

SCHOOL DAY



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DORIS MAY



Scientists Test Sight of Bees

Experiments Expected to Have Important Bearing on Natural Selection.

COLOR-BLINDNESS AT ISSUE

Research is Expected to Last for Years and to Establish Just What Bee or Moth Can See or Not See.

New York.—A series of delicate experiments will soon be started by three eminent American scientists to discover whether bees and other insects are color-blind or not. The scientists who are now busy inventing devices for testing the vision of bees are Dr. F. E. Lutz, a biologist of the American Museum of Natural History; Dr. J. Arthur Harris, an entomologist of the Carnegie Institution, and Prof. F. K. Richtmyer of Cornell University, a physicist and specialist in color vision. They form the committee on the biological relations between flowers and insects of the National Research Council.

Their tests of the sight of insects are expected to last for years and to establish just what a bee or a moth can see and what it cannot see. These years of elaborate experimentation have not been planned by the National Research Council and undertaken by three eminent scientists solely for the purpose of ascertaining a bee's optical equipment. A greater question lies behind. The controversy about the bee's sight, it is said, involves the validity of the whole theory of natural selection.

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which most attracted the bees by their colors or scent were pollinated in greatest numbers, while those less attractive received fewer visits from the bees and tended to die off. In each generation the flowers which pleased the bees most would be "selected" to live.

These "selected" parents would have offspring, some brighter than themselves, some about the same as themselves and some less bright (that is, of course, bright from the standpoint of the bee, whose standards of brightness might differ greatly from ours). The action of the bees, tending to preserve the prettiest colors, would make each generation of flowers slightly lovelier than its predecessors, thus producing finally the gorgeous natural varieties in existence today.

This theory had been accepted for many years, but recently it has been rudely shaken. Investigations in Germany and Belgium have made it doubtful whether a bee can tell one color from another, or whether the flowers which are gorgeous to human eyes have any power, by reason of their coloring to attract the attention of the bees at all. The results have so far been so uncertain, however, that the American scientists and institutions agreed that it was necessary to make a far-reaching study of the whole subject.

Biologists have attempted to account for the coloring of many insects or animals, as well as flowers, on the principle of "natural selection." The plumage of birds and the colors of fishes aid in courtship, mating and the increase of the species. Zebras, giraffes and thousands of types of animals, birds and insects have camouflage or protective coloration which makes it difficult for their

enemies to detect them at a distance. The curious coloring of the skunk is supposed to warn his enemies that he has developed a wicked art of self-defense, while at the same time his colors blend with the twilight, so that the skunk makes a natural part of the skyline to the mice and insects on which he preys. The light of the lady glowworm is her matrimonial advertisement.

While evolution explains thousands of these things, it has many hard nuts to crack. One thing hard to explain, for instance, is the beauty of the pearl, which grows inside the body of the oyster. The pearl is really the mausoleum of a parasite which has invaded the shellfish and is elaborately injured by it in lustrous calcium carbonate, slightly different from the material of which the oyster makes its shell.

Dog Receives Snake's Fangs to Protect Lad

Hayward, Cal.—A new niche has been set aside in the hall of fame of dogdom for Joan of Arc, an Alredale dog owned by Frank Belval of Hayward.

Belval, his thirteen-year-old son, Robert, and the dog set out on a hiking trip from the Bolinas valley ranch one Sunday afternoon. At a sharp turn in the trail Belval heard the warning signal of a coiled rattlesnake. He jumped aside barely in time. Before he could seize his son the snake struck. But the faithful dog, seemingly sensing the danger, met the snake in midair, receiving its poisonous fangs upon the lips. One snake and the dog had killed the rattler.

According to Belval, the snake possessed nine rattles and was almost a yard long. First aid applied to the wounded dog saved its life.

Something to Think About

E. A. WALKER

ENNOBLING QUEST

The banishment of Adam and Eve from the garden of Eden has been a quest for their kind which has continued out intermission. In this question there is every turn of our hands and feet, and our eyes, soaps of doubt, and greed. Time lighter of the labor of it, but the chase continues. All humans are in the struggle, seeking something—a cherished ideal or some tangible substance which they would readily clasp to their bosoms and call their own. But the reward is for the faithful.

