari kajian-kajian tersebut telah mencabar teori yang dikemukakan oleh Sieveking. Masyarakat 'Hoabinhian' kini dipercayai telah wujud sejak 13,000 tahun yang lalu dan tidak 5,000 tahun seperti yang diutarakan oleh Sieveking. Penemuan di Ban Kao, Thailand yang menghasilkan tembikar yang mirip kepada tembikar dari Gua Cha telah menghasilkan bukti-bukti yang menghendaki penilaian semula ke atas interpretasi yang telah dikemukakan oleh Sieveking untuk Gua Cha.

Di dalam lain perkataan, bukti-bukti yang diperolehi oleh Sieveking di Gua Cha masih kabur dan boleh dipertikaikan. Pertama sekali, tarikh-tarikh yang dikemukakan oleh Sieveking tidak berdasarkan kepada teknik-teknik pentarikhan yang konkrit seperti pentarikhan karbon 14. Keduanya Sieveking tidak menerbitkan analisis artifek

atau bahagian kedua laporannya seperti yang dinyatakan dan ini mencatatkan gambaran seluruhnya dan pengetahuan kita mengenai proses perkembangan kebudayaan di Gua Cha. Akhir sekali, sejarah endapan di Gua Cha yang diutarakan oleh Sieveking adalah kurang tepat dan kabur, yang katanya terdiri dari bahan organik dan numus. (Tetapi menurut analisis tanah-tanah yang dijulat lainnya terdiri dari alluvium).

Atas sebab demikian, saya memilih untuk menyiasat semula Gua Cha yang amat penting dari sudut arkeologi negara ini. Dalam masa yang singkat, saya telah menggali dua petak di kawasan yang berdekatan dengan petak-petak yang digali oleh Sieveking pada tahun 1954. Tujuan utama kajian ini ialah untuk mendapat maklumat tambahan mengenai Gua Cha dengan menggunakan teknik-teknik moden termasuk membuat pengapungan tanah tanih untuk mendapat bukti polen dan arang untuk pentarikhan (lihat Adi Haji Taha, The Re-excavation of the Rock shelter of Gua Cha, West Malaysia, *Federation Museum Journal* vol. 30, 1985).

Penemuan yang diperolehi dari Gua Cha di dalam ekskavasi 1979 tidak banyak berbeza dari apa yang diperolehi oleh Sieveking. Masyarakat 'Hoabinhian' di Gua Cha telah menghasilkan alat-alat batu yang dibuat secara halus dan terperinci dengan direpeh pada sebahagian atau seluruh permukaan batu-batu sungai yang diperolehi di kawasan tersebut. Bersama-sama dengan alat-alat 'Hoabinhian' ini juga ditemui banyak tulang-tulang binatang terutama babi dan haiwan liar termasuk seladang. Berdasarkan pentarikhan karbon 14 masyarakat 'Hoabinhian' dipercayai telah menapak di Gua Cha sejak kira-kira 10,000 tahun yang silam sehingga lebih kurang 3,000 tahun yang lalu. Tanah tanih dan endapan di Gua Cha didapati terdiri dari aluvium dan ini menunjukkan bahawa gua ini sentiasa dilimpahi banjir pada peringkat awal kejadiannya, yakni ketika paras gua itu adalah 2 meter di bawah paras sekarang.

Tidak ada bukti yang menunjukkan bahawa masyarakat 'Hoabinhian' di Gua Cha sudah bercucuk tanam. Mereka juga tidak mempunyai hubungan dengan masyarakat di persisiran pantai kerana ketiadaan siput laut seperti yang dijumpai pada tahap Neolitik. Di samping itu, terdapat rangka manusia yang ditanam di dalam keadaan merengkok' dan kepala salah satu mayat tersebut diletakkan di atas "bantal" batu. Bahagian badan mayat ditutup dengan menggunakan batu atau 'tufa' dan terdapat kesan haematit yang disemah pada batu-batu tersebut.

Pada lapisan atas lapisan 'Hoabinhian' tadi terdapat satu lapisan tandus yang tidak begitu jelas seperti yang diperhatikan oleh Sieveking. Lapisan ini disusuli oleh Neolitik, yang berdasarkan pentarikhan karbon 14 Neolitik di Gua Cha wujud lebih kurang 3,000 tahun yang lalu. Tidak banyak bukti yang diperolehi untuk kebudayaan Neolitik di dalam ekskavasi ini. Artifek-artifek hanya terdiri dari tembikar sahaja

yang banyak terdapat pada kedalaman 30–40 sm dari permukaan tanah di bahagian timur gua tersebut, dan di kedalaman 50–60 sm di bahagian baratnya. Beras terbakar dijumpai di dalam kuantiti yang banyak di lapisan 30 sm dari permukaan tanah di dalam petak III yang digali oleh Sieveking dan telah memberi tarikh 1000 tahun yang silam Yang menjadi tanda tanya sekarang ialah sama ada beras tersebut ditanam di sekitar Gua Cha di kala Neolitik atau tidak. Ekonomi masyarakat di Gua Cha belum dapat dipastikan dengan nyata tetapi adalah dipercayai terdapat aktiviti perkebunan secara pindah randah. Keladi hutan yang menjadi bahan makanan utama masyarakat Neolitik kelihatan tumbuh dengan suburnya di sekitar Gua Cha di tebing Sungai Nenggiri. Pengusahaan padi huma oleh Orang Asli sekarang ini mungkin telah dilakukan oleh masyarakat Neolitik sejak beberapa ketika yang silam.

Di dalam ekskavasi ini tidak dijumpai sebarang pengkebumian masyarakat Neolitik walaupun di dalam ekskavasinya, Sieveking telah menemui lebih dari 30 pengkebumian tersebut.

Hasil dari temuan-temuan yang dibuat di dalam ekskavasi pertama ini, sedikit sebanyak telah memberi pemahaman mengenai masyarakat purba di negara ini. Kita sedia maklum bahawa bahagian pendalaman Tanah Melayu termasuk di sekitar Gua Cha didiami oleh masyarakat Orang Asli, iaitu Semang/Negrito di utara Gua Cha dan Senoi (Temiar) yang tinggal di Kampung Kuala Betis. Orang Asli bertutur di dalam bahasa yang digulungkan sebagai Mon dan Khmer (Burma/Kambodia) dan bahasa-bahasa yang ada kaitan dengannya iaitu Austro-Asiatik (termasuk Vietnam) yang pernah digunakan oleh masyarakat di serata Tanah Besar Asia. Penggunaan bahasa ini terhapus atau diserap ke dalam bahasa Thai dan Melayu. Masyarakat Melayu (Austronesia) dan masyarakat yang berada di sini sekarang dipercayai telah datang kira-kira 2,000–3,000 tahun yang lalu dari Indonesia, Kepulauan Borneo dan mungkin Sumatera.

Justru itu, bukti-bukti dari Gua Cha dan gua-gua lain di negara ini tidak mempunyai kaitan yang langsung dengan masyarakat Melayu yang menduduki negara ini, di dalam lain perkataan, bukti-bukti prasejarah dari Gua Cha mempunyai kaitan yang lebih rapat dengan prasejarah Orang Asli keseluruhannya. Hoabinhian wujud di Thailand, Kampuchea dan Vietnam dan tidak di Indonesia (kecuali di Timur Laut Sumatera). Tembikar dan alat-alat batu Neolitik di Gua Cha, walaupun berbeza dari segi bentuk adalah dipercayai mempunyai asas dari Selatan Thailand kira-kira 1000 s.m.

Dari kajian-kajian yang telah dijalankan di Gua Cha, dapat dibuat gambaran mengenai sejarah kebudayaan di kawasan tersebut. Kira-kira 10,000 tahun dahulu, Gua Cha telah diduduki oleh masyarakat Hoabinhian di mana besar kemungkinan terdiri dari moyang masyarakat Orang Asli atau petutur bahasa Austro-Asiatik sekarang. Bentuk-

bentuk fizikal masyarakat tersebut berdasarkan rangka-rangka yang telah ditemui di dalam kerja-kerja ekskavasi tersebut adalah berbentuk perantaraan masyarakat Mongoloid di Asia Tenggara dan 'Australoid' di Australia dan Papua New Guinea, yang dikatakan oleh ahli-ahli anthropologi fizikal sebagai penduduk 'Clinal' di mana orang-orang Asli digulungkan.

Tinggalan manusia Neolitik berbeza sedikit dari manusia "Hoabinhian" tetapi dipercayai terdiri dari kumpulan yang sama. Perbezaannya hanya akibat oleh perubahan corak hidup dan pencapaian teknologinya. Masyarakat "Hoabinhian" di Tanah Melayu dipercayai telah menggunakan atau mengambil teknik-teknik perladangan dan pembikinan tembikar dari masyarakat di selatan Thailand dan moyang Senoi telah mewarisi aktiviti tersebut *albiet* dengan mengubah kebudayaan kebendaan mereka. Tembikar mereka walaupun sekarang sudah tidak dibuat lagi oleh masyarakat Orang Asli tetapi bila dan kenapa ianya tidak digunakan belum dapat diketahui dengan jelas. Sebaliknya masyarakat Semang masih mengamalkan aktiviti ekonomi memburu dan mengumpul makanan dan bentuk fizikal mereka juga tetap berbeza dari kumpulan Senoi.

Prasejarah Gua Cha adalah berkait rapat dengan prasejarah Orang Asli. Tamadun Hindu/Buddha di Lembah Bujang, Kedah dan kedatangan masyarakat Melayu di Semenanjung Malaysia tidak mempengaruhi masyarakat yang menghuni di sekitar Gua Cha. Serpihan-serpihan seramik China yang jumpai di Gua Cha, dipercayai besar kemungkinan dibawa masuk oleh pedagang-pedagang yang mencari hasil hutan.

Setakat ini gambaran mengenai bukti peninggalan prasejarah di Gua Cha, sudah agak jelas tetapi untuk menjawab beberapa kemusykilan yang lain, kajian yang lanjut perlu diselidiki lagi.

Rujukan:

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Noone, H.D.
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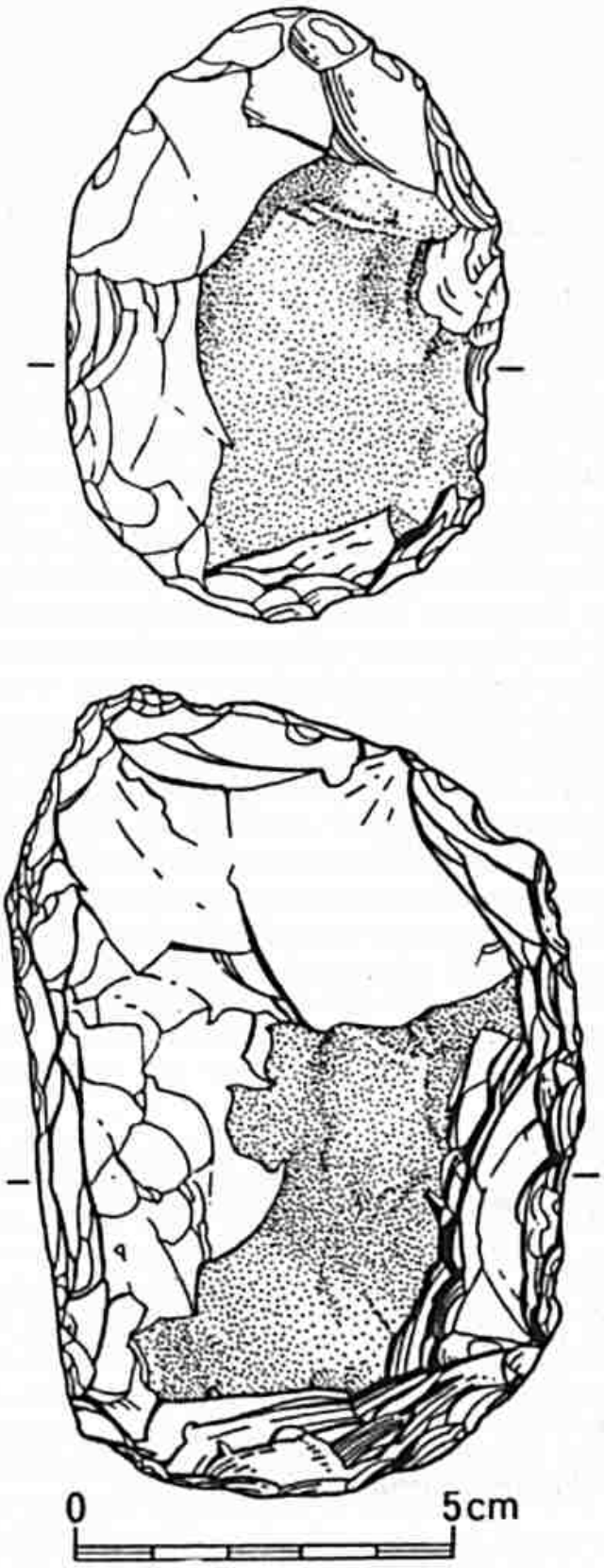
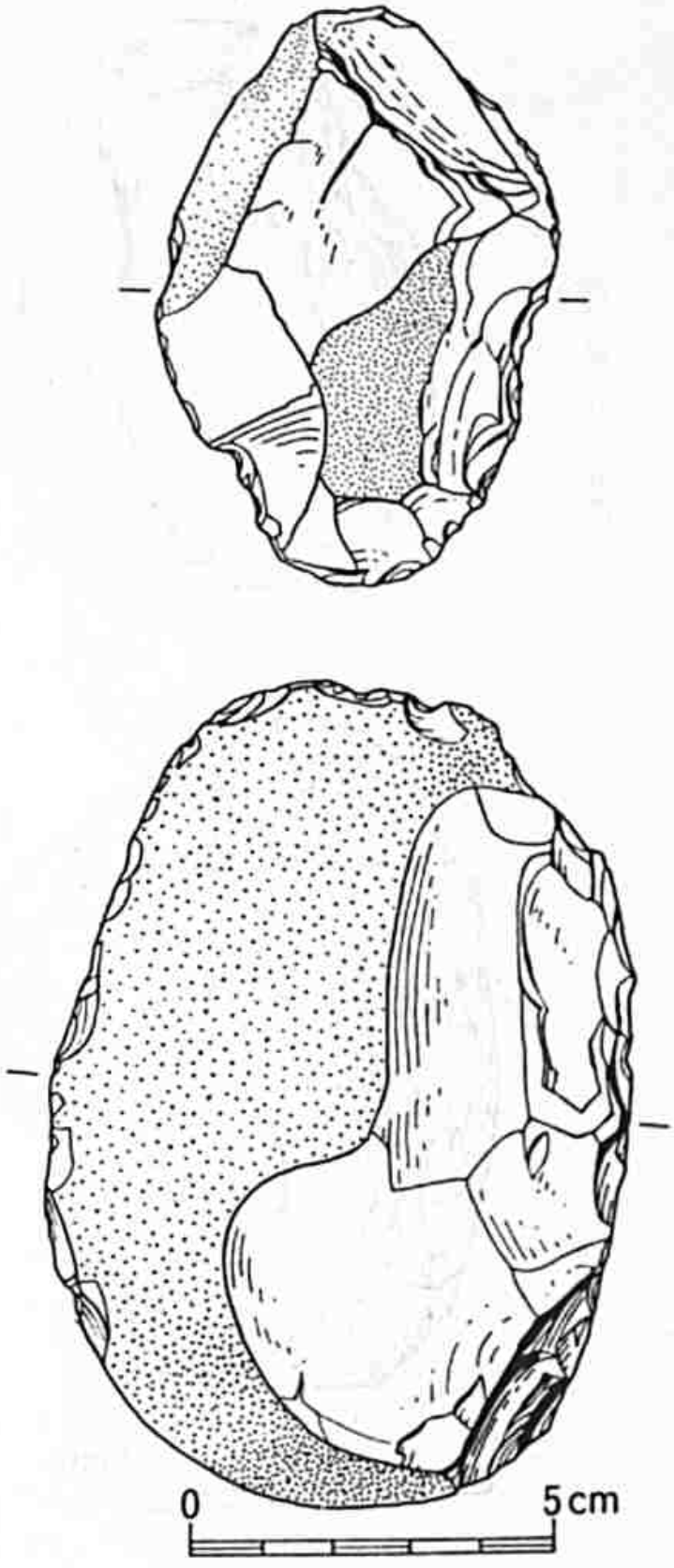
Sieveking, G. de. G.
1954 – Excavations at Gua Cha, Kelantan, 1954. Part 1, *Federation Museums Journal*, vol. I/II.



