ROCK-CUT CAVERNS IN COCHIN

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I. INTRODUCTION

As early as 1819 J. Babington communicated a paper to the Literary Society of Bombay, giving the details of two rock-cut caves discovered by him at Bangla Motta Paramba in Chirakkal Taluk of north Malabar. Since then, down to the present day, the discovery, in most cases accidental, of a large number of similar caves in various parts of Malabar has been reported by many scholars. Even Sewell's Lists, which, although an excellent pioneer-work, was compiled about seventy years ago on incomplete and not always reliable data, enumerates nearly one hundred and sixty such caves in Malabar alone. In point of fact, the number of these remarkable caves is much larger than can be made out from the earlier notices. On the basis of their number alone, they were worth at least some attention much earlier; unfortunately, however, no

1 Revised from a paper read at the Thirtyfourth Indian Science Congress, Anthropology and Archaeology Section, Delhi, 1947.
3 R. Sewell, Lists of Antiquarian Remains in the Presidency of Madras, I (Madras, 1882), pp. 240 ff. The author himself has warned in his preface that the information given in his book should not be considered conclusive or necessarily accurate. A case in point is that of the Kakkad cave, mentioned ibid., p. 254, which, according to him, is 'a rock-cut cave with pillars', whereas, in fact, it is a cave with a top-opening.
systematic exploration or comprehensive study of them, geographically, architecturally or culturally, has yet been attempted on an appreciable scale.

Geographically, the rock-cut caves were supposed by G. Jouveau-Dubreuil to be confined to Malabar District alone. Subsequently, however, it has come to light that they have a much wider distribution. Of the three broad physiographic divisions of Kerala—the alluvial sea-board, the plains with extensive lateritic outcrops and the uplands composed of granitic gneiss and charnockite—the lateritic region of Cochin contains a good number of these caves (fig. 1) situated on high grounds, locally known as parambas.

On behalf of the Archaeological Survey of India, Shri V. D. Krishnaswami examined in 1946 some of the important caves cut into the numerous lateritic rocks in Talappalli, the northernmost Taluk of the former Cochin State. Later on, I was associated with him in his work, of which the present paper is the result. I am, therefore, highly indebted to him for placing his material at my disposal and for other assistance. I must also thank Shri Anujan Achan, then State Archaeologist in Cochin, who extended his ungrudging co-operation to the Archaeological Survey party.

Shri N. R. Banerjee has helped me with his suggestions and has checked up the drawings and descriptions of the caves on the spot. For the drawings I owe thanks to Shri Bhaskaran Nair and Shri Lakshmi Dutt and for the photographs to Shri V. M. Naicker and Shri M. B. Limaye.

2. GENERAL FEATURES OF THE CAVES

The excavators of these caves first sunk a pit into the rock, usually rectangular or nearly rectangular, to a depth varying in individual cases, by scooping out the solid mass of laterite. Into the vertical face of the rock was then cut a small rectangular entrance, either a little above the floor-level of the open quadrangle or flush with it. And through this narrow opening, which hardly permitted a man to crawl through on all fours, being on an average 1 ft. 6 in. both in width and height, was the hard laterite hollowed out and the cave fashioned.

Access to the floor of the outer court was gained by means of steps cut out of the rock by the authors of the caves themselves. The floor of the interior of a cave is invariably 1 ft. to 2 ft. lower than the floor of its outer court. On the sides of a cave usually are rock-cut benches, varying in height from 6 in. to 2 ft. But they are a variable feature: some of the caves have a single bench, only on one side, while others have none at all.


\[3\] The Cochin Archaeological Department built parapet-walls around the open court of some of these caves to give them better protection and added to or renovated the original steps for the convenience of visitors (cf. pls. XLI A, XLIII A and XLIV B). These well-intentioned measures, however, to a certain extent conceal and disfigure the original character of the caves.


CAVE AT CHOVANNUR (COCHIN)

Scale of Feet

Scale of Metres

GROUND LEVEL

SECTION A-B

SECTION C-D

PLAN

FIG. 2
Rock-cut caves at A. Chorommu, and B. Kandwiseer. See page 97
ROCK-CUT CAVERNS IN COCHIN

The floor of most of the caves is circular or oblong on plan, while their vault is dome-shaped, although caves with rectangular floors and flat ceilings are by no means unknown. There is in some caves a rock-cut pillar, square, rectangular or round, rising to the centre of the vault from the middle of the floor; in others, it is absent; while in yet another type there is a circular opening in the centre of the domed ceiling.

These, then, are the common characteristics of this type of monuments. I shall now proceed to a brief description of each of the caves examined in 1946.

3. DESCRIPTION OF THE CAVERNS

A. CHOVVANNUR

The cave at Chovvannur (fig. 2; pl. XLI A) is situated on the northern side of the Kunnamkulam-Vadakkancheri road, about 2 miles north-east of the town of Kunnamkulam. It is entered through a recessed opening on the east, the entrance being 1 ft. 6 in. wide and 1 ft. 7½ in. high. The other sides of the interior of the cave are circular and its vault hemispherical. On its northern and southern sides are two benches, one 5 ft. 3 in. long and 3 ft. 2 in. broad, and the other 4 ft. 9 in. long and 2 ft. 8 in. wide at the broadest point, both about 8 in. high from the surface of the floor. Along the western side of the interior, there are five circular blocks cut out of the laterite, differing in height but in no case higher than the benches. The largest of these measures 9 in. and the smallest 6½ in. in diameter, the larger three and the smaller two placed in separate clusters. Judging from the depressions in the middle of their top-surface, they appear to be intended as stands for vessels. The cave has no central pillar nor any top-opening. The top of the ceiling is 3 ft. 7 in. high.

