

on alchemy have been translated for the first time into a European language. They are published by the American Academy of Arts and Sciences. The treatise, by a famous scholar named Ko Hung, was written about 317 to 322 A. D., which is before alchemy was thought of in lands farther west. Even when Ko Hung wrote, alchemy was already 600 years old in China.

One main goal of Chinese alchemists was to escape the misery of death. No less than nine potent medicines would confer supernatural immortality, if only the seeker succeeded in making

any one of them in just the right way.

One medicine for immortality carried the power of enabling the eater to walk in fire and water uninjured. Another kind conferred advantages including: "Whoever has his money painted with it will have it back on the same day he spends it." If an alchemist should eat another kind, "there will come angels and fairies to wait on him."

In seeking immortality, China's alchemists aimed higher than Europe's alchemists, who were contented with a mere extension of life.

Science News Letter, October 30, 1937

MEDICINE—PUBLIC HEALTH

Laboratories and Physicians Urged to Join Influenza War

Family Doctors Urged to Send Blood Samples Taken During Attack and After Recovery to Aid Campaign

NEXT battle in the war against influenza is going to be waged in the state laboratories of health.

If it is not, everyone is going to go right on having flu, or living under its threat, every winter for many years to come.

Scientists in research laboratories at universities or places such as the Rockefeller Institute have made great strides in the fight against this widespread and dangerous disease. They have, for instance, isolated a virus which was the cause of epidemics of influenza in many different parts of the world. This virus is being used for diagnostic tests, and has been used in experimental vaccination with encouraging results.

But this does not mean that influenza has been conquered. This particular virus may not be the cause of all the sickness that is at present diagnosed as influenza. The new vaccine, even if available in sufficient quantities, may not give protection against the disease in the next epidemic because that epidemic may be influenza of a different type, that is, caused by a different virus.

We may have an influenza epidemic again this coming winter. No one can say positively whether we will or not. At one time, scientists believed that flu epidemics came in 3-year cycles. Now they are not at all sure. There seems to be some flu every winter somewhere. They do not know, either, what relationship there is between influenza epidemics in one country or locality and

the pandemics of influenza that sweep around the world, as the one in 1918 did.

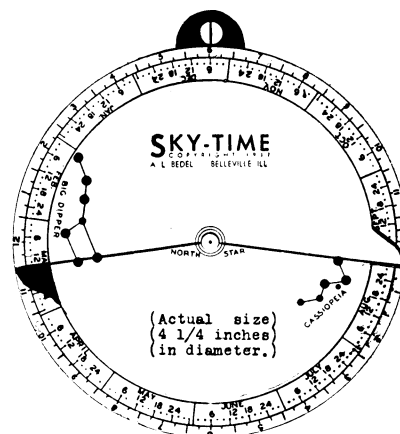
An attack of influenza seems to protect you against another attack, at least for a short time. Just how long this protection lasts, and whether the protection or immunity given by the new vaccine lasts any longer, are other problems that must be solved before influenza can be controlled.

What happens to the influenza virus between epidemics? Is there an animal reservoir, as there is for typhus fever and plague? Or does the virus become too weak to cause disease, and then after a period grow stronger and more virulent? Scientists would like to be able to answer these questions with facts. In the course of time, many years, perhaps, they will.

But the answers can be found much faster, and influenza brought under control much sooner, if state health department laboratories join in the fight, in the opinion of Dr. Wilbur A. Sawyer, director of the Rockefeller Foundation's International Health Division. At the meeting of the American Public Health Association he told how and why these laboratories are needed in a new way to help fight influenza and other virus-caused diseases, such as yellow fever and rabies.

These laboratories, heretofore, have occupied themselves chiefly with carrying on the fight against disease along lines of strategy (*Turn to next page*)