Alat batu 'Hoabinhian' dari Gua Cha, Ulu Kelantan (1979)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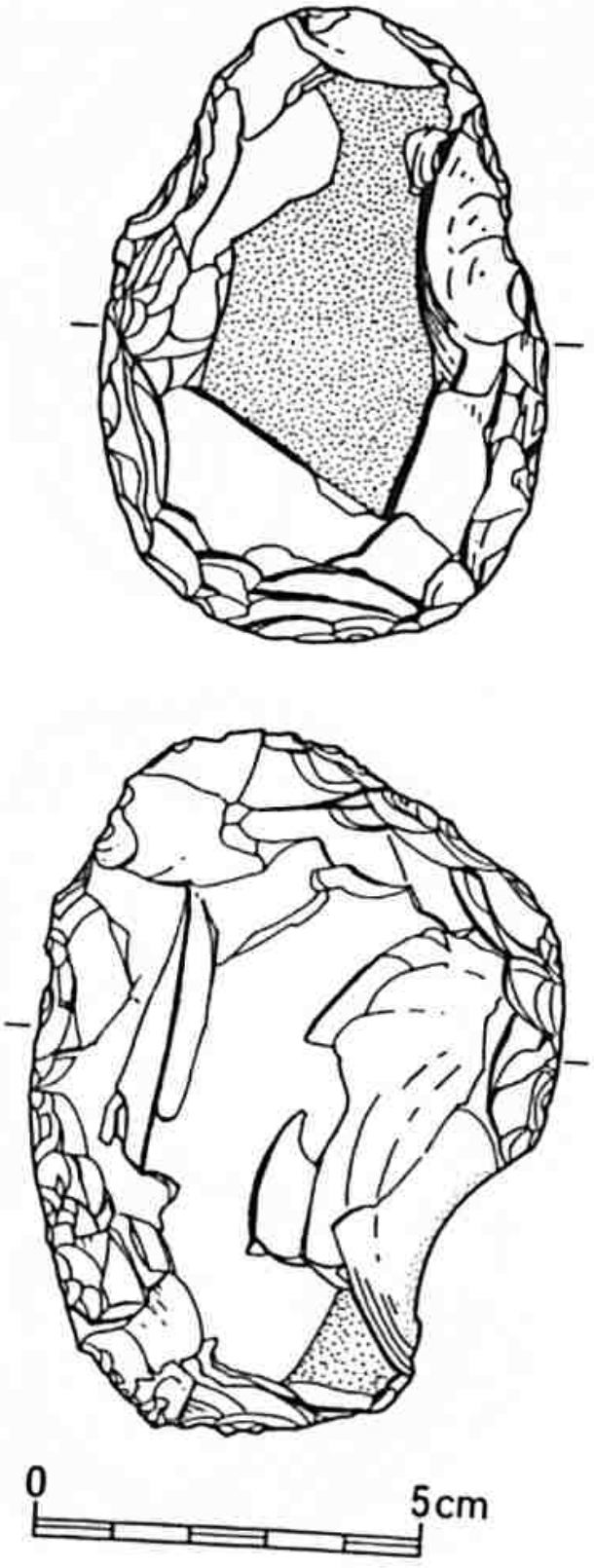
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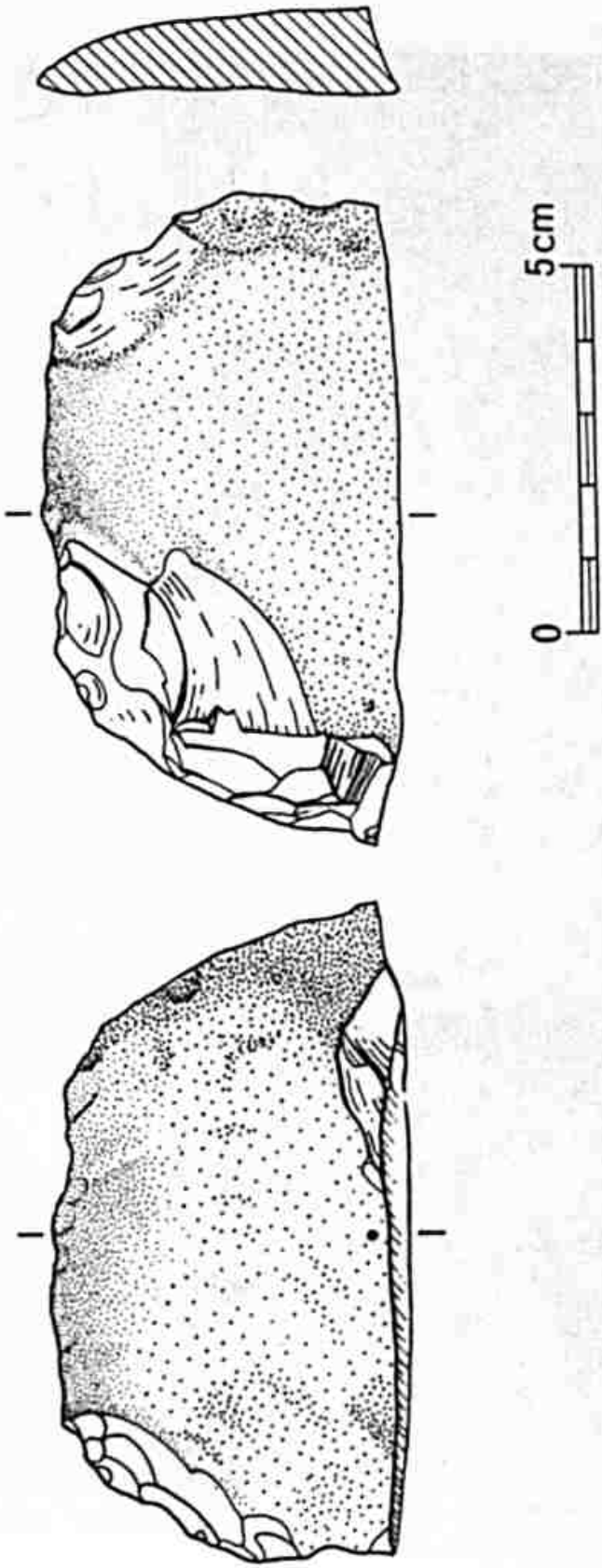
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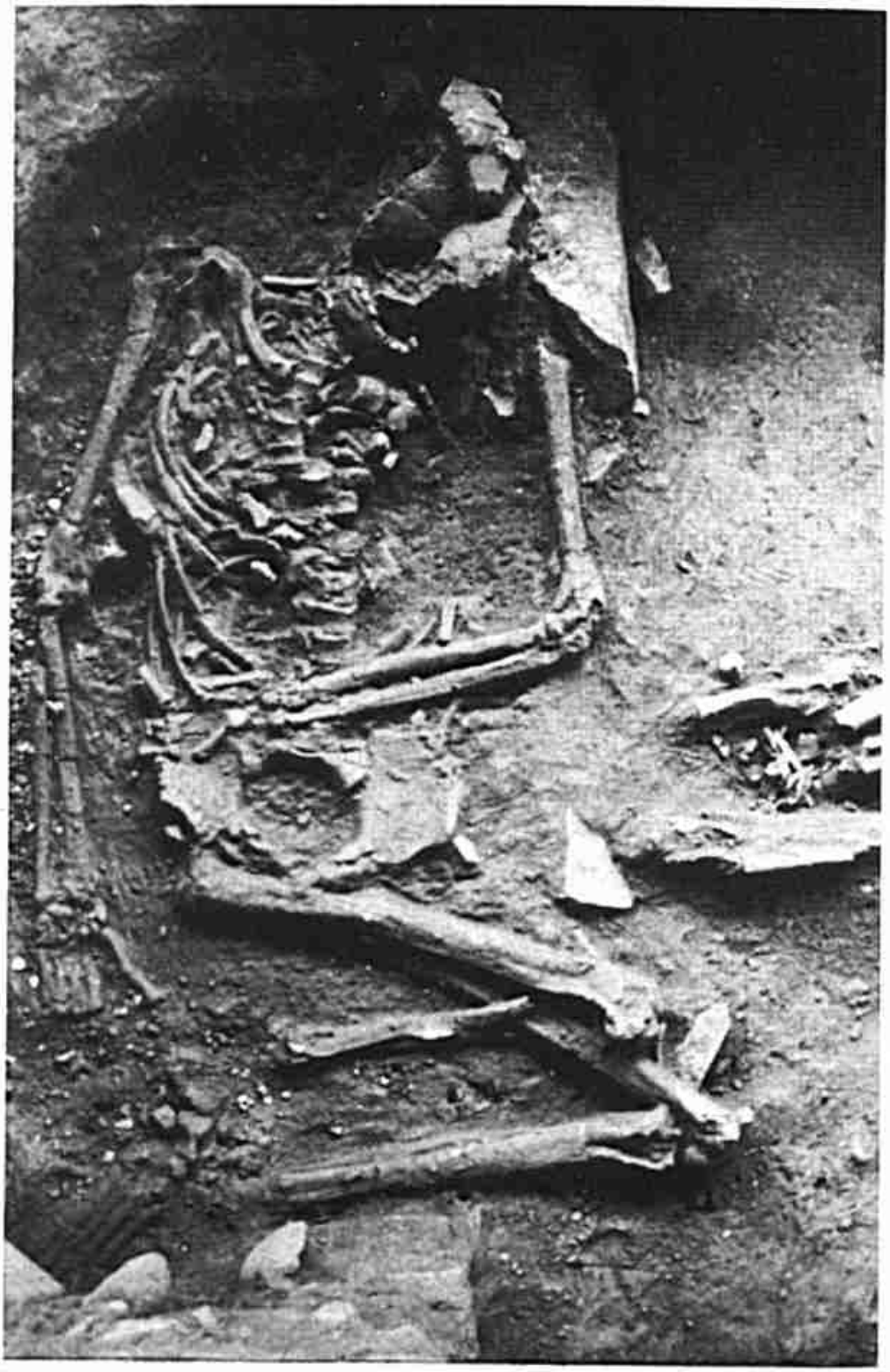
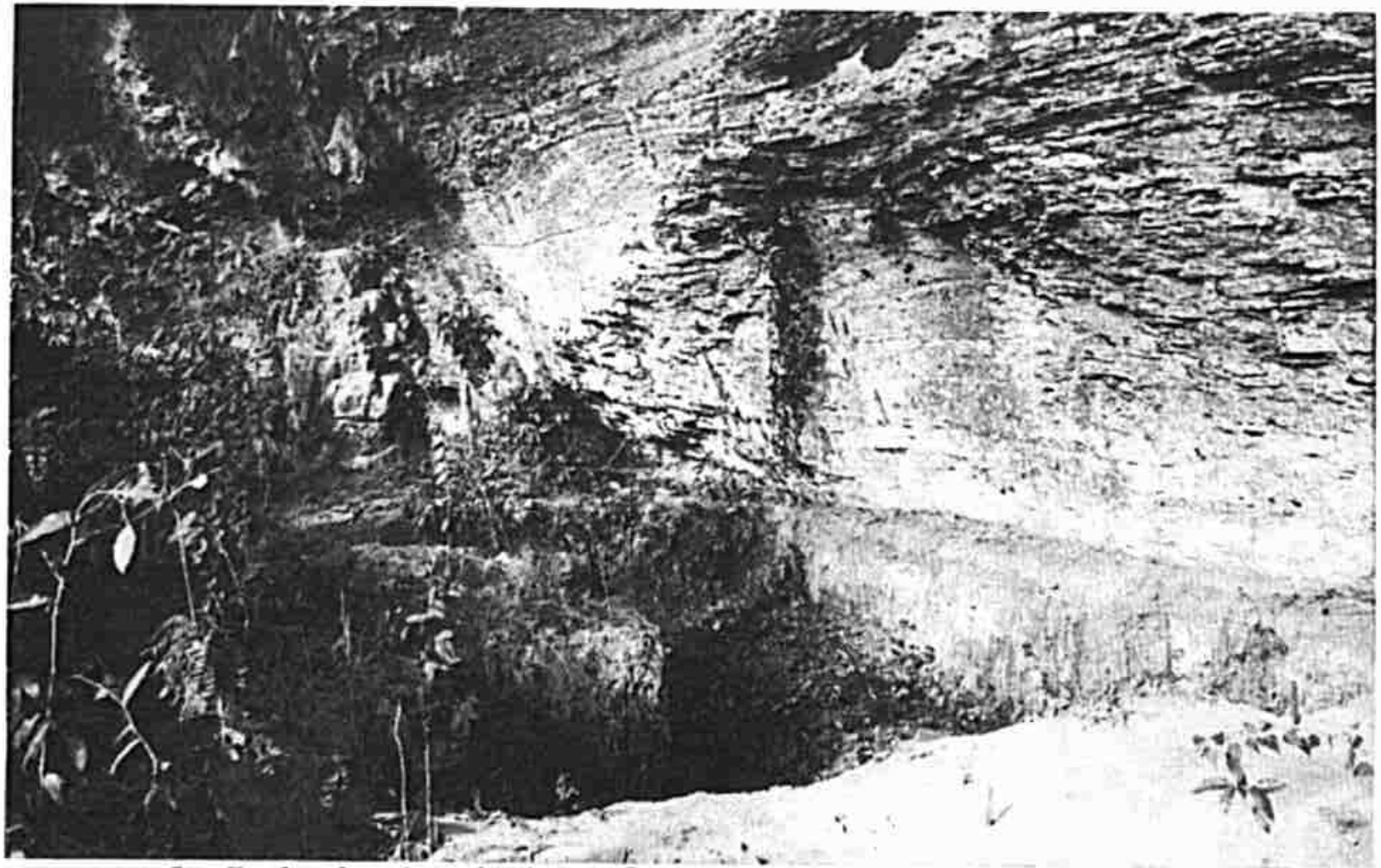


Pengkebumian Hoabinhian dari Gua Cha (1979). Kelihatan kepada mayat diletakan di atas "banfal" batu.

Beras berbakar dari Gua Cha dijumpai pada kedalaman 30-40 sm yang memberi tarikh 1000 tahun BP.



Gua Cha dipandang dari sudut timur. Kelihatan petak-petak yang digali oleh Sieveking (1954)

Rakit yang digunakan untuk pergi ke Gua Cha dari Kampung Kuala Betis.

Recent Archaeological Discoveries In Malaya (1945-50)*

P.D.R. WILLIAMS-HUNT

Kelantan.

Ulu Kelantan District.

a. Gua Bukit Peraling, Sungai Yai near kuala with sg. Perias (Malaya, ¼" series, sheet 2 J, E 6756).

Eight fragments of stone tools and pottery shards including both cord-marked and burnished types from trial excavation by H.D Collings, 1947. This cave is otherwise undisturbed. (R.M. no. 47-37a-h). This site can not be seen on air photographs held in the Government Survey Departmen, Kuala Lumpur.[1]

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* Extract from Journal of the Malayan Branch Royal Asiatic Society. Vol. 24(1) *186*, 1951.

1 A useful summary of archaeological finds in Kelantan up to the war was compiled by the late Anker Rentse and appears in JMBRAS, 20, pt I, 1947 (pp. 23-40) under the heading "A Historical Note on the North-Eastern Malay States."

Recent Archaeological Discoveries In Malaya (1951)*

P.D.R. WILLIAMS-HUNT

Kelantan.

Ulu Kelantan District.

Combined expedition by Museums Department and Department of the Adviser on Aborigines, Federation of Malaya, June 1951.

a. Gua Musang. Cave in limestone outcrop disturbed by guano diggers. (Malaya, 1" Air Reconnaisance Map. sheet 2 N/4. vE 964065).
   i. Neolithic beaked adze in "mint" condition.
   ii. Various fragments of pottery including cord marked wares and shards of red burnished "cake stand".

b. Gua Serai. Shallow cave in limestone outerop disturbed by guano diggers. (Sheet 2 N/4, vE 961061). Site contained a quantity of *Melania* shells.
   i. Six very rough ovate Mesolithic type tools.
   ii. A pounder and three stones covered in ruddle.

Road cutting near bridge over Sungai Ketil, Sheet 2 N/4, vE 956060)

   i. Two badly weathered Neolithic beaked adzes and a hatchet shaped axe. Found by men of the Malayan Engineer Squadron whilst excavating gravel for an air strip and presented to the Selangor Museum by 2/Lt A.T. Hatlock R.E. 10 June 1953.

* Extract from Journal of the Malayan Branch of the Royal Asiatic Society. Vol. 25(1): *181–190*, 1952.

ii. The rear half of a third badly weathered adze. Found by Meseum staff.

Sungai Nenggiri, Gua Chah also called Gua Menteri and, by the Temiar aborigines, Gua Chos. (Malaya, 1" Air Reconnaissance Map, sheet 2 J/16, vE 712223. This map has been prepared largely from air photographs and the present limestone outcrop, which is a very small one, does not appear on it).

i. Two Mesolithic type stone axes.
ii. A large series of miscellaneous flakes.
iii. Two small pebbles used as rubbers.
iv. Twelve fragments of pottery including pieces of red burnished "cake stands" and cord marked shards including one in which a heavy chevron pattern has been overlaid with a thick burnished slip.

This site was examined by the late H.D. Noone in (?) 1939 and reported in *Journal of the FMS Museums*, **15**, pt 4. Apart from the trial trenches the site is undisturbed and is scheduled for complete excavation this year (1952). On June 15 a human skeleton laid under thin limestone slabs was seen to be partially exposed at the end of one of the trial trenches. This has been barred over pending excavation.*

Recent Archaeological Discoveries 1962-1963 Malaya*

B.A.V. PEACOCK

THE principal archaeological work carried out in Malaya during 1962 was the excavation of the rock shelter, Gua Kechil, near Raub, Pahang, by a team from the University of Malaya led by Dr. F.L. Dunn of the Institute for Medical Research, Kuala Lumpur. A full report on this excavation appears in this issue of the journal.

The following are short notes on some significant discoveries made by the Archaeological Research Unit of the University of Malaya during 1963.

KELANTAN

Gua Chawan, Ulu Kelantan District, Map reference: 1:63,360 air reconnaissance map 2 J/16 vE715330

This site was discovered in the course of archaeological exploration of the Sungai Nenggiri region carried out by Dr. H.A. Lamb and the writer in August, 1963. Following information supplied by A.S.P. Leong, officer in charge of the police post at Gemala, we investigated the south-west face of Gua Chawan, a small limestone outcrop situated on the left bank of the Sungai Jenera slightly more than a mile above its confluence with the Sungai Neggiri. The sheer limestone cliff follows the line of the river for about a hundred yards and has been eroded into an extensive rock shelter, or series of rock shelters, subdivided by stalagmitic formations. At one point there is a large stalagmitic cup from which the whole feature takes its name. The main rock shelter is about thirty feet from the river bank and its deposits, which were about twelve feet above the water level at the time we made our on-

* Reprint from *Journal of the Malaysian Branch of the Royal Asiatic Society*. Vol. 37(2): *201–206*. 1964.

servations, were composed of river sands indicative of flooding.

These deposits were found to be archaeologically sterile to a depth of three feet. At the north-western end of the main rock shelter the cliff face turns abruptly north and the floor slopes steeply upwards to a height of approximately sixty feet above the present water level. Here the surface is strewn with large rock falls. On the crest of the slope our attention was drawn to an area of pebbles and stone chippings lying in an angle formed by the cliff face a little to one side of the entrance to a shallow cave.

On closer examination, the deposit, which extends to a distance of about thirty feet from the rock face (fig. 1), was seen to be composed primarily of river pebbles, many of which had been split or broken, and a very large number of struck flakes, none of which bore signs of secondary working. Among this debris were found numerous large cores from which flakes had been struck and several bi-facially worked stone tools of the type generally referred to as Hoabinhian.

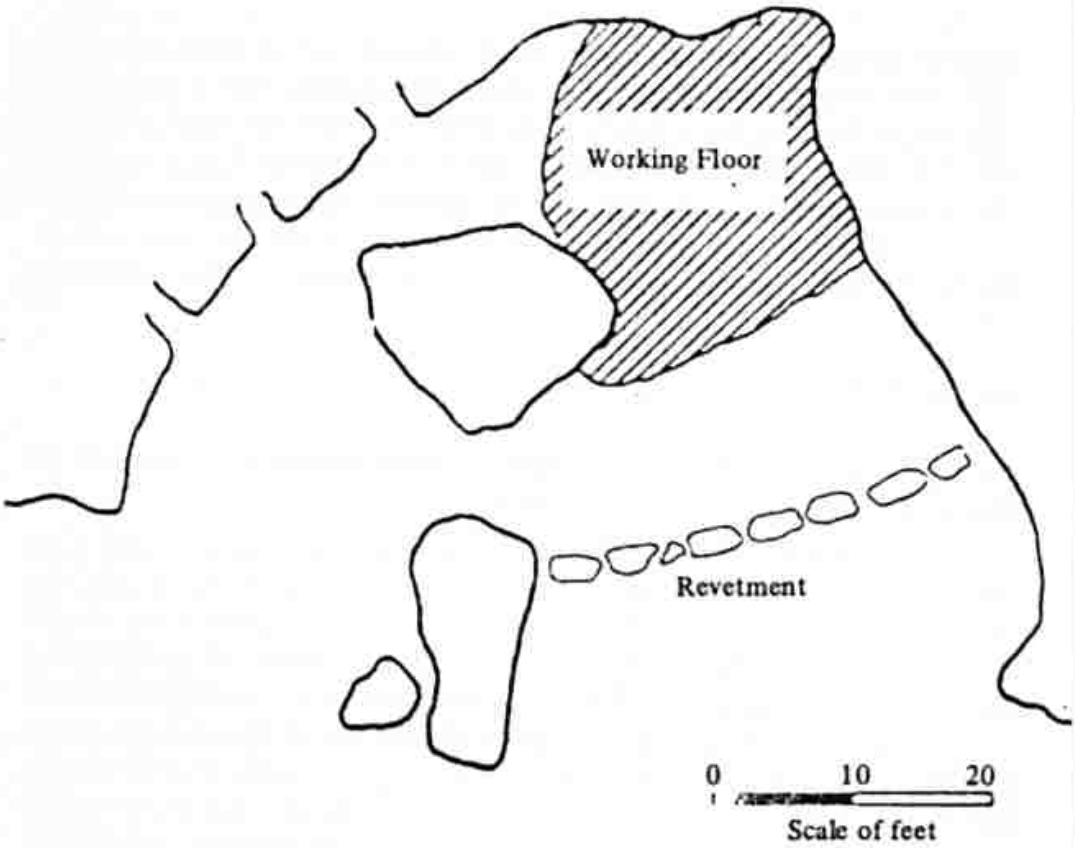

Figure 1. Plan of the Working Floor Area Gua Chawan.

On this and a subsequent visit in January, 1964, a total of thirty four chipped stone tools were collected. Of the latter, the majority had been worked over the whole of both faces into roughly oval implements (Pl. 2, d, e, f). A number, however, were more crudely flaked and presented a much less regular outline (Pl. 2, a, b, c). These may possibly represent an intermediate stage in the process of manufacture.

The site is clearly a working floor on which bi-facially flaked core tools, and perhaps rough flake tools also, were made. An abundant supply of raw material in the form of pebbles is available in the shallows of the adjacent river. Its situation, on the surface and covered only by a superficial accumulation of wind blown dust, elephant droppings and the remnants of bamboo sleeping platforms, relies presumably of recent aborigine occupation, does not point to a great antiquity. Moreover, its height above the present level of the Sungai Jenera and other indications such as the clearly defined extent of the area covered with pebbles, artefacts and the by-products of stone working and the presence of a revetment of undressed limestone blocks, presumably related to the working floor and designed to prevent the accumulation from aliding down the slope (Pl. 3). would appear to rule out the possibility of disturbance or the denudation of overlying strata by flooding.

White it has to be admitted that reliable chronological data are lacking, this site suggests as a distinct possibility the survival, conceivably into recent historical times, of a stone industry formally indistinguishable from the Hoabinhian. This should occasion no great surprise, in view of the coexistene in modern Malaya of groups, such as the Negrito and Temiar, at widely differing levels of technological achievement, but it would necessitate a review of some widely held ideas concerning Malayan prehistory. Sieveking for example, maintained[2] that, 'in the absence of clear evidence to the country no contact between the Hoabinhian and the Malayan Neolithic can be accepted' Later he was obliged to explain the occurrence of a flexed burial associated with Hoabinhian tools just below the surface of Cutting 2 at Gua Cha, a site on the Sungai Nenggiri only ten miles upstream from Gua Chawan, by postulating an 'anomalous local phenomenon . . . . . It may have been buried in an artificially created earth mound on the edge of the rock wall, but the nature of the chocolate brown earth deposit in which it was found does not allow this interpretation to be verified.[3] The indications provided by the Gua Chawan site suggest that forced arguments such as these are not really needed to explain the facts. An alternative interpretation envisaging two or

2 G. de G. Sieveking, "Gua Cha and the Malayan Stone Age," *Malayan Historical Journal*, Vol, 1 No. 2, December, 1954, pg. 120.

3 G. de G. Sieveking, "Excavations at Gua Cha, Kelantan. 1954," *Federation Museums Journal*, new series. Vols, 1 & II, 1954–55, pg. 91. See also the section of Cutting 2 facing page 92.

more cultures with distinct technological traditions, at different levels of socio-economic development, both nomadic or semi-nomadic, occupying contemporaneously the same, or slightly different, ecologies and using the same cave or rock shelter sites for temporary encampment or burial, would not accord badly with the present ethnographic picture pertaining to the same region.

Gua Jaya, Ulu Kelantan District. Map reference: 1.63,360 air reconnaissance map 2 J/16 vE727323.

The limestone outcrop called Gua Jaya on the map extends for several miles on a north-south axis to the east of Gua Chawan, which was presumably at one time a part of the main massif. Its south-eastern face, a sheer cliff, forms a barrier to the northward progress of the Sungai Nenggiri just below its junction with the Sungai Jenera, and causes the river to bend sharply east, a course it pursues towards Bertam. The cliff of Gua Jaya rises straight from the river with no appreciable ladge, indeed the river is in the process of eroding the limestone with considerable force and has succeeded in producing a deep undercut at water level.

At one time the river must have flowed at a height fifty to sixty feet above its present level at which time it carved from the cliff a chain of caves and shelters. These features are now rather difficult to reach, requiring the scaling of an almost vertical face directly from a boat moored at the foot of the cliff. Dr. Lamb and the writer examined several of these caves in August, 1963. None of these proved to have more than a very superficial accumulation of deposits, many having bare rocky floors. One, however, aroused our interest owing to the fact that its roof was covered with a heavy encrustation of soot and an extensive pocket in its otherwise bare rock floor was found to be filled with a fine grey ash and a very large number of pot sherds.

The cave is a roughly triangular chamber, about fifty-five feet on its longest side, with three small openings overlooking a broad reach of the Sungai Nenggiri. It is connected by a fourth opening to a series of caves and rock shelters, none of which proved to be of archaeological interest. While well-lighted itself, it is in fact the vestibule of a dark bat cave which may be entered through a narrow aperture in the rear wall.

