

5. A line was then stretched to mark the rows, after which the *huli*, or taro tops, were planted in the rows. Sometimes the planting was done without the rows being lined in. Water was then constantly kept running into the patch. The first two leaves which appeared were called *laupai*. The taro attained full size, but it was not until after twelve months that the tubers were ripe and ready to be made into food.<sup>3</sup>

6. If potatoes were to be planted, the field was furrowed and water let in, after which the potato stalks were set out, or, it might be, bananas, yams, or some other things.

7. When the land had become dry after the first watering, water was turned on again.<sup>4</sup> The plants were kept weeded out and hilled, and water was turned on from time to time for six months, by which time the potatoes were ripe and fit for food. Such was the cultivation of all irrigable lands.

8. The cultivation of *kula* lands was quite different from that of irrigable lands. The farmer merely cleared of weeds as much land as he thought would suffice. If he was to plant taro (upland taro), he dug holes and enriched them with a mulch of *kukui* leaves, ashes, or dirt, after which he planted the taro. In some places they simply planted without mulch or fertilizer.

9. Taro was constantly weeded until it had grown to be of good size, when it was fit to be made into poi or used as food in some other way. It was twelve months before it was mature and ready for pulling to be made into food.

10. If a field of potatoes was desired, the soil was raised into hills, in which the stems were planted; or the stems might merely be thrust into the ground any how, and the hilling done after the plants were grown; the vines were also thrown back upon the hill. In six months the potatoes were ripe. Such was the cultivation of *kula* land.

11. On the *kula* lands the farms of the *alii* were called *koele*, *hakuone*, or *kuakua*, those of the people, *mahina-ai*.

12. The island of Niihau was mostly *kula* and the principal crops were accordingly sweet potatoes, yams, and sugar cane. There were, however, some taro patches at Waiu, on the windward side, but their extent was small. The people of that island were energetic farmers. They would clear the land and mulch it for many months, until the ground was thickly covered and the mulch had rotted, after which they planted such crops as sweet potatoes, yams, or sugar cane.

13. There was *kula* land on parts of Kauai, Oahu, Molokai, and Lanai, just as on Niihau. The chief crops of these lands were sweet pota-

## CHAPTER 39

### AGRICULTURE

1. Agriculture was a matter of great importance in Hawaii, because by it a man obtained the means of supporting himself and his wife, his children, friends, and domestic animals. It was associated, however, with the worship of idols.

2. In the Hawaiian Islands agriculture was conducted differently on lands where there were streams of water and on dry lands. On lands supplied with running water agriculture was easy and could be carried on at all times, and the only reason for a scarcity of food among the people on such lands was idleness. Sometimes, however, the water supply failed; but the drought did not last long.

3. On the *kula*<sup>1</sup> lands, farming was a laborious occupation and called for great patience, being attended with many drawbacks. On some of these were grubs, or caterpillars, or blight, *hauoki* (frost), or *kahe* (freshets), or the sun was too scorching; besides which there were many other hindrances.

4. On the irrigated lands, wet patches were planted with *kalo* (*taro*, the *Arum esculentum*, or *Colocasia antiquorum* of the botanists). Banks of earth were first raised about the patch and beaten hard, after which water was let in, and when this had become nearly dry, the four banks were re-enforced with stones, coconut leaves and sugar-cane tops, until they were water-tight. Then the soil in the patch was broken up, water let in again, and the earth was well mixed and trampled with the feet.<sup>2</sup>

toes. There was wet *taro* land, however, at Maunalei on Lanai and an abundance of *taro*. Kahoalawe was made up of *kula* land, and the principal vegetable was the potato, besides which yams and sugar cane were produced, but no *taro*.

14. There was *kula* land on parts of Maui and Hawaii. Kona was the part of Hawaii most exposed to the sun, because of the prolonged dryness of the weather. They frequently suffered from famine in that district. In time of famine the people of Kona performed religious ceremonies with great diligence and carefully reckoned the months in which to plant.