The inside surface of the cave is unusually smooth, testifying to the advanced workmanship of its builders.

B. KANDANISSEI

The cave at Kandanisserry (fig. 3; pl. XLI B), which is situated half a mile south of Ariyannur in Ariyannur-desam, is also entered through a recessed opening, although the opening here is inclined towards east-south-east. The inner recess, 2 ft. 3 in. wide and 1 ft. 10 in. high, leads into a chamber with a hemispherical dome and a paraboloid floor, on all sides of which, excepting the entrance-side, are three benches, each with three legs cut out of the rock, the hollowed-out space between the legs taking the shape of the base of the benches; they are only 6 in. wide and do not extend under the whole width to the back of the benches. The benches, though not of uniform size, are roughly 5 ft. long, 3 ft. wide and 1 ft. high. The surface of each bench is bounded by a low ridge of 3 in. width on its outer edges.

Some of the Cochin caves have been noticed by Anujan Achan in An. Reps. Administration Arch. Dept. Cochin State, but his descriptions need verification, since the particulars given by him are often inadequate and inaccurate. The present cave, for instance, is described in ibid., 1102 M.E. (1926-27), p. 8, as a rectangular cave with a hearth for lighting fire—details which do not at all agree with the structure of the cave.
CAVE AT KANDANISSERI (COCHIN)

SECTION C-D

GROUND LEVEL

SECTION A-B

PLAN

ENTRANCE OPEN COURT STEPS

TOP-OPENING BENCH

BENCH

BENCH
ROCK-CUT CAVES IN COCHIN

At the centre of the domed vault of the cave there is a circular opening, about 2 ft. 3 in. in diameter at the top communicating with the sky. The total height of the domed vault is not more than 5 ft. from the floor.

The whole cave—including its doorway, the surface of the benches, their legs and the niches between them—has been plastered with lime in recent times, thus concealing the original surface of its interior. This may have been done by the Satyavāsi saints, who are reported by the local people to have inhabited the cave within living memory.

Of all the caves examined by the party, the two described above are the only ones which possess recessed entrances. They correspond in this respect to the two caves at Bangla Motta Paramba, the main chambers in the Padinyattamuri cave, the Perungulam caves, the Mennapuram cave, the Panunda caves and possibly also the Chelleth cave. But while the entrances to the Cochin caves contain only one recess, others have as many as three or four, looking sometimes rather like the jambs of a doorway—which indicates that they were built at a stage when the technique of cave-cutting had comparatively advanced. This scheme also facilitates the operations, as for each subsequent jamb the thickness to be cut is reduced.

G. Kakkad

The cave at Kakkad (fig. 4; pl. XLII), situated on the slope of a hill 1 mile north of the town of Kunnamkulam, has a narrow entrance on the east, 1 ft. 9 in. wide and 1 ft. 7 in. high at the outer edge, and its top opening, 2 ft. 4 in. in diameter, places it in the same category as the Kandanissery cave. Access to the entrance is by means of a flight of three steps cut into the lateritic sub-soil on its eastern side. Running along the circumference of its northern side there is only a single sectoral bench, 7 ft. 10 in. long, 2 ft. 9 in. at its widest point and 2 ft. 3 in. high, into the base of which two small niches have been hollowed out, the portions left uncut thus becoming the supports or legs of the bench. To the south of the bench, near the entrance, is a rock-cut circular block, 1 ft. 1 in. in diameter, closely resembling the vessel-stands of the Chovvannur cave (above, p. 97), and no doubt intended for the same purpose, in spite of the absence of any depression on the top.

The cave is dome-shaped and paraboloid on plan with an almost straight edge on the entrance-side. At the same height as the bench, it has a 2-in. deep dado-line, running all round its wall, except on the entrance and bench-sides. In addition, it has a 3-in. wide pilaster-like projection on either side of the interior of its entrance, curving inwards as it rises above and gradually merging with the wall-surface towards the top, so that, higher

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1 Babington, op. cit. His illustrations have been reproduced by W. Logan in Malabar, I (Madras, 1906), illustrations III-VI.
2 W. Logan, 'Find of ancient pottery in Malabar', Indian Antiquary, VIII (1879), pp. 309-11. The plans and sections of the Padinyattamuri cave have been reproduced by the same author in Malabar, Illustration VII.
3 Rea, op. cit., pp. 10 ff.
4 Jouveau-Dubreuil, op. cit., pp. 13 ff. Dubreuil's illustrations are not altogether accurate and reliable. The court outside the Mennapuram cave is open on one side according to his plan, whereas, in fact, it is probably bounded on all the four sides. His illustrations of a cave at Bangla Motta Paramba, reproduced from Babington's paper, are also distorted.
5 Raghavan, op. cit.
above, it vanishes altogether before reaching the vault. These features distinguish this cave as belonging to a later development in the technique of cave-cutting. The unusual height of the cave, 6 ft. from the floor, and the top-opening, which belongs, as will be seen below (p. 114), to the later stages in the development of cave-architecture and which, incidentally, connects this cave not only with the Kandanisseri cave (above, p. 98) but also with such other caves as at Bangla Motta Paramba and Feroke, also speak for a comparatively late age for this cave.