The ash and sherd deposit proved to be over a foot deep in places. It was completely homogeneous and when sieved produced more than one thousand five hundred pottery fragments. No other artefacts, with the exception of a few pieces of broken shell and bone, were collected.

It seems reasonable to interpret the site, with its thickly sooted ceiling, ash layer, numerous sherds and virtual absence of other

artefacts, as a pottery kiln. This is of interest in view of the discovery in it of representatives of two somewhat enigmatic categories of ceramic artefacts previously known from other Malayan sites.

The first is part of a hallow pottery cylinder, one end of which expands to a flattened bulb pieced by a narrow opening less than an inch in diamater (Pl. 4). The object is crudely made of a coarse paste, but is very hard and strong. It is very similar in shape to a series of pottery objects found by Dr. W. Linehan at Jeram Kwi on the Sungai Tembeling in Pahang in association with iron slag and interpreted by him as moulds for casting iron cannon.[4] H.D. Collings found part of a hollow tapering pottery cone in association with iron implements of the *tulang mawas* type at a site on the Belata River Estate near Kerling in north-east Selangor in 1934[5] Collings suggested that 'it may possibly have been that part of the nozzle of a black smith's bellows which goes into the fire.' The Gua Jaya discovery lends support to this interpretation, although in this case pottery-making rather than iron-working was involved . It would seem most likely that the objects from Jeram Kwi had a smilar function, perhaps in connexion with the smelting of iron ore. Certainly, bellows consisting of sections of bamboo, the air from which is ducted to the fire through pottery pipes, are known from many parts of Southeast Asia.

The second class of objects are crude, partly fired lumps of reddish clay, roughly cylindrical in shape, sometimes solid and somewhat pierced by a central hole. The outer surface frequently shows lines or grooves as though impressed by a stick. These have been reported from several Malayan cave sites, notably Gua Musang, Kelantan[6] and more recently Gua Kechil, Pahang.[7] Several of these objects were found in Gua Jaya, where the context would suggest that they played a part in pottery-making, perhaps as saggars or supports for pots in the kiln. (Pl. 5).

The sherds from Gua Jaya exhibit a definite uniformity of paste and texture, although colour varies widely as is common with primitive pottery the firing of which is poorly controlled. A bewildering variety of shapes, surface finishes and modes of decoration is represented in the collection, a characteristic of sherd assemblages from Malayan sites. Cord-wrapped paddle impressions are the commonest form of decoration. Several of the rim shapes, especially a facetted type and one with horizontal grooves below the lip, have been found at other

4 W. Linehan. "Some discoveries of the Tembeling," *J.M.B.R.A.S.* Vol. VI (4), 1928.

5 H.D. Collings, "Recent Finds of Iron Age Sites in Southern Perak and Selangor,' *Bulletin of the Raffles Museum*, Ser. B. Vol. 1 No. 2, 1937, pg. 85.

6 M.W.F. Tweedie, "Report on Excavations in Kelantan," *J.M.B.R.A.S.* Vol. XVIII Pt. II, 1940, Plate XI nos, 3 & 4.

7 See the report on excavations at Gua Kechil by Dr. F.L. Dunn in this issue, especially Plate VII.

Malayan sites, for example Gua Cha, only a few miles upstream, Gua Musang, on the related Galas river system, and Gua Kechil in Pahang.

One pottery fragment is particularly noteworthy (Pl. 6). This is a flat tablet of fired clay about three-quarters of an inch thick and more or less triangular in shape. Two of the sides are broken and irregular; the unbroken side has been carefully finished and shows traces of blackening. Both faces are elaborately decorated with geometrical patterns of spirals, triangles and parallel lines impressed with a stylus into the clay while still wet. The object is quite flat and does not seem to have been part of a pottery vessel. Its purpose is quite unknown, no similar objects having recorded from Malaysian sites.

Batu Ner, Ulu Kelantan District. Map reference: 1:63,360 air reconnaissance map 2 N/4 vE948035.

In April, 1963, the writer, accompanied by Mr. O.A. Theseira of the Federation Museums Department, undertook an archaeological reconnaissance of the limestone outcrops in the vicinity of Gua Musang. Following the track to the old Chinese mining settlement of Pulai and at a distance of just over two and a half miles from Gua Musang town, we encountered a large rock shelter in the western face of the outcrop called Batu Ner on the map. The track runs along the foot of a fairly steep slope up which the shelter may easily be approached. A stream, a tributary of the Sungai Galas, flows close by and at the time of our visit the shelter was inhabited by an Old Chinese man who occupied a tiny cave opening off its southern end and make a solitary living by cultivating a vegetable plot.

The deposits were well protected from the elements, but unfortunately had been disturbed in several places owing to the construction by the occupant of some large storage pits. A trial trench was dug in an area which did not appear to have been interfered with and revealed at a depth of twelve to eighteen inches a heath and a level of stone chippings mixed with shell and bone fragments. Below this level evidence of human occuption was scarce, consisting exclusively of a few pieces of shell and bone and an occasional stone flake.

The hearth level, however, yielded several fragments of fine black pottery and an unusual stone implemnt. It subsequently proved possible to reconstruct the pottery fragments to the exent of showing that they had formed part of a globular vessel decorated with a pattern of triangles, rectangles enclosing crosses and horizontal lines produced by a combination of grooves and rouletting or comb impressions (Pl. 7). The style and mode of decoration is reminiscent of certain vessels from Gua Cha excavated by Sieveking, especially a bell-shaped beaker from burial no. 3.[8] It is likely that the Batu Ner sherds represent

8 G. de G. Sieveking, "Excavations at Gua Cha, Kelantan, 1954," *Federation Museums Journal*, new series, Vols. I & II, 1954–55; pg. 108 and Text-fig.

the lower part of a similar bell-shaped vessel.

The stone implement has the characteristic form of the well-known beaked quadrangular adze (Pl. 8). It is unusual, however, in that it is made from a heavy coarsely crystalline igneous rock. The intractable nature of the material has meant that the normal technique of polishing could not easily be employed, and the tool was fashioned instead by a process of 'pecking'. No similar implements have previously been recorded from Malayan sites.

9 (2): also B.A.V. Peacock, "A Short Description of Malayan Prehistoric Pottery," *Asian Perspectives*. Vol. III No. 2. Fig 6 & 7 and Plate I.

Plate 2. Flaked stone tools of Hoabinhian type from the working floor at Gua Chawan, Ulu Kelantan, and a, b, and c. Roughly worked tools clipped only on the edges and probably unfinished d, e and f, bi-facially flaked core tools.

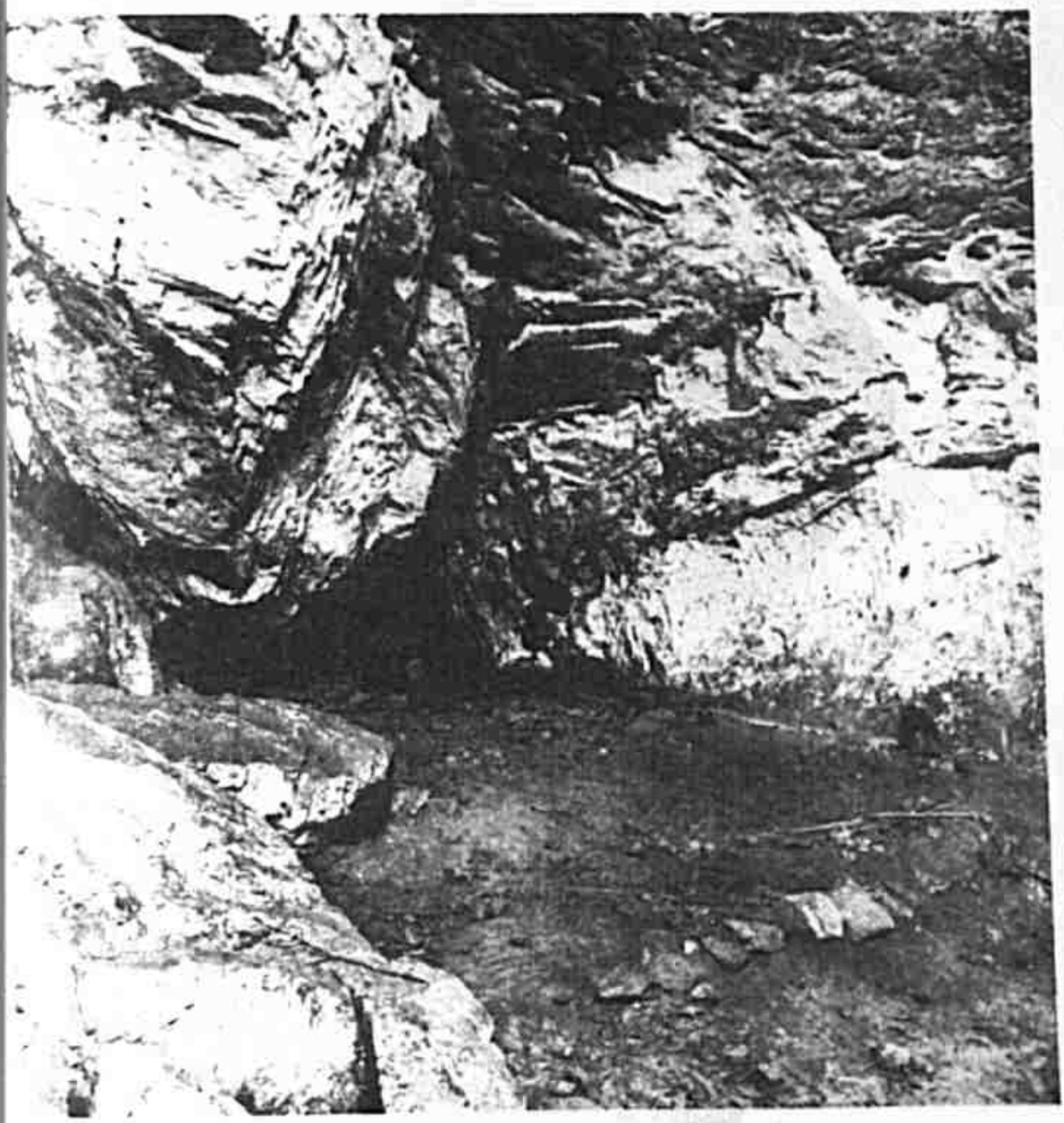

Plate 3. The working floor at Gua Chawan, Ulu Kelantan, showing the area of stone chippings in the angle of the rock face and the revetment of undressed limstone blocks in the right foreground.

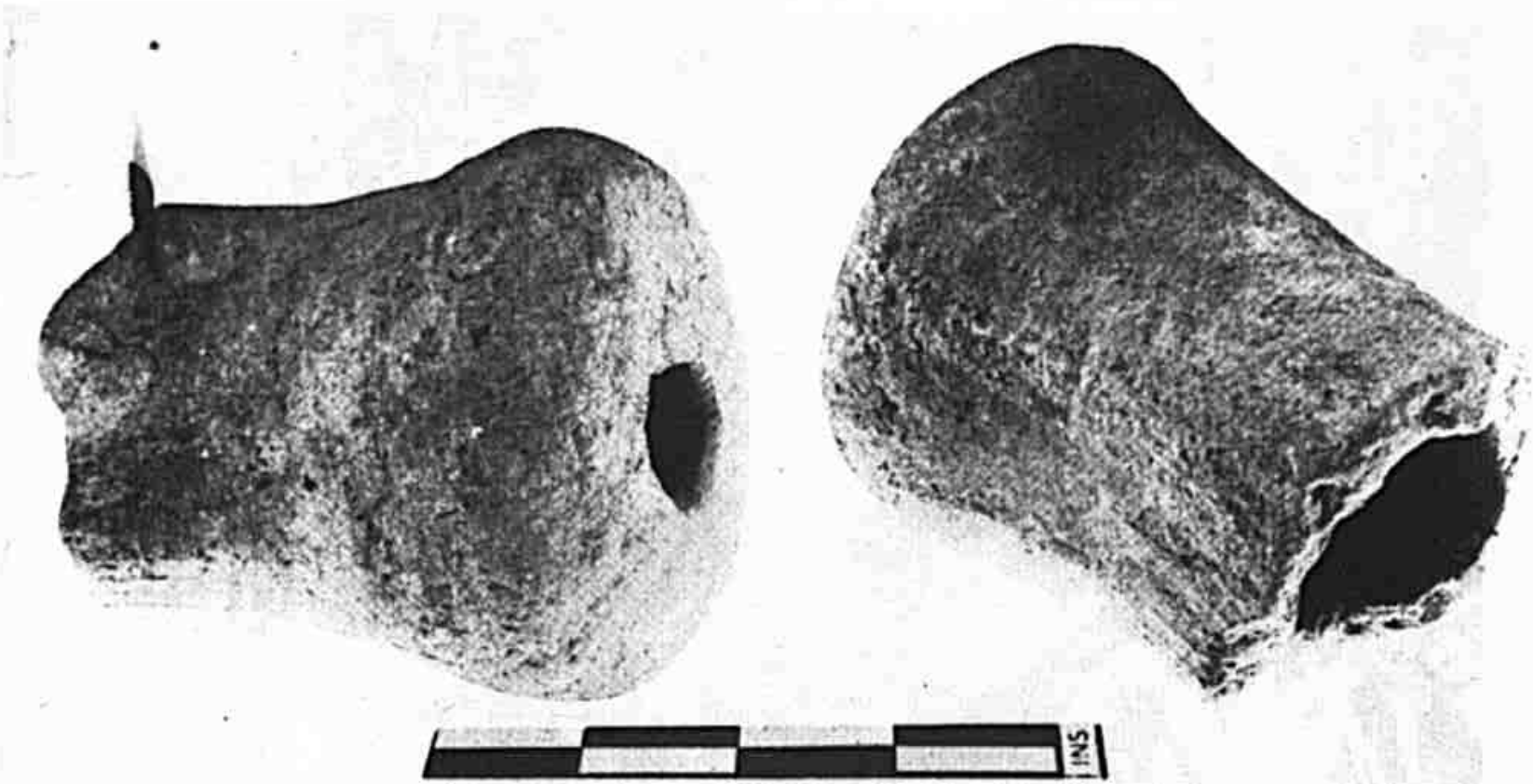

Plate 4. Two views of a hollow pottery cylinder from Gua Jaya, Ulu Kelantan, possibly the nozzle of bellows.

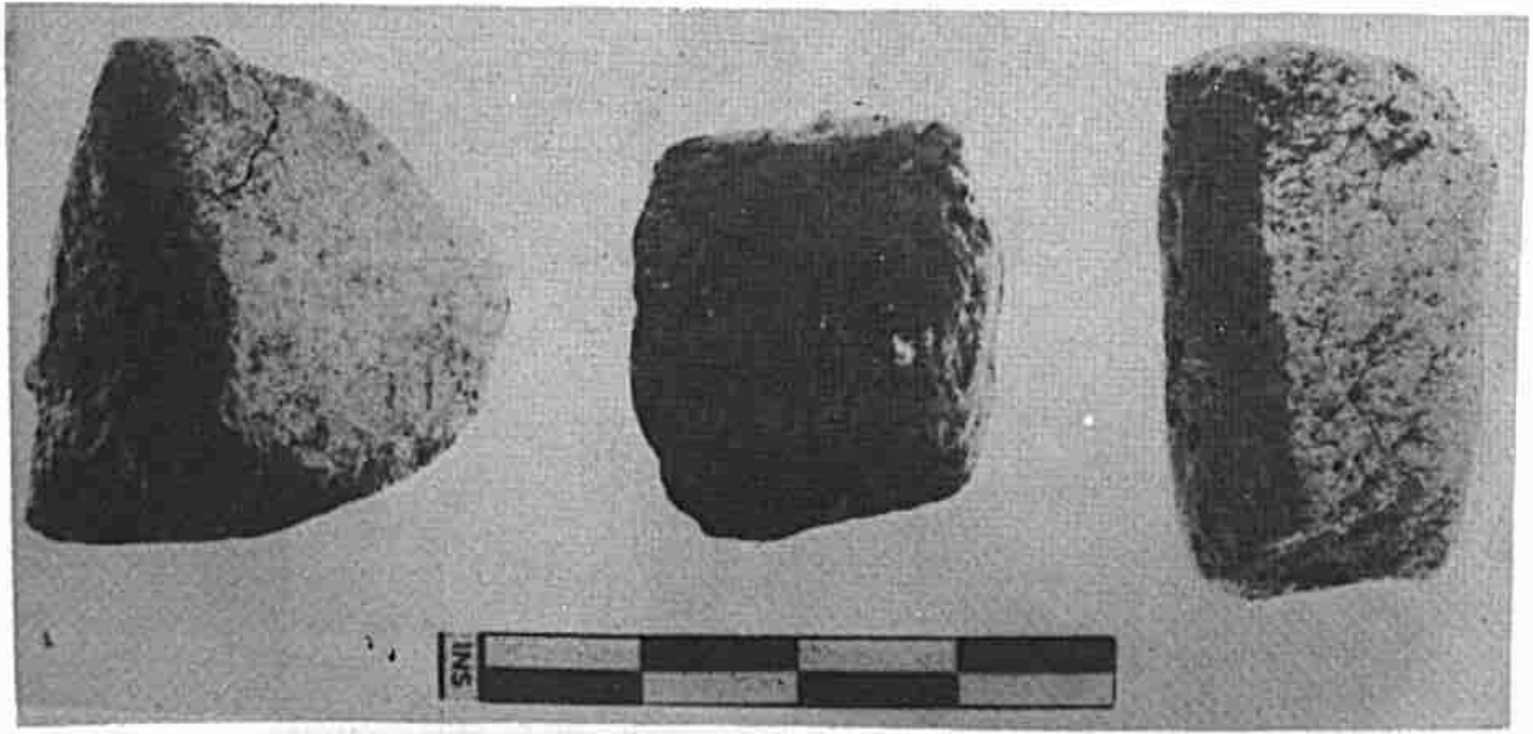

Plate 5. Fragments of partly-fired clay from Gua Jaya, Ulu Kelantan. These were probably used to support pots in the kiln.

Plate 6. Obverse and reverse of a decorated pottery tablet from Gua Jaya, Ulu Kelantan.


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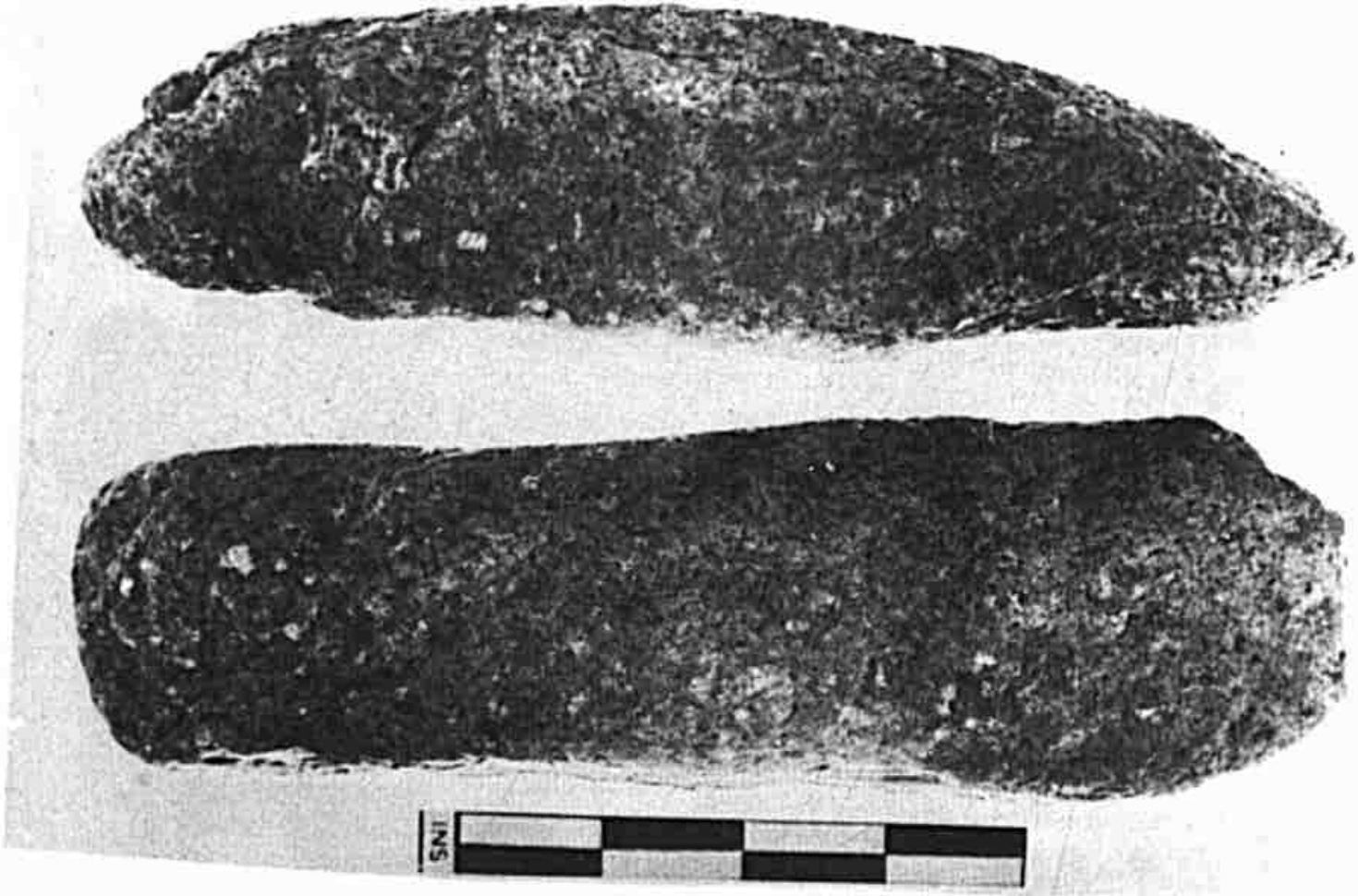


Plate 8. Two views of an unusual type of quardrangular adze from Batu Ner, Ulu Kelantan.

