Why More Appendicitis?

FAD DIETS, modern habits of living, self-prescription and over use of laxative medicines and mineral oils, and infection, either directly or from foci, are among the possible causes suggested by doctors to explain the sharp rise in the appendicitis mortality rate during the last nineteen years. In 1928, more than 18,000 deaths in the United States were attributed to this cause alone.

Reports issued by the Metropolitan Life Insurance Company, based on records of policyholders, show an increase of 20 per cent. in the death rate for white males and a 14 per cent. increase for white females during the last five years of this nineteen-year period as compared with the first five years. More men died from appendicitis during the entire period than did women and apparently they are becoming increasingly susceptible to the disease.

Among adults of both sexes, older persons are being worse hit as the years go by, though even children under five have not been spared in the advance of appendicitis fatalities. Only the ages from 10 to 19 years have proved an exception to the general rule that appendicitis deaths are increasing in the face of modern science.

Why this should be, doctors are frank to admit their bewilderment. During the nineteen years there has been immense improvement in surgical technique and focus of interest by the public and physicians on the disease has insured early diagnosis thereby improving conditions for recovery but still the fatalities grow.

Medicine

Science News-Letter, August 23, 1930

When People Cable

MOST cablegrams are sent out by business offices at the same time they send out most of their mail—at the end of the day. This fact was brought out by Hobart Mason, of the Western Union Telegraph Company, speaking in Toronto before the Institute of Radio Engineers on recent advances in cable technique.

The peak of the daily eastward traffic coines about 6:00 p. m., eastern standard time. Mr. Mason suggested that the difference in time partly explained this, for if a cablegram in New York was not filed before noon, it would not ordinarily be delivered in London until the following morning. However, he said, this is quite different from landline telegraph business, which shows almost equal peaks at 10 a. m. and 3 p. m. He expressed the opinion that the attitude of the public in this connection is hardly logical, as round trip communications could easily be handled in a single day. In fact, he stated, in arbitrage business two or three minutes are often sufficient for sending a cablegram and receiving a reply.

One great improvement that has been effected since 1918, he said, is in the elimination of manually operated repeater stations. Previously it was necessary to have several stations where the signals were received by an operator who then put them on the next step. Today, however, direct cable communication is maintained between New York and London, Liverpool, Berlin, Paris, Havre, and between Boston and London. A demonstration has even been made of direct communication between San Francisco and London, though traffic conditions do not warrant this in general practice.

Mr. Mason also called attention to the reduction in rates since the first cable was laid in 1858. In 1866 it cost a minimum of $100 to send a ten-word message or less from New York to London. By 1869 tolls were reduced to $10 for a ten-word message. In 1872, the rate was made a flat dollar a word, in 1880, 50 cents a word and in 1923, 20 cents a word, which it is at present.

Telegraphy

Science News-Letter, August 23, 1930

Atomizing Oil Pumps

PETROLEUM is brought from the bottom of deep wells to ground surface by atomizing it with air or gas in a new turbine air-lift pump said to be the invention of Ralph H. Tucker. Crooked wells that curve or spiral their way downward, which are very difficult to pump with sucker rods, can be robbed of their oil as easily as a straight shaft by the new atomizing process.

The air-lift pump is operated by air or gas pressure applied to an enclosed area in the bottom of the tubing. Air enters the pump through angular slots which turn a motor similar to a steam turbine. Oil is picked up by the motor; it strikes the air column at the top of the pump and is completely atomized. At the surface oil and air are separated in tanks.

Hydraulics

Science News-Letter, August 23, 1930

IN VARIOUS S

Irritating Refrigerant

THE addition of acrolein, an irritating gas used in the World War, to methyl chloride when used in household refrigerators will make it impossible for a person to remain near a leak long enough to be injured by the poisonous gas, which has in the past caused several deaths.

Experiments conducted by the U. S. Bureau of Mines at the request of the manufacturers of electric refrigerators and methyl chloride, indicate that one part of acrolein to a million parts of air will produce a decided irritation of the eye and nose in two minutes and will become practically unbearable within five minutes. Exposure to even a bad leak of methyl chloride for that length of time does not cause apparent harm.

Acrolein is that acrid, irritating stuff familiar to the housekeeper who has ever allowed fat to spatter on a hot stove or who has forgotten the kerosene lamp and let it burn low and smolder. In the chemical laboratory it is made from glycerin.

Chemistry

Science News-Letter, August 23, 1930

Weakest at Night

MOST radio fans look forward during the day to night as the time their sets work best and the signals are loudest. But with the low frequency, or long wave, transmission used in commercial traffic the day time signals are ordinarily the louder.

At the meeting of the Institute of Radio Engineers in Toronto, Canada, Dr. G. W. Pickard, P. A. de Mars and G. W. Kenrick, the latter two of Tufts College, told of their studies of signal strength as recorded in Massachusetts of the transmission of station WCI, at Tuckerton, N. J. This station, operated by the Radio Corporation of America, uses a frequency of 17.8 kilocycles, which is equal to a wave length of 16,840 meters.

At sunset and sunrise, however, the signals show greatest strength. An inversion of this state of affairs was found during magnetic storms. Then the daytime signals were weaker and the night-time ones stronger.

