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JAPAN—LIKE A NATIONAL PARK

MANY travelers have experienced the beauty of rural Japan, the neat fields, villages framed by evergreens, wooded mountains, and the myriad islands close at hand. The Japanese cherish these national treasures. They are among the most Nature-minded people in the world. So many of them tour their island kingdom each year, it is as if the whole chain of islands were a national park, centered on majestic Fuji-no-yama.

The Japanese have preserved and improved their natural resources without interruption during a long and dramatic history. Now they demonstrate an ability to cope with an abrupt involvement in the modern world without losing sight of traditional ways of life and, in the midst of rapid industrial transition, a remarkable degree of self-discipline in preserving their resources and maintaining the social character of the country.

The crowding of many people on little land is conspicuous in Japan. Some 93 million people inhabit 148 thousand square miles of mountain-festooned islands, approximately the size of California, most of which have been sifted through the fingers of preceding generations for more than 1,500 years.

Although less than one-sixth of the total land area is cultivated, more than 40 percent of the Japanese engage in agriculture. Now, as for centuries, they carefully employ the practices of terracing, irrigation, conservation of water, reclamation of peat lands, and many unique cultural methods. Their intense regard for countless details requires a far greater input of labor than would be economically feasible by American standards.

These ways of doing things, handed down from generation to generation, have resulted in high yields of crops. The yields of rice per acre, as an example, are among the highest in the world.

Anyone who has traveled in Japan is aware of the tremendous energy and time put into farming and can understand why the Japanese have become a nation of successful farmers—and also why Japan, through this same ability, has become a leader in indus-
tries such as shipbuilding, radio and optical equipment, and many kinds of consumer goods.

But more remarkable is the fact that the Japanese are able to devote similar energy and interest toward partaking of the natural and scenic beauties of their homeland. Leaders of government and industry, small shopkeepers, teachers—everybody takes excursions into the countryside—some to view the cherryblossoms or wild azaleas, others to climb the mountains and enjoy the hot springs. Most of these ventures are undertaken as group activities of business or social organizations, or children with their teachers, for travel is by bus or train. Even if there were sufficient private cars, the roads could never accommodate the numbers of people who travel to the parks of Japan.

Other enjoyments include many flower shows and exhibits of plants staged throughout the villages, according to the season of the year. One cannot miss the autumn chrysanthemum shows, for example, for many of the displays are arranged on the railway platforms, where the greatest number of people may see them.

Schoolchildren, too, are given every opportunity to enjoy Nature and to see the famous landscapes of the country. I have visited almost every mountain region of Japan and have always encountered schoolchildren, with their teachers, climbing the hills and exploring the natural wonders.

In the homes and around farms too small for a lawn, men and women create miniature gardens with stone lanterns and tiny pools, carefully train plants in pots, and plant flowers for cutting and arranging.

No more than 19 percent of the total area of Japan, predominantly a mountainous country, can ever be expected to be cultivated. Forests cover 66 percent of the area. Because of a high rainfall throughout the year, the forests are luxuriant, possibly the richest in woody species of any comparable part of the world. The swift, short rivers that flow down from the mountains are also an important natural resource.

These two resources, the forests and the rivers, have been important in the development of Japan, not only from an economic standpoint but also in maintaining the rural character of the country.

Water for irrigation is essential to the rice culture, and since each small subdivision of land held by the farm family requires its share of irrigation water, a community plans the irrigation canals, dams, tunnels, and other means of distributing equally the benefits of this abundance of water.

The Japanese place great value on the esthetic qualities of the forests and rivers. Eleven percent of the land area is in parks and restricted forests, where felling of trees generally is prohibited, wildlife is protected, and visitors are encouraged. Japan has 19 national and 20 quasi-national parks, which are established on a basis similar to that of Europe, rather than the United States and Canada, where public and private lands can be designated as national park land. This system assures the protection of the beauty spots that the Japanese have prized for centuries.
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A strict system of zoning is enforced in the parks. Some parts are kept under natural conditions for scientific study. Others are developed with lodges, parking facilities, and gardens for public enjoyment. In one year, 90 million visitors enjoy the parks, a total that almost equals the entire population.

A major reason for this intense interest in natural things stems from the rural origin of modern Japan.

Because more than 40 percent of the people live on farms and Japan is still a country of villages, most of the people who have entered into the tremendously dynamic life of the large cities still recall a rural background. Their attitude toward encroachment on the areas of natural beauty consequently is governed by an ingrained respect for their natural surroundings.