Recent Archaeological Discoveries in Malaysian, 1967 West Malaysia*

B.A.V. PEACOCK & F.L. DUNN

Fossil Elephant Teeth

DURING 1967 three proboscidean molar teeth came to light in Malaya. One of these was collected by the writers in August 1967 from a small cave in a limestone hill just of Kuala Bering (Sungei Jenera) in Ulu Kelantan. The other two elephant teeth were found several years ago by tin miners in an alluvial deposit near Lukut in western Negri Sembilan.

The Kuala Bering specimen was found resting on a ledge where it had been placed by some previous visitor, almost certainly a Temiar aborigine in this remote locality. The specimen is obviously a fossil, strongly mineralized, yellowish-gray and brown in colour, and remarkably heavy. The tooth is a right upper molar (M^2 or M^3); it resembles a tooth from Borneo described by Hooijer (1952) as belonging to *Palaeoloxodon* cf. *namadicus*, and another from Burma ascribed by Colbert (1943) to *Palaeoloxodon namadicus* (an M^2, ANSP no. 14627). (*Palaeoloxodon namadicus* is referred to today as *Elephas namadicus*.) The enamel is strongly wrinkled, the occlusal surface is fairly well stepped, and certain plates (especially numbers 6, 7, and 8 counting from the posterior end) have rudimentary median expansions in the enamel figures resembling those illustrated by Hooijer (1952).

The other two teeth, a pair – right and left upper molars (milk

* Reprint from *Journal of the Malaysian Branch of the Royal Asiatic Society*, Vol. 41(2): 171–176, 1968.

teeth or M^1), were kept by their finders, but Dr. D.J. Gobbett of the Geology Department, University of Malaya, was able to borrow them long enough to measure them and have them photographed in his department. (At the same time Dr. Gobbett kindly arranged to have the Kelantan tooth photographed – see Plates 1 & 2). The Negri Sembilan teeth appeared to be lightly fossilized, but were relatively light in weight and much less mineralized than the Kelantan specimen. Precise information about the locality where they were found is not available and probably cannot be obtained at this late date.

On morphological and mensural grounds wer concluded, very tentatively, that the Kelantan tooth probably represented the extinct *Elephas namadicus*, and that the Negri Sembilan specimens represented *Elephas maximus*, the modern species. Drawings, measurements and a set of the Geology Department photographs were then sent to Dr. D.A. Hooijer at the Rijksmuseum van Natuurhjke Historie in Leiden. In a 31st January, 1968, letter to Dr. Dunn, Dr. Hooijer has commented as follows: "I believe the Kelantan tooth as well as the two from a tin mine in Negri Sembilan could be the modern Asiatic elephant. I have seen more material since my paper of '55, from various sources, and am more and more impressed by the amount of individual variation in these teeth of *Elephas maximus*. It is admittedly very difficult to identify such specimens as to species, but your beautiful photographs and accurate drawings I would say do not exclude the possibility of their belonging to *Elephas* of today. This of course does not imply that they are recent; *Elephas maximus*, like any other species living today, has existed as such for some time and may date back even many thousands of years, having undergone some (micro) evolution. Only the find of good skull (always a bit of serendipity) would give us a firmer base for identification (as, e.g., in the case of *Elephas hysudrindicus* of Dubois's)."

The difficulties in identification and separation of ancient and modern forms and species of Southeast Asian *Elephas* suggest to us that the long-standing identification as *"Elephas namadicus"* of a tooth from Salak, near Kuala Kangsar, south of Kota Tampan in Perak, must be regarded with some suspicion (Andrews, 1905). This tooth– the original specimen is in the Perak Museum collections – should certainly be restudied in the light of modern knowledge of Asian *Elephas*. The Salak specimen is important for it has been suggested several times that the appearance of a fossil representative of a mid-Pleistocene fauna in the region of the Tampanian Palaeolithic industry may be indicative of a mid-Pleistocene dating for that industry.

Archaeological survey, Ulu Kelantan

In the course of an archaeological survey of caves and rock shelters in the limestone outcrops bordering the Sungei Nenggiri and Sungei

Jenera during the first week of August, 1967, the writers re-examined Gua Chawan (Peacock, 1964) and explored Gua Peldas and other small shelters in the western and southern faces of the limestone massif north of Gemalah. With the exception of Gua Chawan, which has remained undisturbed since its discovery in 1963, none of the localities appeared to be of potential archaeological interest.

On the 4th August the writers travelled by motorboat from Gemalah up the Sungei Nenggiri as far as Gua Cha (map ref: 2J/16 vE 716244). Two small rock shelters, not previously reported, were visited en route. The first of these, Gua Dala (map ref: 2J/16 vE 730270), is in a heavily vegetated limestone outcrop on the east bank of the river. The shelter is approximately two hundred feet long and the rocky floor, about forty feet above the present river level and showing signs of occasional flooding supported no significant deposits.

The second shelter, Gua Hau, is about half to three quarters of a mile upstream from Gua Dala. The small outcrop in which it is situated is on the west bank of the Nenggiri and is almost completely concealed by heavy vegetation. The shelter is about one hundred feet long and the floor, being only twenty feet or so above river level, is regularly flooded. The locality does not appear to be of any special archaeological interest.

Beyond question the most valuable result of the survey was the discovery of Gua Tampaq (map ref: 2J/15 vE 692404), a large, totally undisturbed shelter in a limestone hill at Kuala Bering on the right bank of the Sungei Jenera (Plate 4). The writers left Gemalah by motorboat and travelled three quarters of a mile up the Jenera, the present limit of motorboat navigability. Here a track was joined which follows the left bank of the river and is maintained in excellent condition by the Jabatan Orang Asli. The track fords the river to the small Temiar settlement of Kuala Bering which was reached after a walk of one and a half hours.

Gua Tampaq is a long shelter running for several hundred feet along the south face of the limestone. The eastern end is piled high with huge boulders, the western end is lower, perhaps fifty to seventy feet above the present river, and with a dry, level occupation floor of considerable extent. The back wall of this part of the shelter is decorated with many charcoal drawings and in one corner was found a superficial concentration of Hoabinhian tools, flakes and broken pebbles calling to mind the situation previously recorded at Gua Chawan (Peacock, 1964). A large cord-marked pottery fragment was also discovered on the surface.

The writers dug a small testpit in the floor of the western end of the shelter. This cutting measured sixty centimetres by forty five centimetres and was carried down to a depth of about fifty centimetres at which point many broken limestone fragments were encountered.

The testpit showed that the Gua Tampaq deposits are rather rich in cultural materials, including many pot sherds, stone flakes and Hoabinhian tools. By all preliminary indications Gua Tampaq promises to be of very great archaeological importance and the scarcity of completely undisturbed shelters of any size in West Malaysia make its discovery an event of considerable significance. It is hoped that a fuller examination of this locality can be carried out early in 1968.

While at Kuala Bering the writers were able to explore part of the eastern and western faces of the limestone hill called Batu Kenong which is visible from Gua Tampaq in a southerly direction. Several shelters and caves were found, but most of these are low and wet and not therefore likely to be of archaeological interest. One small cave, high on the western face, had a shallow dry deposit and two small sherds of crude cord-impressed pottery were found here.

In the course of our return boat journey from Gemalah to Bertam on the 6th August we made a brief inspection of a rock shelter known locally as Gua Bayaram situated at the northern end of a very large limestone massif which at one point overhangs the Sungei Nenggiri itself. It is only necessary to record that this shelter, while much used by modern boatmen as a resting place, has only a very shallow deposit and appears to be of no archaeological importance.

On the 7th August we investigated a large shelter and cave complex immediately to the east and just above the railway station at Gua Musang (map ref: 2N/4 vE 965067) in the same limestone outcrop as the locality excavated by Mr. M.W.F. Tweedie (Tweedie, 1940). While greatly frequented and, superficially at least, somewhat disturbed, the deposits in the shelter are extensive and would certainly repay further examination.

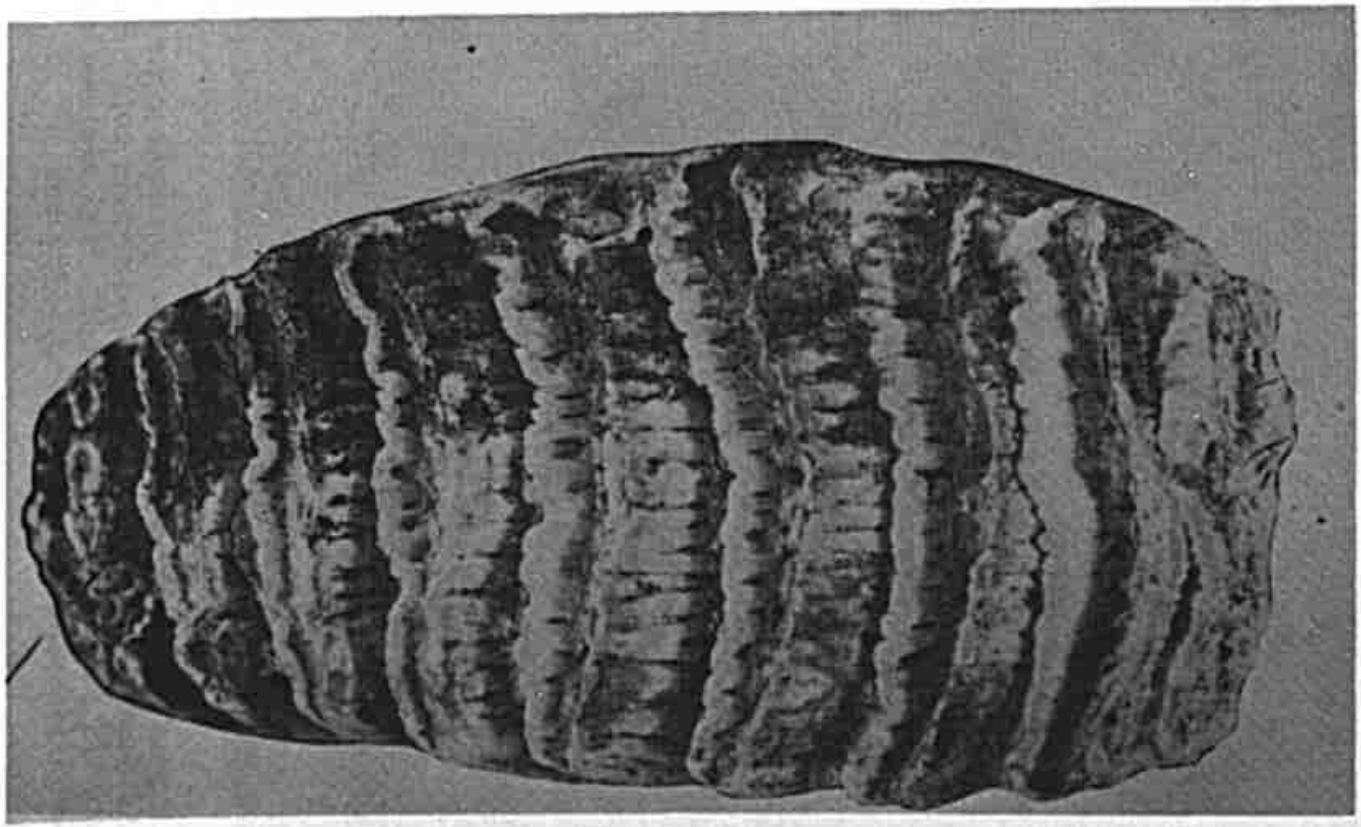


Plate 1. Occlusal surface of fossil elephant right upper molar from Kelantan. Maximum breadth (10th plate from posterior end) – 83 mm; posterior surface at right of photograph.

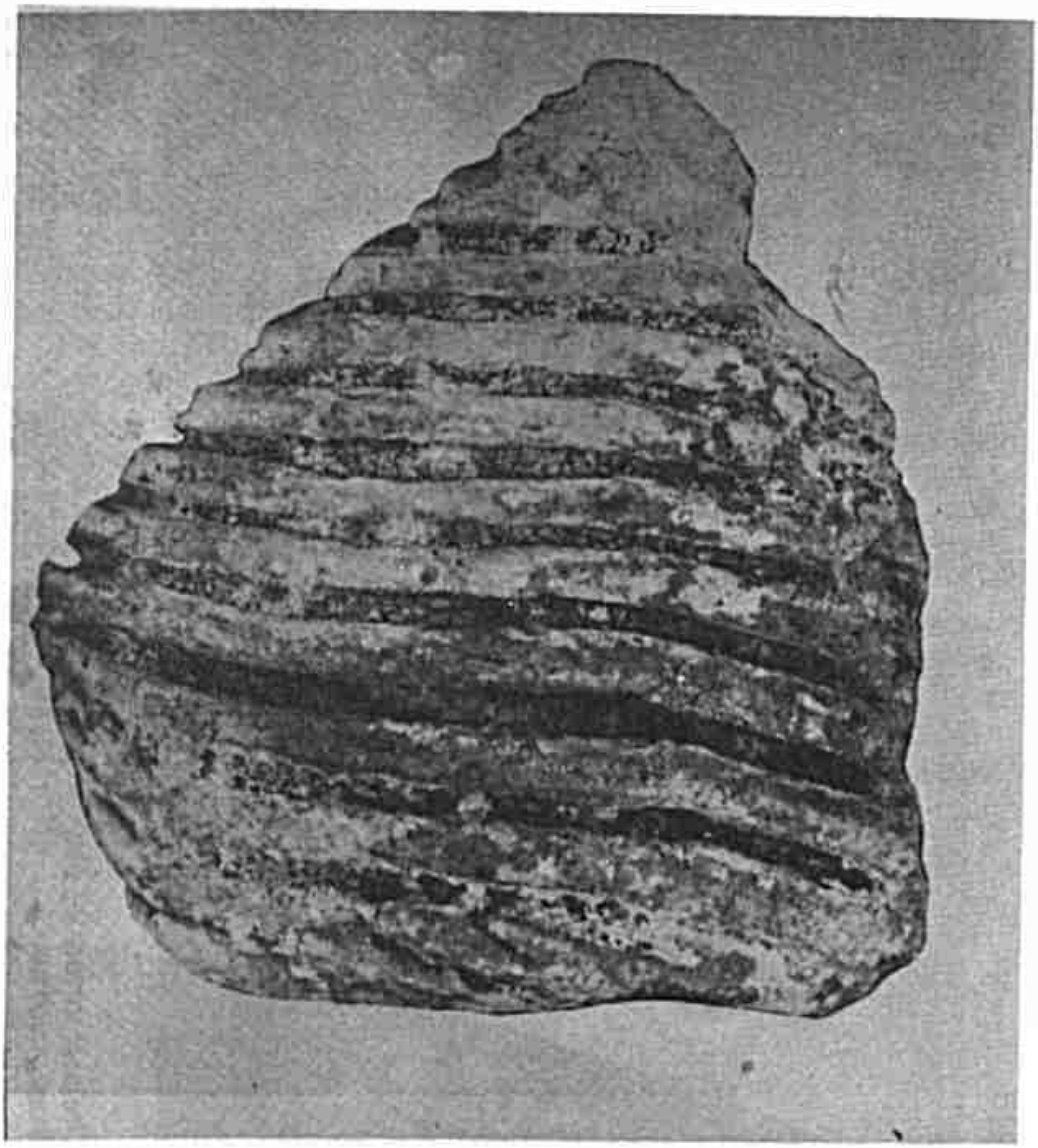


Plate 2. Internal (buccal) view of fossil elephant right upper molar from Kelantan. Posterior surface at right and occlusal surface lower left; 13 plates. Maximum A-P length – 186 mm; maximum height (4th plate from posterior end) – 180 mm.

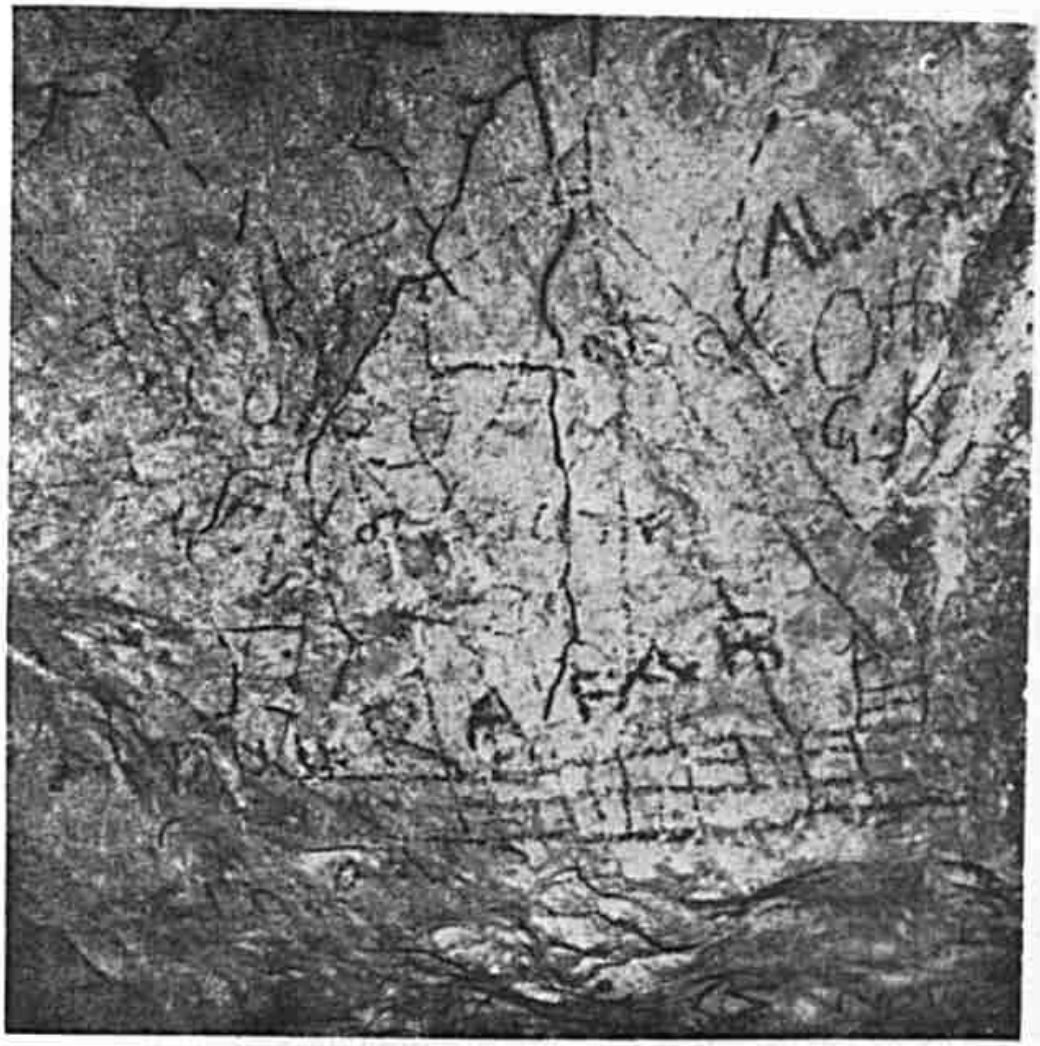


Plate 3. Photograph of a charcoal drawing of a sailing boat on the wall of the long rock shelter below Gua Tok Long first described by I. H. N. Evans in 1917.

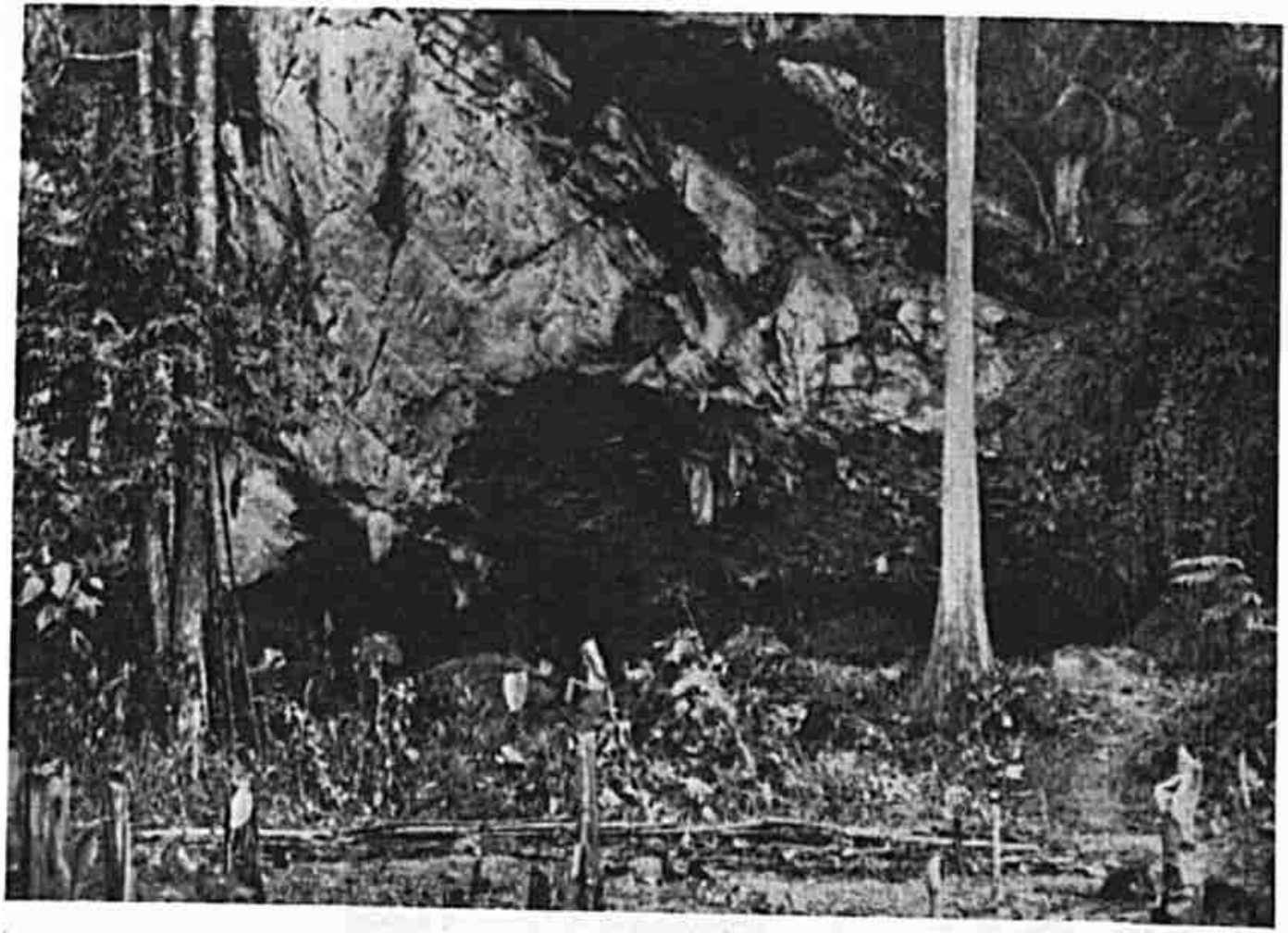


Plate 4. General view of Gua Tampaq, Kuala Bering, Ulu Kelantan.