Tell Time By The Stars

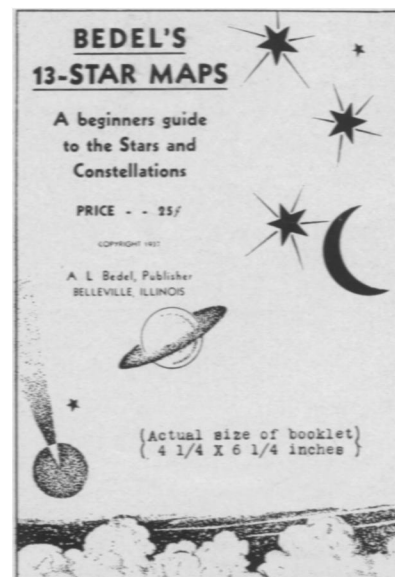


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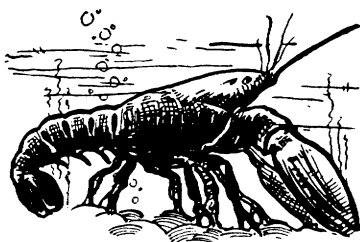
laid down after other scientists have discovered causes and methods. Dr. Sawyer would like to see them take an active part in the research against the virus diseases, as the health departments of Minnesota and California and the Connaught Laboratories in Toronto are already doing.

Your own doctor might help in the new warfare against flu by sending to the state health laboratory samples of your blood taken when you have an attack of influenza and after you have recovered. At the laboratory these can be tested on mice to determine whether protective antibodies, part of the body's flu-fighting forces, developed during the attack and how long they remained in your blood after you got well. Where a university or research foundation laboratory can test a few hundred such samples at most, the state laboratory can test thousands and compare the samples from patients in one part of the state with those in another. This will produce a large mass of information much faster than it could be obtained otherwise.

Another step the state laboratories of health can take is to study strains of influenza virus in the periods between epidemics and see how it behaves. They could also isolate new strains of the virus during epidemics, and thus help to settle the problem of whether all influenza is caused by the same virus or whether there are several causative viruses. They may even discover other viruses that may play a part in causing colds apart from those that cause influenza. When such information has been obtained, methods can probably be found to control colds and flu.

Science News Letter, October 30, 1937

Even the dinosaurs were not so heavy as the biggest whales.



When Is a Shellfish?

"FISH" is used, with rather lamentable looseness, to designate almost anything found in the sea or freshwater bodies, even including whales and porpoises. (Seals we excuse from this catchall classification, because they come ashore, and can bark like dogs.) But even stranger is the designation "shellfish," which in very general usage is taken to mean every kind of sea creature (at least all edible kinds) that are not obviously "real" fish with scales and fins.

Practically all forms of seafood that are not "real" fish belong to two great zoological groups, or phyla, which are not related to each other at all except insofar as both are animals. Yet we keep on lumping both groups under the one head of "shellfish."

The first, and conventionally "lower" group are the mollusks. They include such familiar table delicacies as oysters, clams, mussels, abalones, and (for Gallic gourmets) snails. All these forms, and their many inedible relatives, are housed in shells of their own secreting, made of calcium carbonate, the mineral

of limestone, chalk, and marble. They might thus have a proper claim on the name of shellfish; for they have shells, even though they are fish only by courtesy of the fact that they come out of the water.

The second group in this unscientific classification include the familiar lobster, crab, and shrimp, and (again in France) the big edible European crayfish. They are probably "lumped" in the popular shellfish terminology because they are cased in solid, hard suits of natural armor. However, this might perhaps be designated as a crust rather than a shell. On this basis, the professors have the better of it, for they call water-animals of this class Crustacea.

If we must retain the not-very-exact term "shellfish" (and it is likely we shall do so), it might be a good idea to bestow it exclusively on the edible mollusks and to give the edible crustacea a name they can call their own. How about "Crusties"?

Of course, there are many genera and species in each phylum that are not edible and are hence usually neglected by the average citizen. Yet some of them are important. Many of the inedible mollusks yield prized ornamental materials — pearls, mother-of-pearl, and brightly colored snail-shells used in jewelry. The famed Tyrian purple of antiquity was extracted from a mollusk.

Mollusks also are the slugs that raid our gardens, and the octopus, squid, and cuttlefish of the ocean, though these have no visible shells.

Science News Letter, October 30, 1937

PHOTOGRAPHY

Bare Branches of Trees Warn of Coming of Winter

See Front Cover

WITH lingering leaves accenting the delicacy of the outlines traced by their branches against the clouded sky, the trees of autumn make an excellent subject for the hiking photographer.

The black walnut tree pictured on the cover of this week's SCIENCE NEWS LETTER was taken with the camera of Fremont Davis, Science Service staff photographer.

Science News Letter, October 30, 1937

A typewriter for writing musical scores has been invented in Germany.

Painted fingernails were an ancient fashion of women in Near Eastern civilizations, but apparently they never gained wide favor in the western world until modern times.

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