15. There were different kinds of farmers. Those who really made a business of it and worked until sunset were called *ili-pilo*. Those who kept at it for only a short time and did not do much at it were called *ili-helo* (dry skin).

16. Some husbandmen were provident of the food which they raised, while others wasted it. Those who raised an abundance of food but used it improvidently soon came to want because of their wastefulness.

17. The farmer who raised but little but who was economical in the use of his food did not soon come to want. Those who were economical in the use of their food were nicknamed *hoopi*, stingy; they did not often come to want.

18. One reason why people soon ran out of food was because they planted it all at once, so that when it ripened it ripened all at one time. While they were eating of one part another part also was ripe, so they invited their neighbors to help themselves to the food. This was one of the causes why some speedily came to want.

19. Some farmers did not plant a great deal at a time. They would plant a little, and after waiting a few months, they planted more land. So they continued to plant a little at a time during the months suitable for planting. The food did not all ripen at once, and by this plan the supply was kept up for a long time and they had no lack of food. The necessity of furnishing food to the landlord was a reason for not taxing the land, and it was a means of averting famine from the farmers. Food was a child to be cared for, and it required great care.

20. Farmers were well-acquainted with the seasons, the dry and the rainy seasons, the months suitable for planting potatoes, and those suitable for planting *taro*.

21. It was the custom with all farmers, when a crop of food had ripened, to perform a religious service to the gods. Those who worshipped Ku built their fire during the tabu period of Ku; those who worshipped Kane, built the fire during the tabu of Kane. If Lono was the god they

worshipped, they built the fire on his day; if Kanaloa was their god, they built the fire in Kaloa.<sup>5</sup>

22. While they were rubbing for fire and kindling it, no noise or disturbance must be made, but this tabu was removed so soon as fire was obtained. The contents of the oven were made up of vegetables and some sort of meat or fish as well.

23. When the food was cooked, the whole company were seated in a circle, the food was divided out and each man's portion was placed before him. Then the idol was brought forth and set in the midst of them all, and about its neck was hung the *ipu o Lono*. (See chapter 24, section 5.)

24. Then the *kahuna* took of the food and offered it to heaven (*lani*), and not to the idol, because it was believed that the deity was in the heavens and that the carved image standing before them all was only a remembrancer.

25. When the priest had offered the food all the people ate until they were satisfied, after which what was left was returned to the owner of it. Such was the practice among those who were religiously inclined; but those who were without a god just ate their food without lighting the sacrificial fire and without performing any service of worship to the gods.

26. After this ceremony of fire-lighting the man's farm was *noa*, and he might help himself to the food at any time without again kindling a fire. But every time the farmer cooked an oven of food, he offered to the deity a potato or a *taro* before eating of it, laying it on the altar or putting it on a tree.

27. Every farmer with a god worshipped him at all times, but the farmers who had no gods did not worship.

#### NOTES ON CHAPTER 39

<sup>1</sup> Sect. 3. *Kula* was the name applied to such lands as were dry and inaccessible to water except from irrigation. The greater part of every one of the Hawaiian Islands is made up of *kula* land. The word *kula* has been adopted by the English-speaking people of the Hawaiian Islands. *Kula* (*tura* in New Zealand) means bald. A long story is told of a man named Tura who was said to have been the first bald-headed man.

<sup>2</sup> Sect. 4. The trampling was to make the ground water-proof so that the water would not soak entirely away.

<sup>3</sup> Sect. 5. The Hawaiians were not acquainted with the so-called Irish potato, which is in reality an American potato, until its introduction by the white man. Their potato was the sweet potato, the *kumara* of New Zealand, the *uala* of Hawaii.

<sup>4</sup> Sect. 7. It seems unaccountable that Malo should give no description of, nor make direct allusion to, the method of irrigation by ditches which the Hawaiians used with great success and in which they displayed not a little engineering skill. The course of old, historic irrigation canals can still be pointed out across lands