D. PORKALAM

At Porkalam,¹ 2 miles north of Kunnammkulam, two caves were examined and surveyed. Both of them face west-north-west and are situated one behind the other, with a gap of 6 ft. 3 in. between them, Porkalam-2 lying to the north-west of Porkalam-1.

The entrance of Porkalam-1 (fig. 5; pl. XLIII A) is 1 ft. 4 in. wide and 1 ft. 6 in. high. Its top-cutting is not exactly horizontal; instead, it is slightly curved on either end, thus having the shape approximately of a horizontal arch. There are two benches inside the cave, one on each side of the entrance, the first of which is 5 ft. 6 in. long and 1 ft. 8 in. broad and the other 4 ft. 11 in. long and 2 ft. 9 in. broad, while their height, 6 in. in both, is unusually low for similar benches in other caves. Close by the side opposite the entrance are four vessel-stands, as in the Chovvannur cave (above, p. 97), their diameter varying between 6 in. and 8in. and their height corresponding to the height of the benches.

Porkalam-2 (fig. 6; pl. XLIII B) has no bench at all; nor has it a vessel-stand. But both the caves have a rock-cut central pillar. The rectangular base of the pillar in Porkalam-1 is considerably wider than the column proper, which, 10 in. by 10 in., rises from one end of the base, leaving a square flat seat by the side of the pillar. The pillar in Porkalam-2 has no adjoining seat and is about 1 ft. square. The low seat by the pillar in Porkalam-1, however, seems to recur in the caves of the Padinyattamuri group. Facing the entrance, as here, there appears on Logan’s plan a stool or low seat by the side of each pillar (marked M on his plans).

The entrance of Porkalam-2, originally 1 ft. 6 in. wide and 1 ft. 8 in. high, but now unsymmetrically wide owing to the disintegration of the rock, is also horizontally arched. One foot above the entrance there is a pattern cut out in the rock looking vaguely like an ill-shaped думал, most likely a later interference.

A part of the roof and the side on the north-eastern corner in Porkalam-2 has collapsed, creating an opening there. The side-wall immediately below this opening had also at some time weakened or had otherwise sustained damage, since it has been reinforced with blocks of laterite and other building material.

The central pillars in both the Porkalam caves are narrowest in the middle, from where, both downwards and upwards, they gradually spread out, until at the top, which is 3 ft. 1 in. high in Porkalam-1 and 2 ft. 9 in. in Porkalam-2, they merge with the surface of the vault. A similar tendency of gradual broadening may also be observed in the pillar of the cave near Calicut.²

In the Porkalam caves neither are the vaults so hemispherical nor the floors so circular as in the caves described earlier. Porkalam-2 appears rather like a square with

Cave at Porkalam-1 (Cochin)

Section A-B

Section C-D

Plan

Fig. 5
rounded corners, while two sides of Porkalam-1 are roughly circular but the other two nearly straight. Apparently there has been considerable interference with Porkalam-1. Its north-eastern interior wall has the appearance of having been built in with laterite building material, since, while the other sides of the cave are comparatively smooth, the north-eastern side is unusually rough. Originally, therefore, the floor of Porkalam-1 was in all probability fairly circular. Also, as its entrance is now to one side of the existing court and not in the middle, as is usual with the Cochin caves, the original outer court must have been wider than it is at present and obviously extended further north-east.

E. Eyyal

At Eyyal, 2½ miles south of Cheramananagad on the Kunnampulam-Vadakkancheri road, is situated a double-chambered cave (fig. 7; pl. XLIV A), the same outer court leading in front to the main chamber, X, with its roof now partly collapsed, and on the right hand side to a smaller chamber, Y. The main chamber faces east and is nearly double the dimensions of the side-chamber facing south which measures only 4 ft. 9 in. by 4 ft. 2 in. The front side of the interior of chamber X measures 7 ft., but its far-end side lengthens out to 8 ft. 6 in., the remaining two sides being about 5 ft. 3 in. each. Chamber X is also a little higher than Y, the height of the former being 3 ft. 6 in. and that of the latter 3 ft.

The bench inside X, 8 in. high from the floor, is of irregular width and runs along all sides except where the entrance is situated. The wide pedestal-like base of its central pillar is only an extension of the middle portion of its bench on the western side.

Chamber Y has no central pillar but has a bench, 5 in. high from the floor, its width varying from 1 ft. 6 in. to 1 ft. 9 in., running along its eastern and northern sides. In the south-western corner of the cave and in the middle of its western side are two very crude and irregularly-shaped flat-surfaces blocks of the same height as the bench. The irregular platform may have been used for keeping vessels and other objects. Another alternative—and that seems more likely—is that Y is an unfinished chamber; its builders intended either to shape the existing blocks into vessel-stands or stools or to level them down altogether but had to abandon the operation for some unknown reason. What other purposes these platforms could have served is otherwise difficult to imagine.

