

**THE HAWAIIAN ISLANDS
AND PEOPLE: A LECTURE
DELIVERED AT THE U.S.
NATIONAL MUSEUM**

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The Hawaiian Islands and People: A Lecture Delivered at the U.S. National Museum by C. E. Dutton

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C. E. DUTTON

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com^{ms}pliments of
G. K. Gilbert.

Dutton,

THE HAWAIIAN ISLANDS
AND PEOPLE.

THE HAWAIIAN ISLANDS AND PEOPLE.

A LECTURE

DELIVERED AT THE

U. S. NATIONAL MUSEUM

UNDER THE AUSPICES OF THE SMITHSONIAN INSTITUTION AND OF
THE ANTHROPOLOGICAL AND BIOLOGICAL SOCIETIES
OF WASHINGTON.

FEBRUARY 9TH, 1884.

BY

CAPT. C. E. DUTTON; U. S. A.,
U. S. GEOLOGICAL SURVEY.

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1884.

THE
HAWAIIAN ISLANDS AND PEOPLE.

LADIES AND GENTLEMEN:

The Hawaiian Islands are the summits of a gigantic submarine mountain range. If the waters of the Pacific were removed from their vicinity we might behold a range of mountains as long as our Appalachian system, from Lake Champlain to Chattanooga and quite as wide, with summits five times as high as Mt. Washington. The summits of Mauna Loa and Mauna Kea are nearly 14,000 feet above the ocean, and their bases are from 15,000 to 18,000 feet beneath it. Referred to the bottom of the ocean these mountains are higher than the Himalayas. Standing upon the northeastern coast of Hawaii the crest of Mauna Kea is less than twenty miles away, and is nearly three miles above us. At a distance of about thirty miles at sea the ocean floor is about three and a half miles below us. I am not aware of any other place in the world where, along a line less than fifty miles in length, may be found a difference in altitude of more than six miles.

The Hawaiian group consists of four larger and four smaller islands. The largest island is named Hawaii. It has a length of about ninety miles and a width of seventy miles. Its area is very nearly 4,000 square miles, being a

little less than two-thirds of the area of the entire group. It is not, however, the most populous, for that distinction belongs to the island of Oahu, on which is situated the principal town and capital, Honolulu, which is the center of trade and the seat of the government.

Only a small portion of each island is capable of sustaining a dense population. The interiors are mountainous and generally rough, craggy, and cut with profound gorges of the wildest description. The habitable portions are near the sea-coast, forming a ring around each island; but only a part of each ring is habitable or cultivable. Some portions are intensely arid and barren; others are covered with recent floods of lava, and still others are bounded by lofty rocky coasts, and trenched with ravines so deep and abrupt that access is difficult. Generally speaking, the proportion of habitable area is singularly small. But those portions which are well favored are probably capable of sustaining as dense a population as any tracts in the world.

The climate of these islands is the climate of Paradise. It is never hot, and, except at considerable altitudes, it is never cold. Rarely has the thermometer been known to reach 90° on the sea-coast, or to fall below 65° . The temperature in most localities may be averaged the year round as varying between 75° and 85° . But while the temperature of any given locality is very uniform, there is wonderful variety in the climate as we pass from one place to another. Indeed, there are almost as many climates as there are square leagues. As a rule the windward or eastern sides are very rainy and the leeward sides very dry. On the eastern coast of Hawaii the annual rainfall varies from

150 to 250 inches. On the northwest coast of the same island it is probably less than the twentieth part of those amounts. The islands being situated within the trade-wind belt, the wind blows constantly from the east and northeast during the greater part of the year, and is only subject to brief interruptions during midwinter. Violent storms occur only in the winter time, and these, coming once or twice a year from the southwest, are known as *konas*, which means in the native language the southwest. During a stay of six months on the islands I only heard a single peal of thunder.

These islands are all of volcanic origin. They are composed of basaltic lavas, and no other rocks are found there excepting a few consolidated coral sands, which are remnants of old sea-beaches upheaved from 50 to 200 feet. In the two westerly islands the volcanic activity has long been extinct. Most of the ancient craters have been obliterated, and the volcanic piles built up during the periods of activity have been greatly ravaged and wasted by subsequent erosion. Next to the plateaus and cañon country of the Rocky Mountain region, it would be difficult to find anywhere more impressive and suggestive examples of the wasting and slow destruction of the land than those presented by these islands. We find there grand illustrations of the two methods by which the general process of erosion accomplishes its work. First, is the action of the rains, followed by the decomposition of the massive rocks and their conversion into soil, and also the action of running water and general decay of the rock masses, resulting in the formation of ravines and mountain gorges of the most impos-

ing grandeur ; secondly, we find the slow but incessant inroads made by the waves of the ocean upon a sea-coast, gradually wearing back the cliffs and slowly paring away the rocky shore, until, after the lapse of thousands of years, the sea has eaten its way several miles into the land. Thus we have on the one hand very striking examples of one way in which mountains are built, and we have on the other hand equally striking examples of the ways in which those mountains are destroyed.

Travelers in the lofty volcanic islands of the Pacific have frequently noted with some surprise the singularly sharp, angular, abrupt features of their mountain scenery. It is very impressive in the Fijis and Samoa, in the Ladrone and Caroline, and Society groups. But none of them rival in wildness and grandeur the still loftier islands of Hawaii. Gorges little inferior to Yosemite in magnitude are rather numerous. But in a certain sharpness of detail and animation in the sculpture they are quite unique. The island of Kauai and the western portion of the island of Maui consist of old volcanic piles as high as Mt. Washington, and much broader and longer. They are literally sawed to pieces by many immense cañon-like gorges, which cut them to their foundations. Over all is spread a mantle of tropical vegetation, in comparison with which the richest verdure of our temperate zone is but the garb of poverty. Whoever reads Shakespeare's *Tempest* and visits the Bermudas will be disenchanted from some of the most pleasing illusions of the play. But, if Shakespeare could only have known the eastern shores of Maui or Hawaii and made them the scenes of his play, it would have had, if possible, another claim to immortality.

This wealth of verdure and splendor of scenery usually occur upon the windward sides of the islands, for upon those sides are found the cause which produces them. This cause is the copious rainfall brought by the perpetual trade winds. Nothing can be more pleasing to the lover of beautiful scenery than a ride along the windward coasts of Maui and Hawaii. The land terminates in cliffs, varying from 200 to 500 feet in height, plunging down almost vertically into the Pacific. The long heavy swell driven for thousands of miles before the trade-wind breaks with great force against these iron walls. The surface above slopes upwards towards the mountainous interior, at first with a gentle acclivity which becomes steeper inland, and at length precipitous. This platform is gashed at short intervals by true cañons, which head far up the mountain slopes, and open seawards in the great terminal wall. A mile or two inland from the brink of the cliff-bound shore is a forest so dense that it can be penetrated only by hewing a way through it or following a path already hewn. To describe the glories of this tropical vegetation is impossible. Only those who have beheld it can conceive of its splendor and luxuriance. Yet there is one unrivaled feature of the island vegetation, which has no parallel elsewhere than in the Pacific and Austral islands, and which may be mentioned. This is the ferns. There are more than 300 species of them in the Hawaiian Islands, and the most conspicuous are tree-ferns, which grow in amazing abundance and sumptuousness. They often cover the sides of the ravines, forming a thicket which is quite impenetrable, and become a mantle of green velvet, so deep, rich, and exquisitely patterned that it makes an imperial robe seem ridiculous.