The Birth Of The Duff Development Company In Kelantan 1900-1912*

HUNTER A. CRAWFORD

WHEN Robert William Duff entered the service of the Pahang Government as acting Superintendent of Police in 1892, no one can have anticipated his meteoric rise to fame in an entirely different sphere. But within the space of fifteen years his name was familiar to high officials in Singapore, Bangkok and London, and he had won the confidence and cooperation of the Raja of Kelantan, Sultan Muhammad IV.

Duff proved to be an intrepid and resourceful Police Officer during the early days of the British administration in Pahang, and he was the only European, apart from the Residency Surgeon, whom Hugh Clifford chose to accompany him on the gruelling expedition through the remote inland areas of Trengganu and Kelantan in March and April 1895. Duff had already entered Ulu Kelantan in 1894, and these two visits must have made an indelible impression on his mind. His services were highly praised by Hugh Clifford in his offical report of the expedition, and when the Pahang Police were re-organised in 1896 Duff was appointed Chief Police Officer of Pahang, and moved the Police contingent headquarters from Pekan to Kuala Lipis.

But while he devoted his energies to the improvement of his widely scattered contingent, his thoughts must have been occupied with visions of the broad Lebir River, a rich source of gold in ancient days, and with plans for the development of a vast region of agricultural

* Reprint from Malaysia in History. Vol 13(2) 1970.

His Highness Sultan Muhammad IV., Raja of Kelantan.

land. And at some date prior to 1890 he resigned his appointment as Chief Police Officer Pahang and returned to Kelantan.

His Highness Sultan Muhammad IV, Raja of Kelantan, had succeeded his uncle, Sultan Mansur in 1889, and fortunately for Duff, was a ruler with exceptionally progressive and enterprising ideas.

On October 10th. 1890 the Raja of Kelantan affixed his decorative Seal to an Agreement which granted to Robert William Duff personally, in partnership with His Highness, the right to develop two very large areas in the North and East of the State, based on the Lebir river. This first agreement was for a period of forty years, but in 1903 the Duff Development Company was formed and in 1905 a new Agreement was prepared and approved, similar to that of 1900, but incorporating more details, and providing for the payment of a percentage Royalty to the Sultan on gold, tin, agricultural and jungle products which were extracted from the land within the concession. This agreement was ratified by His Majesty the King of Thailand, and witnessed by W.A. Graham, who was then Adviser to the Kelantan Government, appointed by the King of Thailand.

The Duff company engaged Mining Engineers to prospect for minerals, and £50,000. was spent on this work. Four Dredges were installed on the Galas river and recovered a considerable quantity of gold. The company's headquarters was established on an attractive site, overlooking the junction of the Lebir and Galas rivers, and communications with the outside world were maintained by river transport. In 1906 Rubber was planted extensively on the Western bank of the Lebir, and 15,000 acres of agricultural land were subleased, and were subsequently transferred to state ownership.

In 1909 the State of Kelantan was transferred by Treaty to the Protection of the British Government, and in 1912 a Deed of Cancellation was signed under which the Duff Company surrendered its concession, granted under the 1905 Agreement, and received more limited rights, a smaller area and a cash grant.

Letters from His Highness the Raja of Kelantan to R.W. Duff, written during this early period are reproduced here. The illustrations are taken from a volume containing 75. pages of photographic reproductions which were published in 1910 by the Directors of the Duff Development Company for the information of the Share Holders.

At the time when these photographs were taken the Duff Company's Concession covered two thousand five hundred square miles of Kelantan territory. By the new Agreement, signed on 15th. July 1912, the area was reduced to thirty two thousand acres.

Letter from H.H. the Raja of Kelantan to R.W. Duff. 1900 A.D.

Document of Ratification, by the Thai Government, of the Agreement between the Raja of Kelantan and the Duff Development Company, in May 1905

Whereas there has been presented to his Majesty the King of Siam an agreement dated 24th Rabialawal 1323 (corresponding to 29th April 1905) between the Government of His Highness the Raja of Kelantan of the one part and the Duff Development Company Limited, a corporation of 15 George Street, London, E.C., of the other part, which said agreement is expressed as intended to be substituted in the manner and to the extent therein stated for a certain other agreement between His Highness the Raja of Kelantan and one Robert William Duff, dated the 15th day of Jemadilachir, 1318 (corresponding to the 10th day of October, 1900 of the Christian era); and

Whereas said agreement dated April 29th 1905, is expressly stated to be subject to the ratification of His Majesty the King of Siam; and

Whereas there has been presented to His Majestry the King of Siam a letter dated April 5th 1905, from W.A. Graham, Esq, H.S.M. Resident and Adviser, Kelantan, to Robert William Duff, Eaq., which letter concerns the interpretation to be placed upon Article 6 of said agreement of April 29th, 1905, as regards the royalty to be paid on tin property which could not be worked at a profit of ten per cent; and

Whereas said Duff Development Company Limited, and said Robert William Duff have represented to His Majesty the King of Siam that said Duff Development Company Limited has authorised and adopted the signature, sealing and delivery of said agreement of April 29th, 1905, on its behalf; and

Whereas the Government of the Raja of Kelantan has informed His Majesty the King of Siam that it has authorized and adopted the signature, sealing and delivery of said agreement of April 29th, 1905, and the signature and delivety of said letter of April 5th 1905 on its behalf; and

Whereas said Government and said Company having presented said Agreement of April 29th, 1905, and said letter of April 5th, 1905, to His Majesty the King of Siam, have prayed that he will ratify the same;

Now therefore, His Majesty having taken into consideration the facts and premises above mentioned, has authorised His Royal Highness Prince Damrong Rajanubabh, Minister of the Interior, to express His Majestry's ratification of said agreement of April 29th, 1905 together with said letter of April 5th, 1905.

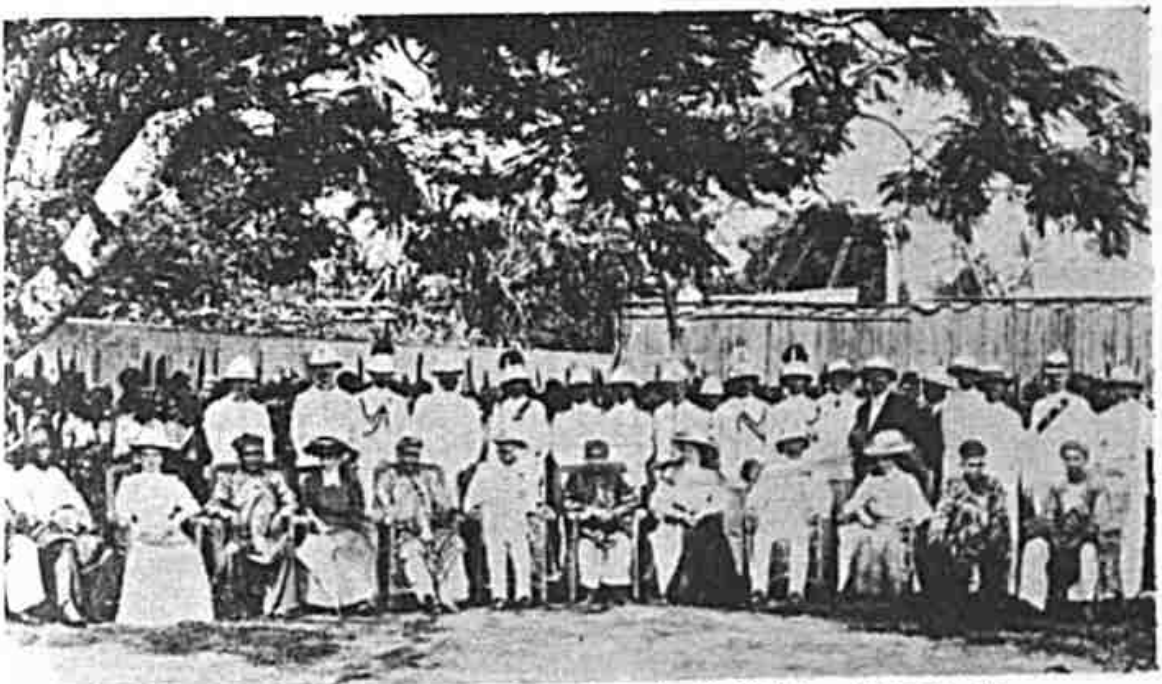
And His Royal Highness Prince Damrong Rajanubabh, acting under command of His Majesty, has hereunto set his hand and seal in witness of His Majesty's ratification of said documents.

Done at Bangkok on this the 6th day of February, 124.

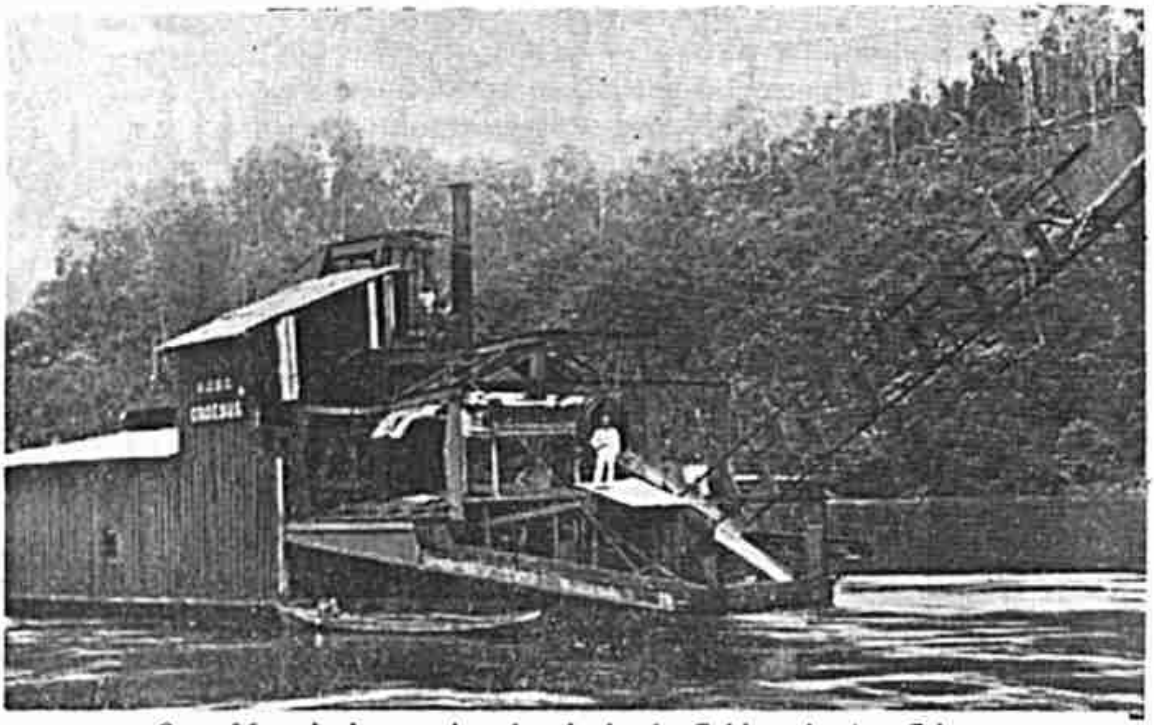
(Sd) Damrong.

H.H. the Raja of Kelantan with his State Council: 1909 A.D.

Left to Right: Tuan Soh bin Sultan Ahmad (Tengku Besar Indera Raja): Tengku Mahmud bin Sultan Ahmad (Tengku Srimah Raja Tua): DYMM Sultan Muhammad IV inbi Sultan Bongsu: Tengku Zainal Abidin bin Sultan Bongsu (Raja Dewa): Tengku Mohd. Salleh bin Sultan Ahmad (Tengku Temenggong): Tengku Ahmad bin Sultan Bongsu, (Tengku Badar).

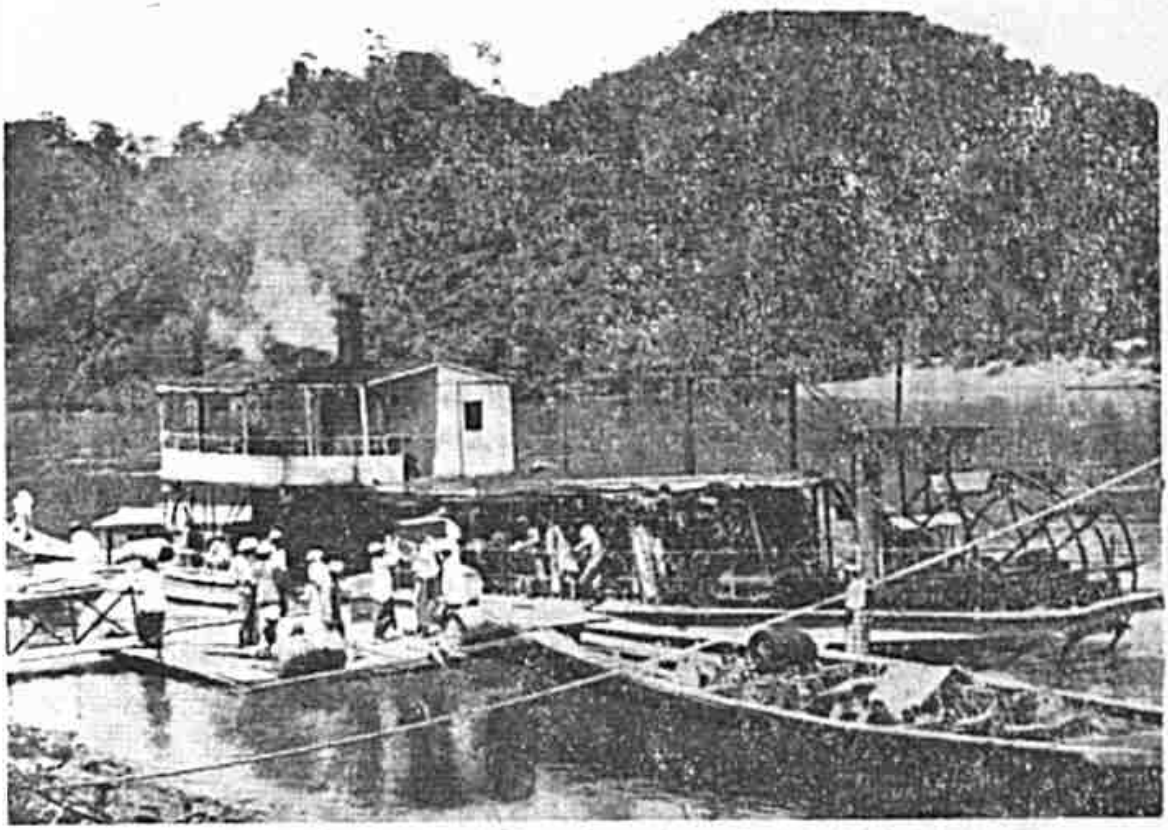


H.H. the Raja of Kelantan and his State Council with Sir John Anderson, the Governor, and his party, on the occasion of his first visit to Kelantan in July 1909.



One of four dredges employed to dredge for Gold on the river Galas.

General Manager's house, Kuala Lebir, 1909.



One of the Company's Steam Launches at Kuala Lebir, 1909.

On A Stone Spear-Head From Kelantan*

IVOR H.N. EVANS

THROUGH the kindness of Mr. R.J.B. Clayton, British Adviser to the Government of Kelantan, I am able to figure and describe a stone spear-head from that State. This specimen was obtained by Mr. R.H. Ehlers of Kuala Gris Estate, and was given by him to Mrs. Clayton, who has now kindly presented it to the F.M.S. Museums. Mr. Clayton first notified me of its discovery, while Mr. Ehlers is to be thanked for sanctioning its presentation to the F.M.S. Museums and for providing me with notes upon which a portion of this paper is based.

No spear-head of stone has hitherto been recorded from the Malay States and I have expressed an opinion elsewhere (*Papers on the Ethnology and Archaeology of the Malay Peninsula*, p. 130) that none has been discovered because of the rarity of stones suitable for chipping into such weapons and on account of the suitability of the local bamboos and hard-woods for making them. Though a specimen has now come to light, such objects appear to be very rare, for while hundreds of stone axes has been collected at one time or another, there is no record of a spear-head other than that now described.

The spear-head is 23.8 cms. long and 4.5 cm. broad at its widest point Its material is a black and fine-grained stone, apparently similar to that from which many Malayan neolithic-culture implements are made. This, on the outside, has weathered to a whitish-grey on one

* Reprint from the *Journal of the Federated Malay States Museums*, Vol. 15(1): 1–3, 1930.

surface, a dark grey on the other. The point of the spear-head is slightly broken and there are recent breakages at either edge, these exposing the natural colour of the stone. The specimen, as can be seen in the two illustrations (Pl. I), has an elongated diamond section, there being a median ridge along either face of the blade. At the proximal end (*i.e.* where the spear-head was inserted into a shaft) the blade is tapered and, on one surface, the medium ridge has been ground away to a considerable extent (*Vide* Pl. I, fig. I), while on the other, though material has been removed by grinding, as has also been the case at the edges, the effects of this are less clearly marked. From these indications I believe that the spear-head was mounted in a socketed shaft. Though it is possible that the specimen was chipped to shape before being polished, as were many, at any rate, of our neolithic-culture celts, I have not been able to trace any signs of this process being employed.

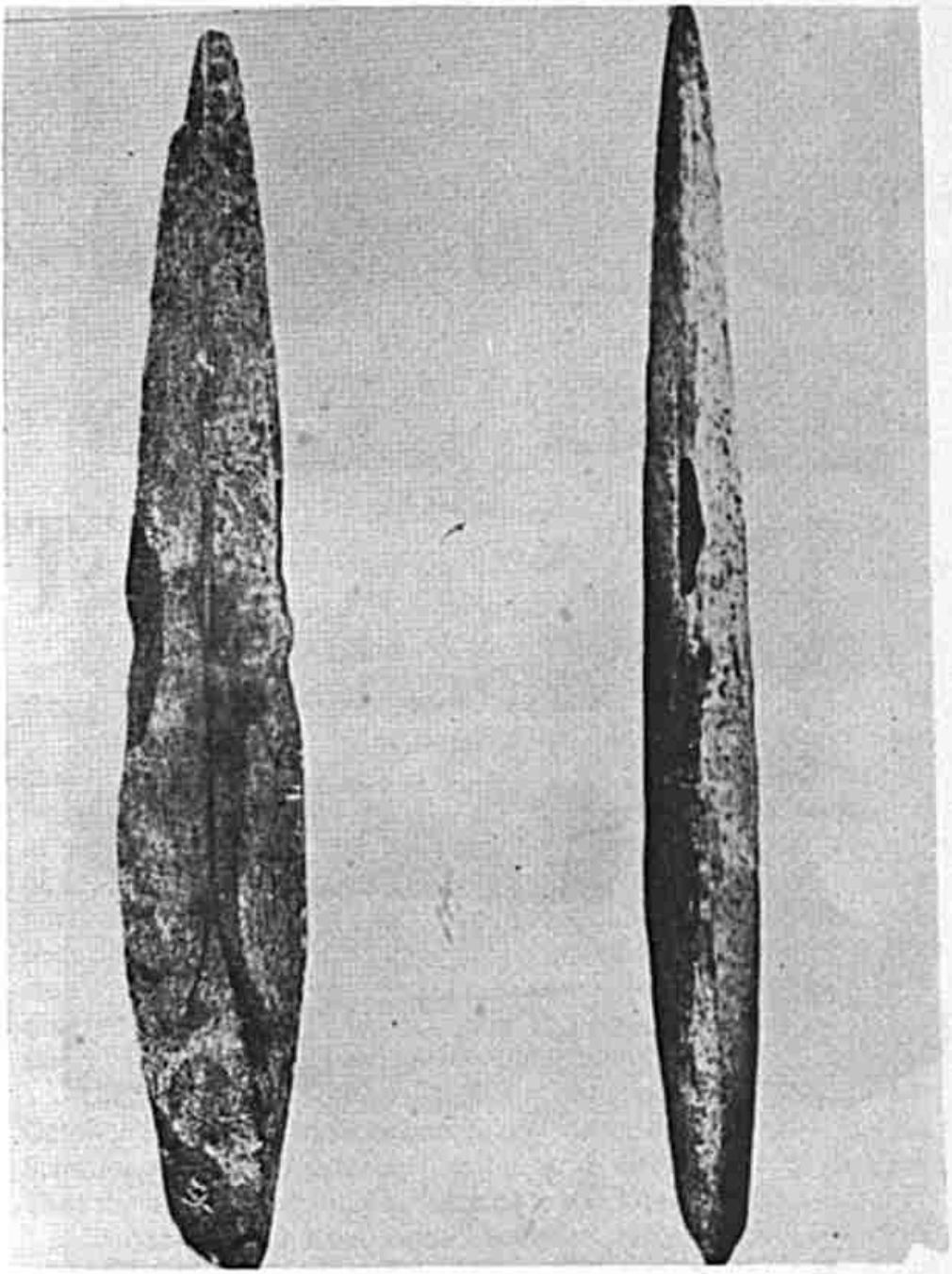
One would naturally, on account of its high finish and angular section, ascribe the spear-head to a late neolithic culture and this conclusion is supported by information furnished by Mr. Ehlers with regard to finding it in close association with certain late neolithic-culture axe-heads and a cross-hatched bark-cloth pounder of stone. All these are now in the possession of the F.M.S. Museums, having been obtained, by exchange, from Dr. J.R. Weir, late of the Rubber Research Institute, to whom Mr. Ehlers had given them. I will deal with these objects later.