F. Kattakampal

Two furlongs west of Kattakampal, which lies about 5 miles north-west of Kunnamkulam, there is another multi-chambered cave (fig. 8; pl. XLIV B), comprising in all four chambers, X, X' and Y and Y'. Chambers Y and Y', situated laterally, face east, while the remaining two chambers, X and X', situated opposite each other across the outer court, face north and south respectively. Chambers Y' and X', on the northern side, are replicas of Y and X respectively on an east-west median line, bisecting the entire composite cave into two halves. It may be observed that the Padinyattamuri four-chambered cave is also built on a corresponding plan.

The chambers are roughly of comparable sizes, the dimensions being: X, 4 ft. 6 in. by 3 ft. 4 in.; X', 5 ft. 9 in. by 3 ft. 9 in.; Y, 4 ft. 11 in. by 4 ft. 1 in.; and Y', 4 ft. 11 in.

Cave at Eyyal (Cochin)

Scale of Feet

Scale of Metres

Section A-B

Section C-D

Section E-F

Plan

Fig. 7
by 4 ft. Their entrances measure 1 ft. 8 in. in width and 1 ft. 10 in. in height. Along the length of each chamber, on the right-hand side of the entrance in the northern and on the left-hand side in the southern chambers, there is in each chamber a bench, measuring 9 in. in height and 2 ft. 2½ in. on an average in width, except in X, where it is 2 ft. 6 in. wide. The height of the chambers is 3 ft. 3 in.

The Eyyal and Kattakampal caves should be distinguished from the others not only because they are multi-chambered but also because their floors are rectangular and their ceilings horizontal. On general plan, the Padinyattamuri caves investigated by Logan agree with the Kattakampal caves, except that the former contain two benches each (marked by Logan I and J on his plans and distinguished by him from each other as stone beds and benches) and also a central pillar each, leaving aside the so-called fire-places (L on his plan), the exact nature of which is difficult to make out from his plans.

4. CLASSIFICATION OF THE CAVES

It will have been noticed that the Cochin caves described above correspond to some of the Malabar caves mentioned in earlier notices. They cannot, therefore, be treated in isolation, although, among their main features, the existence of vessel-stands in some of them has not been reported earlier. The Padinyattamuri caves may contain low vessel-stands, but we cannot be certain in view of the vague nature of Logan’s plans and descriptions. The raised circular structures, clustering in groups of three each by the side of the pillar and marked as fire-places on his plans by Logan, may probably be vessel-stands.

On the basis of a close analysis of the many divergent as well as common characteristics of the Kerala caves, especially of those in Cochin described above, we arrive at the following typological sequence:

(i) caves with a central pillar;
(ii) caves without a central pillar;
(iii) caves with a top-opening; and
(iv) multi-chambered caves.

It may be mentioned that the multi-chambered cave is not an evolution of the cave with top-opening. It represents a development from the single cave, with or without central pillar.

5. ORIGIN OF THE CAVES

A. Vedic origin

In his Vedic Antiquities, G. Jouveau-Dubreuil argues for a Vedic origin for the rock-cut caves of Malabar. The Buddhist stūpa, in its origin a sepulchral monument, is, he asserts, a reproduction of an earlier hollow Vedic stūpa, which originally was probably a domical hut built of bamboo or wooden ribs, imitating the hemispherical wooden hut of an Aryan chief. The laterite-cut caves of Malabar, runs Dubreuil’s argument, must be the hollow stūpa of Vedic Aryans, for it is hemispherical in shape and even otherwise a perfect imitation of the hut of an Aryan chief.

Certain features of Buddhist caves—notably the jambs sloping inwards as they rise above and the rib-like arches cut in the vaults, if, as in the chaitya-caves of western India, the vault was not actually furnished with wooden ribs, and also the façade made of
wood—were rightly taken long ago to be imitations of wooden huts. Among these features Jouveau-Dubreuil also includes the central pillar of the Malabar caves, which, according to him, imitates a wooden pole bearing the vault of a hut. But it appears dubious if the Kerala caves do really possess many essentially wooden characteristics. Jambs, as the term is understood, are absent in them; the recesses of their entrances are cut vertically and are not sloping inwards. In the Buddhist caves, as at Guntupalle, arches ribbed into the vault occur even in the absence of a central pillar. But only a few of the Kerala caves are crowned with arch-shaped shafts radiating from the central pillar and touching the fringes of the vault.

It should be noticed that the central pillar of the Mennapuram cave is frail and slender, such as would not seem to be necessary for the stability of the structure and, therefore, belongs to a stage in the architectural development when the central pillar had become non-functional and merely a stylized and ornamental feature, as its corbelled capital would conclusively confirm. As a rule, the central column of the Cochin caves is quite thick and strong, on an average 1 ft. 6 in. square, and is mainly utilitarian.

Nevertheless, even if the Cochin caves did originate from wooden huts, why must they be taken as imitations of Aryan huts specifically? Why not of Dravidian or pre-Dravidian huts?

