

during the season when Arctic whaling is impracticable. Five or six are frequently lying at Modoc at one time, and of these several are auxiliary steamers which appear to be superseding sailing ships in American fisheries. Ponape is also in the direct route of sailing ships from Australia, or New Zealand to China, but they seldom call, being generally content to sight Plessant Island as a point of fresh departure. In olden times Ponape is said to have been a favourite resort of the Buccaneers, it being in the direct route between Mexico and Manila. Ronokiti Harbour is very safe, but the entrance is narrow and intricate. Jamestown Harbour, so named after the United States Frigate by which the harbour was surveyed, is the site of the original Mission Station. This has since been removed to the more central and convenient harbour of Metalanien, where the Mission buildings occupy a beautiful promontory. The population of Ponape is estimated at 2,000, consisting of five tribes who occupy only the coast, the interior being entirely without people. A stream runs into the harbour of Jamestown through a lovely valley, but, as a rule, the coast is covered with boulders and huge basaltic prisms, strewn thickly along the slopes of the hills and on the beaches. Between these beaches and the distant coral reef, surrounding and protecting the island, there are broad coral flats, on which numerous low islets have been found.

In the space between the two quadrangles there are three raised vaults, about 5 feet square, one on each side, and the third at the rear. There is a similar small vault in the raised platform. This mysterious ruin gives at once the idea of a heathen temple, and the small openings through the walls are terribly suggestive of human victims dragged in for sacrifice, while those in the passages may have served for fuel or similar purpose. The theory that the structure is the ruin of a Buccaneer's Castle is evidently without foundation. The absence of windows or doors, the unsuitability for defence, the character of the so-called Dungeons and Treasure Chambers, the enormous waste of power, and the total absence of skill or mark of tools of any description, render the supposition entirely untenable. The present inhabitants of Ponape have a vague tradition in connection with these ruins. Another legend told by the old people is that King Awanesakow lost a little girl about twelve years old, and so great was his grief that he could not endure the sight of any other girls of her age, and so issued an order that every one on the island should be killed. He is talked of as the cross king. He had a large enclosure made of immense stones, which it is hard to see how human hands could have lifted, and into this he moved his family. It used to be the custom to keep their dead unburied until nothing but the bones were left; then

with prisms of precisely the same character and put together in the same way as the walls of the building. There must be many miles of this embankment apparently as purposeless as the building itself. It is difficult to conceive that the soil on these small islands could have ever been worth preserving from encroachment by the sea, especially as the great Island of Ponape is only separated from them by the shallows from one to two miles broad.

The only way to gain a clear idea as to the purpose of the buildings and embankment will be by careful exploration of the islands. Possibly some of them, now low and flat, may not be coral, and have formed at one time the quarries from which the volcanic prisms were obtained. In any case the mainland of Ponape abound in these prisms, and could supply them in great quantity. The description here given is from the writer's personal observation in 1877, and the dimensions are as nearly correct as a rough measurement, during a necessarily short stay of a few hours in heavy rain, would permit. In these measurements the writer was aided and checked by Mr Russ, the agent of the German company trading in Ponape, and the likelihood of their being nearly correct is therefore increased. It may be well, also, to state that both Mr Russ and myself are under the impression that the one side wall is really 20 to 30 feet



MISSION CHURCH AND SCHOOL, PONAPE, CAROLINE ISLANDS.

On one of these islets, in the centre of a cluster of fifteen or twenty, stand

THE MASSIVE AND MYSTERIOUS RUINS FOR WHICH PONAPE IS CELEBRATED.

They are built entirely of basaltic prisms, laid transversely in alternate tiers of large and small prisms. The ruins consist of an outer wall some twenty feet high and eighteen feet thick at the base. About six feet from the ground the wall is reduced to 8 feet in thickness, leaving a platform 10 feet wide all round the inner face. The front of this structure is about 170 feet wide, and is divided in the centre by an opening of 15 feet which serves as a great entrance. The sides are about 220 feet long and the back is similar to the front but undivided. Inside this great quadrangle, at a distance of thirty feet, a smaller quadrangle is built of the same height, but with walls uniform in thickness (about 10 feet). The front wall of the inner quadrangle is also divided in the centre by an opening similar in size and directly opposite to that in the wall of the outer quadrangle, while within this smaller quadrangle is a raised platform some forty feet square built of the same huge hexagonal prisms to a height of five feet from the ground. There are no evidences of art or skill. The walls consist simply of the prisms piled side by side, in rows at right angles to each other. There are no signs of roof, doors, or windows, but there is through each of the two side walls of the outer quadrangle a hole about 5 feet square and level with the ground. A similar square hole passes through one of the side walls of the inner quadrangle.

these were thrown into a deep place in the water. A big stone is pointed out on which he used to sit and mourn. There were several openings or gateways in this high, wide wall, and there is a winding passage up which canoes could come at high tide, and the natives deposited food for their king at the several gateways. The royal family had a special bathing place enclosed by walls, and in it were three stone tubs, or oblong hollow places of three different sizes. To bathe where the king had bathed was strictly forbidden, as the person so doing might become king. They are the work of a great 'evil spirit' or 'devil.' Beyond that they do not even make a guess.

The little, low island is covered by the ruins, through which lofty trees now project, and the walls of which are hidden with shrubbery and creeping plants. In some places the walls bulge dangerously but generally they are much as they must have been when first built. High up in the walls many of the prisms are very large, one at the corner tier being 13 feet long and 2½ feet across the ends. Probably this great length enabled the builders to move the massive prisms by manual labour which could not have been applied with the same effect if they had been shorter and thicker. The aspect of the ruins, standing amid a cluster of low, densely wooded islands, is solemn and weird. The sea, still by the encircling barrier reef, meanders through the islets in broad shallow passages, giving to the whole an appearance wonderfully like that of a dead city, once traversed by canals for streets. The illusion is strengthened by the embankment of the Islands

longer than the other, but there could be no certainty on this point without a re-measurement and cutting away the overgrowth, which required more time than they had at their disposal.

The approach to the ruins by boat from Metalanien Bay is easy, but from Jamestown Harbour the boat journey was twenty five miles, and for the first fifteen the Trades are a head wind which render tedious beating necessary. Between the shore reef and the ocean reef there is a deep channel, but at intervals this is broken by long shallows, which even a boat can only traverse at certain states of the tide. There are also in the channel constant patches of coral reef, rendering sailing by night somewhat dangerous. It will be easy, therefore, to understand that the difficulty of exploration is much increased if the start is not made from Metalanien Harbour.

The productions of Ponape include every known tropical product, and among them the vegetable ivory, but while all flourish the people are few, and the trade is chiefly in yams, pigs, and other articles in demand by whalers. Copra, pearl shell, and vegetable ivory are exported. Coffee is grown, but only in small quantities for home use. The coast of this island is, as we have said, strewn with prisms and boulders, but the soil between them supports great forest trees and fruits of all kinds. There can be no doubt that an exploration of the deserted interior would lead to the discovery of a good area of rich and valuable land. It may be added that ruins, similar to those at Ponape, but less extensive and less massive, are found also at Kusae.