

EARLY BIRDS

BY FRANK DUFRESNE

Some weird winged creatures flapped through the air in the days when the world was comparatively young, but most of them were wiped out by nature as failures; and other birds, such as the dodo and the passenger pigeon, are extinct because of man's cruelty

THE sun rose wanly over the hills of Wyoming that summer morning. Its amber light, blurred by the smoke from many volcanoes, filtered eerily through the warm forest. It cast narrow, swaying shadows behind the vines that trailed from the magnolia trees and laid a somber, yellowish glow on the surface of the water hole where the wild horses came at daybreak to drink.

In the first rays of the dawn the herd appeared along the margin of the glade, moving cautiously under the fringe of trees as though fearful of venturing into the open. A fretful little stallion nipped nervously at a succulent plant. Its nostrils flared with a sense of danger near at hand and it pawed the soft earth with trembling anxiety. Every wild instinct urged it to flee back into the junglelike cover. But thirst was upon the herd. Heedless of the leader's warnings, mares and colts pressed on and around the stallion, trotted eagerly to the water and lowered their muzzles into its coolness.

Suddenly, a huge bird stalked into the clearing and, raising itself to full height, scanned the herd through piercing eyes. The effect of its appearance was astonishing. Dripping muzzles shot into the air. Shrill nickers of alarm sounded, and with terror shining in their eyes the wild horses stampeded toward the protective cover of the heavy forest. But their speed was as nothing compared with that of the pursuing bird. Faster than any race horse, it overtook the herd and, towering above the fleeing animals, struck one of them to earth with its heavy, hooked beak. Standing over its prey, the bird flailed the stricken horse against the ground until its body was limp and broken.

Fantastic? Not if you are describing wildlife in the Wyoming of 55,000,000 years ago. Not when you realize that the principal bird of prey of that time, the *Diatryma*, was a sort of titanic running eagle the like of which the world has never since known, and not when you remember that the American horse of that period was a small four-toed creature hardly larger than a full-grown spaniel.

But even today the *Diatryma* would be a dreaded predator, because it was undoubtedly one of the largest feathered things ever to dwell on this continent, or possibly anywhere else on the planet.

When the first fossil fragments were uncovered in the Eocene deposits of Wyoming, one paleontologist estimated its height at thirty feet. The discovery of a complete skeleton, however, showed that it was probably not more than seven feet high. Even so, a modern eagle is small when compared with the *Diatryma*. Its aborted wings did not give it the power of flight, but every line of its reconstructed fossil skeleton indicates tremendous running speed and killing power.

Man, of course, did not exist then. Nor were any of our common native game such as the deer, elk and buffalo found in those dim centuries. Instead, it was an age of grotesque creatures that bear little resemblance to present forms, of strange animals that failed to survive, and in passing often left no recognizable descendants.

As one scientist has put it, the world was young; it was open to conquest, and the birds were making their bid for supremacy. If they had succeeded, the entire course of history might have been altered radically. But the *Diatryma*, fierce as it was, faded from existence along with its odd associates. The nearest living thing to it on earth today is probably the *Cariama*, a long-legged, predaceous fowl of Brazil and Argentina.

Ten million years earlier another American bird had come close to ruling the sea. Where waving fields of wheat now flourish in Kansas was once a shallow ocean, and through its salt waters swam one of the largest waterfowl of all time. The *Hesperornis* was like a gigantic loon in shape, highly spe-

This creature, somewhat exaggerated in the drawing, is a *Diatryma*. Held in its jaws is a prehistoric horse, an *Eohippus*

cialized for aquatic life. Its great, paddle-shaped feet, each some seven inches long, drove it through the water with the agility of a porpoise. Its beak, long and pointed, was armed with rows of big, sharp teeth. When the first well-preserved remains were dug out of the marine chalk beds of Kansas, some scientists called it a "carnivorous, swimming ostrich."

These were early birds, but by no means the earliest. You have to go back about 150,000,000 years to the time when the dinosaurs were dominating the world, to find the first flying creature. And a queer thing it was, in no way resembling present-day birds; and no more efficient by comparison than the Wright Brothers' bamboo-and-cloth contraption at Kittyhawk to a metal-skinned, streamlined Corsair. For birds did not spring into full flight overnight. The process of their getting into the air—and staying there—was far more difficult and took vastly longer to accomplish than man's conquest of the skies.

