

## BIOCHEMISTRY

**Nornicotine Identified  
As Alkaloid in Tobacco**

**YOU** AREN'T a nicotine addict. You're a nornicotine addict, especially if you smoke a brand that features mildness, as most cigarettes and pipe tobaccos do nowadays.

A U. S. Department of Agriculture chemist, L. N. Markwood, has discovered that in certain modern tobaccos, bred for many years to reduce their nicotine content, the predominating alkaloid is now no longer nicotine but a chemically related compound, nornicotine. (*Science*, Aug. 30). Tried out on laboratory animals, nornicotine proves to have a much weaker toxic effect. In one case it was only a tenth as poisonous as a comparable dose of nicotine.

"From the smoker's standpoint this is fortunate," comments Mr. Markwood.

Tried out in a limited way as an insect poison, nornicotine is fully as effective as nicotine, and in certain combinations even more so. Larger-scale tests of this relatively little known compound may now be made, since a possible bulk source of it has been discovered.

*Science News Letter, September 14, 1940*

## EUGENICS

**Eugenics Seen as Vital  
To Future of Democracy**

**T**O CONTINUE as a successful democracy, the United States is going to need all the help that the science of eugenics can give.

This, in brief, is the warning of Frederick Osborn, anthropologist of the American Museum of Natural History, expounded in a new book, *Preface to Eugenics*.

It would become increasingly difficult for a democracy to continue to function, if the mass of the people should continue to deteriorate, while the competent people dwindled in numbers. And this is the dangerous situation toward which the United States is seen drifting.

Large families of five children or more are now scarce, except in poor and underprivileged homes in rural areas. Meanwhile, the small family is becoming the almost universal pattern in the United States. At present, 63% of married couples in this country have no children or at most one or two.

Opposing arbitrary control of human breeding as a dangerous tool, Mr. Osborn favors watching Sweden's policy of improving its population. To lighten the

cost of a large family, Sweden has adopted such measures as these: A maternity bonus is paid to lighten costs of child-birth, and 92% of Swedish mothers come within the income bracket making them eligible. Health centers are provided on a national scale for Swedish mothers and children, even to providing in 1939 free cod liver oil, calcium and other preventive medicines. To avoid subsidizing parents, Sweden has emphasized services that the state can render directly to children.

The United States, perhaps partly unconsciously, is launching into a significant population policy, the anthropologist sees. One feature is the increase of the services rendered by the state to parents or children, which lighten the economic burden of a family. The other feature is rapid extension of birth control services. In city populations, the majority of married people practise contraception. Mr. Osborn foresees a more serious attempt to introduce birth control measures among the poorer people, by instruction by physicians and clinics.

Birth control, he emphasizes, should have the goal, not of reducing the nation's population, but of removing an unwanted burden on the poor and ignorant, and providing the advantages of controlled parenthood. Parents in a position to have more children should be encouraged to do so and aided, he maintains, predicting that the federal government will spend continually more money on behalf of the children of the United States.

*Science News Letter, September 14, 1940*

## PSYCHOLOGY

**Female Chimpanzee Uses  
Superior S. A. on Mate**

**I**DEAL matings are rare among chimpanzees studied by Dr. Robert M. Yerkes, of the Yale Laboratories of Primate Biology. The chimpanzee female is more highly sexed than her mate, and she usually trades on this advantage to win her way with him. The extent to which she "turns on" her sexual allure depends upon how bossy her natural inclination leads her to be.

Dr. Yerkes has observed in his ape pairs a giving up of rights and privileges in what appears to be a recognition of social customs or what corresponds to human ethics. Although either the male or the female may be the boss of the family, the male usually gives up his rule to his mate when she is ready to use her sex appeal.

*Science News Letter, September 14, 1940*

**IN SCIEN**

## ASTRONOMY

**Whipple's Comet Returns  
After Seven-Year Absence**

**W**HIPPLE'S periodic comet has been rediscovered after being lost to telescopic sight for about seven years. Originally discovered by Dr. Fred L. Whipple of Harvard Observatory in 1933, the comet has now returned to a position nearer the sun and has been spotted through Harvard telescopes by his colleague, L. E. Cunningham. It is a very faint and diffuse object without any central condensation, located in the southeastern evening sky in the constellation of Aquarius, the water carrier. The comet is expected to get somewhat brighter but not enough to be seen by the unaided eye.

*Science News Letter, September 14, 1940*

## ARCHAEOLOGY

**Turkey Souls May Have  
Guided Departed Indians**

**T**URKEYS and dogs found buried in the graves of prehistoric Pueblo Indians in eastern Arizona point to strange beliefs about the afterworld in early America.

That souls of turkeys may have been regarded by these Indians as helpful guides for the human soul on its journey is a possibility suggested by Dr. Frank H. H. Roberts, Jr., of the Bureau of American Ethnology. Aztecs of Mexico looked upon dogs as good guides after death, in this fashion. In one grave of a very small Indian, a dog and a turkey lay at right and left of the child.

Study of human bones in the graves shows that decayed teeth were a common cause of suffering.

"It is probable," Dr. Roberts reported, "that drastic measures were resorted to on occasion to remove aching teeth. One adult was found with all of the teeth missing, and indications were that this had taken place a number of years before death."

Evidence was found that the Indians practised deliberate deformation of infant heads in the transitional period between Basket Maker and Pueblo cultures.

