

Now, on early spring mornings in the northern New Mexico mountains when frost still edges the air and the buds on the fruit trees have scarcely begun to swell, bands of pinion jays come to a feeder on my terrace. Soon they will start their courting, pairing, and nest building, and then they will disappear. When the flocks return in late summer, the new generation of jays will be fully fledged.

This spring, after a winter away from home, I hung the feeder from a dwarf apple tree growing beside a small goldfish pond which is heated against freezing during the cold months. Robins drink from and bathe in the pond all the year around together with finches and sparrows.

Shortly after sunrise one morning, the jays appeared like an invading army. They took every place a bird could occupy on and around the tree. The finches and sparrows vanished; only three or four intrepid robins held their own against the hoard of jays on the far side of the pool. The tree was loaded with dark gray-blue jays; they swarmed over the feeder, pushing and shoving and pecking at one another, each intent on holding his place; on the ground other jays crowded shoulder to shoulder gobbling the seeds that rained down, spilled by the greedy birds above.

At the feeder and on the surrounding branches a continuous change took place between the surfeited birds and the unsatisfied ones insisting on a share. Amid a cacophony of expostulatory mewling, clucking, and chattering, those holding favorable perches

fought the attempts of their comrades to displace them. Against the recently risen sun, the flashing wings of fluttering birds, of birds planing in for a landing and birds taking off, filled the apple tree with a scintillation of light from translucent feathers washed of all colors.

As I watched this incredible display of aerial agility, I thought how wonderful are birds, each species from the albatross to the hummingbird so perfectly adapted according to its needs. Unlike our clumsy mechanical inventions they seldom meet with accidents. Only when confronted by the structures and traps and poisons of men do they suffer mishap. In the course of evolution they have adapted to most possible combinations of environments. There are the frigate birds at home almost exclusively on the wing; there are the petrels who divide their time between air and water with only minimal use of land; there are the oilbirds who live in the perpetual darkness of caves from which they emerge only at night; there are the gallinaceous birds who live in marshes, for whom flight seems to have become a great effort as it has for the roadrunner, a ground inhabiting cuckoo; there are the penguins who have abandoned flight in the atmosphere for what can best be described as flight in the sea; and there are the odd flightless species, such as the ostrich and the kiwi, who live exclusively on land.

In the flow of species evolution, birds have adapted to innumerable habitats and ecological niches. Given enough time, if they survive human interference, they presumably will continue to



adjust to conditions different from and more adverse than any they have yet been able to accept. Consider as examples of faunal plasticity the great class of fishes to which belong types that grow lungs, climb trees, and fly, albeit for no great distance as yet; and consider the mammalian species--the cetaceans--that have returned to the sea, abandoning all dependence on land. Is --such as grebes and penguins-- it not reasonable to expect that certain families of birds may become viviparous, incubating their eggs internally and thus be able to assume an entirely aquatic mode of life?