

like cocoon silk (on condition that it is not heated too much). Although I have not had at my disposal either complete equipment or trained workmen, I can exhibit at the Champ-de-Mars some samples imitating all the types of silk.

The section of artificial silk threaded into water (as is described above) shows every staple in the form of a fluted cylinder: this is caused by shrinkage of the center after solidification of the envelope. If the water is replaced by alcohol, the superficial skin remains retractile and the cylinder circular.

We have tried to modify the process by dissolving the pyroxyle in acetic acid to incorporate it into the gelatine; but the thread becomes friable and loses all its practical value.

I close with the observation: the thread of silk formed of two filaments of fibroin joined by the sericin (grès) must be, it seems to me, the product of two different secretions; the fibroin must be already formed in the *silk organs*; the sericin must be secreted by the lips of the spinnerets; the contact of the two liquids must bring about their coagulation. I venture to call this point to the attention of naturalists.

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For generations ink has been a successful household remedy in the Philippines for the treatment of burns, Dr. C. A. Stammel, Captain, M. C., U. S. Army, has reported from Zamboanga, P. I., to the American Medical Association. The surprising thing is that a scientific basis for the treatment exists, although it has only just been revealed.

Most black inks are simply weak solutions of an iron and tannic acid compound, Dr. Stammel pointed out, and scientists have recently discovered that tannic acid itself is an efficient method of treating burns.

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PUBLIC HEALTH

## Cancer Education Urged Pending Discovery of Cure

### Public Health Association Also Hears Reports of Botulism Increases and of Tides Making Mussels More Poisonous

**O**RGANIZATION of each state to fight cancer through its board of health, medical society and university, using educational programs and clinics as the weapons, was proposed by Dr. Joseph Colt Bloodgood of Baltimore, at the meeting of the American Public Health Association in Fort Worth, Texas, last week.

"In spite of many laboratories throughout the world searching for a cure or means of prevention, nothing is in sight, and as yet there is no protection against death from cancer except education," Dr. Bloodgood declared.

He described in detail the Massachusetts state program for the control of cancer. In this state the board of health is directed by law to maintain and advertise cancer clinics on a certain number of days throughout the year in as many localities as possible, and money has been appropriated for their maintenance.

Our only effective treatments for cancer today, surgery and irradiation with X-rays and radium, do not permanently cure more than one tenth of the cases that come late for treatment. These same methods applied early in the disease effect permanent cures in from thirty to seventy per cent. Consequently education is a vital factor in the control of the disease.

"Until in the laboratories we have found the cause, prevention and cure, something must be done on a worldwide plan which will inform the public and the children about the protection that is possible today," he said.

This educational program need not mean the encroachment of state medicine on private practice, he indicated. The most valuable preventive medicine can be practiced by the family physician who not only cares for the sick but also makes periodic examinations of well people and acts as a bureau of information on the best and latest methods of prevention of disease and the regulation of health. However, for those who cannot afford a family physician, clinics must be provided.

"The great leaders in public health today recognize cancer as a world public health problem, as a local problem in the smallest places. Every modern student of cancer knows that in the skin and mouth cancer is a preventable disease, and believes that if every woman who has borne children received a periodic examination, cancer of the cervix can be placed among the preventable diseases," Dr. Bloodgood concluded.

#### Botulism Increases Reported

A definite increase in the number of cases of botulism has occurred during the past two years, was reported by Dr. K. F. Meyer, director of the Hooper Foundation for Medical Research of the University of California. With the exception of two cases of botulism traced to shalots packed in Italy, home preserved vegetables, fruits, fish and meats have been the products responsible for the cases of poisoning in the recent outbreaks.

Botulism is a type of food poisoning caused by the presence in the food of an organism called *Clostridium botulinum*. This organism liberates a very powerful poison which causes illness and often death in persons eating infected food. Certain types of food are particularly apt to contain the organism, and home canned or preserved foods are more apt to have it now than commercial products.

#### Poison Follows Tides

Pacific Coast mussels are most poisonous soon after or during the maximum tides of the year, Dr. K. F. Meyer, director of the Hooper Foundation for Medical Research of the University of California, reported.

