

## PSYCHIATRY

## Mental Disease Threatens Many School Children

**F**OUR out of every hundred school children today will become candidates for mental hospitals unless mental hygiene is applied in the schools, declared Dr. Frederick L. Patry of the New York State Educational Department before the American Association of School Physicians in Montreal with the American Public Health Association.

"The psychiatrist is the newest recruit to public health, particularly as preventive worker or mental hygienist," Dr. Patry said. "The campaign against mental disease is being carried on as extensively and persistently as that against tuberculosis."

Because mental disease is more subtle and its progress slower than physical disease, it is not yet possible to appraise the preventive work being done in the field, but the value of the present work will show up within the next 25 years, Dr. Patry predicted.

Dr. Patry told his audience a number of striking facts which should stimulate redirection of educational methods and practice. For example, a large proportion of incorrigible children are dull or feeble-minded, and the majority of children who fail in school do so because the school program is above their ability. Educators have failed to recognize the relationship between educational problems and failure, he said.

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## PUBLIC HEALTH

## Drought Increases Intestinal Ills, Cuts Malaria

**W**HAT did the recent grave drought do to the health of the country? Several things, it appears from reports to the American Public Health Association.

A chief result was an increase in intestinal troubles, Dr. M. P. Ravenel of the University of Missouri told the recent meeting of the Public Health Association. This was especially the case in children under two years of age. Malnutrition was also increased, the Arkansas Public Health officer reporting that it was doubled among rural children.

Missouri, Tennessee, Kentucky and Oklahoma reported marked increase in typhoid fever. In Kentucky the typhoid deaths for the drought period almost all occurred in the counties without health

organizations and where little or no immunization was done.

A great and steady increase in pellagra was also noted.

The one bright spot on the health picture in the drought area, Dr. Ravenel said, was the marked decrease in cases of and deaths from malaria. In Tennessee this decrease amounted to almost fifty per cent. in cases and twenty per cent. in deaths.

An outbreak of acute stomach and intestinal trouble which was probably a result of the drought was described by Dr. M. V. Veldee of the U. S. Public Health Service. The outbreak occurred in Charleston, West Virginia, in the fall of 1930, and was followed by similar attacks in at least six Ohio River cities during January, 1931.

The illness lasted from a few hours to three or four days. The water supply was the only factor which these cities had in common and which was not shared with other cities in the vicinity. Examination of the drinking water for microbes showed no deterioration in its sanitary quality.

Dr. Veldee advanced the theory that the cause of the outbreaks was a non-living irritant which was introduced into the water because of the great decrease in volume of raw water, due to drought, yet without decrease in the amount of wastes discharged into the watercourse.

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## ZOOLOGY

## Moose are Increasing Rapidly in Sweden

**I**NSTEAD of becoming extinct, moose are rapidly increasing in Sweden, thanks to restrictive game laws. During last year's brief open season of three days 5,082 animals were killed, according to official figures. This means an increase of more than 800 over 1929 and 1,360 over 1928. Since each animal is worth about fifty dollars, the total value of the moose killed in 1930 is about 1,036,400 kronor (\$277,755).

In spite of this heavy killing, the moose herds in central and northern Sweden increase annually, and in fact cause many farmers actual losses because of the damage they do to crops and young trees. In most parts of the country the moose cows and calves enjoy constant immunity while the open season on bulls lasts but a few days, according to their prevalence in each district.

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# IN SCIEN

## GENERAL SCIENCE

## Highest Honors Given American Scientists

**A** FEATURE of the Faraday Centenary Celebration in London this week was the announcement of the granting of honorary memberships in the Royal Institution to four noted American scientists. These memberships are among the highest honors which Englishmen can give to foreigners.

The Americans thus honored are Dr. Elihu Thomson, the father of electrical engineering in America; Prof. R. W. Wood of the Johns Hopkins University, known for his researches in many fields of physics but especially in that of physical optics; Prof. Michael I. Pupin of Columbia University, whose discoveries and inventions have made modern telephonic communication possible; and Howard McLenahan, secretary of the Franklin Institute at Philadelphia.

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## INVENTION

## Electrical Instrument Gives Piano or Organ Effects

**A** NEW electrical musical instrument, using a keyboard and giving musical effects of either piano or organ types, is the invention of Benjamin F. Miessner, radio engineer.

As described by the inventor, the new instrument looks much like a small grand piano. It produces its sounds as a piano does, by striking on strings. But instead of having a sounding-board like a piano, it puts the notes through an electrical translating, amplifying and reproducing apparatus.

It may be played as a piano or as an organ, Mr. Miessner states. A wide range of quality may be obtained in either of these, and in addition there are a number of other interesting musical effects, such as tone-swell after key depression. The new instrument gives dynamic control of tone by the weight of the key touch in its organ as well as in its piano performance, differing therefrom from regular organs.

