

SPEAKING OF BIRDS...

● There's really no blue or green in their feathers, but sun rays, rain or a blue sky can make our nesting friends colorful as a peacock!

Prepared by National Geographic Society, Washington, D. C.—WNU Service.

There is no blue pigment in the feathers of birds; neither, with rare exceptions, is there any green. The only pigment colors in ordinary birds' feathers are reds and yellows and blacks, and all the other colors are due either to a combination of these or to the superficial structure of the feathers overlying some other pigment.

Blue feathers, for example, contain only brown or blackish pigment overlaid by a layer of prismatic cells which reflect only blue light rays. Sometimes the structure is that of minute pits on the surface of the feathers. When they become filled with water during a rain, they lose their refractive power, and the birds, apparently, change from blue to white, as in the tropical swallow tanager.

Again, the blue color is due to minute air spaces in the superficial layer of cells, just as the blueness of the sky is due to minute dust particles, and the blueness of the milk on the boarding house table to the minute cream droplets. So long as our blue birds remain between us and the source of light, they are not blue birds at all and therefore may go unnoticed.

Yellow birds are usually conspicuous because our eyes are very sensitive to yellow. But many birds have a blue-producing structure overlaid by a yellow pigment, so that the combination sends green light to our eyes. Then we say these birds are green. Wet the back of a parrot and it becomes brown, or scratch the surface of one of the green feathers with a knife and a dark mark is left. This is not because any green pigment is scratched off, but because the yellow and the prismatic cells have been removed and the dark layer beneath exposed.

But there seem to be many red birds among these tanagers and finches. Why do we not see them more often? Certainly we have no trouble seeing a red traffic light—indeed, most of them seem to be that color when we are in a hurry. There are some reds, such as the iridescent throats of the hummingbirds, for which the structure of the feathers is responsible. But most reds, such as those of the tanagers and finches, are due to pigment, and they register as red under all light conditions. To be really effective, however, the red must be exposed to direct sunlight.

Should a scarlet tanager alight in the middle of a sunlit lawn or a cardinal fly across the open space in a garden, either bird would attract attention, but most of the time they are sitting among the shadows of green leaves, where they are poorly lighted. The sunlight is reflected from the leaves more readily than from the birds, especially since our eyes are peculiarly sensitive to greens.

Winter Markings

During the winter many birds have their conspicuous markings veiled by gray edges to the feathers. These edges break off during the spring, exposing the color underneath. The male house sparrow, for example, in winter seems to have only a narrow line of black on his throat, because the rest of his black cravat is concealed by the gray tips of the feathers, which break in April.

Red finches display no such gray edges to the feathers. But upon examining a feather with a lens, one will find that the red pigment occurs only in the main branches of the leaflike structure, the parts called the shaft and the barbs, while the more minute branches, or barbules, are gray. As these barbules wear off, the barbs with their color become more exposed and the feathers apparently get brighter. Thus the red finches (the purple finch, house finch, and redpolls) apparently brighten as spring advances.

Thus the summer tanager male remains red throughout the year, and so do the cardinal, the purple finch, the pine grosbeak, and the crossbills. The yellow evening grosbeak never becomes gray like his mate, once he has acquired maturity, though the male goldfinch does.

No one has yet advanced a satisfactory explanation for these differences in seasonal styles among the males, but the inference is that the females are dullly colored so as not to attract attention to the nest. Usually the brilliantly colored males in this family never assist in incubating the eggs, but even here there are exceptions, as in the rose-breasted and black-headed grosbeaks. Males of these birds not only sit on the eggs, but even break all rules of bird conduct by singing as they do so.

Grosbeak Mortality

Whether because of the singing, or because of the bright colors of the incubating male, or because of the general fragility of the nest, there is a relatively high nest mortality among the rose-breasted grosbeaks, and some years very few young are reared. Then the species becomes scarce, because grosbeaks are not so persistent about nesting as are some other birds.

There is no one place in North America where all of the birds here mentioned can be found. The pyrrhuloxia, hepatic tanager, beautiful bunting, and Sharpe's seedeater, for example, are not found very far north of the Mexican border.

The lazuli bunting, black-headed grosbeak, western tanager, rosy finch, house finch, green-backed and Lawrence's goldfinches are birds of the Pacific coast and the Rocky mountain region, while the rose-breasted grosbeak, scarlet tanager, and indigo bunting are primarily birds of the eastern United States.

It is difficult to explain why each species has a restricted summer home when it is free to come and go as it pleases and often migrates extensively. It is still more difficult to explain how this whole group of birds got into North America originally. Certain of them, such as the tanagers, the cardinals, the blue, rose-breasted, and black-headed grosbeaks, and the "buntings," have close relatives in Central and South America and none in the Old world. Hence, we feel that our species came originally from the south.