Radio

Science News-Letter, August 23, 1930

CIENCE FIELDS

Finger Nail Sign

FINGER nails tell the story of a patient's winning or losing fight against tuberculosis, recent observations by Dr. A. G. Hahn at the Trudeau Sanatorium near Saranac Lake have shown.

Pitted nails were found in every one of fifty cases of active tuberculosis investigated, while 50 ex-patients and normal subjects exhibited smooth nails. A third group, comprised of 50 cases of inactive tuberculosis, yielded only three instances of indented nails.

Downward curving of the finger nails is another symptom of lung disease, though not quite so accurate an index of its progress. Seventy-six per cent. of the patients with active tuberculosis had down-curving nails, as did half of the inactive cases. Thirty per cent. of the ex-patients had retained the incurvation after a cure had been effected but none of the normal group had the peculiarity.

Extreme blueness of the finger nails is another symptom of the progress of tuberculosis. The bluer the nails, the more advanced the case was usually found to be.

Inkling of this striking correspondence between the appearance of the finger nails and the condition of the lungs was first noted by the ancient Greek physician, Hippocrates, but modern scientific methods have made possible an accurate testing of his opinion.

Medicine

Science News-Letter, August 23, 1930

Magnetic Storms

A RING of electric current, surrounding the earth in very much the same way as the more material rings of Saturn surround that planet, is seen as the cause of the magnetic storms that sometimes occur, upsetting cable and telegraphic communication. This suggestion is made by two English physicists, Dr. S. Chapman and V. C. A. Ferraro, of the Imperial College of Science. They have announced their theory through the pages of *Nature*.

This current occurs, according to their theory, in a stream of neutral ionized particles shot out from the sun. As the stream advances towards the earth the magnetism of that body sets up electric currents in the stream, in its forward surface. The stream then proceeds to envelop the earth, possibly approaching as close as the upper layers of the atmosphere. The flow of the current in a westerly direction in the part of this stream around the earth then sets up magnetic effects that produce the main phenomena of a magnetic storm.

The authors of the theory point out that one of its distinctive features is that the current is close to the earth, only a few times its radius away. After the current ring is formed, they say, it could persist for several days, even after the flow of particles from the sun has ceased.

As magnetic storms are frequently associated with sun spots, it would seem therefore that these particles are shot out of the spots, though this is not mentioned in the announcement of the theory. It is suggested, however, that the stream approaches the earth with a speed of about 1000 kilometers (620 miles) per second. This would take it across the 92,900,000 miles separating the sun and the earth in about 40 hours.

Terrestrial Magnetism

Science News-Letter, August 23, 1930

Forested by Man

MODERN Denmark is a country of man-made forests. Only about eight per cent. of its territory is wooded, and about two-thirds of that fraction consists of evergreens planted by man: wholly artificial forests. The remaining third consists of almost pure stands of beech. These were originally native forests of mixed timber, but due to selective cutting almost nothing but beech is left.

The problems of foresty in an almost forestless country were presented by Prof. C. H. Ostenfeld of the University of Copenhagen, before the recent International Botanical Congress.

Danish foresters, Prof. Ostenfeld says, do not really like the pure beech forests, for beech trees are exahusting to the soil, and are not such valuable timber as some of the trees they have replaced in the course of the centuries. However, the highly valuable oaks were all cut out many years ago, and the beeches did not permit them, nor any of the other hardwood species that went with them, to develop again.

Forestry

Science News-Letter, August 23, 1930

Pneumonia Kills Snakes

INVESTIGATION of the death of poisonous snakes shown at the Minneapolis Museum, sponsored by the Minnesota Academy of Science, has led to the conclusion that poisonous snakes are susceptible to pneumonia and typhoid while harmless snakes are not affected by those diseases.

Poisonous snakes at the museum have been dying off of late of a strange disease and, for a while, the identity of the disease could not be determined. The museum sent some of the snakes to Iowa State College, where Roger Patrick, graduate assistant in bacteriology, has been experimenting and has attributed the death of the snakes to typhoid and pneumonia-like diseases. These diseases were never before known among snakes.

Whether or not the snakes die of pneumonia and typhoid, Mr. Patrick has found organisms corresponding to those causing typhoid and pneumonia. However, it is thought that these organisms are not pathogenic, or disease-producing, to human beings because of the difference in body temperature.

"If these organisms which are causing the death of the snakes can be isolated in such a way that they can be used to poison food, we can employ them in the destruction of harmful snakes," says Mr. Patrick.

Zoology

Science News-Letter, August 23, 1930

More Babies Live

BABIES born in cities of the United States are getting a better break in the struggle for existence than babies did a few years back. This is shown in a report just issued by the American Child Health Association. In 1929 there were 66.2 deaths among 1,000 births in 720 cities of the birth registration area.

At the start of the World War, less than a generation back, the rate was close to 100. It has been declining ever since. The banner year for the country was 1927, when the rate dropped to 64.9, but the past year was the best on record in a number of cities, including Chicago, Philadelphia, Detroit, Boston, and Baltimore. As a group, cities of the Pacific coast hold the lead in keeping down the infant death rate, the report shows.

Public Health

Science News-Letter, August 23, 1930