X-RAY ROCK ART OF AUSTRALIA AND SOUTHEAST ASIA

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Throughout the world, cultures have expressed social, economic and religious concerns through art. As the oldest surviving artistic form, rock art illustrates mankind's continuing effort to understand his place in the material and immaterial worlds. The study of rock art can lend an important insight into prehistory, as it provides the earliest illustration of beliefs, technologies and activities.

Rock art of significant quality and quantity is found on the outskirts of Ipoh, West Malaysia at the site of Gua Tambun. The art at Gua Tambun is fascinating in many respects. Its multiple layers of superimposed motifs indicate that it evolved over a long period of time. The mixture of styles at this site suggests that external cultural contact influenced the development of the art.

The X-ray art is distinctive in that it illustrates not only the body of a subject, but some internal organs and/or skeletal features. Features that are normally concealed, such as the heart, lungs, stomach and backbone of an animal are often depicted.

X-ray art has been recorded and studied in India (cf. Chakravarty (ed.) 1984, Mathpal 1984, Wakankar 1985) and northern Australia (cf. Brandl, 1973; Edwards, 1979; Chaloupka, 1983, 1985), but the X-ray rock art of Southeast Asia has been neglected. The X-ray paintings found at Gua Tambun appear to represent a link between the pictographs in Australia, and the paintings of India.

Rock Art at Gua Tambun, Malaysia; Affinities and Distinctions

The paintings at Gua Tambun were executed in hematite, which was obtained locally. They are virtually all monochromatic images, and depict humans and animals, dots, zigzags and other non-figurative motifs. Three distinct styles of rock art are found at Gua Tambun and included petroglyphs, simple figurative and geometric paintings, and complex figurative pictographs. The complex paintings, which include the only examples of X-ray art, represent the most recent phase of the artistic sequence and are often superimposed over earlier works.

The most striking images at Gua Tambun include a centrally located human figure, and large paintings of various animals. There are pictographs of what appear to bea deer, a tapir, a dugong or catfish, gibbons, and a wild or domesticated dog. Many of these paintings are decorated with cross-hatched designs, and there are some X-ray style motifs. The clearest example of the X-ray style is found in a painting of what appears to be a pregnant sambhur deer, with the unborn fawn shown in her womb.

Most of the paintings at Gua Tambun are in a poor state of preservation, which suggests considerable antiquity. The original surface pigments are no longer present and many of the motifs exist only as a permanent stain on the rock. Rock spalling is common at Gua Tambun and in some places portions of the rock have exfoliated to a depth of several millimeters. Where exfoliation has occurred within a panel of paintings, the designs can sometimes still be deciphered; etched

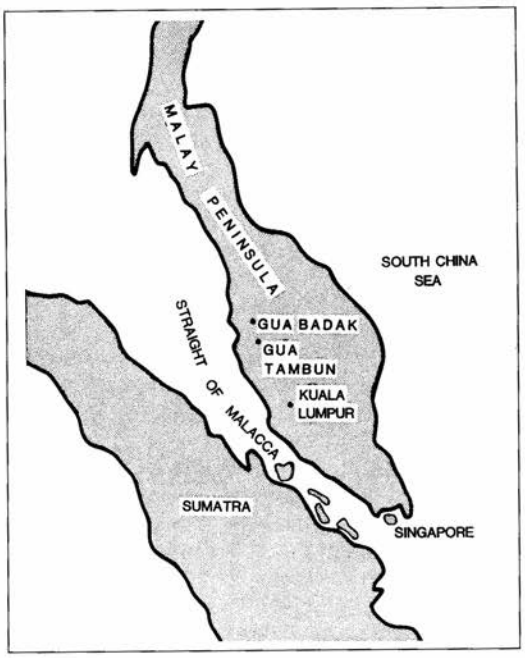


Fig. 107
Map of west Malaysia showing location of the gua tambun and gua badak rock art sites.

in the limestone from the deep stain of the ochre. In the main portion of the gallery, the lower twenty feet of rock surface has exfoliated, leaving little trace of the previous paintings. Limewater seepage from the rock face has also obliterated portions of the gallery. The painted portion of the gallery was quite large, extending over 100 feet.