With regard to the discovery of the implements, Mr. Ehlers says "I was levelling the top of a small hill on the river bank (the Galas River) in order to build a house. The hill was conical and the cut was nowhere deeper than six feet. The ground had been cleared of jungle seven years previously and the side inland was planted with rubber. When the levelling was about half finished, I happened to find the spear-head, and after that we uncovered axe-heads and a portion of a bark-cloth beater. I had a careful look for pottery but was unable to find any signs of it . . . . . All the specimens were found at the same depth (5½ ft.). Nowhere was it necessary to dig away more than seven feet". I have figured these other implements on Pl. II, for though they are all of well-known kinds, yet the association of the various types with the spear-head is of great importance. It will be noted that the beaked type of celt is present. It is curious, too, that, as can be seen in the plate, one of the blades is half cut through some way below the edge.

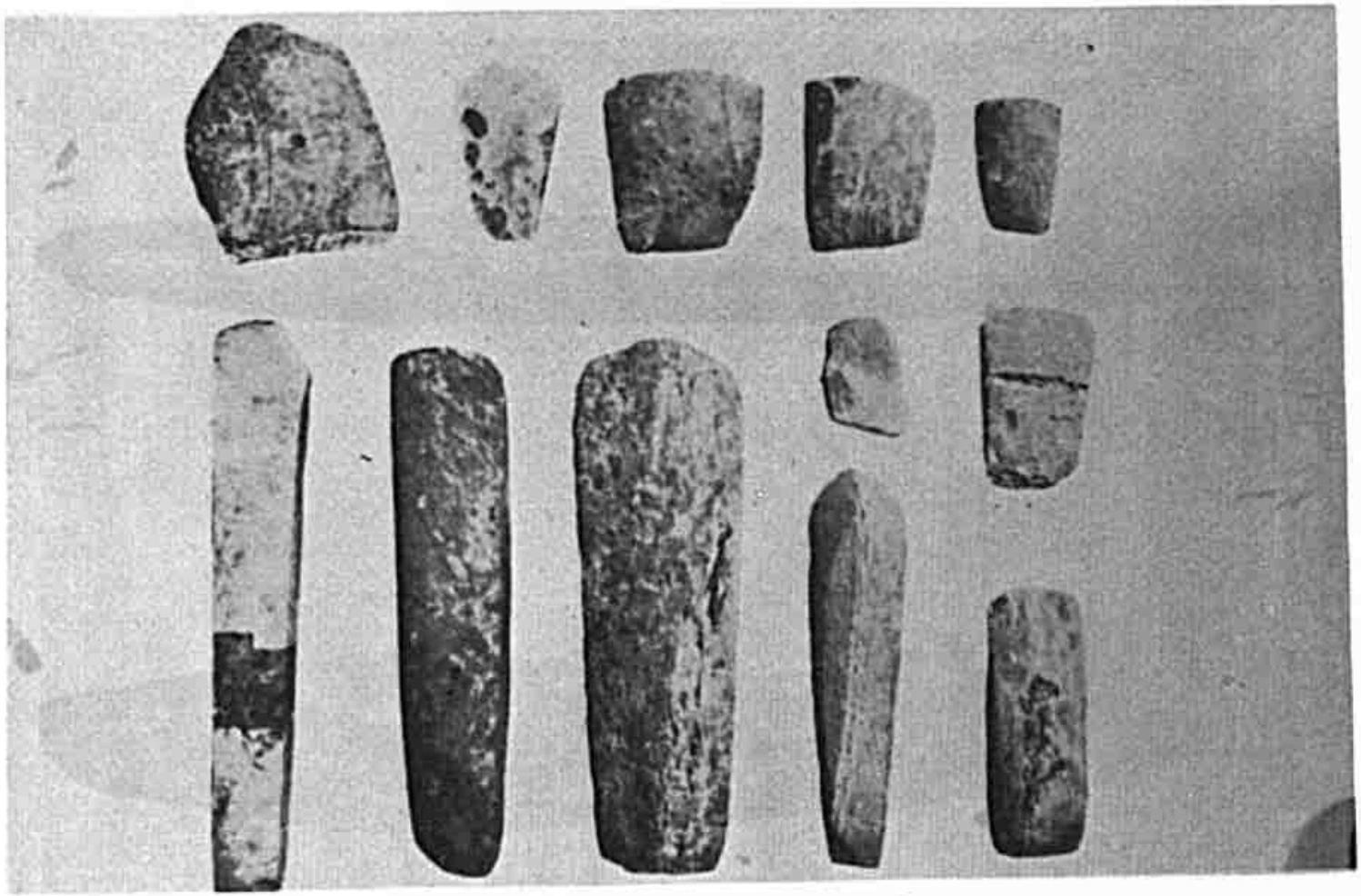
Mr. Ehlers remarks that all the axe-heads except one are "made of very soft stone and look as if they were only used as burial instruments, whereas the spear-head and axe-head may have been the personal property of the owner but on the other hand, I found no traces of a grave whatsoever." If by this Mr. Ehlers means no traces of a skeleton, I should not expect that, if the place was the site of a grave,

he would find any, human remains decaying very rapidly in this climate unless buried under very special conditions (in a cave, for instance, or in mud which has preservative properties). I am not at all certain, however, that these that they were found on a hillock is, perhaps, rather suspicious, though such a locality might also well have been a house site. As to their soft condition, I believe this to be merely external. Implemens made of certain kinds if stone, when buried, appear to be much attacked by acids in certain types of soil and it is not at all uncommon to find some which are externally in a powdery state. A new break, however, reveals a hard core within.

Mr. Ehlers remarks that the implements were found near the roots of a tree and that there were four other tree roots more or less surrounding that at which the discoveries significance, but I have learned to put every scraps of evidence on record, because it is often small scraps of information, which at first appear to be unimportant, that ultimately turn out to be of the greatest value.



STONE SPEAR-HEAD FROM KUALA GRIS ESTATE, KELANTAN.
Blade and edge views. Length 23.8 cms.



KELANTAN STONE IMPLEMENTS ASSOCIATED WITH STONE SPEAR-HEAD
None cross-hatched bark-cloth beater (broken) at top of picture on left and axe-blade, half cut in two in the middle, on the extreme right. Sizes much reduced.

On A Coin Mould From Kelantan*

IVOR H.N. EVANS

THROUGH the good offices of the British Adviser, Kelantan, Mr. H.W. Thomson, and the generosity of the Government of that State, the Perak Museum has recently received a very valuable addition to its collection. The donation is a two-piece mould for casting the small coins, *duit pitis*, which were, until comparatively recently issued by the Kelantan Government.

Graham states in his book (*Kelantan*, p. 62) that "the currency chiefly in use in the bazaars and markets is a locally minted coin made from an alloy of tin and lead "Pittis" (sic), a small circular coin pierced in the centre and carried in bundles threaded on a string. A bundle of fifteen coins is called a "Keneri", one of sixty a "Kupang", and four hundred and eighty "Pittis" equal one dollar. There is at present about $160,000 worth of tin coin in circulation. The mint has been closed and it is not proposed to issue any more money of this description, as the alloy used is very soft and perishable, and the coin is easy to imitate and has been frequently counterfeited".

Graham's book was published in 1908 and his preface is dated October 5th, 1907, while Kelantan came under British control in 1909, Siam renouncing her suzerainty in favour of Great Britain in that year. Thus the issue ceased while Kelantan was still subject to Siam.

I myself visited Kota Bharu, Kelantan, early in 1921 and found *pitis* still freely current in the local market for the purchase of fish, chillies, *sireh* and other articles of small value, nine *pitis* being, accord-

*Reprint from the Journal of the Federated Malay States Museum Vol. 12(1), 1924; 7-8.

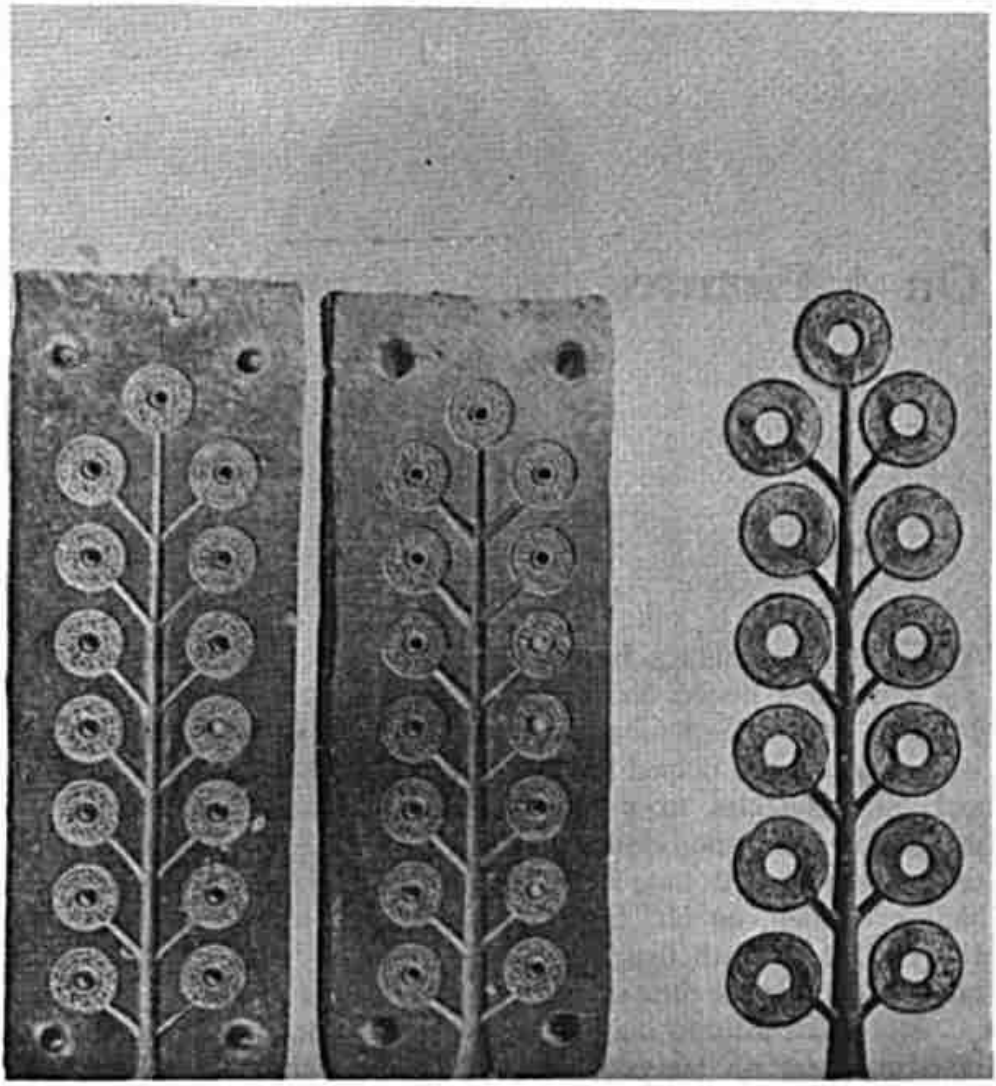
ing to a Malay informant, worth one cent present Straits Settlements currency (I ct. = 2/4 – 100). Inche Wan Lela, Penghulu of Kuala Lipis, Pahang, to whom I have translated Graham's account, confirms its general correctness and says that, at the time of his visit four hundred and eighty *pitis* were equal to one "cannon dollar" (? a Spanish coin), while the Mexican dollar was worth only four hundred and forty.

As will be seen from the illustration which accompanies this paper, fifteen *pitis* are cast at one pouring, a central channel in each side of the mould giving rise to fourteen side branches, seven on each side, each of which terminates in a mould for one side of a *pitis*, while the main channel gradually narrows and ends in two similar half-moulds. The *pitis*, therefore, when taken from the mould, are connected by twigs of metal to a main stem.[1] These are, of course, subsequently cut away.

The two pieces of the mould are of brass and of considerable weight and thickness. On the inner face of one section are four pegs – one towards each corner – and the other has four holes in corresponding positions. The object of these is to ensure correct register when the mould is in use. Each section also has four holes in it at the sides, being, presumably, for the insertion of cramps. As the *pitis* are cast with holes in them, it is necessary that there should be projections in the centres of the coin moulds in order to prevent the molten metal from filling this part. This is effected, not by pins projecting from one side of each mould only, but by stumpy projections on both sides, which meet, or almost meet, when the two halves of the mould are placed in conjuction. These projections, however, have holes in them, and wooden, or iron, pegs were, perhaps, inserted in these to help in obtaining a more correct register, though it appears that, on the last (?) occasion that the mould was used, these pegs were not in place, for several of the holes, owing to leakage between the projections, are filled with the metal from which the *pitis* were made.

The inscriptions on the *pitis* cast in this mould are the same on both sides of the coin. They are in Arabic and a translation of them, which I have had made, reads, "Struck" on the 5th of (the month) Dzu'l-hijjah, 1321.

1 In *Hobson Jobson*, under the heading "Pagoda-tree", will be found an interesting, but I should think incorrect, suggestion that the idea of a tree bearing coins may have been derived from some such currency as that of Kelantan.



A. B.

A). Two halves of mould for *pitis*. Measurements of one side 25.1 x 9.2 x 2.5 cms.
B). "Tree" of *pitis* with date 1314 (A.II.). These coins are larger than the *pitis* of the mould. Both photographs were taken at practically the same distance.

On A Pictured Stone From Kelantan*

IVOR H.N. EVANS

A very curious object has been received from Mr. R.H. Ehlers of Kuala Gris Estate, Kelantan, who has been so kind as to present it to the F.M.S. Museums. The specimen, which is figured on Plate VII, is natural fish-shaped boss of limestone rock to which scales, gills and other features have been added in a black pigment. Failing association with other objects it is quite impossible to say much about the drawing, and it may be quite recent, either made by pagans or Malays, though, on Mr. Ehlers' showing, this scarcely seems likely. However, it is worth figuring, as it is possible that similar specimens may be found in the future.

Mr. Ehlers informs me that while railway employees were blasting limestone near his bungalow they were uncovering the surface of a small conical hill of limestone in order to stop trees and earth from falling when charges were fired. The hill is about sixty feet high from railway level, measuring the limestone face, and above that were twelve or thirteen feet of earth in which one tree was growing. Mr. Ehlers climbed to the top of the hill while the coolies were clearing away the soil and found an outcrop of limestone half covered with earth, while depending from this, in a hollow formed by an overhang, was the fish here described. He remarks that the painting on the specimen could not have been freshly done as it had just been uncovered by the gang of Chinese coolies.

*Reprint from the Journal of the Federated Malay States Museum, Vol. 15(1);37, 1932.

STONE FISH FROM KELANTAN

A natural fish-shaped limestone boss to which scales and other features have been added in black pigment. Length 41 cms.

Pulai: An Early Chinese Settlement In Kelantan*

S.M. MIDDLEBROOK, M.C.S.

General

PULAI is situated about 9 miles from Gua Musang and is reached by jungle path. The ground rises gently and the walk is not difficult. The path is well looked after by the Pulai Chinese themselves and the numerous jungle streams are easily crossed by that planks. The road was easier than usual at the time of my visit because the birthday feast of the Goddess of Mercy had been held shortly before and the path had been cleared for bamboos and overhanging growths to allow an easy passage of the sedanborne gifts for the Goddess.

Approaching the village the ground is clearer and there are fields of paddy land with occasional pigs and water buffaloes wandering about. At intervals there are groups of small buildings made of paddy clay and bamboo. Each has a buffalo shed near, and consists of a small central hall with a beaten earth floor, with the bedrooms opening behind. At the sides are the kitchens. The roofs are thatched. Over the lintel and down the sides of the foor are vivid lucky strips of red papers with gold and black lettering. A paper God of War–Kwan Kung–is frequently displayed inside the houses.

The valley itself is beautifully shaped. It is wide, with extensive paddy lands, marked out in small squares by ridges of earth on which small bushes grow. The appearance is very similar to England although the fields of paddy are in tiers.

Down the centre of the valley flows the river which is quite wide with thick shrubs at the edges. The sides of the valley are steep and

*Reprint from the Journal of the Malayan Branch of the Royal Asiatic Society, Vol. 11(2); 151,-156, 1933.

are thickly covered with jungle: they gradually curve inwards so that the effect is that of a deep green cup although the sides are not so high as to be oppressive. On the high ground near the village there is a magnificent view of the surrounding range of mountains, and in the valley itself are several wooded jagged out crops of limestone.

Historical

On page 44 of "Kelantan: A State of the Malay Peninsular by W.A. Graham, published in 1908 there is the following reference to Pulai:

> 'The Temangong, brother of Rajah Mahmat, the Sultan, was murdered by the Chinese gold miners at Pulai. This was done at the instance of the Temangong's brother, Raja Banggor Benda hara. The young son of the Temangong, Raja Snik, took the matter up and exterminated the Chinese at Pulai'.

This incident must have happened shortly after 1800.

In the same book, pages 102–104, the following account of this massacre is given:

> 'Gold has been mined in Kelantan from a very remote period, a fact which is attested by the presence of traces of old workings in many parts of the State, the history of which has been entirely lost. Apparently the industry has always been entirely in the lands of Chinese, who must have settled in the gold-producing districts in considerable numbers, and a few of whose descendants persist to this day, at Pulai and elsewhere. During ancient days, when there was no Raja in Kelantan of any far-reaching power, the Pulai settlement grew into a rich and powerful community regarding with very scant respect the orders of the Malays sent by the Rajas to make demands for royalties on the gold resulting from their mining, and frequently sending such messengers back to the capital with scant politeness. At length, however, during the time of Raja Mahmat they fell upon evil days. A monopoly for the sale of rice having been given by the Raja to his son the Temanggong, the latter proceeded to Pulai to enforce his rights there. The Chinese miners who lived entirely on rice which was brought up the river from the plains, refused to comply with the extortionate demands of the monopolist. The traffic of rice-boats on the river was stopped, famine supervened, and the starving miners, excited and exhorted thereto by a brother of the Temangong, attacked and killed the princeling monopolist. Thereupon with all haste an expedition was organised from Kota Bahru by the son of the murdered Temanggong, who descended the river, overcfme the Chinese, and put the whole community to the sword. The river ran red with blood, decaying corpses polluted the air for miles, the gold amassed by years of labour became the spoil of the avengers, and the gold-mining industry of Kelantan came to a sudden end. Gradually, however, in after years, the village of Patai grew again, a few survivors of the massacre being induced to return and to undertake gold-washing in the river.'

It is impossible to obtain any information concerning the origins of this settlement. One story is that over 200 years ago a Hakka Chief

named Chong Poh Chai ( ) who was a notrious robber in South China and lived on the island of Hong Kong, was wanted by officials of the Ching dynasty. He therefore fled with his followers to the East Coast of Malaya and eventually after allowing the river arrived at Pulai. There were no Chinese women amongst the original settlers. This story is very uncertain. Old mining prospectors say that there are huge areas of worked out gold bearing land on the borders of Pahang and Kelantan. The areas are so extensive that it must have taken centuries to work them. It is almost certain that all the land in and around Pulai has been worked for gold. It is probable that the original arrivals were looking for gold and drifted in either from China via Kota Bahru or from Perak. I tried to get some definite information from the Capitan China but he was very vague about anything historical, but he did say that his own grandfather worked for gold and it was not until just before his father was born that the village started planting paddy extensively. There has been no extensive gold working for about 50 years although I found many evidences of minor fossicking a few miles above the village.

The Capitan was only able to give me slight details of two 'wars' with their neighbours. He understands that about 200 years ago over 100 Kochow and Kwangsi Chinese surnamed Phang came from Pahang and kidnapped several of the Pulai womenfolk. The village people resisted and fighting lasted for tea days and the Pahang Chinese were driven away. The other story is that about 35 years ago certain Sakai who lived in the neighbourhood for three years kidnapped three Pulai women. Again the Chinese fought and two were killed but after the Sakai had been driven away the three women returned.

Appearance, Language, and Population

In appearance they look more or less like any other Chinese excepting that they are rather swarthy. They seem friendly, cheerful and healthy. I saw two who looked exactly like Sakais—short, thick-set with squat noses. The men wore either cotton shorts and vest or a strip of the usual red Chinese cloth wrapped around their middle. The women were dressed in the Siamese fashion with an ordinary sarong and a short additional sarong wrapped over the chest leaving the shoulders bare. Their hair was done in the Chinese way on top of the head with the usual pins. Two women were dressed in normal Chinese clothes with black trousers but these were recent from China.