It has been suggested by another scholar that ‘the nearest parallel which these caves bear to the dwelling houses of the living, is to the hut of the Todas of the Nilgiris, with its domical roof and direct access from the ground outside as in these caves.’ There is admittedly a certain resemblance between the arched façades of Toda huts and of Buddhist caves, but this correspondence is not observed in the façades of the Kerala caves. Moreover, the Toda huts are not domical and round as these caves. The vaults are no doubt arched in both cases, but the huts are rectangular on plan. The platforms inside the Toda huts used for keeping belongings have a solid base, whereas those in Kerala caves, with legs cut underneath them, reveal their connexion with similar benches in port-hole cists, as will be seen below (p. 110).

Jouveau-Dubreuil makes much of the rock-cut chambers with top-opening, which feature, according to him, represents a chimney, the entire cave being an āgniṇdhriya, i.e., house of the sacred fire for performing Soma- and Agni-sacrifices. Each of the so-called fire-places in the Padinyattamuri caves is, according to him, ‘the fire-place where resides a divinity, the domestic fire.’ But Dubreuil builds his theory on very insufficient and controversial data. From Logan’s plans we get no adequate idea of the exact structure and shape of his so-called fire-place. In the absence of a definite description, it may even be, as has been suggested above, that the feature under reference is no fire-place at all. Certainly no indubitable fire-place has been observed in any other Kerala cave.

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3 Cf. Raghavan, op. cit., p. 386.
4 Longhurst, op. cit., p. 30 and pl. XVIII. At Guntupalle, the domed vault is only ‘ribbed in imitation of a wooden structure’ (italics mine); its framework is not made of wood, as Jouveau-Dubreuil asserts, op. cit., p. 11.
5 Raghavan, op. cit., p 388.
6 Jouveau-Dubreuil, op. cit., pp. 25 ff. The correct word is āgniṇdhriya, not āgniṇdhiya, as spelled by him and Aiyappan. Commenting on Śatapatha Brāhmaṇa, 6. 6. 4. 15, Harisvāmin explains: āgniṇdhra-mandaṇe bhavaḥ āgniṇdhriyaḥ.
ROCK-CUT CAVES IN COCHIN

And, what is more important, the Padinyattamuri caves, which are the only ones to contain the so-called fire-places, have no top-opening—no chimney to let the smoke escape.

The open court outside the Padinyattamuri caves is, according to Jouveau-Dubreuil, the central assembly-hall where the funeral rites to the dead were performed. But this feature cannot be isolated from similar structures in other Kerala caves. The original open court may have in course of time developed into an assembly-hall in the case of Buddhist chaitya-caves. But in the earliest caves of the Kerala coast it was constructed to facilitate the operation of cutting and gaining an easy access into the cave proper. Later on it was discontinued, as in the Panunda caves, where operations could be carried on directly from the slope of the rock. Further, the argument that an āgnidhiṛiya must have a chimney is based purely on an unwarranted assumption. In fact, the term āgnidhiṛiya itself has been grossly misunderstood by Jouveau-Dubreuil and his authority, E. B. Havell.

B. BUDDHIST ORIGIN

Local tradition has often ascribed a Buddhist origin to the rock-cut caves described above. They have sometimes been regarded as 'the abodes of hermits who flourished in these parts when Buddhism and Jainism were popular in Kerala.' Some writers, who take Śāstā as a Hinduized Buddha, regard the presence of the remains of Śāstā-worship in the vicinity of some of these caves as an additional evidence for their Buddhist origin.

The caves, cannot, however, be of Buddhist origin. No object found in them has any remote association with the Buddhist form of worship. Structurally, even the simplest of the Buddhist or allied caves, like the Lomas Rishi and Sudāmā caves of the Barabar group cut in the granite, which are the only ones to bear any resemblance to the Kerala caves, are far in advance of the technique attained by the builders of the Kerala caves.

It may also be pointed out here, as shown by V. Narayana Pillai, that Buddhism had a large number of adherents only at certain places; it never became the prevailing religion in Kerala. Śāstā was originally a forest-deity, who was in course of time incorporated into the Hindu pantheon. But there are no adequate grounds to believe that he is the Hinduized Buddha.

1 Ibid., pp. 17 f.
2 In Brāhmaṇa literature, among the various priests for a sacrificial rite is mentioned a priest called āgnidhra. The word āgnidhriya is an adjective, sometimes used as an adjectival noun, and is derived from āgnidhra, meaning 'anything pertaining to the āgnidhra priest'. In the main, the term āgnidhriya has been used in the Brāhmaṇa texts to denote the fire or fire-hearth kindled and looked after by the priest āgnidhra or the sacrifice performed by him. Occasionally, it has also been employed with reference to the shed in which the sacred fire under the charge of the āgnidhra was kept. But there is nothing to suggest that the āgnidhriya was a closed tabernacle. It was simply one of the many fire-hearths necessary for a complete sacrifice. Accordingly, if a chimney is considered necessary for an āgnidhriya, why should it not be so for an āhavanīya or gārhepatya, which are some of the other fire-hearths mentioned along with āgnidhriya (cf. Satapatha Brāhmaṇa, 3.6.2.21)? For other reasons which go against Dubreuil's theory, see Aiyappan, op. cit., p. 312; Raghavan, op. cit., pp. 386 f.
C. Megalithic Origin

The kinship of the Kerala rock-cut caves with the megalithic monuments, in structure, orientation and contents, leaves no doubt as to their sepulchral nature, although in subsequent times some of them may occasionally have given shelter to Buddhist or other monks or even to ordinary people.

