

COOK ISLANDS LANDSCAPE

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The Southern Cook Islands are intermediate in character between the large, high, and rainy Fiji and Solomon Islands and the tiny, low, and sparse atolls of the Gilberts and Marshalls (Fig. 12). The areas of Aitutaki and Rarotonga, for example, are respectively 6 and 26 square miles. If the entire group is considered we find an interesting transition which not only presents a miniature cross-section of the types of topography to be found in the Pacific but as well illustrates the sequence of configurations to be expected with the Darwinian hypothesis of atoll formation through subsidence.

On the south Rarotonga consists consists principally of a massive core of igneous rock surrounded by a narrow fringing reef of coral (Fig. 13). This intensively dissected volcanic remnant extends upward in jagged ridges and spires to elevations over 2000 feet, the whole engirdled by a narrow coastal plain and reef. Aitutaki represents a second stage in which the old volcano has subsided while coral has grown up and out to form a barrier reef encircling a lagoon (Fig. 14). The maximum elevation is a modest 450 feet, and the rounded summit with its thick cover of reddish soil bears witness to a long period of weathering and denudation. The third stage, with the presumed volcanic core long vanished below the sea, is shown by Tongareva, a typical atoll (Fig. 15). All that remains is a thin annulus between lagoon and ocean.

Although variability in the 60 inches of precipitation averaged at Aitutaki occasionally produces drought years with as few as 30 inches the general aspect is one of adequate rain; Rarotonga does not vary markedly from its annual average of about 80 inches. Totals greater than these

are to be found in the Northern Gilberts and Southern Marshalls, but the means for those groups taken together are not only lower but much more variable as well. The high Melanesian islands, on the contrary, average considerably more. Vegetation in the Cook Islands, in terms of luxuriance and number of species, also falls into an intermediate position.

The crude population density of the Cook Islands, 85 persons per square mile, may be contrasted with figures well into the hundreds on the atolls and below 50 for the large islands. Although this density gives rise to some pressure it is not extreme, and people support themselves rather comfortably by an economy based on subsistence fishing and agriculture. The coconuts found everywhere along coastlines are utilized by all, from dignified village leaders to truants evading school. As through most of the Pacific taro is a staple which may be varied when breadfruit is in season. The physical environment, then, is one which has offered optimum conditions for development of a typical Polynesian culture.

One brief comparative note on the inter-relationships between physical landscape and population density may be cited. Where population pressures exist and where the landscape changes in character as one passes from fringing reef into the land to either interior lagoon or mountains islanders recognize the necessity of distributing the land in such fashion that all persons have access to all types of terrain. The radial pattern of land-holdings from the island center results from this recognition. The pie-shaped tapere of Rarotonga and the cross-islet weto of the Marshalls are certainly analogous shapes. They document an implicit recognition on the part of both Marshall Islanders and Cook

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Islanders of a controlling geometry within which their respective land tenure patterns had to be developed. No such control obtains in the Solomons where the larger limits of landholdings are only roughly dictated by topography and the small square or rectangular plots under cultivation have little relation to the major aspects of island form.







