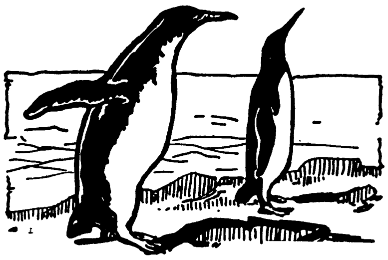
ORNITHOLOGY

NATURE RAMBLINGS

by Frank Thone



Peculiar Pete

PETE the Penguin, popularized in public knowledge by recent Antarctic explorations, would rival the pelican as a "wonderful bird," if only some inspired limericker would arise to sing his praise.

He is, for one thing, among the very few flightless fowl that still make good use of wings. There are plenty of birds that fly little or not at all, but they either use them only for ineffectual flapping on land, like the late-lamented dodo, or they permit them to disappear altogether, like the kiwi, still, though diminishingly, with us.

Not so the penguin. On land, with his short legs and plumeless pinions, he is so helpless, so politically-human in appearance and conduct, that it has become a standard newsreel joke to insult him with a black bow tie, as though he were about to go to a state dinner.

But once in the water, those seemingly useless wings suddenly come alive. They become intensely useful, fitting the bird with powerful forward propellers to match his thrusting webbed feet aft. He turns into a living submarine, with a slashing fish-trap at the prow—and woe to the luckless fish he picks out for his prey!

Another peculiarity of the penguin is his emphatic preference for the Southern Hemisphere. Antarctica, and the sullen lost islands that circle the desolate seas about that frozen continent, constitute his chosen home. During the Antarctic winter he swims away in search of better fishing northward, but he still sticks in southern waters. Not for him the record-breaking migrations of such flying birds as the Arctic tern, which twice a year change hemispheres, perpetually seeking lands of the midnight sun.

In only one place in the world does the penguin make his home above the equator—the Galapagos islands, south of Panama and west of Ecuador. Among the almost unearthly animal inhabitants of this rocky group, which started Darwin on his world-revolution in scientific thought, there is a species of penguins found nowhere else. They never migrate, but remain as permanent inhabitants of the southernmost margin of the Northern Hemisphere.

These Galapagos penguins are not isolated from their kind—an endemic islet of life far away from the natural austral-polar range of other penguin species. Along the Pacific coast of South America, especially in Chile, there are other penguin species; si that the gap is not as great as it might seem.

One of the oddest of penguins is to be found among these Chilean birds. Unlike other penguins, it does not live and nest on the flat rocky shore, but fairly high up on steep earthly slopes covered with brush. It slides down to work at its trade of fishing every morning, and at night laboriously ascends the slope again to its nest. And its nest is made in a burrow in the ground!

Truly, Pete the Penguin, is Peculiar.

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PLANT PHYSIOLOGY

Blue Light Most Effective In Causing Plants to Bend

WHEN plants in a window-box, or potato sprouts in a dark cellar bend toward the light as they grow, they are not responding equally to all the colors in the great mixture of lights we call white light. Toward red light they will not bend at all, while on the other hand there are certain wavelengths in the blue region of the spectrum, toward which they are especially sensitive.

Recent researches at the Smithsonian Institution, reported before a Washington botanical audience by Dr. Earl S. Johnston of the Institution's staff, have picked out very sharply the particular wavelengths that are most potent in stimulating plant bending. The most effective of all light wavelengths is a very narrow band in the neighborhood of 4400 Angstrom units, which is in the blue part of the spectrum. From this point the effectiveness of light in producing bending falls off rapidly to a point near 4600 Angstrom units, which is still in the blue region. Then it rises again to a secondary peak at about 4750 Angstrom units, a slightly greenish blue, and then drops to an "almost-no-effect" point beyond 5000 Angstroms, in the red.

In carrying out his experiments, Dr. Johnston used plants themselves—young oat seedlings—as pointers. At one end of a long, darkened box was a standard lamp. At the opposite end was another lamp, with suitable filters to permit only light of the desired wavelengths to pass through. The seedlings were placed between these lights, and permitted to "choose," indicating the light having the greater effect by bending toward it.

The standard lamp was moved back and forth, until one of the seedlings indicated "no choice," showing that the two light sources were in balance. Then a sensitive light-measuring instrument was substituted for the seedling, to obtain the relative amounts of energy put forth by the two lights. In this way a sensitivity curve for the effectiveness of all parts of the spectrum was built up, based on the "choices" of many hundreds of seedlings.

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