The Gua Tambun rockshelter contains a large midden deposit, although its archaeological potential is minimal due to the disturbance to the shelter floor caused by guanno diggers. A suface survey of the site, conducted by the author in 1984, yielded some interesting occupational remains including large amounts of ochre. The stone tools found at Gua Tambun are typical of those associated with the Hoabinian period of Malaysian prehistory (Mattews 1960, p. 2, Adi, pers. comm.). The single piece of cord-impressed pottery that was found indicates that Gua Tambun was also visted during the Neolithic period of approximately 2,000 B.P. Based on the scant archaeological evidence and the condition of the paintings, it appears that the Gua Tambun art may be older than two millennia.

Gua Tambun is located in a region that was traditionally (at the time of European contact) inhabited by the Semai, a division of the Senoi cultural group. The paintings are located beneath an immense limestone overhang which protects them from the heavy rains which often fall in this region. Most of the paintings are situated more than twenty feet above the ground level, and some are as much as forty-five feet up on the overhanging wall. Since there are early-style paintings near ground level, the shelter floor could not have been more than about three feet higher than at present, and there is no indication that the level has changed significantly except at those places where guanno diggers have caused disturbance. Great effort was required to place the paintings in these areas, and

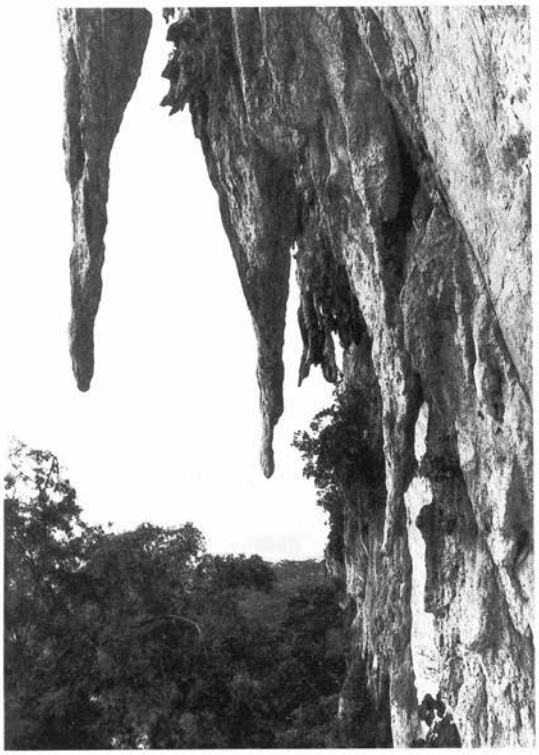


Fig. 108 - The Gua Tambun rock shelter.

the artists must have used some type of scaffolding. The site is about one hundred feet above the Kinta Valley floor, and it commands a sweeping view of the land below. Although there are other recorded rock art sites in Malaysia (see Evans, 1928; Nasir, 1977), Gua Tambun is the only known painted site in peninsular Malaysia.

It would be a misnomer to call all of the paintings included within the complex figurative style X-ray designs. However, with their geometric body infill they do share stylistic affinities with other X-ray art, such as that found in India and Australia. At most, Gua Tambun contains a dozen images that can be classified as X-ray art, and the pictograph of the pregnant deer is the only painting that is distinctly of X-ray intent.

At present there is no evidence to suggest that the X-ray art of Gua Tambun developed out of an earlier style, as there are no transitional images at this stage. (In India and Australia it is possible to clearly trace the stylistic development from incipient to complex X-ray.) Gua Tambun appears to have witnessed a rather sudden introduction of X-ray paintings into the artistic sequence. Shortly after the introduction of the X-ray style, the rock painting tradition at Gua Tambun ceased. The sudden and short-lived appearance of the X-ray art is the strongest evidence in support of the claim that this style of rock art did not develop independently in Malaysia. As there is no present indication that the X-ray style was invented in Malaysia it is necessary to look elsewhere for a possible source, primarily India or northern Australia.

X-Ray Rock Art in India

X-ray paintings of pregnant animals are found among pictographs of central India. Here, there are pictures of pregnant humans, deer (including one with two fawns in her womb), cows and other animals. One composite painting shows a pregnant nilgai with an elephant embryo in her womb (Wakankar, 1985, p. 176). Like the paintings of Gua Tambun, the only pictographs of central India that can, with reasonable certainty, be classed as X-ray are the pregnant animal paintings.

