

Recording script M8: A talk on traditional Samoan house design

Last week, we looked at some of the features of modern houses, and today we're going to turn the clock back and look at traditional house design. I've chosen to start with Samoa, which is part of a group of Polynesian islands in the South Pacific Sea, because the influence of culture and weather on house design is quite clear there.

Um, so let's have a look at, first of all, at the overall design of a traditional Samoan house. Now, these days, houses in Samoa have become more modern and are usually rectangular, but traditional designs were round or sometimes they were oval in shape. Here's a picture This traditional style is still used - often for guest houses or meeting houses - and most Samoan villages have at least one of these buildings

As you can see, there are no walls, so the air circulates freely around the house - Samoa is a place that experiences high temperatures but the open design of the house also reflects the openness of Samoan society. If the occupants want shelter, there are several blinds made of coconut leaves that can be lowered during rainy or windy weather - or indeed the blinds can also be pulled down if people want some privacy

The foundations of the house - that's the part beneath the floor - are raised slightly. Um, in the past, the height was linked to the importance of the occupants, which we'll talk about another time. However, the floor of the house was usually covered with river stones Today, we have a range of methods for balancing the temperature inside a building, but the stones on the floor of a Samoan home are ideal for cooling the building on hot days.

Now, let's have a close look at the roof. This, as you can see In the picture, is dome-shaped and traditionally thatched, or covered with leaves from the sugar cane - that's an established crop in

Samoa This was a job for the women, and it involved twisting the leaves and then fastening them with a thin strip of coconut leaf before fixing them to the roof in several layers.

Now, the shape of the roof is important — you can see that the sides are quite steep, and that's done so that the rain falls straight to the ground without moisture going through the leaves and causing leaks of dampness inside the house. Then, you'll notice how high the top of the roof is — this is a way of allowing heat to rise on sunny days and go through the thatching, thereby cooling the house.

So how does the house stay upright? Well, there are a number of evenly spaced posts inside. They, um, they encircle the interior of the building and go up to the roof and support the beams there. They're also buried — er, usually about a meter and a half — in the ground to keep them firm. These posts are produced using local timber from the surrounding forests. They're cut by men from the family or village, and the number varies depending on the size and importance of the house.

Now, these posts were a very significant part of Samoan culture and did much more than hold up the roof. When there were meetings, people sat with their back to certain posts depending on their status in society. So there were posts for chiefs according to their status and posts for speakers and so on - and ordinary people sat around the side on mats.

The last area I want to look at today is the attachment of the beams and posts - what you call 'fixing' the construction. Traditionally, no nails or screws were used anywhere in such a building. Instead, coconut fibers were braided into rope to fix the beams and posts together. The old people of the village usually made and plaited the rope. This was a lengthy process - an ordinary house used about 40,000 feet of this rope - and as you can see in this picture, the rope was pulled very tightly and wound round the beams and posts in a complex pattern. And in fact, the process of tying it to the beams so that it was tight and strong enough to keep them together is one of the great architectural achievements of Polynesia.