

MEDICINE

Incurable Argyria May Be Detected Early

A BRAND-NEW method for detecting a strange disease, argyria, in its earliest stages was reported to the American Medical Association by Dr. Irving S. Wright of New York Post-Graduate Medical School of Columbia University.

Argyria is a condition in which the patient turns a greyish-blue color. In the final stages the color is very pronounced, and if the patient is exposed to sunlight, his skin turns a very dark mahogany brown. The condition is becoming more common all the time. There is no way of treating it.

Argyria results from taking medicines containing silver salts for a long period of time. Such medicines are often given in the treatment of nose and throat ailments.

Formerly it was thought that the blue discoloration, which makes its first appearance around the base of the nails, was due to stoppage of the blood flow through the tiny blood vessels, the capillaries. Using a specially developed microscope, Dr. Wright and his associates examined the capillaries of the nail cuticle in cases of argyria. They found that there was no stoppage of the blood flow and no evidence of congestion. This led to discovery that continued administration of silver-containing medicines results in the precipitation of silver albuminate in the tissues, which produces the blue color.

Once the color is established, there is no satisfactory remedy for the condition. But if the first appearance of it around the nails is noted and the dosage of silver-containing medicines stopped, it is believed the condition will not go farther. While the condition does not impair the health, it is most disfiguring.

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ARCHAEOLOGY

Maya-Like Temple in Aztec Mexico City Upsets Theories

NO RIGHT-THINKING archaeologist observing excavations in the cathedral square of downtown Mexico City would venture to say that a certain ancient Indian building just coming to light there in that spot which was the center of the Aztec capital, is Maya.

Yet the building recalls nothing more than the Maya Temple of Kukulcan

in Chichen Itza, or other structures in far-off Yucatan. Only one side of it sticks out of the Aztec earth of Mexico City, but its cornice is like typical Maya ones of Yucatan, and not like Aztec ones. What the little structure itself suggests is contrary to all orthodox theories of Mexican archaeology, and entirely unexpected. The excavators are wondering how this will be explained.

Digging there is hard. The edge of the structure, which appears to be a small stone temple on a stone platform, is flush with the edge of the city pavement six feet above, the building itself apparently continuing under the street on which a trolley runs. The side-wall that has come to light is not buried in ordinary earth, but sealed in a hard mass of a concrete-like mixture which is being slowly chiselled out by hand. The temple is built of a red volcanic rock called tezontli, and is still covered by its various caps of fine white plaster which the concrete shell preserved excellently. On top of this covering mass were stone slabs as of another floor-level. If the concrete is pre-Spanish, as it seems, and the building under it not Aztec, theories would be changed. But no archaeologist is venturing any.

In other parts of the lot, submerged stone steps and walls are found, but it cannot be said whether these are Indian or Spanish until further digging. In one trench well-preserved skulls and femurs were found in addition to the usual decomposed human remains so plentiful there.

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PHARMACOLOGY

Prepare Standard Table Of Poison Drugs

A STANDARD table of poisons has been proposed by the National Drug Trade Conference. The table is intended to show which drugs and chemicals should properly bear the poison label when dispensed otherwise than upon a physician's prescription.

The table has been proposed because of the impossibility of framing a definition for poison which will serve as an accurate guide in every case and also because of the unsatisfactory condition of many state poison laws. E. F. Kelly explained in the current issue of the Journal of the American Pharmaceutical Association.

Nearly two hundred substances have been tentatively listed.

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IN SCIEN

PUBLIC HEALTH

One-Fifth of Children Show Effects of Depression

ONE-FIFTH of all the children in the United States are today showing the effects of the depression. This estimate was made public by the U. S. Children's Bureau. It is based on material accumulated from many sources for more than two years although no widespread survey has been made.

"Poor nutrition, inadequate housing, lack of medical care and in many cases the effect of anxiety and the sense of insecurity that prevails wherever there is no work" are listed by the Children's Bureau as factors that are now showing up in the condition of children throughout the country.

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ICHTHYOLOGY

Fish Grow Color Bodies To Match Background

CERTAIN fishes have the ability which the Bible denies to the dusky Ethiopian and the spotted leopard: they can change the color-bodies embedded in their skins to suit changes for lighter or darker in their environment.

It has long been known that many fishes have a chameleon-like ability to change color rapidly, by contracting or expanding these color-bodies; but Dr. Francis B. Sumner of the Scripps Institution of Oceanography has discovered that if their contact with a changed background is prolonged enough they will actually grow new color-bodies in considerable numbers, or get rid of part of those they have.

How deeply this ability is inbred in the very nature of the fishes is demonstrated by the fact that very dark specimens, that have lived in black jars all their lives, will still respond fairly promptly and shed part of their complexions when transferred to white jars; while fishes kept from the day of their hatching in white jars will make the opposite change equally promptly if transferred to black-lined homes.