A picture of evening grosbeaks at Whitefish Lake, Mich., taken with telescopic lens. The camera has aided man immeasurably in his study of bird life.

Washington, D. C.—WNU Service.

Washington, D. C.—A recent poll shows that, despite the victory of every one of the nine Democratic senators who opposed President Roosevelt on the Supreme court issue in their renomination battles, and the failure of such hundred percenters as William G. McAdoo in California, James P. Pope in Idaho, William H. Dieterich in Illinois, Herbert E. Hitchcock in South Dakota, and George L. Berry in Tennessee, the President's personal strength with the voters is still high. In fact the sampling ballots taken indicate that he has more than 50 per cent of the total vote of the two major parties.

The discouraging point about this, to opponents of the President, is that more than a majority of the major party voters favor the President as against an ideal opponent! For example, had they been asked, instead of if they still favor the President, whether they favored him against Herbert C. Hoover, a certain number of those who recorded themselves against the President would have switched to the Roosevelt side. Probably a very considerable number.

Or if the voters questioned in this "sampling" poll had been asked if they favored Roosevelt or Alfred M. Landon undoubtedly many would have moved over to the President's side. Not the same group—as would have moved had the choice been Hoover—but a different group. Similarly, the President would have gained had any conceivable opponent been made the alternative.

Sen. Byrnes

For their nest in the west, a pair of enterprising Los Angeles sparrows selected an electric switch box which the owner immediately shut off to prevent electrocution. Two fledglings are shown above, in their novel nest.

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The big question now is whether the President, goaded by his non-politically minded inner circle, will show his resentment against the men who helped beat him in the primaries, but are actually still for him. The general opinion is that he will do nothing of the sort.

Bureau Chiefs Breathe Sighs of Relief Now

Lots of important cogs in the administration were rooting under their breaths for the senators President Roosevelt tried to retire to private life. These bureau chiefs and assistants are breathing sighs of relief now, and their relief has nothing to do with whether Mr. Roosevelt wants a third term, or whether he would still like to enlarge the Supreme court. What has been bothering them is the reorganization bill.

It will be recalled that the reorganization bill, which virtually gave the President blanket powers to shift and change any government bureau and commissions he liked, passed the senate but was defeated by a narrow margin—four votes—in the house. One government agency took no chances. The army engineers are old-timers at this sort of thing, so they moved in on the senate, and it was discovered, when the

NATIONAL AFFAIRS

Reviewed by CARTER FIELD

President's personal strength with voters still high, notwithstanding his defeats in purge attempts in primaries... Reorganization bill may appear again in modified form... Activities of Lewis and Smith in Mexico stir up Secretary Hull.

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bill emerged from the special committee that handled it, that the army engineers were specifically exempt from the new powers the President was to have been given by the bill.

But most of the worried agencies, bureaus and commissions did not know how to do likewise. Some of them knew but did not have the power. The army engineers have a curious series of personal ties with the elder statesmen on Capitol Hill not possessed by any non-military division of the government. Some of the ranking officers of the corps were appointed to West Point by senators still in the upper house. Some were appointed by former senators, but the ties still exist. And the ranking officers of the corps have been in close touch with nearly all the present senators and members of the house of representatives. They have discussions with them over projects, during committee hearings. They meet them socially, and gravitate together at otherwise dull parties to talk about subject of common interest—generally some river or harbor project back in the legislator's home state that the army officer has studied.

Continuing Friendships Are Thus Built Up

That sort of thing builds up continuing friendships. The men get to like each other. They get to admire each other's work, especially as there is no friction and no element of competition. So naturally the senator or representative lends a willing ear when the officer comes round with an urgent plea that the administration be not allowed to mess his job up—as he sees it. There is the further fact that the legislator risks nothing by granting this favor. It is not an issue at home. If it were made an issue, he would probably be on the right side of it.

But there has been every indication that the President would renew his fight to get the reorganization bill, and was willing not to antagonize the powerful lobby of the army engineers by including them in it. So the other bureaus and commissions and agencies have been worried ever since congress adjourned.

With one or two exceptions the senators that the President would have liked to see beaten because they opposed him on the Supreme court issue opposed him also on the reorganization bill.

Enemies of Labor Board Plan New Line of Attack

A new line of attack on the national labor relations board is about to open as a result of the recent trip to Mexico City of John L. Lewis and Edwin Smith, a member of the board.

The new attack by enemies of the labor board and of C. I. O. may have the support of Cordell Hull, secretary of state. It is charged that it was the influence of Lewis and Smith, with certain other Americans, that has made the task of the state department so difficult in dealing with the Mexican government on the issue of Mexico's seizure of American and other foreign oil properties.