Other Gua Tambun paintings of the complex figurative style have geometric body decoration. This adornment is similar to the decorative style of the transitional phase rock painting from India (Mathpal, 1984). Stylistically, the Gua Tabun art closely resembles this pictograph style of central India.

The similarities between the X-ray paintings of Malaysia and India indicate that this style may have spread southward from India to the Malaysian peninsular, and possibly to Australia. Lommell (1967) suggests that X-ray art originated in western Europe and diffused eastward from there, ultimately reaching Australia and South America. The fact that X-ray art in Australia is limited to the far northern region of the continent suggests that this style may have developed relatively recently, perhaps inspired by external cultural influences. Taǫn (1987), however, has argued that X-ray rock paintings developed in situ in western Arnhem Land, evolving out of an incipient X-ray style that illustrated very few internal features.

X-Ray Art in Australia

The rock shelters of sub-tropical Arnhem Land in Australia hold an abundance of varied and beautifully executed examples of rock art. The western portion of Arnhem Land is especially impressive in its quality and quantity of rock paintings, and this artistic tradition extends back for thousands of years into Aboriginal prehistory. The two general pictograph styles of Arnhem Land are the Mimi (more recently called the dynamic style) and the X-ray. An in-depth ananlysis of the art yields a much more complex categorization. X-ray art, for example, can be subdivided into various phases which are distinguished by style, relative age and subject matter (Chapoulpka, 1980, 1985).

Basic stylistic similarities exist between the X-ray pictographs of Arnhem Land and those of Gua Tambun. The evidence of greater antiquity within Aenhem Land X-ray paintings (and Arnhem Land in general) suggests that X-ray art may have originated in Australia and diffused north from there. We find additional support for this model in the greater detail and sophistication of the Austrialian art. Also, there is simply more X-ray rock art in Australia that there is in Malaysia.

Infusions of culture from the Southeast Asia into northwestern Australia appear to date back to at least the neolithic period. The Aborigines of Arnhem Land have spoken of early visitors, and have referred to them as «Baijini» (Tindale, 1974, p. 141). Since the Kimberly and Arnhem Land regions are regarded as the most likely landfalls for possible post-Pleistoncene contact between the Aborigines and external cultures, it is fitting to concentrate archaeological investigation in these areas if we are interested in exploring the possibility of external cultural contact.

Chaloupka's chronology of Arnhem Land rock art (1980, p. 19; 1985, p. 272) suggests that the earliest X-ray pictographs in this region correspond temporally

Fig. 109 - Gua Tambun. Squatting human figure painting. Note the exfoliation in the lower-left portion of the photofraph. Although this figure was painted prior to the spalling, the hematite pigment etched a stain deep in the rock, which in still visible.

with estuarine conditions. The early style continued, with innovations, until the estuaries were succeeded by fresh water swamps, at which time a more complex X-Ray art emerged (about 3000-2000 B.P.) (Tacon, 1987).

The middle range of early X-ray paintings from Arnhem Land are relatively simple in form, and there are some resemblances to the images found in Gua Tambun in Malaysia. Arnhem Land X-ray art follows a pattern toward increasing complexity up until its final stages.

According to Taçon (1987, p. 45), 95% of the early X-ray representations in Arnhem Land are monochromatic. Only one or two internal features are normally portrayed; usually the backbone or a large unpainted body cavity. These patterns are consistent with the paintings at Gau Tambun, where the X-ray images are all monochromatic and are uually indentified by their presumed body cavity and possible skeletal features.

Chaloupka (1985, p. 277) notes that in Arnhem Land stone-headed spears are first depicted in the early (what he calls descriptive) X-ray art. He suggests that these early depictions are temporally related to the first apearance of stone points in Arnhem Land. Jones (1985, p. 296) has proposed dating for the first appearance of points at between 5,700 and 6,200 B.P.

Beginning around this same time, a new assemblage of small tools was added to the Australian toolkit. Although it has been suggested that these tools were the result of independent invention (White & O'Connell, 1979), it is generally believed that these tools and the technologies used to make them were brought to Australia by diffusion, and possibly by the migration of an outside people. Backed blades and points appear in Austrailia at about the same time (approx.