The faithful and those who heed the teachings of the Golden Rule plod on, and the faithful and those who heed the teachings of the Golden Rule plod on, and the faithful and those who heed the teachings of the Golden Rule plod on.

The commandment which says, "six days shalt thou labor" has no terrors for them, so they shoulder their burdens and march on to the end with clean souls and smiling faces.

These are the real workers, the salt of the earth, the faithful and the trusting, the builders of nations. Life to them is enduring. It is sweet in the morning when the sun glids the east, seductive at night when they are tired and sleep comes unbidden and carries them to the land of dreams.

They make agreeable friendships among their co-workers, and always have friends at home who are glad to welcome them. Their quest resolves itself into one of love, and in holding fast to divine precepts, it soon becomes their absorbing ambition. Their hearts are attuned to heaven's music.

They have no wish to pile up gold, no greed that sours life, no fear of the outcome of their endeavors, no preference, except to do the will of the master and patiently await his reward at the end of their earthly journey.

The idle know nothing of the supreme joys of those who labor and love. If you would have for your own the happiness which pays the richest dividends in life, let the ennobling quest of labor and love be yours until the end.

YOUR HAND

How to Read Your Characteristics and Tendencies—the Capabilities or Weaknesses That Make for Success or Failure as Shown in Your Palm.

THE HAND OF A LAWYER.

TO JUDGE whether a person is fitted for success in the profession of law, note whether the hand possesses the following characteristics: The second phalanx of the thumb (between the first or nail joint, and the rest of the hand) should be long, strong and well proportioned. This indicates good reasoning power, a logical mind, and strong intellect generally. Now, as the will power in a lawyer must be strong, if he or she is to attain any rank in the chosen profession, the first phalanx of the thumb must also be markedly strong and well developed.

Next, proceed to an inspection of the Line of the Head. Necessarily, this must be good. Eloquence must accompany the successful career in the law, and this is indicated by various signs, one of them being a decided line running between the second phalanx of the little finger and the third.

THE RIGHT THING AT THE RIGHT TIME

By MARY MARSHALL DUFFEE

CANDY MANNERS.

Feast of nectar 'd sweets.—Milton. IT IS a usual question for a young girl to write asking who should take the first piece of candy from a box brought to her by a young man caller. And when you come to think of it, there are a good many puzzling things involved in the problems connected with a box of candy.

To begin with, if a man brings a girl a box of candy, she usually opens it while he is present. She then passes it to any other women in the room, then to the man, and then she helps herself. If he, when she sees it, holds it for her to take, she does so. If the candy comes by mail or messenger, she opens it, of course, and does not wait until he calls, even if she knows who the candy comes from before opening it, and knows likewise that the donor is to call.

Perhaps the most important thing to remember in connection with the good manners connected with candy is that the person who always greedily eats candy and never buys it is very ill bred. It is the week-end custom for some men to bring home a box of candy. In some families there is one candy-loving member who lies in wait for the weekly sweets and eats as many pieces as she can get. She takes one every time the box is passed, and perhaps helps herself between times.

Now it is quite all right to accept candy, if you like it, when it is passed. But you should not eat more than your share, and you should not eat even this much if you are not in the habit occasionally of standing treat yourself. You should, if you have a sweet tooth and eat other people's sweets, provide a box full of your own occasionally.

Candy is one of the gifts that a man may give a woman—candy, flowers and books constitute the conventional trio. Nobody wonders if the donor of a box of candy to a girl is thinking of falling in love with her. Candy nowadays is quite the correct and accepted gift from anybody that can afford it. And no girl need feel hesitant about accepting candy in this way. Of course, if she thinks a man cannot afford it, but buys it for her simply because he thinks he ought to, she might suggest to him that he really should not indulge her sweet tooth so often. And never, never should a girl hint for sweets. There are some girls who cannot pass a candy store window without casting longing glances at them, and sometimes even commenting on their fondness for candy. No man should feel rude in ignoring these symptoms.

It is not necessary to write a note thanking a man for a gift of candy if he follows the gift shortly with a call. The thanks should not be forgotten, but they may be delivered verbally. (Copyright.)