Among the megalithic monuments of Kerala is the cist-type scooped out in laterite but lined with granitic slabs alongside the hollowed-out quadrangle, with a capstone placed on top. One of these cists, at Porkalam, contains a roughly rectangular port-hole in its eastern orthostat and a bench of granitic slab on its southern interior. At Sulur, in Coimbatore District, a similar grave contained two benches and another also a circular port-hole. The side-benches of the cist, and also its port-hole, which is usually covered with a slab, disclose an unmistakable megalithic origin of these caves, which gets more and more confirmed on a closer scrutiny of their manifold other features.

A general feature of megalithic monuments is a stone circle. Such circles are frequently found on the surface to demarcate the megalithic tombs underground, and they have been observed to encircle also the cists of the type described above, at Tiruvilvamala in Cochin, at Palambalakkodu in Malabar and also at a site in Coimbatore. One of the rock-cut caves discovered by Babington at Bangla Motta Paramba was demarcated by a similar stone circle.

All the Cochin caves described above face east or east-south-east, although some in Malabar have been reported as facing north or north-east; but so do occasionally other megalithic monuments. The predominating orientation, both in the case of megalithic tombs and rock-cut caves, remains east, which is an additional evidence to establish that the two classes of monuments are associated with each other.

What is still more significant from the point of view of the mutual association of the two classes of monuments is the fact that at Porkalam, in an area of roughly 2 acres, kudakallus (hoodstones), dolmenoid cists, urn-burials covered by granitic slabs and enclosed

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2 For another type of megalithic monuments at Porkalam, see B. K. Thapar, ‘Porkalam 1948: excavation of a megalithic urn-burial’, Ancient India, no. 8 (1952), pp. 3 ff.
3 Man, XXX, no. 10 (Oct. 1930), pp. 171 f.
5 Man, XXX, no. 10 (Oct. 1930), p. 171.
6 Jouveau-Dubreuil regards this stone circle as ‘the “Vedikā” which surrounded the sacrificial ground in Vedic rites’. If we were to regard the stone circles as vedikās, the entire megalithic culture becomes Vedic. But, in any case, there is no indication in the Vedic literature that the sacrificial rites of Vedic Aryans took place underground, while the vedikās demarcated the sites above the ground. Above all, the height of the rock-cut caves of Kerala, which, on an average, is 3 ft., makes it impossible to think that the complicated rites of Vedic ceremonies, requiring frequent and highly-elaborate movements, could be performed in such low tabernacles, where even a short-statured man can hardly move about or stand upright.
7 Aiyappan, op. cit., pp. 303 f. and 311 f. The entrance of the rock-cut tomb near Calicut described by Longhurst, op. cit., as facing west is not really an entrance: it is an opening made by the quarrying workmen who accidentally came upon the cave. In his Story of the Stupa (Ceylon, 1936), fig. 7, where the plans of the cave have been reproduced, the author has corrected the mistake.
by circles and caves are found existing side by side, each type of monument keeping to its respective place without trespassing into that of the other, as if all of them were broadly contemporaneous and singly part and parcel of one single cultural unit.

If the authors of megalithic monuments belonged originally to granite regions, they adapted their burial-tomb to the new environments after coming to a lateritic zone and made the best of the material available there; for they continued to use granite either for the side-slabs or capstones of cists or even for covering the top-openings of the lateritic caves. Laterite, the native rock of the new region, was extraordinarily amenable to cutting into any shape or form. It was easy, they learnt by experience, to hollow out the inside of a rock into a cave, and thus to ensure better protection for the remains of the dead. It is significant that the cist proper is very rare in the lateritic region of Cochin, as if it made room for the rock-cut cave, although in the granitic regions higher above dolmenoid cists have a dominant distribution.

Unfortunately, the caves of Cochin mentioned above had already been opened or otherwise interfered with when they were examined in 1946. And hence, in most cases, no definite information about their contents could be obtained. However, the pottery from two of the caves, viz. Kattakampal and Eyyal, opened earlier by the State Archaeologist, is preserved in the State Museum at Trichur (pl. XLV); and, although limited in quantity, it is sufficient to elucidate and establish a close and definite relationship of the Cochin caves, first, with those of the adjoining Malabar District, the Kerala caves thus coming all under one category, secondly, with the megalithic tombs in Cochin, represented by hood- and umbrella-stones (kudakallu and toppikallu), dolmenoid cists and urn-burials, and, thirdly, with the megalithic monuments of south India as a whole.

Excepting large vessels, almost all pottery recovered from these caves is wheel-turned. While the larger vessels are red, the smaller ones have been burnt by inverted firing under reduced heat in the kiln. Their core is blackish grey and surface burnished black. The available specimens are mostly black, although technically they fall under the Black-and-red Ware class. These characteristics of fabric and finish distinguish the entire range of megalithic pottery in southern India. On the whole, the pottery displays an advanced ceramic craftsmanship.

The four-footed jars of the Eyyal and Kattakampal caves are closely akin to their counterparts recovered from most of the Malabar caves and urn-burials elsewhere. Similar jars were recovered not only from a megalithic cist at Porkalam but also from an urn-burial there. From the cists at Brahmagiri were recovered similar vessels with three legs.