The original settlers inter-married with Sakai women and Siamese, and it was not until comparatively recently that any women came to Pulau direct from China. Two years ago the druggist, who came from China himself sixty years before, arranged with a passage broker to bring him two daughters-in-law from China. The druggist's wife is also said to have come from China about thirty years ago, but these are

the only instances. The Capitan said that his own grandmother was Siamese. There is at present only one man living with a Sakai woman and he came from China six years ago.

The population numbers between seven and eight hundred persons. The Capitan could not say how many women and children were under his control.

Hakka is universally spoken. According to the Capitan there have been a few cases of Kochow and Kwangsi jelutong tappers coming to live in the village. After settling down they married Pulai women and their children spoke only Hakka. The dialects spoken are Kayingchow and Tapu and the tone is quite pure.

Most of the population live outside the village in their own houses. The village itself is small and compact. Originally it must have been square shaped. Now three of the sides have been extended. The original houses and the Goddess of Mercy temple are made of paddy clay and bamboo. The walls are a foot thick and some of them are over 80 years old. The narrow streets are paved with flat stones and there is a small open space in front of the temple. The new houses are made of attap and bamboo and are not so substantial. Only about 100 people live in the village in which there are about twenty houses. There are one or two small grocery shops, and also a druggist. Hawkers come from Gua Musang to the village but stores are usually got by the villagers themselves.

Pulai is no longer isolated since the railway construction work began at Gua Musang. Previously goods had to be brought by river from Kuala Krai. The present Capitan used to go by boat with his mother to buy stores to sell in the village. It was in this way that he learnt Malay. Gradually more and more of them are learning a little Malay but even now very few of them can speak any.

Paddy is the principal stand-by; but the people are very poor. The Capitan himself has business interest in Gua Musang but the others, with the exception of the druggist, are farmers. They may stil fossick for gold but not to any great extent. Very little money is used and that chiefly small change. When any public funeral subscription has to be made, contributions are made in paddy which is sold and the expenses paid with the proceeds. There is a small burial ground and most of the houses have one or two coffins ready for use. They are usually kept in a shed outside the house.

In the old days when they worked gold some of them returned to China to live, but probably very few. With rare exceptions these now living in Pulai have never been to China and are quite ignorant as to which is their ancestral village.

There seem to be no difficulties abour marriage. It is arranged in the usual way, by go-between, and marriage documents are prepared. There seems to have been frequent intermarriage between the families

and there is little doubts that the whole community is particularly immoral. Divorce is very easy and the women seem to drift from husband to husband.

They keep the principal Chinese Festivals; the 5th of V Moon Dragon Boat), 19th 11 Moon (Goddess of Mercy), 15th VIII Moon (Mid-Autumn Festival), 15th VII Moon (All Souls' Day) and the old style Chinese New Year.

The School

For many years there was a village school, with a school mistress. She is now over 60 and is still in the village. She taught the old classics. About two years ago a relative of the druggist came from China to the village and started a modern primary school. Money was subscribed and the Captain told me that he paid $50. A school was built and the village learnt of the existence of Dr. Sun Yat Sen and the Chinese National Government. The teacher imported a national flag and flew it on the October 10th Anniversary. After a year or so the teacher left because no one could pay the school fees and now the school house is empty and the children are working in the fields. One very old man teaches a little and his three or four pupils pay for the schooling by giving him paddy.

The Capitan China

The present Capitan, Liew Chin Fook, is 41 years. He was appointed by Sultan Mohamed III in a letter of appointment dated 23rd August, 1918. The letter states that he is appointed a Capitan China of the daerah of Pulai which is the district of Ulu Galas. He is permitted to settle disputes amongst the Chinese. As a magistrate he may hear civil cases involving sums of not more than $100. He can hear voluntary hurt but no grievous hurt cases, or 'cases with weapon,' or those in which there are broken bones or serious injuries. He can also hear private summons cases providing both parties agree.

The Capitan used to act as Magistrate until four or five years ago, but he then petitioned the Sultan to appoint some one else. Being ignorant of Law, he felt that he was not competent to act as Magistrate after the isolation of the settlement ended and the town of Gua Musang grew up. He could look after his own people but had no wish to become involved even as a Magistrate in cases in which outside Chinese were concerned.

Now his duties are more general although he still keeps a pair of handcuffs ready for use. There is a small Polic Station on the edge of the village and there is a Malay Police Corporal in charge. The Capitan reports anything of interest to Government and he accompanies European Officials on their visits of inspection. He is also in charge of the water ways.

The previous Capitan died when he was over 60 and his only surviving son was too young to be appointed. Apparently it had previously passed from father to son. The present Capitan was elected mainly because he could speak Malay well. It is doubtful whether he has much authority other than in his own family. His son has married the daughter of the previous Capitan. It is possible that he himself will keep his position until he dies, when his written authority will be returned to His Highness the Sultan.

He receives no salary but at the time of his appointment he was allowed to run gambling, but he only did this for one year and was then told by Government that it would not be allowed in future. He is the only liquor and chandu licence, and also possesses a gold buyers licence, so that he does obtain definite business advantages. He is a partner in a shop at Gua Musang and lives there with one of his three wives, visiting Pulai once a month only. His son is a boarder in a private English School at Kuala Krai.

Probably he will be the last Capitan now that Pulai is no longer isolated. The village is visited frequently by Government Officials and there does not now appear to be any necessity for any special official.

A Note on Kelantan Gold Coins*

ANKER RENTSE

IN connection with Mr. Linehan's paper on Kelantan Coins, (JRASMB, vol. XII, p. II) it may now be worth mentioning a strong belief in Kelantan regarding the Kelantan *Masdinar* (fig. 3, Plate X, in Mr. Linehan's paper). On top of the inscription *Aljulus Kelantan* appears another inscription, which, in local opinion, should be read as 577 A.H. This would bring Mohammedanism to Kelantan at a very early date. Although it may be possible that Kelantan and Patani were embraced by Islam before it came to Malacca, as we find Mohamedan titles in Patani at a time, which one may suggest is about 1420 A.D., yet the inscription on the *Masdinar* apeared to me to be more like *bunga* to fill in an empty space, and not an inscription at all. When showing the coin to Dr. van Stein Callenfels he came to the conclusion that this inscription may be read as *Su*, which is a contraction of the Sanskrit word *suwarna*, meaning gold. *Su* is the ancient Javanese name for gold coins, as *Ma*, a contraction of *machankha*, meaning silver, was the ancient name for the Majapahit silver coin.

Plate XVIII, fig. 1 and 2 shows two very clear specimens of the above named coin.

Mr. Linehan in the same paper mentions a fourth kind of gold coin in Kelantan, of which no illustration was available at the time of publication. No. 3 on Plate XVIII shows a speciment of that coin, described by Mr. Linehan on page 69 (JRASMB, vol. XII, p. 11).

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*Reprint from the Journal of the Malayan Branch of the Royal Asiatic Society, Vol. 14(3); 305, 1936.

1.

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Kelantan Gold Coins.

Gold Coins Of The North-Eastern Malay States*

ANKER RENTSE

1. **The so-called Kijang coin.**

IN his paper, "Coins of Kelantan", (J.R.A.S.M.B., Vol. XII, part II, Aug. 1934), Dr. W. Linehan describes the gold coin known as the "*kijang*" in Kelantan , of which he writes:– "Plate X (*a*) and (*b*) Figs. 2 show a coin with the inscription on one side *Malik-al-adil*, "The just Lord", and on the other side the representation of an animal, which according to Kelantan folk is a *kijang* (barking deer). It is not unlikely that their assumption is correct". Further Mr. Linehan suggests that it is probable this coin is of Kelantan origin.

In Sir J.A.S. Bucknill's "Observations upon some coins obtained in Malaya and particularly from Trengganu, Kelantan and Southern Siam ' (J.R.A.S.M.B., Vol. 1, April, 1923), I find that the "*kijang*" coin was then a puzzle to Numismatists. Mr. Moquette suggested that the animal resembled a deer (?), Dr. Codrington thought that it was intended to represent a maneless lion; but Mr. Moquette remarks later on, "what the animal may be I cannot guess, but I never saw (on a coin) a lion with horns, I am certain, however, that this coin is not Achinese. I do not see the sun or moon". Further one learns that others have designated the animal a horse as well. Lieut. Col. Gerini describes a "*kijang*" coin in the journal of the Royal Asiatic Society for Great Britain and Ireland, 1903, Art. XVIII, pp. 339, 343, commented on by Dr. Codrington (the coin was found in the grounds of a Siamese Buddist Monastery) as an imitation of some Southern Indian fanam (the India Coin). The photograph reproduced in J.R.A.S.M.B., Vol.

*Reprint from the Journal of the Malayan Branch of the Royal Asiatic Society, Vol. 17(1); 88-97, 1939.

I, April, 1923, page 204, shows a fine specimen, almost simialr to the one shown by Dr. W. Linehan (J.R.A.S.M.B., Vol. XII, part II, plate X, fig. 2).

The few specimens of this rare coin available, at the time when Dr. Linehan and myself were comparing notes, were rather poorly stuck. Since then I have obtained further specimens showing a clear picture of the animal, and I find that there are at least seven distinct types, the animal being pictured in different postures, The following details of each of these types will assist in the further study of the origin of the coin.

TYPE 1. Plate XIII Fig. 1. *(a, b, c, d)*

This type I think is the original coin. The animal is pictured with:—

(a) a salivary flow from its mouth. This is more likely to refer to the sacred bull of India than to a *kijang*. In this connection it may be mentioned that in the ancient hindu mythology, as one finds it in Kelantan, a salivary flow from the mouth of certain gods and demons in the Kelantan shadow play indicates supernatural power.

(b) The horns on the animal's head look more like those of a bull than like antlers of a *kijang*.

(c) On the back of the animal is a very distinct suggestion of a hump, which also points towards the idea of an Indian bull.

(d) The tail is long and tasseled like a bull's tail, whereas the *kijang* has a touch of a tail only. There is a sign like a crescent behind the tail.

(e) The long, towering neck of the animal would, however, point more to a *kijang* than to a bull.

(f) It may also be noted that the sexual organ is very clearly shown, an idea which points towards Indian cult. It will be noted that there is no trace of this on the illustrations of the other types mentioned below.

The four coins of this type were found in Kelantan and Patani. The inscription on the reverse of this coin reads:—

Malik al-'adil.
(Arabic: the just Lord).

TYPE 2. Plate XIV Fig. 2.

This coin was found in Patani, at the site of the old capital, Gersik, and was presented to me by Tengku Seri Akar Raja of Kelantan,

the eldest son of the late Raja Abdul Kadir Kamarudin of Patani, who, after serious differences with the Siamese, retired to Kelantan, where he died a few years ago. I regard this coin as locally minted, and I should not be surprised if the minting was done by a Chinese goldmith, as the attempt at Arabic script on the reverse, *al-'adil*, is so poor and strange looking, that I can hardly believed a Malay to be responsible for it, especially considering the great pains the maker evidently took to produce an elegant coin.

Comparing this type with that previously described, we find:–

(a) the salivary flow;
(b) the horns of a bull;
(c) no signs of a hump, but what appears to be a belt round the body with two curious balls attached; whatever the significance of this may be; it seems strange.
(d) The tail of a bull, but the tassel rather curious, especially when compared with the crescent-like sign next to it. Perhaps it is meant to represent the sun and moon.
(e) The long neck resembles a *kijang* rather than a bull.

This type was desribed by Bucknill, J.R.A.S.M.B., Vol. I, April, 1923, Plate III, fig. 8.

The inscription on the reverse of this coin reads:–

al-'adil.
(Arabic: the just).

TYPE 3, Plate XIV Fig. 3.

This type came from the same source as fig. 2. In view of the nature of the inscription on the reverse, *al-'adil*, I believe that this coin, too, was minted by people not completely conversant with Arabic script. The animal pictured here is entirely different in shape from the types previously described (fig. 1 and 2), in fact one would rather feel inclined to say it looks more like a rhinoceros than anything else. But we have the other variations of these coins to guide us, and a close examination reveals that:–

(a) the salivary flow from the mouth is absent;
(b) the horns are like those of a bull;
(c) the hump on the back points to the idea of the Indian hump-backed bull;
(d) the tail is not very clear. It may be doubtful whether it is the end of a long tail shown, or it is meant to be a cresent, as the sign shown next to it resembles the sun.
(d) the short neck indicates a bull rather than a *kijang*.

The inscription on the reverse of this coin reads:–

al-'adil.
(Arabic: the just).

TYPE 4. Plate XIII Fig. 4

This coin was found at Sungei Batu, Kedah, and is mentioned by Mr. Ivor H.N. Evans in J.F.M.S. Museums. Vol XII, part 3, 1926. It was then covered on one side by a silver shank, which, when removed recently by Mr. C.H. Dakers, M.C.S., revealed an interesting portrait of the animal, entirely new to me. On all the *kijang* coins. I have seen hitherto the animal faces the left side, whereas it faces the right side of the coin in the present specimen. Compared with the above mentioned types we find:–

(a) the salivary flow,
(b) the horns of a bull;
(c) the hump like that on an Indian bull;
(d) the tail is different to the other types here mentioned, a long hanging tail without appendage; and here it appears to be evident that the signs shown on top are the sun and moon;
(e) the long, towering neck like a *kijang*.

The inscription on the reverse of this coin reads:–

malik-al-'adil.
(Arabic: the just Lord).

TYPE 5.

The coin illustrated in "Coins of Kelantan", by W, Linehan, J.R.A.S.M.B., Vol. XII, part II, plate X, fig. 1.

The animal shown here is much the same type as No. 3 in the present pp., but is very poorly done. There is:–

(a) no sign of salivary flow;
(b) horns of a bull;
(c) a hump like the one on an Indian bull;
(d) the tail is not very clear, but there are signs to be seen of a long and upright tail; the sun and the moon on top;
(e) the short neck of a bull.

The inscription on the reverse of this coin reads:–

al-'adil.
(Arabic, the just).

TYPE 6

The coin illustrated in "Coins of Kelantan", by W. Linehan, J.R.A.S.M.B., Vol. XII, part II, plate X, fig. 2.

The animal is much like the types under 1;2 and 4.

The illustration shows the following:–

(a) the salivary flow;
(b) the horns of a bull;
(c) the hump of an Indian bull;
(d) a long and upright tail, but with the sun at the end of the tail instead of tassels, and a cresent behind the tail;
(e) the neck is bent slightly forward and may just as well indicate a bull as a *kijang*.

The inscription on the reverse of this coin reads:–

Malik al-'adil.
(Arabic: the just Lord).

TYPE 7. Plate XIII Fig. 7.

This coin was found in Kelantan. The animal here resembles more or less the one on the coin described as type 2. We find the following:–

(a) no salivary flow; it was possibly meant to be there, but cut off in the minting process, as it will be noted, that the animal's mouth is rather close to the edge;
(b) the horns of a bull;
(c) a very clear hump of an Indian bull;
(d) a long tail and above it the sun and moon;
(e) the long neck of a *kijang*.

The small ring indicates that this coin has been used as an amulet of the kind given to children to wear as a protection against evil influence.

The inscription on the reverse of this specimen reads:–

asma 'adil.
(Arabic: brave and just).

The weight of these bull coins varies from 8–9 grains.

It was noted that Dr. Codrington suggested the two coins decribed by Bucknill to be imitations of some Southern Indian Fanam. These coins (figs. 7 and 8, Plate III, J.R.A.S.M.B., Vol., I, 1923) are similar

to those described above as type 1 and 2. As regards Bucknill's coin fig. 7 (my type 1) I am doubtful whether to call this an imitation, I am inclined to think that this was the original coin introduced into Malaya either minted by a Malay Ruler or brought by some foreign traders, possibly Indian. I have had no opportunity to consult numismatic experts on Indian coins; but I hope my present observations will be duly criticized and that further evidence as to the origin of the coin will be brought forward. Mr. C.H. Dakers, M.C.S., has drawn my attention to "Ceylon Coins and Currency", by H.W. Codrington, C.C.S., B.A. (Oxon.), F.R.N.S., Colombo 1924, in which the bull is pictured on fig. 91–96, plate IV. But this representation seems different to that found on Malayan gold coins and is possibly the prototype. It looks definitely like a bull in a kneeling position, shows no signs of salivary flow, the tail is hanging down, while the sun and moon are pictured on top. Dr. Codrington is probably right in his assumption that Bucknill's fig. 8 (my type 2) is an imitation, and it is not unlikely that the other types decribed in the present pp., 2–7, are imitations of type 1.

There is reason to believe that the types 2–7 were minted in the Northern Malay States, Kedah, Patani, Rahman, Jering, Sai, Legeh, Kelantan or Trengganu by various rulers. There is evidence of ancient gold mining in most of these states, so it is likely that local gold was used in the coinage, and that the minting was Malayan.

The local name for all the various kinds of gold coins, *masdinar* (gold-coin), indicates that they originated even further West than India, as *dinar* is a Persian word for petty money derived from the Latin denarius, so there is reason to believe that Moslem (Indian) traders introduced the gold coinage in the Northern Malay States.

Mr. C.H. Dakers very kindly brought the following to my notice:–

> "Mr. W.W. Skeat made the following notes on the East Coast (see The Indian Antiquary Obsolete Tin Currency and Money of the F.M.S. by Sir R.C. Temple, Bart. Bombay 1914, page 49):
>
> "Patani Jering. I bought at Jering some gold dinar, there called mas kupang (gold kupang), which were brought round by an old Haji. He said that they had been dug up in a bottle at *Bukit Kuwong* about 18 to 20 years ago (writing in 1899) by a Siamese, and that as they were considered treasure trove, half of them had gone as usual to the Raja and half to the finder. Tradiitonally they are supposed to have been struck by *Raja Merkah* after his conversion to Islam. Another kind, struck on one side only, is said to have been minted by his wife after his decease. The traditional diameter of coins of this kind is alleged to be that of blossoms of the *tanjong* tree, but the two I bought were a little smaller. One of them had a rude figure of a bull on it, and the other that of a horse and both had Arabic inscriptions. One of them had had a small eyelet-hole to the edge of the coin, which was intended (I was told) to enable it to be worn round a child's neck to benefit the child's eyes".

"The coin which he thought had the figure of the horse was probably a specimen of your figure 2. At any rate Mr. Skeat later writes to Sir R. Temple, (13th March 1904) evidently dealing with the same coins, to the following effect (op. cit. p. 41):

" 'I secured also two small coins from the East Coast with bulls on them, apparently not yet recorded, but in shape and size resembling some Sumatran Coins'.

"Here we have an independent opinion that the figures on this series respresent hulls. It is also most significant that Mr. Skeat was not told that they were Kijang though he made exhaustive enquiries on the spot".

There have been so many suggestions as to the nature of the animal that one should not add to the difficulties, but I think attention should be drawn to a fabulous creature in the Kelantan mythology, the *Wilmana*, the steed of the gods, pictured in the Kelantan shadow play. It is said to be a mixture of the deer; rhinoceros, ox, horse, fish, tiger, bird and elephant. However, I do not think that the animal stated on the coin is meant to represent the *Wilmana*.

Dr. W. Linehan has drawn my attention to the legend related in the Malay Annals of the creation of Malay Royalty, and I think it is most probable that the animal represents the sacred bull of *Shiva*, the *Nandi*, who appeared at the hill *Siguntang* near *Mount Mahameru* in the hinterland of Palembang in Sumatra, carrying a young Raja on its back, a descendant of the Great Alexander. The bull vomited foam out of which sprang a heavenly herald, *Batala*, who proclaimed the young Raja as King with the title *Sang Sapurba Trimurti Tribuana*, the traditional ancestor of Malay Royalty.

II. Other gold coins from the Malay States of Kelantan and Patani.

The coins described Dr. W. Linehan (J.R.A.S.M.B., Vol. XII, part II, plate X, fig. 3) and myself (JR.A.S.M.B., Vol. XIV, part III, plate XVIII, fig. 1 and 2) show that the Malay Rulers of the North-eastern states minted gold coins. The inscription on these coins reads *Al-julus Kelantan:* it is therefore easy to assume that various other gold coins of different kinds but similar in size, weight and general make-up, found in Kelantan and Patani, have been minted there as well, especially with the fact in view that these coins do not appear in other places.

Unfortunately the coins, apart from those the inscription on which mention is made of Kelantan, give no information as to the country of origin, a few give the title or name of the ruler, which, however, at the present stage of our knowledge of local History has not been of much assistance. In Kelantan the most common gold coin found is the one with the inscription *Al-julus Kelantan*, next to that comes the so-called "*kijang*" coin. One point worth mentioning is

that the gold coins found in the North-eastern Malay States are of a different appearance from those found in Johore, for example octagonal coins are not found in the North-eastern States, except in Trengganu, from whence I have seen a few specimens undoubtedly of Johore origin as shown by the inscriptions *Sultan Abdul Jalil* and *Sultan Sulaiman*.

Trengganu had relations with Johore, and it was to be expected that Johore coins would be found in that state. But the States of Kelantan, Legeh, Rahman, Sai, Jering and Patani which forms one group with Kelantan to the South and Patani to the North have been rather isolated from the rest of the Peninsula, and have passed through a History of their own, of which unfortunately very little is known so far. At one time (about 1600 A.D.) we know Patani as a powerful kingdom ruled by a queen, Nam Chayam, and it is almost certain that Kelantan, Legeh, Rahman, Sai and Jering were just provinces under Patani rule at that period. A flourishing trade in gold, tin, ivory, spices, etc. was carried on and we know that gold coins existed as a medium of exchange. A coin (now in Perak Museum), to which Mr. C.H. Dakers drew my attention, was dicovered in Kedah by Mr. Ivor H. Evans (Journal F.M.S. Museums, Vol. XII, part 3, page 80), it bears the inscription, *Sultan Mustapha Shah*. Mr Dakers writes, "The Mustapha Sultan coin is not the right style for the 15th century and does not fit in with the known coins of the Malacca Sultan so I am hunting for a late 16th or 17th century man". In my "History of Kelantan" (J.R.A.S.M.B., Vol. XII, part II, page 48) a ruler of Patani of that name is mentioned, so there is a possibility that this coin was minted in Patani.