LYRICS OF LIFE

By DOUGLAS MALLOCH

LIVE LIKE A ROSE.

THE year is coming to a close; The days are falling one by one Like petals of a dying rose, A bloom that still in beauty goes When all her garden days are done.

And what is life? It is a span, However many years it span— In childhood's springtime to appear, To live the summer of a man, And then to feel the autumn here.

And what is death? The final day Of life's short year, a day like these When summer puts her garb away And winter winds begin to play Their wild, tempestuous harmonies.

Live like the rose: The roses bloom Not for themselves but for the earth, Pink lamps that garden walls illumine— A decoration for our mirth, A holy solace for the tomb.

Die like a rose: Its petals fall, But it is sweetness to the end— Oh, it is something, after all, To be a rose beside the wall, Beside the way to be a friend. (Copyright.)

A LINE O' CHEER

By John Kendrick Bangs.

OUT OF THE 'ASHES.

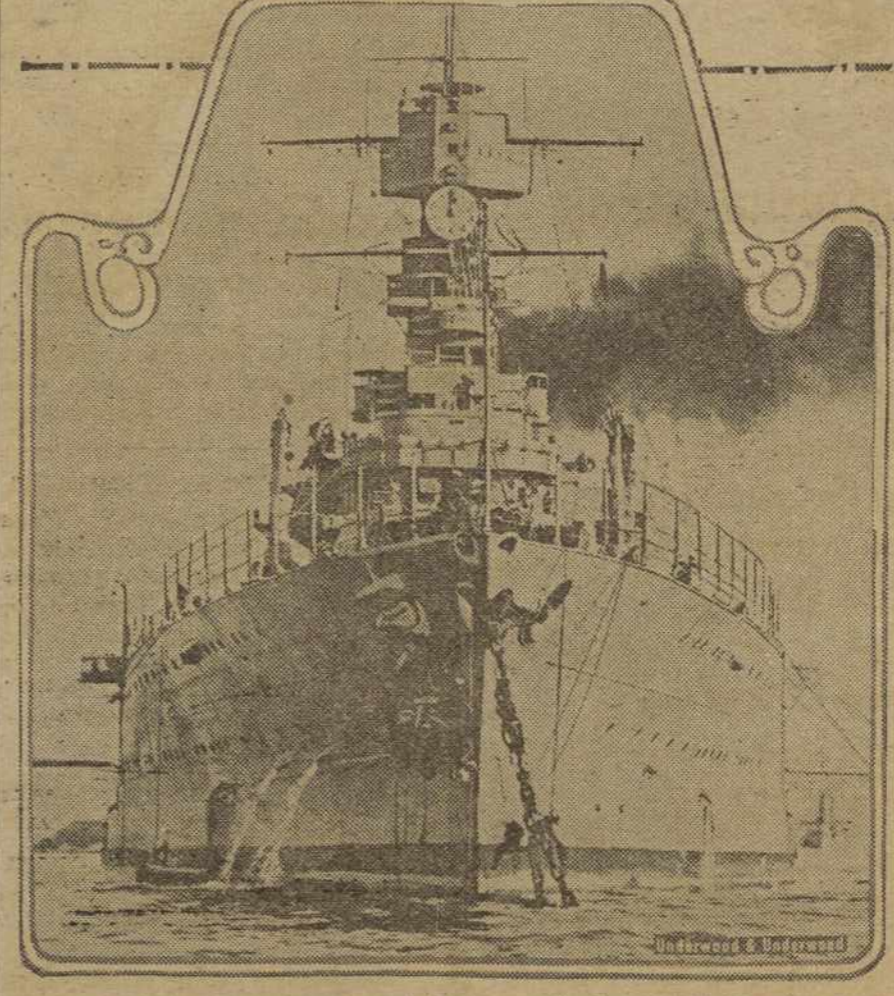
OFF on the shell-torn fields of France; Hard by a charred and shat-tered shrine, Up from the midst of ashens' gloom I saw a perfect rose in bloom, And knew thereby that if from pain The form of beauty may rise again So too from sorrow deep may we Emerge, and rise triumphantly. (Copyright.)