In the Calicut cave examined by Longhurst was an urn with a pointed bottom, exactly like the ones frequently found in the numerous urn-fields. The tall cylindrical bowls of the Eyyal cave and a carinated pot with a wavy-line pattern painted on its shoulder recovered from the Kattakampal cave are also closely related to similar pottery unearthed from the Coimbatore and Tinnevelly sites. In the urn-burial at Porkalam were also found some deep bowls, but they are wider than those under consideration.

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2 Thapar, *op. cit.*, fig. 3, 17 and 8.
Lids and ring-stands, usually of black ware, are yet another link between the rock-cut caves and the megalithic tombs. The ring-stands from the Eyyal cave have a complete resemblance with those from Padinyattamuri, Perungulam, Feroke and Calicut caves, as also with the Coimbatore and Tinnevelly pottery. Turreted lids, with a flat or round finial, found in the Padinyattamuri, Chelleth and Eyyal caves, are typologically identical with the corresponding pottery from Coimbatore, and so are the flanged vessel-lids and open bowl-like urn-covers. From Kattakampal comes a lid with a ringed finial, a rare type which equates with a similar lid from the Chelleth cave and also with lids from Coimbatore and Tinnevelly Districts. Corresponding lids and stands also occurred in the urn-burial at Porkalam. Some of the lids from Brahmagiri also have a general resemblance with those from Kerala.

Two of the Malabar caves have also yielded small-sized sarcophagi. From Feroke-2 was obtained a sarcophagus, described as a bathtub-like vessel by Aiyappan, 2 ft. long and 1 ft. high, with twelve small legs attached to its bottom. A similar object, described as a tray by Longhurst, measuring 2 ft. 3 in. by 1 ft. 3 in., was discovered from the cave near Calicut. It had eight small legs and was covered by a lid of the same size.

Grinding stones and rollers, obtained from the Perungulam and Panunda caves, closely resembling the ones found in the Adichanallur urn-burials, give further data for a megalithic association of the rock-cut caves.

Into the details of other pottery, of various shapes and sizes, it is unnecessary to go. Even a cursory perusal of the characteristic features and fabric of the pottery from the caves and megaliths will easily convince one of the close connexion that exists between the two classes of monuments.

In the preceding paragraphs frequent parallels have been drawn between the pottery from the rock-cut caves and the pottery from the Coimbatore and Tinnevelly sites. The pottery from Coimbatore and Tinnevelly and the pottery from the Cochin megaliths and rock-cut caves fall within the same culture-complex. A strong undercurrent, running beneath the surface-index of the Malabar, Cochin and Coimbatore cultures, affirms their close affinity with each other, in spite of local variations.

The evidence of iron implements obtained from the Kerala caves and megaliths has also an important bearing on the nature of the former. Apart from usual objects like blades, hatchets, swords and billhooks, which are frequently met with both in the caves and megaliths, especially of the Kerala region, there is the evidence of a few more striking objects. Among the iron antiquities of Perungulam, Feroke and Chelleth caves is a tripod, such as was exhumed by Babington from what he described as an umbrella-stone, although, according to the revised nomenclature, we would rather describe it as a hood-stone. From the same monument Babington also recovered a trident (trisūla) like the ones found in Parambantalli and Perungulam caves. A similar trident is also reported from a hood-stone at Kattakampal, although the monument has been described as a dolmen. The double hook, found in Padinyattamuri, Perungulam and Feroke-2 caves, although exhibiting slight variations, brings all the rock-cut Kerala caves still mutually closer.

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1 Thapar, op. cit., fig. 2, 8, 9 and 14-16.
3 Aiyappan, op. cit., p. 311.
4 Krishnaswami, op. cit.
Pottery from Kattakampal (upper rows) and Eyyal (middle and lower rows), now in Trichur Museum. See page 111.
ROCK-CUT CAVES IN COCHIN

Also, a broken bronze bowl obtained from the Eyyal cave corresponds closely to similar bronze pieces recovered from other Cochin megaliths, including the cist at Tiruvilvamala excavated by Govinda Menon.

Among the finds from hood-stones discovered by Babington are also a few carnelian beads, some of which, of the etched tabular type, correspond to the beads obtained from Feroke-2. Similar beads have also been obtained from the excavated urn-burial at Porkalam.

D. ORIGIN OF THE DOMED VAULT

The domed vault of the rock-cut caves, granting for the sake of argument that it was inspired by the hemispherical wooden hut, cannot be taken to have been constructed in imitation of the huts of the Vedic Aryans. In fact, the domed vault is more probably an imitation of a wooden umbrella. In a region where the rainfall is extraordinarily heavy and umbrella a necessity to protect oneself, a structure like an umbrella may easily have commended itself to the local folk to be employed also in the construction of their tombs, so as to afford better protection to their dead, just as, as suggested by Krishnaswami, the topikallu (hat-stone) and kudakallu (hood-stone) may have had a corresponding origin. If this is so, the ribbed shafts radiating across the vault from the central pillar of a cave are surely an imitation of the curved ribs of an umbrella. Indeed, it is significant that the Guntupalle cave, with its domed vault ribbed in imitation of a wooden structure, was taken by Longhurst as mainly simulating the framework of a wooden umbrella. Imagining the dome of an umbrella as part of the globe, its latitudinal and longitudinal ribs may possibly have transferred themselves as the ribbed arches of the Guntupalle cave.

