

MEDICINE

Resistance to Poliomyelitis May Be an Inherited Trait

Hope Expressed That Infantile Paralysis Will be Controlled Through Lessening Susceptibility

ARE RESISTANCE and susceptibility to infantile paralysis inherited?

This question was raised at the meeting of the American Medical Association at New Orleans. The dread scourge of childhood which afflicted some fifteen thousand young persons in last year's epidemic will eventually be controlled by increasing the resistance of the individual child to the disease. This was the hope held out to the general practitioners, the family doctors of the country, by leading investigators of the disease. Efforts to control the disease by preventing the spread of the germ or by fighting the disease itself will be less successful.

Investigating why some children get the disease and others do not, Dr. W. Lloyd Aycock, of Boston, found that it tends to "run in families." He reported a number of families in which the disease occurred more than once, affecting a second child some years after the first one had recovered. He cited particularly the cases of two brothers, orphaned at an early age and reared apart, both of whom developed the disease, indicating a possible hereditary factor.

Nearly nine-tenths of affected muscles in cases of infantile paralysis were restored to normal within two years by proper care and exercise. This was brought out in a discussion of the importance of early careful treatment, to prevent the weakened muscles from stretching. These muscles were in "good" condition at the start of the treatment. About two-thirds of muscles classed as only "fair" were restored to normal, while more than half of those classed as "poor" became normal.

The types of braces and supports used in keeping the paralyzed muscles at rest to prevent their stretching were shown at an exhibit sponsored by the American Medical Association and the U. S. Public Health Service. Taking part were Drs. Aycock, S. D. Kramer, James L. Wilson and Arthur T. Legg, of Boston, Dr. Edward B. Shaw, of San Francisco, Dr. John E. Gordon, of Detroit,

and Dr. James P. Leake, of Washington, under the direction of Dr. R. C. Williams, of the U. S. Public Health Service.

Small infantile paralysis patients of New Orleans helped Miss Janet B. Merrill, of Boston, a "poliotherapist," show the physicians how to give just the right amount of exercise to the weakened muscles both in and out of water. Later in the week the disease will be the subject of a special symposium.

Poor posture as a cause of arthritis, or rheumatism, was cited in a discussion of this ancient disease, traces of which have been found in a dinosaur that lived one hundred and fifty million years ago. While there are other causes of the condition, this particular factor affects the function of the organs. Poor function of internal organs may influence the development of arthritis, according to the American Committee for the Control of Rheumatism.

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ASTRONOMY

Einstein Upheld When U. S. Scientist Corrects Germans

EINSTEIN'S prediction of the curvature of light rays near the sun has been upheld by photographs obtained by a German expedition to the May 9, 1929, eclipse, but only after they had been studied and interpreted by an American astronomer.

Ironically, one of the few observational disagreements with the Einstein general theory of relativity was placed in the scientific record by the eclipse expedition of the Einstein Foundation of the Potsdam Observatory, near Berlin, established in honor of the famous scientist. The German astronomers, Freundlich, von Klüber and von Brunn, as the result of their 1929 expedition reported last year after studying their photographs that the deflection of a light ray grazing the sun's edge was 2.24 seconds. The Einstein prediction called for 1.75 seconds.

Dr. Robert J. Trumpler of Lick Observatory, Mt. Hamilton, Calif., has just reported to *Science*, writing from Zürich, Switzerland, that he has found needed scale corrections of the German photographs that cause the value of the observed deflection to be 1.75 seconds with a probable error of plus or minus thirteen hundredths of a second. This is "in precise agreement with the Einstein theory, as well as in good accord with earlier observations."

Dr. Trumpler has studied six other determinations of the way in which star light is bent in the sun's gravitational field as photographed during the total eclipses and the average of all of these also upheld Einstein. These included the results of the British 1919 eclipse expeditions that called attention to the Einstein theory and the 1922 eclipse expedition to Wallal, Australia, of which Dr. Trumpler was a member.

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CHEMISTRY

Minerals in Fruit Juice Determine Jelly "Setting"

PERENNIAL housewifely uncertainty over whether the jelly will "set" has its foundation in a hitherto unsuspected chemical balance of calcium against potassium in the fruit juice. When the jelly-maker adds the juice of a lemon in the hope of helping things along, she is adjusting, in a somewhat hit-or-miss fashion, the hydrogen ion concentration of the complex mixture that boils in the jelly kettle.

This is the domestic significance of recent chemical researches of Dr. S. Glückmann of the Technological Institute, Leningrad. Dr. Glückmann has found that one part of a calcium salt in ten thousand of fruit juice raises its jelly-forming power, while the same proportion of a potassium salt decreases it. Other mineral salts also affect jelly formation, their action depending on their atomic weight and on their ability to form compounds.

These mineral salts, to be effective, must be present in the watery part of the fruit juice, not in the pectin, which is the definitely jelly-forming portion. The role of the natural acids in the fruit juice, or of added lemons, is to break the hold that the mineral elements have on the pectic acid, releasing it for its jelly-forming activity.

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The Jews had no names for the days of the week.