

## PUBLIC HEALTH

**Undulant Fever More Widespread Than Supposed**

**U**NDULANT fever, acquired generally from drinking raw milk from infected cattle, is probably more common than generally supposed, Drs. Fred E. Angle and William H. Algie of Kansas City, Kans., reported to the American College of Physicians. They found evidence of a mild chronic form of this condition in over one-third of a group of 426 Kansas City school children. Tests made at the same time as routine for tuberculosis showed a surprisingly large number possibly infected, and questioning of parents of these children revealed that many of them complained chronically of nervous symptoms such as appear in undulant fever.

*Science News Letter, April 30, 1938*

## PHYSIOLOGY

**Asthma From Feathers Was Reported in 16th Century**

**T**HE IDEA that a man can get asthma from sleeping on a feather pillow is still a novel idea to many laymen, although this and other forms of allergy are threatening to replace operations and "organ recitals" in everyday conversation.

Actually, a case of asthma was attributed to feathers and cured by removing the feather bed as long ago as 1575. In that year Jerome Cardan, a great physician of Padua, was called to Edinburgh to see the Archbishop who suffered from asthma. The Paduan physician probably had no idea of allergy, or hypersensitivity to feathers, such as physicians have today. Certainly he was not able to make skin tests of his distinguished patient. But Cardan was able, as good physicians have always been, to observe and study his patient carefully and to make logical deductions from his observations. Cardan finally advised the Archbishop to give up certain articles of his diet and to get rid of his feather bed. Relief of the asthma promptly followed.

The story is retold by Louise Stedman and Merle Ford in a report to the *Journal of Home Economics*. The report concerns itself with textiles which, like feathers, plant pollens and foods, can cause asthma, hay fever, migraine headaches, hives or other forms of allergy.

Cotton, silk, wool, kapok, rayon, leather and rubber can all cause allergic symptoms in hypersensitive persons, but

of the fabrics silk seems to cause most trouble. Cottonseed and flaxseed or linseed are troublesome in cases where cotton or linen fabrics may not be. Kapok may not cause symptoms at first but when the fibers become dry and brittle they cause a fine dust which may be troublesome. Dyes used in fabrics are often allergy-causing in themselves. Rayon waste is said to be one of the safest non-allergic upholstery stuffing materials. Smooth fabrics can often be tolerated when a rough weave of the same material causes trouble.

*Science News Letter, April 30, 1938*

## CHEMISTRY

**Magnesium Extracted From Sea Water Constituent**

**A** NEW process for the production of magnesium, feathery-light metal whose successful and cheap extraction would presage an industrial revolution, has been patented in the United States by a German inventor.

Differing from previous extraction processes in that it starts with magnesium chloride, a constituent of sea water, instead of one of the common magnesite ores, the process uses hydrogen to combine with the chlorine of the magnesium chloride. Metallic magnesium is the result.

Patent No. 2,111,661 has been awarded to Karl Ebner, who comes from a small town near Frankfort-on-the-Main, Germany. He has assigned the patent to the American Lurgi Corporation of New York City.

The relatively low furnace temperature of 1200 to 1500 degrees Centigrade is all that is necessary to make the process operate, Mr. Ebner states. He contrasts that with the high temperatures required in other processes.

Production of magnesium has been the goal of research workers all over the world for, with its extremely low weight and other desirable qualities, it can be used in the manufacture of alloys even superior to aluminum alloys. Further interest is added by the fact that bauxite, the ore from which aluminum is extracted by present processes, is not counted a common ore.

"The magnesium is recovered by condensation from the gaseous products of the reaction leaving a mixture of hydrogen and hydrochloric acid, which hydrogen, after separation of the hydrochloric acid, may be returned to the process," Mr. Ebner points out as an economical feature of his method.

*Science News Letter, April 30, 1938*

**IN SCIENCE**

## ANTHROPOLOGY

**Bow-Legs and Cross-Eyes Early American Beauty**

**B**OW-LEGS and cross-eyes sound like a misfortune. It is hard to imagine a civilization that would admire them.

Yet that is what Spanish explorers found when they came to Yucatan in the sixteenth century and wandered into the busy, beautiful cities of the Mayan Indians.

Here were New World natives who could read and write and do clever things in architecture and sculpture. And they had such strange notions of beauty, deforming themselves into freaks!

A vivid little description of early American aesthetics is given by Yucatan's observant missionary, Bishop Diego de Landa, in his writings, now translated into English by Dr. William Gates and published by the Maya Society.

The missionary found Mayan Indians tall, robust, cross-eyed and bow-legged. The latter trait he attributed to their custom of carrying babies around. A Mayan youngster rode on his mother's hip pick-a-back fashion so long that his pliant leg bones took on a permanent curve.

But, while bow-legs just happened to Mayas, the cross-eyes were their own idea.

As Bishop Landa explained it: "It was held to be a grace to be cross-eyed, and this was artificially brought about by the mothers, who in infancy suspended a small plaster from the hair down between the eyebrows and reaching the eyes; this constantly binding, they finally became cross-eyed."

Not content with this, Mayan Indians also craved a profile in which the forehead sloped back and up in a peak. This could be done by binding the head of an infant a few days after birth.

Queer shaped humans seen in Mayan sculptures, therefore, are not prehistoric surrealism or other art vagaries. The degenerate looking profiles were classic Mayan beauty, to be included in beauty history along with the Chinese lily-foot, the wasp waist and the debutante slouch.