In his Story of the Stūpa, Longhurst has delineated at length the prominent part that umbrella has played in the origin and evolution of the stūpa. Umbrella appears in remote antiquity as an emblem of authority and power, in the mural paintings of ancient Egypt and the bas-reliefs of Assyria. In India, on the Kerala coast, umbrella is closely associated with the funeral cars of certain tribes. Such cars are superimposed with a number of receding canopies one above the other, the top finally culminating in an umbrella. There is ample evidence to show that in Malabar an umbrella was erected on the graves to protect the remains and relics of the dead.

Even if the umbrella-motif in Kerala architecture originated from its symbolic sovereignty, temporal or spiritual, its evolution must have received an impetus from the local climatic conditions. The Kerala country and the Himalayan region are the two territories where the umbrella-motif is strikingly prominent in temple-architecture; and both these regions are subject to heavy and continuous rains.

6. TYPOLOGICAL EVOLUTION OF THE CAVES

The domed ceiling made it easier for the cave-builders to cut a circular or oblong floor. It may be noticed that, as a rule, caves with a horizontal ceiling have also a

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1Aiyappan, op. cit., pp. 306-07 and fig. 4. Further connexion between the rock-cut caves and megaliths may probably be established on the basis of pottery-marks, for which see ibid., pp. 307 f.

2Thapar, op. cit., pp. 12-16.

3Krishnaswami, op. cit., p. 40; also paper entitled ‘Prehistoric Cochin’, read by him at the Thirtyfourth Indian Science Congress, 1947, Delhi.


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rectangular floor. The central pillar, whether borrowed from the central pole of a hut or from the staff of an umbrella, was considered essential for the durability of the structure. Subsequently, when the plasticity of laterite was thoroughly understood, it was occasionally discarded: it is present only in some of the multi-chambered caves.

The circular opening at the top was probably one of the latest developments in the evolution of the caves. In any case, it is a perplexing feature, for which no satisfactory explanation is yet forthcoming. It has been suggested that 'the object of the whole sepulchre being the careful preservation of the ashes to ensure undisturbed rest to the spirit of the departed, the constructors of the tomb, in all probability, considered it best to narrow down the wide opening of the kudakkallu or cairn-type of burials to smaller dimensions and to plug it securely.' The top-opening does probably derive from megalithic monuments. But, at the same time, it has perhaps no functional value for the structure and only shows the retention of a stylized megalithic features; tradition, and not utility, must have dictated its continuance in the rock-cut caves of Kerala. A similar reason will also explain the existence of circle-stones around a cave, reference to which has already been made above (p. 110).

The multi-chambered cave represents a natural multiplication of the simple single cave. Such caves may have been intended as family-graves, probably like double dolmens, but this interpretation cannot at present be too emphatically urged.

The possible evolution of the caves is illustrated below:

**Benched Port-hole Cist**

**Cave with a Central Pillar**

**Cave without a Central Pillar**

**Cave with a Top-opening**

**Multichambered Cave**

7. Chronology

It is difficult in the present state of our knowledge to assign a calendar-date to the rock-cut caves of Kerala. They clearly belong to the megalithic culture of south India, especially of Kerala. The megalithic cists with port-holes and side-benches, like those at Porkalam and Sulur, might have preceded the construction of rock-cut caves, although the two types of monuments might easily continue to exist side by side in subsequent times.

The unmistakable affiliation of the caves with the megalithic monuments of Kerala in particular and of south India in general has been amply demonstrated above (pp. 110 ff.), and any date ascribed to the former must be in consonance with the accepted date of the latter. During the last decade some evidence has been collected about the dates of the megaliths in different parts of the Deccan and south India, and they can tentatively be placed between two or three centuries before and one century after Christ. There is no indication at present why the Cochin caves should not fall within this time-limit.

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1 Aiyappan, *op. cit.*, p. 312.
3 Wheeler, *op. cit.*, pp. 180 ff.; Thapar, *op. cit.*, pp. 5 ff. The evidence has been summarized in Srinivasan and Banerjee, *op. cit.* [Also above, pp. 32-34.—Ed.].
3. CONCLUSION

The rock-cut caves of Kerala are, then, the burial-tombs of the megalithic people, whose religion comprised belief in the continuance of life for the departed spirit within the tomb. The people buried their dead along with a few necessities of life, as the vessels, grinding stones and rollers and iron implements obtained from them clearly indicate. No complete skeleton has yet been recovered from any cave,¹ but pieces of bones, deposited in a sarcophagus, bowl or urn, have been found in some of them. These tombs are, therefore, examples of what has been called secondary burial and fall within the megalithic culture-complex. But whether the burials in question are exclusively post-exposure or post-cremation cannot at present be ascertained, until fresh caves come to light and a thorough investigation of them is undertaken and completed by competent workers in the field.

¹ In the megalithic grave at Sulur, Man, XXX, no. 10 (Oct. 1930), p. 172, the remains of skeletons seem to have been more complete.