Reports reaching state department officials show that the newspaper accounts of the Mexico City meeting attended by Lewis and Smith did not give an adequate indication of the lengths to which the American visitors went in approving everything Mexico has done. One dispatch spoke of the "venom" with which Edwin Smith attacked everyone opposing extremist labor legislation.

Smith praised Mexico as the only country having a capitalistic structure—presumably the only country except the Soviet republic—which has the enlightened courage to insure the rights of all workers.

Reports indicate that Mexican officials prepared an elaborate building for Smith prior to and after his speech, which was translated immediately into Spanish and repeated to the meeting for the benefit of the delegates unable to speak English.

Declares Mexicans Lead In Forward Movement

Smith left no doubt in the minds of the delegates that Mexico was in the lead in the forward movement, with the United States tagging along but en route.

John L. Lewis, according to the reports, agreed with Smith in supporting every action the Mexican government has taken. Four million workers in the United States, he told the delegates, had sent him to bring good wishes and encouragement to the Mexican workers. Problems of workers in all countries are similar, he said, and the tactics of big employers the same in no matter what country they may be.

The two great statesmen on the North American continent, he said, are also the two great humanitarians—Roosevelt in the United States and Cardenas in Mexico. Most of the delegates came away with the notion, from Lewis' speech, that the aims of both Roosevelt and Cardenas on behalf of the downtrodden and in the desire to develop national resources for the benefit of all the workers, are such that Roosevelt approved Cardenas' action in seizing the oil properties.

This last statement, according to reliable State department officials, is just about burning up Secretary Hull.

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WHO'S NEWS THIS WEEK

By LEMUEL F. PARTON

NEW YORK.—G. Ward Price, British war correspondent, who is Adolf Hitler's friend and supporter, and who has traveled, lunched, dined and visited with him off and on for years, is England's most authentic news source as to Der Fuehrer's plans. Lord Rothermere's paper, the London Daily Mail, which employs Mr. Price, has been scooping the ears off the other London sheets on Hitler stories.

Mr. Price previously has related how he and Lord Rothermere were two of four guests at Mr. Hitler's first formal dinner party after he seized power. That was December 19, 1934. It was about this time that Lord Rothermere, reaching 80 per cent of the British reading public, through his newspapers and press associations, began his unceasing campaign for fascism in England. A third guest at the dinner was E. W. D. Tennant, of the Anglo-German fellowship, a fellowship which Lord Rothermere and Mr. Price have diligently fostered, with their Apologia Fascista.

Mr. Price, educated at Cambridge university, is a seasoned and richly garlanded British war correspondent. As foreign correspondent of the Daily Mail, he was with the Turkish army in the first Balkan war; he was an official correspondent at the Dardanelles, he was with the British army at Salonika. He has long been a quasi-official reporter for the British empire. He writes concisely, clearly and expertly, with a keen alertness for revealing little human touches and with little concern for the dry imponderables of political or economic theory.

His book, "I Know These Dictators," published in this country last year, was, in the view of this writer, big news, and should have stirred up a lot of excitement. Principally about Adolf Hitler and Benito Mussolini, it builds out of intimately observed minutiae of their minds and persons a synthesis of virtue, charm and heroism.

Mr. Price, in this book, reports that Adolf Hitler is genteel, humorous, courageous, chivalrous, abstemious, profoundly intellectual, kindly, forgiving, unselfish, tender, a clever story-teller, and loves dogs and children.

DR. NORBERT WIENER, chalmers Milton, or Pope or whoever it was that observed, "Chaos utters, and by decision more embroils the fray."

Scientists Can Now Predict Way of Chaos

At last, says this famous savant of the Massachusetts Institute of Technology, scientists "can now predict what will happen in states of complete confusion."

As Dr. Wiener explains the new outreach of the calculus, at the fourth international congress for applied mechanics at Cambridge, it seems to clock everything, from a case of hiccoughs to Adolf Hitler, just so long as it is "pure" chaos and not a mere adulteration. That ought to let in most of Europe.

He read English at the age of three and Latin at five, and entered Tufts college at the age of 11, finishing in the class of 1910. He took his master's degree in 1912 and his doctor's in 1913, both at Harvard.

At the age of 19, he was an assistant professor at Harvard, lecturing on "The Theory of Knowledge." Dr. Wiener has kept on steadily gathering laurels in the groves of Academe.

EVENTS of the last few weeks have, of course, flushed many half-pint Hitlers in Europe, chief among them being young Leon Degrelle, of Belgium.

A Petticoat Putsch Is New Threat

Counted out last year, he now bounces back with some show of power; enough, at any rate, to make a martial stir of men and horse in Brussels, with word that he might start delivery on the "terror" which he has been promising for several years.

Thirty-two years old, of the type of a healthy and husky high-school lad, he is the best-looking of all the Hitler apprentices, and there's no knowing but that he might start the world's first great petticoat putsch. Comely young women have flocked to his banner in shoals, and much of his support has come from women. He has both allure and showmanship and few of the stigmata of the paranoiac, unless it be his apparent determination to scare everybody to death.