*Science News Letter, April 30, 1938*

# E FIELDS

## PHYSIOLOGY

### Fluffy Week-Old Chicks Made to Strut and Crow

**W**HAT would you think if one of the fluffy little new-hatched chicks that you bought as an Easter present for the kids had suddenly begun to strut around and crow like a grown-up rooster?

That is the astonishing behavior of week-old chicks demonstrated before the meeting of the American Association of Anatomists in Pittsburgh, by Dr. James B. Hamilton of the Yale University School of Medicine.

Dr. Hamilton injected a synthetic compound capable of causing masculine behavior in animals, known as testosterone propionate, into chicks as soon as they were hatched, and kept it up daily for eight days. At the end of that time, he reported, "complex actions such as crowing and strutting were carried out even though the under-developed voice organs seemingly do not lend themselves to mature polypitch vocalization."

Something just about as premature in the way of natural sex development (though of course an abnormal condition) is the case of a baby girl, two years and two months old, reported by Dr. J. Leroy Conel of Boston University School of Medicine. The child has the weight of a five-year-old, bone development equivalent to a girl five and one-half years old, and a sex age of twelve years.

*Science News Letter, April 30, 1938*

## PHYSICS

### Test For Surface Accuracy Magnifies 50,000 Times

**A** HUMAN hair about 15 feet across. That is what it would be if it were magnified with one of the latest testing devices for automobile parts.

One of the wonders of modern mechanical engineering is the routine measurement of finely finished surfaces so smooth that magnification of the order of 50,000 times is necessary. So exacting have become the demands of modern machine shop practice that the working surfaces of anti-friction bearings, for

instance, require great accuracy and smoothness. Surface irregularities less than a hundred thousandth of an inch (10 microinches) are sufficient cause for rejection.

A machine that measures so finely with the rapidity necessary in actual production, has been achieved. The profilometer, as it is called, has a tiny point that traces the almost molecular surface irregularities. This varies the current flowing through a magnet and this current is sent through special amplifiers and circuits. Thus, electrically, there is created that high magnification necessary. The magnified replica of the surface desired is the light-written record of the oscillograph into which the current is fed. If a permanent record is desired, a motion picture camera is aimed at the waving light line of the oscillograph.

How far machine shop precision has traveled during the age of power will be realized when it is recalled that Watt, inventor of the steam engine, was elated when he found that Wilkinson's boring mill could machine an engine cylinder true to within the thickness of a shilling.

The dawn of precision in machinery came when the system of interchangeable parts was adopted early in the last century. Arms factories in Connecticut pioneered in measuring accurately with gages.

With accuracy increased many fold, this is the principle that underlies the machine age of today.

*Science News Letter, April 30, 1938*

## SEISMOLOGY

### Turkish Quake Located By U. S. Scientists

**T**HE EARTHQUAKE that shook interior Turkey on Tuesday, April 19, had its epicenter in latitude 39 degrees north, longitude 33 degrees east (approximately), the U. S. Coast and Geodetic Survey informed Science Service after examining data from six seismological observatories. The point located is near the capital city, Ankara (Angora). Time of origin was 5:59.4 a. m., E. S. T.

Stations reporting were: Manila Observatory, Manila, P. I.; Dominion Meteorological Observatory, Victoria, B. C.; observatories of the Jesuit Seismological Association at Fordham, St. Louis, and Georgetown universities, and the observatory of the U. S. Coast and Geodetic Survey at San Juan, P. R.

*Science News Letter, April 30, 1938*

## PHYSIOLOGY

### Dose of Poisonous Chemical Robs Sheep of Their Wool

**O**UT OF Moscow, by way of London, comes a research story that puts even electric razors to shame. It concerns the shearing of sheep. A chemical is used to rob the sheep of their wool.

The scientist experimenting is N. A. Iljin of the Soviet's Wool Laboratory. Building upon the research of others, Iljin found last year that he could by single doses of thallium compounds make sheep shed their wool, leaving them naked as if they had been shorn. This is particularly effective for such sheep as those of the merino variety with uniform fine curling fibers.

Now he has discovered a way to apply the thallium molt to those less improved, more hardy sheep with mixed wool, whose fiber has been of little value because it is largely coarse and not uniform. If the thallium dose was small, only about 9 milligrams, the fine wool predominately fell out, if it was 12 to 13 milligrams both coarse kemp and fine fibers molted. This may possibly have economic importance.

There are difficulties, however, for thallium is a metal poisonous to plant and animal life. Iljin warns of "certain harmful by-effects" and in past years warnings have been issued here in America as to its danger. Numerous deaths followed use of thallium compounds in depilatory preparations. It removed hair with such great efficiency that those who used it became bald. Effective in fighting rodents and insects, even this use is discouraged because of the danger to human beings. So there is no possible application to the problem of human shaving.

The Soviet scientist, however, has conducted his experiments more for the sake of biology than the wool industry. He calls selective molting in his sheep an example of the analysis of living matter by means of chemical action. Different doses of thallium promise to distinguish between sheep of different genetic strains. Selective molting is considered by Iljin "a proof of the possibility of a physiological distinction between morphologically different structures," a sort of chemical filter for unscrambling the mixtures blended by heredity.

*Science News Letter, April 30, 1938*