Fig. 110 - Gua Tambun. A detail from the main composition: A deer, executed in the complex figurative style, with cross-hatching and «X-ray» style typical of this final artistic phase; A larger pictopgraph illustrate a pregnant deer, with the unborn fawn in her womb.

5,000 B.P.), which provides additional evidence for post-Pleistocene migrations of cultural diffusion. The dearth of prototypes for backed blades add to the argument against local invention. It is siginficant that archaeological excavations in Asia have unearthed possible prototypes for points and backed blades (Flood, 1983, p. 195).

McCarthy's earliest suggestion (1940, p. 309) that infusions of culture from Southwest Asia date back at least to the Neolitic period has yet to be disproved. Following the uniformity of stone technology in Pleistocene Australia was a widespread trend towards diversification over the last 5,000 years (Flood, 1983, p. 192). Generally, however, the old toolkit was maintained but added to; we have evidence for the technological evolution rather than revolution (Flood, 1983, p. 191).

The fact that the new distinctive tools were rapidly added to the core tool and scraper tradition throughout the continent is, perhaps, the best evidence that post-Pleisticene migrations or trans-continental interactions occurred between Australia and Southeast Aisa. The nature of cultural contact is basically one of exchange. Diffusions generally are reciprical in nature; that is, an exchange of ideas and/or materials occurs that mutually benefit all peoples involved. Along with the importation of new tool technologies into post-Pleistocene Australia may have been the exportation of uniquely Aboriginal developments.

The dingo (the Australian dog) was introduced about 3,500-4,000 years ago, probably from Asia. Gollan's research (1980, 1985) established ties between the dingo and the Indian dog. Skeletons of prehistoric dogs from India provide the closest physical parallels to the dingo yet found. These Indian remains date from 3,500

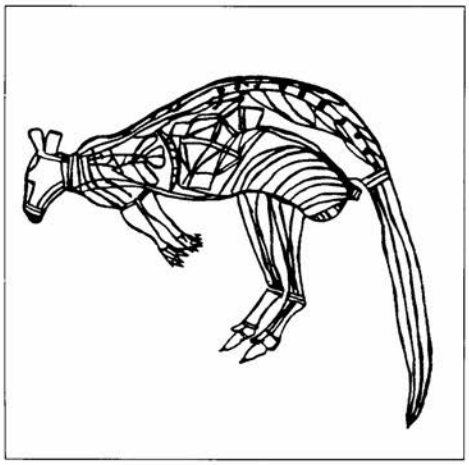


Fig. 111 - Complex «X-ray» style design from Deaf Adder Crek in Arnhem Land, Australia, typical of the highly stylized rock paintings that developed in this region.

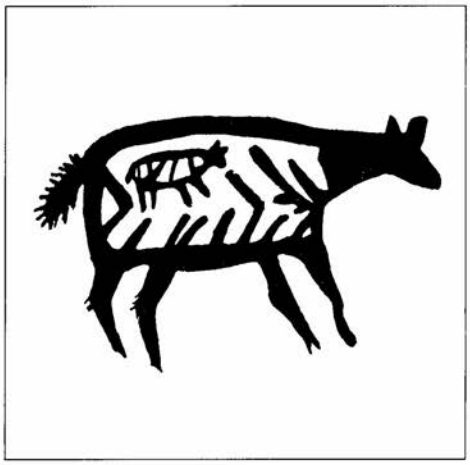


Fig. 112 - «X-ray» rock painting from eastern India, of what appears to be a pregnant cow.

to 4,000 B.P. (Gollan, 1985, p. 439), which corresponds neatly with the proposed introduction of the dog into Australia. There is one painting at Gua Tambun, executed in the simple figurative style, that appears to depict a dog.

It is speculated that contact between Australia and the Indian sub-continent could have been via a series of islands such as the Andamans and Java (Flood, 1983, p. 198). However, a look at the map indicates that contact between Australia and the Indian sub-continent could easily have been via the Malay Pennusula and Indonesia. The absence of introduced Neolithic elements suggests that the primary migrations were in pro-Neolithic times.