It started with the egg-laying reptiles that wallowed in the ooze more than a million centuries ago. There were many kinds of these dinosaurs and lizardlike things, ranging in size from small running forms less than a foot in length to huge, lumbering behemoths. Nature tried two approaches to the sky lanes. She tried 20-foot-wide leathery wings on a body that was no larger than a pelican's, and gave it a crested skull four feet long, with the result that a nightmarish thing known as a pterodactyl flapped over the swamps for a brief space in the passage of time. Only the smaller types of this species, however, had teeth.

But flight was not to be earned so simply. Somehow, it didn't work out. Nature tried models as small as sparrows, but structural weaknesses could not be overcome. The pterodactyl flew into a blind alley and faded from existence. Nature threw away the useless blueprints and tried again. This time the engineering was laid along sounder lines. The Archaeopteryx, most primitive of all birds, was evolved.

Enter the Reptile-Bird

Scientists found the imprints of the reptile-bird in the Jurassic deposits of Bavaria. They've been able to figure out that it had a snoutlike sort of bill filled with real teeth, and a fairly good set of wings. It was quite small in size; no larger than a falcon. It had vertebrae, and this backbone extended into a long, free tail from which feathers juttied like narrow leaves on a twig.

Power of flight in the Archaeopteryx may have been limited to planing from a high point to a lower perch, and to aid it in climbing up for these take-offs it had three clawed fingers on the leading edge of each wing. Nature had laid the proper groundwork, crude as it was. From the dying race of dinosaurs the baton was passed to a new form of life, which was to rise from the slime of that bygone age and soar through the clouds as modern birds.

Today there are more than 25,000 forms of birds scattered throughout the world. Since the weird-appearing Archaeopteryx took off on its first wobbly flight, nature has produced endless variations and improvements. "A bird for every purpose" might well have been the slogan of the force responsible for such contrasting types as the earthbound kiwi of New Zealand, the condor riding for hours on motionless pinions high in the blue above the loftiest mountain peak; the jungle hummingbird, almost as fragile as a butterfly; the hardy penguin of Antarctic wastes; the wise, tough crow.

Birds have come a long way since their first reptilian ancestor was given the power to grip the air under its wings and develop the most efficient of all methods of transportation. For centuries they have been the envy of the human race. If man had not watched the birds in flight, had not envied them and dreamed of emulating their mastery of the air, when, if ever, would the first flying machine have been designed? And, just as the first experimental attempts of humans to propel themselves through the air resulted in strange creations, so did the birds sometimes produce ridiculous models.

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"A nightmarish thing known as a pterodactyl flapped over the swamps for a brief space in the passage of time." But it was one of nature's mistakes, and soon vanished from the scene. On the right is the Archaeopteryx, most primitive of all birds. It could fly, but not very well; its powers may have been limited to planing from a high point to a lower perch



All of the birds shown here are extinct; some became so within the memory of living men. The tall bird at the left is the moa, and the big creature right center is the dodo. To the right of the dodo is the Carolina parakeet, and in front of the dodo is the great auk. The passenger pigeon, which once existed in countless numbers, is above the dodo



When the first remains of the Hesperornis were dug out of the marine chalk beds of Kansas, which used to be a shallow sea, it was described as "a carnivorous, swimming ostrich." This huge bird, extinct for centuries, was shaped like a gigantic loon, with huge paddle-shaped feet. It could move about on land with difficulty, but it swam like a fish

ILLUSTRATED BY LYND WARD



Inspector Fred Johnson shows gold-bearing ore in a café, thus disrupting the place's business. Nothing in Kirkland Lake is as important as gold



Henry Kelly, shown with wife, fought in Europe with the Canadian army; is now working as a miner for the Sylvanite Co.