Thomas C. Smith, in his book, *The Agrarian Origins of Modern Japan*, pointed out that the tradition of village life is one of the factors that have perpetuated Japanese social character despite industrialization. In most countries, industry has broken up the peasant village, dispersed the population, and weakened its solidarity by creating deep class divisions. These developments did not make the same inroads into Japanese life. Today the Japanese village is predominantly a community of small farmers faced with the same problems of small-scale cultivation and marketing as their ancestors.

While the arrival of the modern suburban development in rural areas in the United States is not grounded in the same heritage as the Japanese village, it appears to have a somewhat similar social character—many people with similar circumstances of living, a lessening of class divisions, and an opportunity to enjoy equally the benefits of the rural scene, if we protect and expand the natural areas surrounding our new suburban communities. If the planners of our new communities will allow for natural parks and ponds and develop plans to beautify streets and residential districts, an interest in their maintenance, use, and expansion will come naturally to citizens.

Since the village is a fundamental social institution of Japan, you may be interested in some aspects of the village structure.

As a horticulturist, I consider it particularly appropriate to illustrate the planned use of trees and shrubs on a communitywide basis. Some Japanese call it a residential forest.

Anyone who travels north or west of Tokyo across the Kanto plain sees small clusters of trees scattered about the cultivated fields. This area is called Musachi-no and was given over to intensive agriculture about 360 years ago, when numerous farms and villages were laid out.

The Kanto plain is characterized during the winter dry period by strong winds, which raised clouds of dust. The small forests were developed partly to curtail such wind erosion. Where the farmhouses were isolated, the so-called forest consisted of densely grown cryptomeria trees, broad-leaved evergreen hedges, and bamboo plots laid out to give the harmonious composition so typical of Japanese farm homes.
In some instances the villages were more precisely planned and the farm dwellings were grouped.

The village of Kurume-machi, not far from Tokyo, was developed in this fashion about 350 years ago. Each farmer initially was allotted 4.94 acres of forest and 7.41 acres of arable land. The farmhouses of Kurume-machi stand in a row along the main road for about a mile. Each house is surrounded by a belt of trees of similar species, giving the aspect of a single large forest. The main trees are located so as to produce a shelterbelt. In addition, these small forests are homes for birds, a device for conserving water, a source of firewood and timber, which is selectively cut, and a means of climate control, since the temperature inside the residential forest is cooler in summer and warmer in winter.

The species in this particular forest are common Japanese trees, which, incidentally, are useful for landscape purposes in the United States. They include two conifers, Japanese cryptomeria (Cryptomeria japonica) and Sawara cypress (Chamaecyparis pisifera), and a number of broad-leaved trees—Japanese zelkova (Zelkova serrata), sweet olive (Osmanthus fragrans), Japanese cinnamon (Cinnamomum japonicum), sasanqua camellia (Camellia sasanqua), a kind of holly (Ilex integra), sweetbay (Laurus nobilis), sweet viburnum (Viburnum odoratissimum), Japanese hornbeam (Carpinus), and an evergreen oak (Quercus acuta). All, except zelkova and hornbeam, are evergreen.

These choice plants provide a pleasant setting to the farmhouse on which the forest is centered. Besides them, a small grove of bamboo provides poles and edible shoots. It should be noted that these residential forests, established more than 300 years ago, are still intact as a result of the careful selective cutting and replacement program followed by the residents.

In regions with a low water table, villagers, who previously had to walk 2 to 5 miles for water, found that once the residential forests had become established it was possible to drill wells locally.

The use of the residential forest has been successful not only in the plains but also in the mountainous regions of western Japan, where the forest plots are somewhat larger in size, up to 25 acres. Here, again, the permanency of the planting is emphasized. The conifers are cut on a selective basis, and the other trees are used for fuelwood after 14 or 15 years of growth. The dominant conifer species for these mountain dwellings is Japanese red pine (Pinus densiflora). An edible mushroom, shiitake (Lentinus edodes) is cultivated on logs on the forest floor. Additional species used include Japanese camellia (Camellia japonica), Japanese bayberry (Myrica rubra), and Japanese eurya (Eurya japonica)—all evergreen shrubs.

Where the villages are subject to floods, as on the Hinokawa plain, the farmhouses are surrounded by earth mounds, on top of which the trees are planted. Japanese black pine (Pinus thunbergii) and bamboo appear most frequently in the flood plain plantings, which usually are held down to some 21 feet to 25 feet in height by topping. Seen from passing trains, the houses seem to be surrounded by tall hedges.

Where lower branches have been removed, shrubby specimens of Japanese euonymus (Euonymus japonica) are interplanted to maintain a compact unit. The farmhouse is thus surrounded by evergreen trees and hedge plantings, which protect against flood, wind, and dust; provide a source of small fuelwood and timber for farm repairs; bamboo, with so many essential uses in Japan; and an attractive setting for the farm home.

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