The chronology of Australian X-ray rock correlates with the dates for the introduction of the dingo and new tools into Australia; (Mulvaney, 1985, p. 215) indicated that the proposed arrival of the dingo (3,500-4,000 B.P.) is rather late to pair with the presumed arrival of backed blade and point technology (5,000 B.P.) Tindalt (1967, p. 350) first hinted at the causal relationship between shrinking coastlines of the post-glacial period in Island Southeast Asia and forced migrations. Sea level raises following the glacial period had dramatic effects on the Sunda shelf: a land mass the size of India was rapidly transformed into an enormous archipelago. Flood (1983) speculates that the tremendous loss of territory may have sparked migrations, thus the introduction of new tools, technologies, ideas and animals into Australia. Another link between the rock paintings of Arnhem Land and those of Malaysia is found in the possible depictions of the mythological Lightning Man. Among the Senoi of Malaysia, the Lightning Man is called Enku, and is conceived of as a great gibbon with outstreched arms. Enku lives in heaven and is the deity that watches over human conduct. It is Enku who sends lightning and thunder to earth, thus punishing people when they have misbehaved (Carey, 1976, p. 198). The highest painting in the Gua Tambun gallery is a gibbon-like motif with outstretched arms, and may be a representation of Enku.

As in Malaysia, the Myth of the Lightning Man is widespread in Australia (Mountford, 1955, p. 1). In Arnhem Land he is called Narmargon by the Gunwinggu,

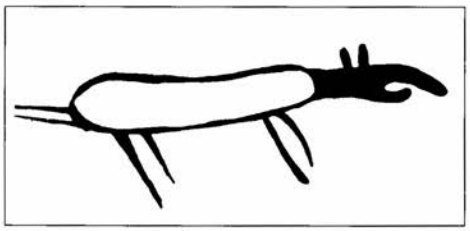
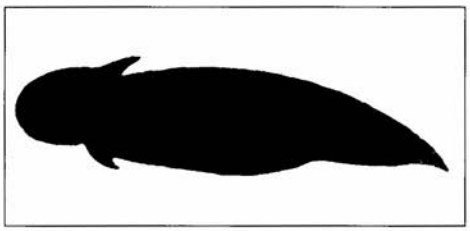


Fig. 113 - Gua Tambun. Rock painting of an animal, possibly a tapir. The unpainted body resembles the white marking of a tapir, and it is believed that this undecorated portion of the illustration represents the animal's marking, rather than a depiction of its internal body cavity.



Figg. 114 - Gua Tambun. In the simple figurative style, a pictograph of a dugong or catfish. The righthand portion of the figure has been washed away by occassional water seepage.

although the name varies among different tribal groups. According to Chaloupka (1985, p. 277), the Lightning Man was depicted for the first time in Arnhem Land art during the estuarine period. He is found throughout the remaining rock art sequence, and was last painted in 1964 at Nourlangie rock. Here, the Lightning Man is painted above the main body of art, and is illustrated with stone axes (used to strike the clouds and create lightning) emerging from his head, knees and elbows.

In the proto-historic period, Macassan traders from Indonesia and Malaysia entered Australia in the Arnhem Land region. They came annually during the monsoons to acquire seaslugs, native pearls and sandalwood- all of which are found along the shores of northern Australia. In return, the Aborigines received rice, tobacco, molasses, cloth, knives and other objects. Additional influences are evident in finds of Malayan pottery sherds, the introduced Tamarind trees, the Malay-style pipe, and the dugout canoe with pandanus sails (Warner, 1937, pp. 452-64). They now characteristic Arnhem Land Van Dyke beard was also introduced by the Macassans.

Relations between the Macassans and the Aborigines were sometimes hostile, but other times friendly. There are many instances of Aboriginals leaving with the Macassans on their praus and returning to Australia the following season. Warner (1937, p. 458) has noted that there are «a few cases of men who stayed permanently and married Malay women».

An average season brought well over 1,000 Macassans (30-60 praus) to the shores of northern Australia (Cole 1979:56). Not surprisingly, Macassan influences on Aboriginal social and material culture were considerable. The final phases of Arnhem Land rock art illustrate the Macassans voyages; praus and other Macassan-influenced motifs were painted. In at least one instance, a Maylay kris is depicted in the X-ray style, shown inside its sheath.