*Science News Letter, September 14, 1940*

# CE FIELDS

## PHYSIOLOGY

### Two State Laws Declare When Driver Is Drunk

**T**HE OLD question of how drunk a drunken driver really is has been settled for at least two states, Maine and Indiana, by legislation.

A driver there is drunk when he has 0.15% of alcohol in his blood.

According to a pharmacological manual, this would mean that he had consumed about one pint of whiskey or about 10 bottles of beer.

In Indiana, if a driver has 0.05% or less alcohol in his blood (corresponding to about five ounces of whiskey consumed or about three cocktails) it is considered as evidence that he is not drunk. Any amount between this and 0.15%, is considered relevant but not proof of intoxication. In Maine, the critical point of "relevancy" is 0.07%.

*Science News Letter, September 14, 1940*

## PUBLIC HEALTH

### Mastoiditis in North Blamed on Cold Climate

**G**REATER prevalence of mastoiditis in the northern part of the United States is due to the cold climate which causes both lowered resistance to and greater virulence of the streptococcus, most common germ in mastoiditis.

This idea is advanced by Dr. Mercer G. Lynch, of New Orleans (*Journal, American Medical Association, Sept. 7*).

Streptococci from different geographic regions and guinea pigs subjected to artificial climates typical of the North, the East, and the South, were used in studies Dr. Lynch made to find why the number of cases of mastoiditis increases steadily from Texas and Florida to Massachusetts and Maine.

The streptococci were subjected to various temperatures of heat and cold such as are found throughout the country and also to sudden changes in temperatures characteristic of certain regions. Those germs from regions having such changes were more resistant than the germs taken from more uniform climates. The germs themselves, therefore, Dr. Lynch concludes, lose some of

their virulence and living powers when accustomed to a more uniform climate. In time, however, those germs that survived the sudden changes became as virulent as the germs accustomed to such changes.

When the germs were injected into guinea pigs living in various types of artificial climates, it was found that the animals living in warmth and sunshine with plenty of calories and vitamins withstood even the most virulent germs from the North and East better than those living in cold climates with little sunlight and limited space for exercise, although this group of guinea pigs were injected with the less virulent germs from the Middle and Southern states.

From these experiments, Dr. Lynch concludes that "those areas of the country where the climate varies markedly, where extremes of cold are encountered and where open air exercise is thus limited, over a period of time the resistance is lowered and the population is thus more susceptible to infection—this, coupled with the fact that the infection gains virulence because there is less in the natural elements to combat and decrease the virulence. By these factors are meant fresh air, sunlight and exercise."

*Science News Letter, September 14, 1940*

## PSYCHOLOGY

### String May Suffice For Future Pasture Fences

**A** SINGLE string hung between slender posts may be enough to keep the cow of the future in her pasture if cows are psychologically conditioned as suggested before the meeting of the American Association for Applied Psychology.

The conditioning would only mean punishing Bossie with a mild electric shock every time she went near a string. Even a cow soon learns to stay away from all strings after that.

It might be possible to condition a cow so that she would avoid only string of one particular color, say white, which would then be used for the "psychological fences".

Psychology could thus save the farmer the enormous costs of iron fences and electric devices now used, Dr. A. I. Gates of Teachers College, Columbia University, told his colleagues in the course of his address as vice-president of the educational section of the Association.

"Although a farmer neighbor of mine declared this was a daffy idea, it is good psychology," declared Dr. Gates.

*Science News Letter, September 14, 1940*

## MEDICINE—EDUCATION

### Give M.D. Degree Without Internship, Is Suggestion

**W**HILE serving a year as an intern in a hospital is an important part of American medical training, only 17% of the medical schools of the country now require it before the M.D. degree is awarded, figures issued by the American Medical Association show.

Editorially the *Journal of the A.M.A.* (Aug. 31) takes the stand that "medical schools should not make the internship a part of their requirement for a degree." The difficulty is that the tendency is to make the school or dean responsible for placing its graduates as interns, and having recommended a student for internship in the fall of his final year, the faculty would scarcely dare to flunk him in June.

A change of scene for medical students is recommended by Dr. William Dock of San Francisco in discussing the problem of interns. They should not intern in hospitals in which they took undergraduate training. Medical schools that control hospitals should not select, in his opinion, interns for those hospitals almost wholly from their own graduates, as is often the custom.

Dr. Dock considers that the problem of the fifth year of medical training might be left to state licensing boards, of which 44% now require the intern year before doctors can practise.

Compilations of the A.M.A. show that there are 76 medical schools in the United States and Canada. In the past year 5,703 received the M.D. degree. Students enrolled numbered 24,194, not including interns. One out of twenty of the graduates were women.

*Science News Letter, September 14, 1940*

## ORNITHOLOGY

### Monkey-Eating Eagle Comes to National Zoo

See Front Cover

**E**AGLES are always an attraction in any zoological park's aviary. So rare that it is doubtful if the average zoo-goer ever heard of it, is the monkey-eating eagle of Africa. The National Zoological Park in Washington, D. C., is fortunate in the acquisition of a pair of these birds, brought back from Liberia by Dr. and Mrs. William M. Mann. They are believed to be the only pair of monkey-eating eagles now on display in this country.

*Science News Letter, September 14, 1940*