The coins described below I have collected from various places in Kelantan and Patani. Some of them have been found in the soil, others have been obtained from Malays who inherited them from their forefathers, they were used as amulets. The *masdinar* is also used in magic art *e.g.* in teaching birds to talk. *burong tiong* (the Javanese minah, *eulales javanensis*) and *burong barau*. A common Malay belief is that if one rubs the tongue of these birds with a *masdinar* regularly, they will learn to imitate human speech.

Fig. 5, Plate XIV

A circular coin, which has been used as an amulet. It was found in Kelantan; weight 9 grains.

Inscription on the obverse,

Sultan Mohamad

and on the reverse,

Muttakil Shah

In the History of Kelantan (J.R.A.S.M.B., Vol. XII, part, II page 50) a Sultan Mohamad is mentioned in the traditional tales as a ruler of Kelantan. It is there stated that Sultan Mohamad sent a white elephant as a gift of honour to placate the King of Siam.

Fig. 6, Plate XIV

A circular coin, found in Kelantan; weight 9 grains.
The inscription on the obverse,
Aqam-u-'din
and on the reverse,
Malik-al-'adil

Translation of both sides of coin:– (Arabic) the just ruler who established religion.

Fig. 8, Plate XIII

A circular coin, which has been used as an amulet. It was found in Kelantan; weight 9 grains.

Obverse, a picture which appears to represent a flower or four leaves (much like a four-leaved shamrock). In the leaves will be seen some Arabic writing, which unfortunately has been damaged when the fourth leaves was pierced for the ring; but of what is left it appears to me that the inscription was intended to be, *adil Shah*. I am illustrating another type (fig. 11) already described by Dr. W. Linehan (J.R.A.S.M.B., Vol. XII, part II, plate X, fig, *c*) as the *dinar matahari*, "the sun coin", as I venture to suggest that there is some connection between these two types. The one may be an imitation of the other. In Dr. Codrington's "Ceylon Coins and Currency" (Colombo, 1924) fig. 96, plate IV, shows a coin with a bull on the obverse, and on the reverse an eight-pointed star much like the one here pictured on fig. 11, which, however, only shows six points. The picture represents the sun, the points being the rays of the sun. Sunworship was universal in the older forms of religion. We get the representation of the sun commonly on *e.g.* the drums of the bronze age.

Inscription on the reverse,
Malik-al-'adil.
same inscription as on fig. 11.

Fig. 9, Plate XIV

A circular coin found in Kelantan.
Inscription on the obverse,
Shah 'adil

and on the reverse,

Malik-al-'adil

In type the appearance of this coin reminds of the one destribed by Bucknill (J.R.A.S.M.B., Vol I, plate III, fig. 3); but there the inscription on the obverse reads *Shah alam*. There was much speculation about that coin, which came from Trengganu. Sir J.A.S. Bucknill writes, "Personally I thought it might be from Atjen (Acheen) in North Sumatra but Mr. J.P. Moqette of Weltevreden, Java, points out that "Malik-ul-Adil" does not occur on coins from that place, though "Sultan-al-Adil" is common on coins from Atjen and Borneo; but he cannot guessits provenance. Mr. Allan of the British Museum and Mr. Howland of the American Numismatic Society were equally doubtful, though the latter suggests it belongs to some Malay Peninsula state. Mr. Valentine thinks it *does* come from Acheen as the name "Shah Alam" occurs on some of the gold coins of that locality in a longer legend "Paduka Shah Alam" (see Millies Plates XVI). Mr. J. Schulman of Amsterdam is, however, certain that it is *not* from Acheen, but thinks it emanated from some small South Indian State (possibly Beejapur) owing to its type and characters. But Mr. Gravely of the Madras Museum is disposed to think it was issued by one of the Mughal Emperors. The mere finding of coins in a particular place, it need hardly be pointed out, is not of much value in fixing where they were minted but the fact is that we are still somewhat ignorant as to the coinage of the native States of Malaya; and very slender reasons have been at times assigned for attributing a specimen to a particular locality".

The present find of another coin in the same locality as that where Bucknills was found, very similar in appearance to his, and of which the numismatic experts seem doubtful whether it originated in Sumatra or India, affords a slight indication that the two coins were minted in the North-eastern Malay States.

Fig. 10, Plate XIV

A circular coin found in Kelantan; weight 9 grains. The ring indicates that it has been used as an amulet.

The inscription appears difficult to read. Local arabic experts seem to agree to the following:—

on the obverse:—

Dama Shah

and on the reverse:—

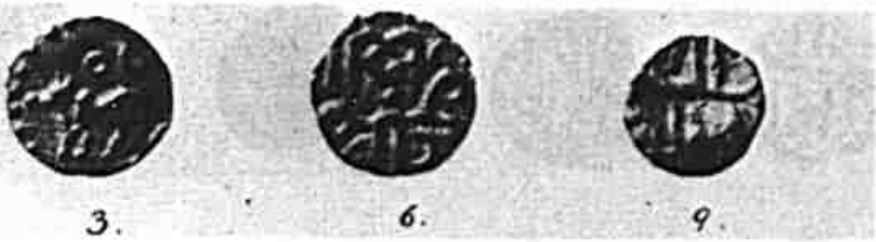
Binaqdi sahibihi

Translation of both sides of coin:– (Arabic). May the Ruler and his currency perpetuate.

My thanks are due to Dr. W. Linehan, M.C.S., and Mr. C. H, Dakers, M.C.S., for their helpful assistance and to Mr. Dakers for supplying me with the photograph of the type fig. 4; also thanks are due to Dato' Seri Setia Raja (Nik Ahmad Kamil), Kelantan, for assisting me in deciphering the arabic inscriptions.

Postcript – Since this pp. was completed I have received a message from Mr. W.W. Skeat giving his entire support that the so-called *Kijang* coin is being rightly identified as a bull coin.

11. 5. 2.



3. 6. 9.

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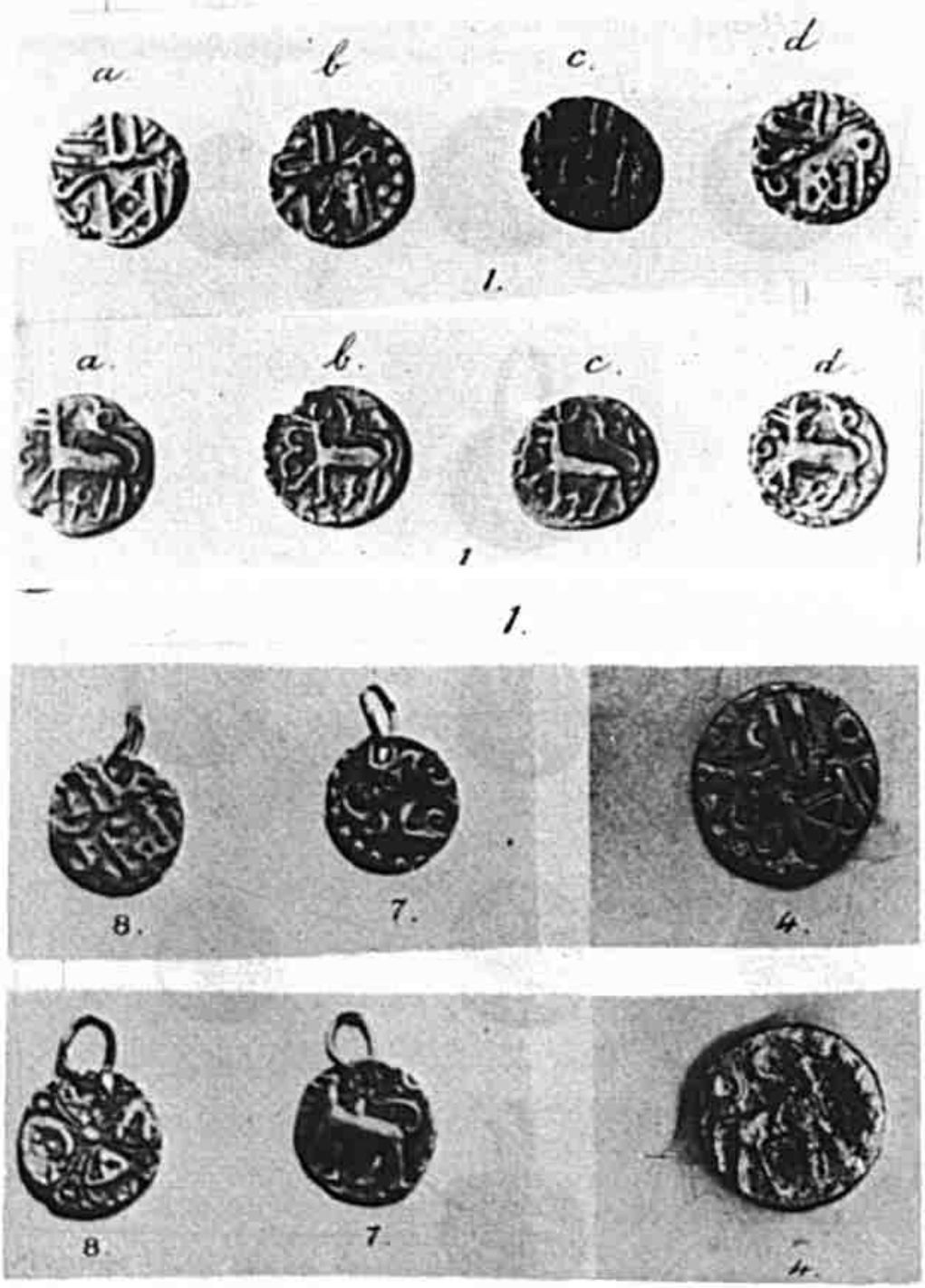
Rentse: Gold Coins from Kelantan



Rentse: Gold Coins from Kelantan

Majapahit Amulets In Kelantan*

ANKER RENTSE

THE so called *Pitis Jawa* (or *Pitis Semar*) found in Kelantan as a treasure among medicine-men shows a strong Majapahit influence, which dates far back into history. The *Pitis Jawa* is a coin-like amulet with a hole in the centre, and with pictures representing ancient Indonesian and Hindu divinities. As a rule the amulet is made of brass or bronze, but copper ones appear too. The coin was never used in currency, but purely for magical purposes, and it is regarded as *keramat*, brought out to assist when a *main berbagih* performance is carried out by the medicine-man with the object of curing a sick person, recovering lost property, or driving out an evil influence. The main berbagih has been described by Dr. Gimlette in his book "Malay Poisons and Charm Cures" (Churchhill, London, 1929). Dr. Gimlette does not, however, mention *Pitis Jawa*, but gives a detailed description of how certain important puppets from the shadowplay are borrowed for the occasion of *main berbagih*. The idea is that the deities those puppets represent are induced to descend and assist the medicine-man in his undertakings.

There is, however, another kind of *main berbagih* in which the puppets are replaced by the *Pitis Jawa*, which represents the same ancient deities as the puppets of the Javanese shadowplay. During this performance the medicine-man holds the amulet in a string about one foot long, and made of *benang mentah* (or *benang kapok*, the purification cord) dyed in *Kunyit* (turmeric). H e sits upright in front of the burning incense, holds out his arm, so that the amulet is covered

* Petikan daripada *JMBRAS*, XIV (III), 1936.

in the sacred smoke down through which the divine powers are supposed to descend, and he invokes these powers by chanting incantations, requesting them to come down to earth and assist him.

I had an opportunity to witness such a performance some years ago. A member of a Raja's household was possessed by a *hantu* and had to be cured. What actually had happened was that a centipede had used the man's face as a playing ground the previous night without stinging him; but the effect, when he woke up and discovered the unwelcome guest, was temporary mental disorder. I found him half-conscious and rolling about on the mat, when I arrived. He was placed in lying position on a mat close to the burning incense. After some lengthy invocations by the medicine-man the *Pitis Jawa* suddenly commenced moving. To all present it appeared that the medicine-man's arm and hand, holding the amulet , was quite motionless. First the amulet was swinging slowly backwards and forwards, then round in circles, and finally it quivered up and down, slacking the string in a somewhat mysterious way, which seems to indicate that the medicine-man performing was a clever actor. This was the sign that the deity invoked (one of those pictured on the amulet in use) had descended. The medicine-man fell into a trance, and the *To' Mindok* (the helper) began to cross-examine the deity, which had now taken possession of the medicine-man's body. When the nature of the *hantu* possessing the patient was ascertained the deity agreed to accept the feast proffered and to drive out the evil. The medicine-man crawled on all fours round the patient, holding the amulet high above him, chanting incantations in a whisper. His face was all the time almost in close contact with the patient's body. Suddenly the patient gave a scream, jumped straight off the man, and ran like one possessed by the very devil round the *balai*, and upstairs with a crowd of excited followers at his heels, all yelling and screaming. Down they came again and disappeared like a host of flying ghosts out into the dark night, where the performance ended in the patient collapsing with a most terrific scream. The *hantu* had left him, and the performance was over. He came back, walking through the *balai*, quite normal without any sign of recent excitement, just as if nothing at all had happened. The offerings were brought down to the river-bank and left there.

The *Pitis Jawa* amulet is in Kelantan regarded with great respect and cannot be played about with by people, who do not know how to charm it.

I am indebted to Dr. P van Stein Callenfels for the explanation of the figures shown on the different amulets, as given below.

No. 1 and 2. (Plate XVII). Brass amulets found in Kelantan. No. 1 in my possession, and No. 2 now in Raffles Museum. The amulets appear to have been cast from the same mould. On the left a picture, which in Kelantan is believed to be *Semar*, and on the right *Truas*

(*Jemuras*). Dr. Callenfels explains, however, that the figure on the left is *Bagong*, and on the right *Semar*. These two figures represent ancient Indonesian deities worshipped as supreme powers before Hinduism came to Java. On top of the amulet is seen a dragon and below an animal (a dog?) The sign on top of the animals head is possibly of magic significance.

The reverse of these two amulets (Plate XVII) shows to the left a figure, which in Kelantan is believed to be *Radin Inoh*, and to the right *Galus* (*Galoh*). Dr. van Stein Callenfels feels, however, inclined to think that the figure to the left is *Judhishthira*, and the other one his consort *Dropadi*, as the hairdresses resemble the *gelung keling* of *Judhishthira* and his consort. However, the same two figures are found on No. 4 (Plate XVII) and here the headdress reminds one more of the *tekes* of *Panji* (a special headdress made of horsehair). The hair of the princess hanging loose would perhaps point more to *Sekartaji* than to *Dropadi*. The last one in the modern Javenese Wayang is generally wearing the same *gelung keling* as her husband but as it is generally stated in the Wayang that *Dropadi* vowed that she would not bind up her hair in a knot before she had washed it in the blood of *Dursasana* (Het Javaansche Tooneel, door J. Kats, Weltevreden 1923, p. 433), she may well be represented also with her hair hanging loose. On top of the amulet is seen a tree, which possibly resembles *Pohon Beringin* (the Banyan, tree of life), and below an elephant. The wheel (?) on top of the last may be of magic significance.

No. 3. (Plate XVII). Copper amulet found in Bang Nara, formerly a district of Kelantan, but now under Siamese rule. This amulet has been presented to Dr. van Stein Callenfels for the Batavia Museum in exchange for No. 4. On the left is a picture of *Arjuna*, and to the right *Krishna*. On the reverse (Plate XVII) to the left *Beratasena* (*Sang Bima*), and to the right probably *Kurupati* (*Durijudana*), or perhaps, as believed in Kelantan, *Ghatot Kacha*.

No. 4. (Plate XVII). Brass amulet from Java, presented me by Dr. van Stein Callenfels. This amulet is much the same as No. 1 and 2 found in Kelantan. It may be that the figure on the left is *Panji*, and the one on the right *Dewi Sekartaji* (*Chandra Kirina*). See description above under No. 2. 1 and 2. In Kelantan the two figures are believed to be *Inon* and *Galoh*. On the reverse (Plate XVII) the figure to the left is *Bagong*, and to the right *Semar*.

No. 5. (Plate XVII). Brass amulet from Java, presented me by Dr. van Stein Callenfels. The picture on this amulet represent *Semar*. The pictures on the reverse are not very clear, they may resemble *Arjuna* to the left, and to the right *Krishna*. The animal below appears to be a buffalo.

No. 6. (Plate XVI). Brass amulet found in Kelantan. On the left figure the *gelung keling* points to *Judhishthira*, but, as an image a horse

appears at the bottom of the amulet, the figure is probably meant to represent *Inoh*, as one of his names is *Raden Mas Panji Kuda Waneng Pati*. If the left figure is meant to be *inoh*, the one to the right should be *Dewi Sekartaji* (*Chandra Kirana*, or *Putri Galuh;* the last name is the title of the crown-princess). On the reverse (Plate XVI) to the left *Semar*, and right *Bagong*. The figures on this amulet are rather poorly done except for the horse, which is excellently clear.

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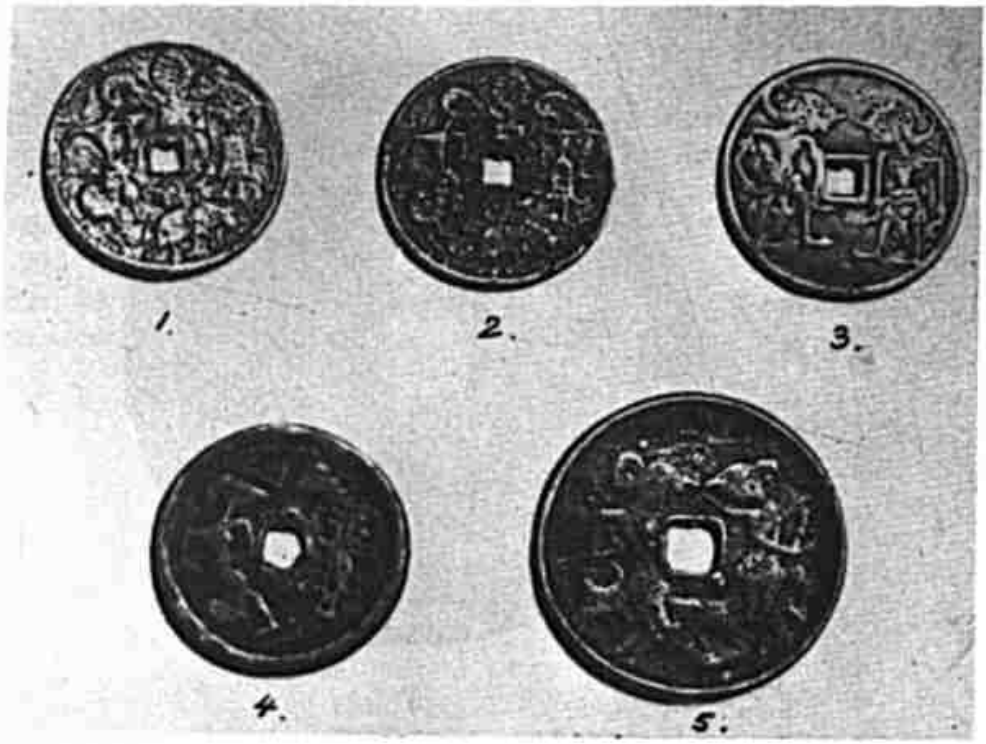
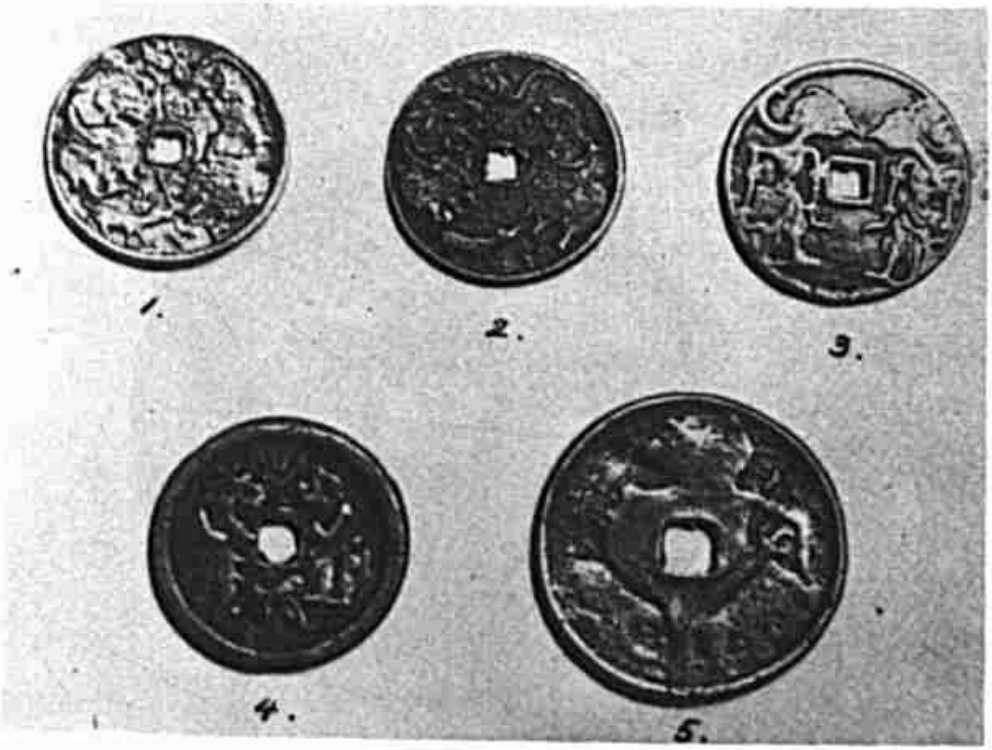
Majapahit Amulets in Kelantan.





Majapahit Amulets in Kelantan.