Hits Wrong Auto Pedal; Goes Into River; Dies

New York.—Becoming confused as she drove her automobile on to the driveway on the ferryboat Weehawken and placing her foot on the accelerator instead of the brake, a young woman believed to be Miss Edith B. Stewart of Wilkesbarre, Pa., high school teacher, crashed through the iron chains and car and driver disappeared under the waters of the Hudson river. Air bubbles and a number of roses and carnations floated to the surface. The body and the car were recovered.

U. S. S. California Seen Bows-on



A remarkable bows-on view of the superdreadnaught California, at anchor in San Diego bay, which gives a real idea of the floating fort's great bulk and width. She is 97½ feet wide, or about 50 per cent wider than a wide city street.

Dust Cause of Ages of Cold

Dr. Harlow Shapley, Harvard Observatory Director, Discusses Climate Changes.

MYSTERY PUZZLE TO SCIENCE

Earth Cooled Off During Long Periods When Sun, Earth and Other Planets Passed Through Region of Dust Clouds.

New York.—A new theory relating to one of the greatest mysteries about the past of the earth has been offered by Dr. Harlow Shapley, the measurer of the universe, whose appointment as director of the Harvard observatory was announced recently. This mystery concerns the changes of climate over millions of years, which at one time caused the polar ice cap to extend as far south as New York and at other times warmed the arctic region so thoroughly that the animals and vegetation of the temperate zone could live there, as shown by fossil remains in that region. The earth has been cooled off during long periods, according to this theory, when the sun, the earth and the other planets were passing through regions of space filled with clouds of dust or dark, nebulous material, which cut off enough of the sun's heat to freeze most of the globe. At other times, apparently, the solar system moved

through a region of space almost entirely free from such material, so that the sun's rays beat with full force on the earth, probably making the polar regions pleasant and the rest of the earth unlivably hot. At present the sun is apparently moving through a part of space thinly scattered with interplanetary material. An Age of Murk. A few million years ago, according to Doctor Shapley, the earth, the sun and the other planets were moving through a murk which is observed by astronomers in the constellation of Orion. This is one of many vast black pockets, or "coal sacks," in the sky, some of which may be detected by the naked eye. Behind this veil in Orion are 70 faint stars which vary in intensity. They average about 800 light years (about 180,000,000,000 miles) from the earth, which is a moderate distance astronomically, and many of them would probably be very bright, except for the curtain of dark material hung between them and the earth. The density of the curtain apparently varies, from the manner in which the stars behind it are flickering. At the densest, the black nebulae are believed to be very rare, large stretches of vacuum separating the particles of matter. Still they are sufficient, because of the great space they occupy, to blot out stars, and some astronomers believe the sky would be blindingly brilliant except for the smoky patches. The black spot in Orion is calculated to be vastly greater than our solar system.

In a brief account of his theory in the Journal of Geology, Doctor Shapley said that it is calculated that "a few million years ago our sun was in the vicinity of the Orion nebulae" at its present speed the sun would require nearly a million years to pass through that particular nebulous region." After showing how starlight is cut off at present by billions of miles of dust-clouds in Orion, Doctor Shapley proceeded to suggest how the earth would fare when our solar system moved through the same region. Effect of Dust Clouds. "A change of 20 per cent in the solar radiation," said Doctor Shapley, "if maintained for a considerable period of years, would sufficiently alter terrestrial temperature to bring about or remove an ice-sheet; an 80 per cent change, unless counteracted by concurrent changes in the territorial atmosphere, would completely desiccate or congeal the surface of the earth.

Doctor Shapley offered this theory as an addition to many other causes of climatic change discussed by Dr. W. J. Humphreys of the United States weather bureau.

There are apparent flaws in nearly all the theories which have been put forward. None of them account for the many far-reaching changes in climate indicated by the geological record.

A period of volcanic activity might cause an age of cold, according to Doctor Humphreys. He calls attention to the fact that the great volcano of Tombaro in the Malay Archipelago in 1815 darkened the sky during the day and night for three days for a distance of 300 miles and produced a long season of cold because of the effect of the atmospheric dust in intercepting the sun's rays.