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CE FIELDS

ASTRONOMY

Wolf's Comet Returns After Seven Years' Absence

WOLF'S periodic comet has just been sighted through Lick Observatory's giant telescope at Mt. Hamilton, Calif., manned by Dr. Hamilton M. Jeffers. It returns to the vicinity of the sun after a journey into space that has lasted seven years.

It is extremely faint and eighteenth magnitude. It is located in the constellation of Sagitta, the arrow, visible now in the eastern evening sky. Its astronomical coordinates are: right ascension 20 hours 7 minutes 57.2 seconds, declination north 22 degrees 4 minutes. The comet is, of course, far too faint to be seen without a powerful telescope.

First discovered in 1884, this comet, known as Wolf I, was last seen in 1925. It is one of the periodic comets whose return was confidently predicted by astronomers.

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MEDICINE

Cancerous Blood Injections Show Value of New Test

EVIDENCE of the value of a new test for cancer has just been reported in Berlin by two scientists, Dr. Hans J. Fuchs and Dr. H. Kowarzyk, who dared to try the test on themselves by injecting into their own veins the blood from cancer patients.

Dr. Fuchs observed some years ago that from the blood serum of patients with malignant tumors he could precipitate out a certain fraction which, when exposed in an incubator with the serum of a non-cancerous patient, undergoes a sort of digestion. The extent of the digestion can be determined by analysis of the amount of non-protein nitrogen in the mixture. But when the serum from a cancer patient is exposed to the action of serum from another cancer patient, no such action takes place. This is the basis of the diagnostic test for cancer.

In the latest investigation, Dr. Fuchs and his colleague repeatedly injected

serum from a cancer patient into their own veins. After 26 days their blood, which had been normal, gave the reaction of a cancer blood.

What happens in cancer, Dr. Fuchs explained, is that the cancer cells produce a specific antigen which then calls forth the production of a corresponding antibody. The antibody is the agent by which the body fights the antigen of the invading disease, in this case, cancer.

The blood of Dr. Fuchs and his colleague, 26 days after the injection of blood serum from a cancer patient, showed all the characteristics of blood serum superabounding in specific antibodies against malignant tumors, or cancers.

While Dr. Fuchs explains the diagnostic tests on the basis of antigen-antibody reaction, which occurs also in infectious diseases, he does not draw any conclusions from his test concerning the theory that cancer is caused by a germ. Neither does the test decide anything about the cause of cancer.

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CHEMISTRY

Complex Chemicals Act Like Bricks in Wall

WHEN COMPLEX organic chemical compounds, like alcohols, paraffins and fatty acids, get together they are not content with merely mixing but they join together in much the same way that bricks are placed in a wall.

This was discovered by Prof. Emil Ott and Dr. D. A. Wilson of the Johns Hopkins University department of chemistry who report results in a communication to *Science*. X-ray examination of "solid solution" mixtures of these long-chain organic compounds show that they behave as if their building blocks had average lengths corresponding to the average of the lengths of the chemical molecule chains, not various lengths as have the individual compounds when not mixed with others.

The accepted idea that such mixtures are only random amorphous mixtures is proved not correct and crystal lattice structure is shown typical for average chain lengths.

X-rays passed through the solid mixture of these materials are bent into a pattern from which the physico-chemicals can tell that the string-like molecules seem to line up side by side.

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GENERAL SCIENCE

Incomes of Foundations Suffer From Depression

THE PURSUIT of new knowledge in the sciences and creative activities in higher education are in considerable part supported by the surplus wealth of rich men who, having accumulated more than they and their families need, establish philanthropic foundations.

In times when accumulative wealth, or rather those debt liens upon the energy and materials of the future that we are in the habit of calling wealth, undergoes shrinkage or devaluation, the lessened power of foundations to support research, scientific and educational activities is of great concern to the future of the intellectual world.

The United States has furnished the most fertile soil for the growth of foundations. It has been said that two conditions present in this country are necessary in order that foundations may exist in such large numbers. One is the surplus wealth and the other is the social tradition that favors private rather than government initiative in philanthropy.

With the decline of rugged individualism under impact with the "new deal," there may be a change in that social tradition and the government may eventually be expected to sponsor and regulate intellectual philanthropy as it plans to regulate industry and agriculture.

Just how severely the great foundations have suffered in the recent years can not yet be told. Certainly serious curtailments to foundation-supported activities will be inevitable, even if business conditions continue to improve.

In figures, 102 foundations in this country disbursed in excess of \$54,000,000, in 1931. The Twentieth Century Fund also lists the total capital of the foundations at \$770,000,000. The ten leaders in funds spent during that year are: General Education Board, Rockefeller Foundation, Carnegie Corporation, of New York, Duke Endowment, Julius Rosenwald Fund, Carnegie Foundation for the Advancement of Teaching, Carnegie Institution of Washington, Wyomissing Foundation, Spelman Fund, Children's Fund of Michigan.

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