THE GOLDEN MILE

BY BERTRAM B. FOWLER

The gold fever has peopled Canada's north country with new millionaires, stock-brokers and highly improbable characters. Everybody is a gambler, and today's dishwasher may well be tomorrow's tycoon



Roza Brown models her precious sealskin with ribbon saying "Hello, H. R. H. Duke of Kent." U. S. flag is to honor the late Harry Oakes

THERE may be a richer mile somewhere in the world. But the betting is a hundred to one that there isn't a street anywhere with more bumptious optimism than the main street of Kirkland Lake, Ontario, which is known as "The Golden Mile." It really is a golden mile; a mile long, a mile deep and a mile wide of rich gold-bearing ore.

Walking along it is a sort of Alice-in-Wonderland experience. As you pass the modern Park Lane Hotel, the stock exchanges, bustling banks, smart shops and movie theaters, the rumble of ore carriers and mine machinery accompanies you. For practically in the back yard of each building are the mine shafts of such rich mines as Amalgamated Kirkland, Tegren, Macassa, Tech-Hughes, the now fabulous Lake Shore, Wright-Hargreaves, Sylvanite, Toburn and Bidgood.

Sometimes you can duck between buildings into a mine property and watch a pair of men pouring molten gold into bricks. The golden stream flowing from these crucibles is the reason, reward and hope of this town.

Recently an old prospector came into a main-street restaurant at lunchtime with samples of ore from his claim in the newest adjacent strike. Promptly the waitress moved over to his table. The chef came in from the kitchen, followed by his assistants down to the lowliest dishwasher. The cashier left her wicket. In no time, half the patrons were crowded around him. The business of feeding ceased and did not resume until the old prospector left. As soon as the noon rush was over, the restaurant staff, from the dishwasher to the proprietor, headed for one of the two stock exchanges.

Which accounts for the fact that these stock exchanges are big enough for a city the size of Cleveland. The population of the town—as this is being written—is only a little over twenty thousand; it is booming, and everyone from the dogcatcher to the bank managers plays the all-important game of gambling on gold stocks.

These stock exchanges are the Kirkland Lake branches of two reputable Toronto houses. They are important branches. They are equipped with catwalks for a crew of girls who move back and forth chalking up the quotations as they come in on the ticker. At the back of the room the manager and a couple of assistants handle batteries of telephones, with all the frenzy of a Wall Street broker, on a three-million-share day.

Here the people gamble, not on the prom-

ise of some gaudy prospectus, but on the knowledge of the men who are diamond drilling and sinking shafts. They are gambling on the fact that threads of gold lace the whole of this north country, and the men on whom they place their bets have as good a chance as anyone of hitting one of those threads and expanding it into another golden mile.

The gyps and the shysters, the fly-by-night promoters and stock swindlers flock around the town, too. For where there is the fever of a gold rush, the unwary investor can be sold on fake Golcondas. Gold mines can be advertised as "Only three miles from Kirkland Lake," and still be worthless. For while the sound, substantial core of the mining business is represented by towns like Kirkland Lake, claims even a mile from a genuine gold seam may be staked out on barren granite.

Along the streets of Kirkland Lake move the men who have become legendary figures in their own time by running pennies into million-dollar fortunes. And ghosts walk, too, the ghosts of Harry Oakes and the Tough boys, of Wright and Hargreaves. Some of them are still living—but they're living elsewhere.

The late Harry Oakes somehow typifies Kirkland Lake. He arrived in near-by Swastika in 1912 with, figuratively, the seat out of his pants and the toes out of his shoes. Behind him lay years of prospecting in the United States, the Yukon, Mexico and New Zealand. He had searched for gold practically all of his life, and always it had eluded him.

A few miles from Swastika a gold strike had been made a year before by W. H. Wright—ex-butcher of England, ex-soldier and sometimes cook—and his brother-in-law, Ed Hargreaves. The site was where the town of Kirkland Lake now stands.

At Swastika, Oakes met the Tough boys, four farmers who had been hired to cut a road from Swastika to Larder Lake. The five of them set up a partnership. That winter Oakes found some promising claims staked by a man named Burrows. The five-year limit was due to expire at midnight on January 27th, and the first arrival might then restake the unworked claims.

The thermometer hung at fifty below zero that night. But the partnership was, after all the Tough-Oakes, and the name was significant. The weather forced Oakes to wear five pairs of trousers but he made the claim,