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# CE FIELDS

## PSYCHOLOGY

### Way Baby Takes Hold of Ball is Index to His Age

**T**HE WAY in which a baby takes hold of his ball changes as the child grows older, and this change is due not only to the growth and development of the hand, but to control by a different part of the brain, Dr. H. M. Halverson of Yale University has found.

The infant's strong grip on things soon after birth, which is so vigorous as to enable him to sustain his own weight, relaxes as he grows older so that the force of the grip is more in keeping with that needed to hold the weight of the object. At this time he begins to use his thumb in picking things up and to make use of his finger tips to replace the palm in grasping.

During the first few months of life, the human infant is largely a "thalamopallidal being," Dr. Halverson said. The thalamus is that part of the brain which controls such vegetative activities of the body as digestion, circulation of the blood, breathing, and involuntary changes in facial expression. Not until he is over a year old does the baby take hold like a man, Dr. Halverson said.

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## AVIATION

### Depression Spurs Making Of Light Airplane

**T**HE PRESENT business depression is a spur to the development of a light, cheap airplane that can be owned by the man of moderate means. This is the view taken by Karl H. White, design engineer, of Robertson, Mo.

"The light airplane is one logical result of the aftermath of an oversold airplane public," Mr. White declared. "The word 'airplane' has been too expensive for the majority of people to consider—not too dangerous or unsafe, but too expensive.

"Normal powered' airplanes have required engines costing from \$1,500 up," he continued. "This in itself, not to consider operating expense, has been sufficient to keep the prices of air-

planes out of general reach. The airplane manufacturer has therefore groped around for a means of lowering the cost of some of the new models and has resorted to the low-powered engines costing less than \$500 as a good start toward the possibility of producing a real low-priced airplane."

Engineers have much to learn about the design of light airplanes, but many new and interesting models are breaking forth all over the country to give them this needed experience, Mr. White pointed out. These planes are being built to meet three requirements which Mr. White gives in order of importance as price, safety and appearance.

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## PUBLIC HEALTH

### Health Myths Often Replace True Facts

**H**EALTH teachers and those engaged in telling health facts to the public should stick to the Grade A facts, advised Dr. Donald B. Armstrong of the Metropolitan Life Insurance Company at the recent meeting of the American Public Health Association in Montreal.

"So-called health facts worth telling should be important and should be true, though truth is relative," Dr. Armstrong said.

"Every period has its health myths," he added. "Current ones include A Clean Tooth Never Decays and the relationship of underweight to tuberculosis in the school child."

Some true Grade A health facts mentioned by Dr. Armstrong are certainties as to the source of infection in some communicable diseases, the value of immunization for prevention of disease, the value of minerals and vitamins in the diet, and the value of sunlight under certain conditions.

More numerous are the Grade B, near facts, which include things that are believed to be true, probably are true, but cannot be proved so at present. Examples are the real value of six glasses of water a day, of eight hours' sleep at night, of fresh air for the prevention of colds, of exercise, a full bath once a week, of teeth brushing, etc. These facts need verification, but telling them to the public probably does some good.

Dr. Armstrong suggested that the American Public Health Association might have an appraisal committee to study and classify the facts used for educational purposes.

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## METALLURGY

### Radium's Gamma Rays Test Electric Welds

**R**ADIUM'S gamma rays have found another use, Dr. Gilbert E. Doan, of Lehigh University, has reported to the American Society for Steel Treating. They make rapid and sure testing of steel welds possible.

While ordinary testing of electrically made joints in steel necessitates breaking the joints, according to Dr. Doan, gamma ray photographs of the joints disclose defects inherent in the welding without fracturing them. Previous use of X-ray and gamma ray photographs of steel castings gave Dr. Doan the idea, he said, of using radium to reveal the flaws of welds. Dr. Doan's experiments showed that his method is adequately sensitive and definitive.

Under the previous process, photographs of the fractures of the welds were insufficient because the coloring as well as the outlines of the fractures was necessary to show if defects had existed. But simple inspection of the gamma ray photographs by one who can interpret them, according to Dr. Doan, reveals all that is needed to know about the steel joints.

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## ENGINEERING

### Makes No Difference Way Ship's Screws Turn

**S**EAMEN say that a ship maneuvers better with outward- rather than inward-turning screws.

In order to find out whether such belief was anything more than a mere mental attitude, tests have been made on models at the British National Physical Laboratory's tank and supplemented with steering experiments at sea. As a result, it seems in reality that there is hardly any difference at all between the efficiency of the two types of screws.

G. S. Baker, of the National Physical Laboratory, has asserted before the Institute of Marine Engineers that there is only one condition when this conclusion is not quite true. If the screws are given a few revolutions ahead when a ship is against a dock wall, with outward-turning screws there is a reaction from the dock wall that is not present with the inward-turning type, and the slanting off of the ship would be slightly different in the two cases. Away from the wall, this difference is gone.

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