Mussels collected at various places, from as far south as Monterey Bay to as far north as the mouth of the Klamath River near the northern border of California, contain a small amount of typical mussel poison at any time of the year.

"Since the mussels are consumed in large quantities without ill effects by the population along the coast, it is reason-

able to conclude that the 'slightly toxic' mussels are not important from the standpoint of public health," Dr. Meyer said.

The mussels became most poisonous between the first week of July and the last week of August. The sale of mussels has consequently been forbidden during the past two summers in California, and the state department of health regularly issues a warning against their use during the period when this food is particularly liable to be dangerous.

Since the serious outbreak of mussel poisoning in July, 1927, in San Francisco and vicinity, the problem has been investigated by Dr. H. Sommer and his assistants. Clams, it was found, contain a poison very similar to that of mussels.

Poisonous mussels emanate a typical odor of cyanide, which is very faint in most cases, however. The digestive gland of the harmful shell fish is usually larger and softer and often of a greenish color and lighter or darker than the normal.

#### Health Contest Winners

Milwaukee, Wis., Syracuse, N. Y., East Orange, N. J., White Plains, N. Y., and Sidney, Ohio, were the winners in

the first Inter-Chamber Health Conservation Contest sponsored by the U. S. Chamber of Commerce, it was announced at the meeting of the Health Association. The object of the contest is to assist in reducing economic losses

in the United States due to unnecessary illness and death.

The contest for 1929 was so successful that a similar one has been started for 1930, and 183 cities have already enrolled.

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#### PUBLIC HEALTH

## Air Pollution Commission Suggested to Health Officials

### Oxygen of Air is More Important Than Food and Drink, Yet Edibles Get Most Attention, Dr. Sappington Says

**A** COMMISSION on air pollution, similar to milk commissions, ventilation commissions and the like, was suggested by Dr. C. O. Sappington of the National Safety Council at the symposium on atmospheric pollution held in Fort Worth, Texas, before the American Public Health Association.

"You can go for days without food; you may even do without water for a considerable number of hours; but it is a matter of minutes when it comes to the necessity of breathing uncontaminated air with the requisite amount of oxygen," Dr. Sappington declared.

#### Old Methods for New Problem

"It is a fact that men have always paid more attention to food and drink than to the air which they breathe in spite of the greater importance of oxygen to the body," he continued. "This may be the reason for our accomplishments in the field of regulation of water, milk and food supplies. The mechanism through which these changes have been brought about is by education of the public and regulatory legislation. These same means are at our disposal in the solution of the problem of atmospheric pollution. It is my belief, however, that much more can be done by the dissemination of adequate information than through the passage of laws."

Specific methods of reducing air pollution were described by Howard W. Green of the Cleveland Health Council.

"Supervision by competent technical men of design and installation and of the operation of all plant equipment burning fuel will in time reduce the preventable air pollution to a minimum," Mr. Green prophesied. "The most optimistic feature in this whole

problem lies in the fact that in most cases the necessary improvements result in sufficient savings in the fuel bill and labor expense to pay the cost of the improvements within a short period of time, in some cases within a period of a year or a year and one-half.

Mechanical stokers, proper construction of chimneys, electrification of locomotives, attention to types of fuel, and installation of auxiliary oil or gas burners in incinerator plants, were among the suggestions he made.


How air pollution affects the health of the people was described by Dr. T. C. Terrell of Fort Worth.

"Carbon monoxide gas is one of the most universally feared forms of atmospheric pollution," he said. Less than half the amount of this gas necessary to cause death, is enough to cause headache, dizziness, weakness and other symptoms.

Two diseases which occur frequently in industrial centers are pneumoconiosis and silicosis. These are produced by inhaling particles of silica and carbon with the air. Many of the particles are returned with the expired air, but a certain proportion remains in the lungs and air passages. These particles affect the cells and eventually a diseased condition results.

The air may also be polluted by the presence of bacteria and of plant pollens. From germ pollution may result diphtheria, influenza, whooping cough, pneumonia, scarlet fever, and tuberculosis, while hay fever and asthma are caused by pollen pollution. Investigations showed that the disease germs in New York dust varied from 300,000 to 3,000,000 per gram, one gram being about one twenty-eighth of an ounce.

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