What to Eat and Why

C. Houston Goudiss Relates the Romance of Wheat and Discusses Flour, the Basic Food

By C. HOUSTON GOUDISS

THE story of wheat flour is the story of civilization. Before man learned to cultivate this golden grain, he was obliged to move from place to place, with the seasons, in search of food to sustain and nourish his body.

Then, on one happy and momentous occasion, perhaps 6,000 years ago, an inspired nomad plucked the kernels clustered at the top of some waving grasses, observed that they had a nut-like taste, and passed along the far-reaching discovery to his fellow-tribesmen.

The beginnings of wheat cultivation are lost in antiquity. But we do know that for thousands of years, it has been one of the most important crops in the world—so necessary to man's well being that the supplication, "Give us this day our daily bread," has summed up his most fervent desires.

and pastry flours. Bread flour is made from wheat containing a large amount of gluten, which gives elasticity to a dough and helps to make a well-piled loaf. Pastry flour contains less gluten and more starch and has a lighter texture that produces fine-grained cakes. All-purpose flours, as their name implies, are usually a blend of different types of wheat and are designed for general household use.

A Symbol of Progress

It is a tribute to American enterprise that the world's largest flour mills are now to be found in this country, and that tremendous staffs of technicians and research chemists supervise every step in the preparation of the flour which may pass through as many as 17 grindings and be subjected to 180 separations.

Experts begin by checking the quality of the grain while it is in transit to the mill. But their work does not end when the flour emerges pure white in color and unbelievably fine in texture, after having passed through silk bolting cloths of 100 mesh or finer. After that, there are baking tests, day after day, to be sure that every sack which is sold is of uniformly high quality.

Self-Rising Flours

An interesting development of recent years has been the self-rising flour and other ready-to-use mixtures. Some of these contain only a leavening; others include dried milk and eggs; fat; and baking powder, so that only a liquid is needed. All are planned to save the homemaker's time and maintain her family's interest in their most important energy food—the products of wheat—the foremost cereal grain.

For Energy and Vitality

The form in which wheat flour makes its appearance on the table is of less importance than the fact that it is and should be an essential item in the family food supply. That is because it offers a rich supply of fuel value at little cost. The different types of flour contain from 61 to 76 per cent carbohydrates, from 11 to 15 per cent protein, and varying amounts of mineral salts and vitamins.

It is necessary to know something of the structure of the wheat kernel and to understand how the various flours differ, in order to select the flour best suited for each purpose. A kernel is made up of several outer layers of bran; a layer of cells high in phosphorus and protein, just inside the bran; the endosperm, composed of cells in which starch granules are held together by proteins; and the germ. The starch cells are so small that one kernel of wheat may contain as many as 20,000,000 granules.

White and Whole Wheat Flours

White flour is made chiefly from the endosperm. Whole-wheat, entire-wheat and graham flours are loosely applied terms which refer both to products made by grinding the wheat berry without the removal or addition of any ingredient, and also to a flour from which part of the bran has been removed or to which bran has been added.

One of the most prolonged discussions of the last two decades has involved arguments for and against the use of white or whole wheat flour in making various types of bread and muffins. As a result, many people have been confused and misled—often at the expense of their enjoyment in meals.

Here are the facts: White bread contains important energy values, proteins, some minerals, chiefly potassium and phosphorus, and when made with milk, it also supplies some calcium. It is easily and almost completely digested, tests indicating an average digestibility of 96 per cent.

Bread and other bakery products made from whole wheat flour also contain proteins and carbohydrates, plus good amounts of iron, copper, phosphorus and potassium; and vitamins A, B and G.

The whole grain products are less completely digested than those which are highly refined, however, so some of their nutrients may be lost to the body.

When the two types of flour are considered as sources of protein and energy alone, they are regarded by nutritionists as practically interchangeable. Whole wheat flour is conceded to be richer in minerals and vitamins, but where white bread is preferred, these elements easily can be supplied from other sources.

As a matter of fact, foods made from both types of flour belong in the well-balanced diet, where they add variety and splendid food value at minimum cost. And it goes without saying that for many purposes, only white flour is suitable.

Bread Versus Pastry Flour

Questions Answered

Mrs. F. B. L.—Flour should be stored in a moderately cool, dry, well ventilated place, and should be protected from vermin and insects. It should not be exposed to excessive heat, nor to freezing temperatures.

Miss F. B.—You are right! Rye flour is next to wheat in popularity, though it is usually mixed with wheat in making bread. Flours or meals are also made from potatoes, bananas, soy beans, lima beans, buckwheat, barley and rice, though the percentage is small compared to the amount made from wheat.

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