

Pellagra and Drought

PELLAGRA has increased during the extreme summer drought in practically all the southern states, reports received by the U. S. Public Health Service, indicate.

Spread of the disease is believed to be due more directly to unfavorable economic conditions than to the severe heat and dryness, however. But indirectly the drought has been an important factor in reducing crops and bringing about the food scarcity that causes pellagra.

Exact statistics on the cases of pellagra in the various states are not available but a sizable increase in cases has been noted in North and South Carolina during the past several months and more recently health workers in Kentucky and Arkansas have reported worse conditions.

Discovery of the cause of pellagra by the late Dr. Joseph Goldberger of the U. S. Public Health Service forms a dramatic chapter in public health history. Courting the danger of the mysterious disease, Dr. Goldberger visited stricken communities of the South, particularly orphanages and asylums where the disease was most prevalent. In these places he observed that the nurses whose plates contained delicacies denied to their charges appeared immune to pellagra.

From this circumstance, he came to the conclusion, later substantiated, that pellagra is caused by deficient diet. But this knowledge was not enough to save families too poor to buy fresh meat and milk. So Dr. Goldberger continued his search, now for a cheap pellagra preventive. This he found at last in ordinary yeast, happily in time to save the lives of many victims of the Mississippi flood of 1927.

Medicine

Science News-Letter, August 16, 1930

Racial Inter-marriage

WHEN men and women of different races inter-marry what is the inheritance they bequeath to their descendants?

An effort to find out specifically how racial mixture affects bodily size, vigor, energy and other matters of inheritance is to be made by Dr. H. L. Shapiro, assisted by W. A. Lessa, both of Harvard University. Hawaii has been chosen as an exceptionally favorable place for the investigation, in view of its large assortment of the white, yellow, and brown races, and the resulting inter-marriages.

The investigation will cover several years. Interest of the scientists will be centered first on the mixture of native Hawaiian stock with the Chinese. Dr. Shapiro expects to travel to China in a few months, in connection with this problem, to observe relatives of the Chinese-Hawaiians who represent the unmixed Chinese stock. Study of these and of pure-blooded Hawaiians will be necessary in order to measure the differences resulting from blending of the races.

The mysterious fact that Chinese who have settled in Hawaii for two generations come to differ from native residents of China will be probed by Dr. Shapiro. Climate and other possible influences will be checked, in an effort to trace the cause.

Heredity

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Exploited Hens

THE subtropical bird park on Catalina Island has hundreds of species of birds and nearly all of them have been hatched by hens. These Catalina hens have an unceasing and thankless job. They are given the eggs that the wild birds lay in the open-air cages on this seven and one-half acre bird farm, and it is not for them to question why but only to sit and brood. And when the unnatural flock arrives there are sure to be misunderstandings. Misunderstandings because they cackle a different language and obey different instincts.

For example, a flock of newly-hatched pheasants will scramble to the nearest hiding places when their foster hen-mother cackles. It may only be a friendly cluck but the primitive instinct of the pheasant fledglings translates it into a warning to run for their lives. And that is just what they do, nor do they venture forth again until quietness has made friends of their instincts. For it is instinct that rules their baby brains from the moment they leave the shell until they learn from experience.

The park ornithologist helps them learn by keeping the hen in a lattice coop, so that she cannot run after the frightened flocks, which gradually become confident in being able to come and go as they please. It takes about a week for fledglings to learn chicken language; and then they are no longer frightened by clucks.

Ornithology

Science News-Letter August 16, 1930

IN VARIOUS

Death Valley Monument

DEATH VALLEY, picturesque but forbidding trough of almost absolute desert in southeastern California, may become the newest addition to the lands administered by the U. S. National Park Service. President Hoover has signed an executive order temporarily reserving from entry certain strategic points in and about the valley, pending investigation by the Department of the Interior of its suitability for a national monument.

National monuments differ from national parks in that they are usually less developed and less visited, and hence require less elaborate administration and patrolling. A national monument may become a national park when public interest in the area becomes great enough to justify a larger outlay of administrative effort and funds. Many of the present national parks passed through a national monument phase.

If Death Valley becomes a part of the U. S. National Park System, it will be an appropriate monument in more senses than one. The late Stephen T. Mather, first director of the U. S. National Park Service, at one time had extensive business interests in the borax deposits of the region; and the present director, Horace M. Albright, was born at Bishop, Calif., on the very threshold of the valley.

National Parks

Science News-Letter, August 16, 1930

Exciting Thinking

IF you try to multiply 19 by 18 mentally you may not feel that the task is particularly exciting, but nevertheless your heart will probably start a faster beating and your breath will come quickly and be shallow.

If someone unexpectedly slams a door behind you, your breathing and pulse rates will shoot up much higher and you will probably have a sudden contraction of the chest muscles which will cause you to give a gasp.

These facts were brought out in an experiment conducted at the College of the City of Detroit by Professor Ernest Burton Skaggs in which he attempted to find out how much emotion was involved in ordinary attention to mental tasks.

