

species that get there by various kinds of accidents, and there is no relationship at all between the species that get to the island and the species that can flourish after they get there.

The problem of getting there is a very special kind of problem of having seeds that are waterproof or that can be carried by birds, or being an animal that can hang on to a floating tree trunk or something like that.

And in the case of the Hawaiian Islands, just to illustrate how this has worked, there are about a thousand species of fruit flies in the world; half of them are in the Hawaiian Islands. And the fruit flies on Hawaii, which perhaps were just a few individuals to begin with, have evolved in literally hundreds of different directions.

One of the fruit flies on Hawaii is as big as a horse fly and fills the ecological niche of a horse fly. Another is a tiny insect that lives in the egg cases of spiders. What happened is simply that a few fruit flies got there and their descendants evolved to fill a great many ecological niches.

Another example is the tar weed which in California, where it comes from, is a weed you would hardly notice, an inconspicuous plant that lives in the fields. In Hawaii it has evolved in many directions. One species is a tree; another is a plant that looks like a yucca; another species is marvelously covered with flowers; another is a creeper that spreads over the ground. It has filled literally hundreds of different ecological niches.

These characteristics of islands were recognized by Darwin long ago when he wrote about the different species of birds on the Galapagos Islands.

But the tragic and disturbing thing is that these species that evolved on islands have few defenses against other competing organisms, so that the plants and animals that have been introduced by man in Hawaii just run wild over the species that lived there before man came. And the question we will try to answer is: How do the introduced species interact with these very peculiar and very vulnerable native species? This is the kind of thing that can be studied in different islands throughout the world; it is a marvelous example of how biologists throughout the world can work together to get a new understanding of the interactions among species.

Another program that is quite different in character is our plan to investigate the adaptability of human beings to their environment by studying the isolated groups of human beings who live around the North Pole; the Chukchis in Siberia; the Eskimos in Alaska, Canada, and Greenland; and the Lapps and their relatives in Scandinavia. One of the most interesting of these groups are the Polar Eskimos who live on the northwest coast of Greenland, about 250 miles north of Ultima Thule. They were discovered in 1818. At that time there were 250 of them, and they thought they were the only people on earth. They believed that somehow this was it, 250 human beings were all the human beings there were, living in an awful desert of ice and snow. There are still 250 of them now, 150 years later. They have an extremely high infant and child mortality. The kids mostly are killed by dogs; perhaps four out of five of the children die before they reach the age of puberty. So in this society, unlike most human