It is worth briefly noting some differences in Australian languages. Capell (1937) posited two language divisions in Aboriginal Australia: prefixing languages and suffixing languages. The prefixing languages are those in which noun classes are significant and other phenomena such as the incorporation of pronoun objects are found. What is particularly relevant here is that the prefixing languages are those from the Kimberly and Arnhem Land groups. The suffixing languages are found throughout the rest of the continent. Capell believed that these differences are ancient and are historically and geographically based. It is probable that these divisions reflect the influence of migrant Asians on the far northern

Australians. Although these influences probably have an antiquity much greater than a few centuries, historical linguists offer support for Capell's model: the Aborigines of costal Arnhem Land developed a pidgin Macassan dialect (the Macassans spoke Austronesian languages). Pidgin became a lingua franca among the various linguistic groups bordering the coast, and it encouraged intertribal communication and relation (Warner, 1937, p. 464). According to Urry and Walsh (1982, p. 93) pidgins were probably spoken the the Indonesian archipelago for a long period and helped to facilitate trade. It is significant that the Yolngu-Matha language of northeast Arnhem Land has enough cognates to be classed with the Austronesian family.

The Diffusion of X-Ray Art: Confusion or Conclusion?

A clear chronological development of X-ray art is lacking at Gua Tambun. This indicates that the X-ray art of Malaysia did not develop in situ out of earlier works, but was likely an introduced style. If X-ray art was not invented independently in Asia, Southeast Asia and Australia, the question remains: which way did the diffusion flow? Two possibilities exist: either X-ray art spread south from India, or it spread north from Australia. There is evidence to support both of these diffusion theories. It is also possible that X-ray art developed independently in India and Australia, and spread to Malaysia from one or the other of these regions.

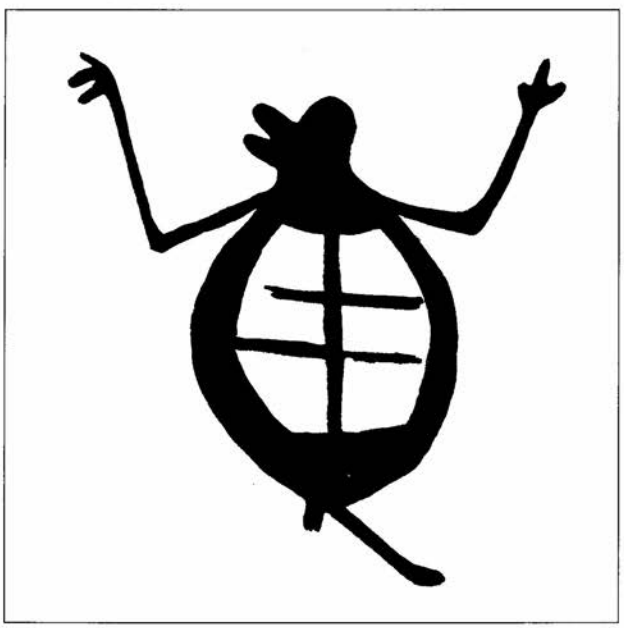


Fig. 115 - Early «X-ray» pictograph from Cannon Hill, Australia. (From Tacon, 1987).

With definitive dates for the Australia, Indian and Malaysian X-ray rock art undermined, a final theory about the diffusion of this style is not possible at this point. However, the stylistic similarities and basic timetables indicate the likelihood of a connection. There have been reports of archaeological sites on the offshore islands of New Guinea that contain X-ray art (Roeder, 1956), and additional surveys need to be conducted.

Of particular importance to the present problem is the establishment of clear chronological sequences. Until we are able to reliably date the pictographs, the diffusion of X-ray art in the Indo-Pacific will remain largely an enigma.

Acknowledgements

Field research for this report was conducted during June and July, 1984. I would like to gratefully acknowledge the generous support of the Malaysian Culture Study Group, which provided funding for this project. I am also grateful to Encik Adi of the Muzium Negara for facilitating my use of the Museum's archives. Special thanks to Kay Hashim for the hospitality she extended to me during my visit to Malaysia.

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