Psychology

Science News-Letter, August 16, 1930

SCIENCE FIELDS

Lenin's Super-Brain

SCIENTISTS, eager to know whether genius leaves a visible stamp on the brain of its owner, have been painstakingly studying the brain of V. I. Lenin, Russian leader of Revolutionary days, and have found some evidence of the type they seek.

In a preliminary announcement of his work as director of the study of Lenin's brain, Prof. Oscar Focht reports that in the third layer of the gray matter he found "pyramidal cells of such large size as I never observed before in other cases." Pyramidal cells are usually cells which act as conveyors in association processes, he explains. The condition of these brain cells is regarded as an anatomical factor linked with the variety and richness of Lenin's mental life.

Prof. Focht, the director of the Neuro-Biological Institute in Berlin, went to Moscow four years ago to start the study on Lenin, which is expected to require years of further work. So far, 31,000 microscopic films of Lenin's brain have been made. These are slices of gray matter less than one twelve-thousandth of an inch thick. Mounted on glass, the slices are subjected to microscopic analysis.

Medicine

Science News-Letter August 16, 1930

Whooping Cough Deaths

DELAY in quarantine of whooping cough which exacts a death toll twice as large as scarlet fever is deplored by Dr. Louis W. Sauer and Leonora Hambrecht, of Evanston, Ill., in a report to the American Medical Association, recommending early diagnosis by the cough plate method.

Under the present system of diagnosis, quarantine is not usually established until after the period of greatest contagion has passed, these authorities charge. This is because the familiar whoop does not appear until the illness is well advanced. It is not necessary for the doctor to await this symptom in a suspect case, however, as the *pertussis bacillus* which causes the whoop can be detected by cough plates or disks which are held three or four inches from the patient's mouth during a coughing spell.

Cough plates are made with a coating of boiled potato, glycerin, agar, and blood mixture, prepared under conditions most favorable for the speedy growth and detection of whooping cough bacillus. To properly expose them for diagnosis, a deep explosive cough is desirable. Should the patient prove unable to cough to order, a drink of cold water, a brisk run, or a forceful slap between the shoulder blades is usually effective in bringing on an attack.

Successful trial of the cough plate method of diagnosis has been made by the Copenhagen Health Department, while in America the Commission for the Study of Whooping Cough has reported favorably on its use.

Medicine

Science News-Letter, August 16, 1930

Asthma From Molds

A COMMON form of mold which flourishes in American soil and finds its way into damp houses to thrive there in the dirt is now accused of being a cause of asthma. A case of asthma which persisted for nine years and which has finally been traced to sensitiveness to this type of mold is reported to the American Medical Association by Dr. Harry S. Bernton of the Georgetown University School of Medicine.

This is the second case of asthma traced to mold in this country, and is the first traced to this kind of mold. Dr. Bernton, who has been testing asthmatic patients for sensitiveness to molds since 1923, believes that molds may prove to be important as causative factors in this disease. Many cases of asthma are now classed as "non-reactors," because no specific irritant has yet been found which is the cause of their distress. The new work with molds makes it likely that some of these cases may be cleared up.

Dr. Charles Thom, specialist in molds of the U. S. Department of Agriculture, has cooperated with Dr. Bernton by supplying him with sixteen kinds of molds, which have been used in tests upon patients, in the search for their particular irritant.

The young woman whose asthma proved due to a mold had lived in a damp and musty house for six years and it was apparently in this house that her nose and throat linings became sensitized to mold-laden air.

Medicine

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Musical Thunder

ARTIFICIAL thunder and lightning, the sound reproducing broadcast music, was the strange phenomenon recently observed in Schenectady by radio engineers experimenting with high power short wave broadcasting.

These engineers, who operate station WGY, have already successfully solved the problem of broadcasting with as much as 200 kilowatts on waves in the broadcast band. But when high powers were used with the short wave broadcasts some curious difficulties were noticed. With only 35 kilowatts, brilliant coronas flashed and wavered like ghosts around the antenna. While warming up the transmitter, with the carrier wave on, the corona did not occur.

But as soon as the carrier was modulated with the current from the microphone in the studio, the arc was struck between the antenna and the surrounding air. It started generally about four feet from the wires and shot upwards about four feet.

As the power supplying the arc was modulated with the music, it rapidly collapsed and built up in accord with the original sound waves. This in turn set up new air vibrations like thunder, which more or less accurately reproduced the music, like a gigantic loud speaker.

If allowed to continue, the arc would finally flash across the insulators, fuse the copper wires and break the antenna. To stop this, larger wire was used and a large hemisphere placed at each end of the antenna. This increased the area of the conducting surface and prevented the corona, so that now 35 kilowatts of power are being successfully modulated even on the short wave.

Radio

Science News-Letter, August 16, 1930

Potash Keeps Apples

THE AMOUNT of potash in the soil of the orchard appears to have an important bearing on the storage life of the apples produced.

Dr. Franklin Kidd and Dr. C. West, of the Low Temperature Station, Cambridge, England, have found that the storage life of apples on which they worked increases as the amount of available potash in the soil increases. Trees grown in soils deficient in available potash yield apples which are particularly susceptible to low-temperature breakdown in cold storage.

Agriculture

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