

lation between price, including state and federal taxes, and petroleum consumption per car, which is roughly $18\frac{1}{2}$ barrels per car each year. For example, in Alabama, the taxes on gasoline are in the neighborhood of nine cents a gallon, and yet there has been no drop in gasoline consumption in that state.

What about synthetic gasoline?

Undoubtedly, at some time in the future the motor cars of the United States will be driven by motor fuel that is at least partly the result of chemical skill.

"Sooner or later a substitute for natural petroleum as the principal source of motor fuel must be found, but what it is, or when it will be commercially practical we don't know," said a member of the Petroleum Administrative Board who refused to be quoted personally.

Shale oil has been mentioned as a possible substitute for petroleum. The prevailing opinion is, however, that while oil distilled from shale is a great potential source of motor fuel, there is no technical process at present capable of recovering it in sufficient amounts and at a cheap enough cost to be practical.

Step number one in providing a substitute for petroleum will be the large-scale synthetic production of gasoline by hydrogenation of coal, it is believed in government circles. A number of successful processes for coal hydrogenation have been developed, notably the Bergius process at present being used on a large scale in Germany, and are now being experimented with in America.

Science News Letter, August 31, 1935

In one week in July the New York State Department of Health distributed enough typhoid vaccine to give a first injection to 38,000 persons in the flooded areas of the state.

MEDICINE

Cancer Treatment Advance Awaits Better Lead Compounds

Patients in Hopeless Stage of Disease Apparently Cured By Heroic Treatment With Colloidal Lead Phosphate

CANCER, one of the most dreaded of mankind's foes, will have to take a major defeat if research chemists can develop new types of lead compounds that will be less toxic to normal body tissue and more certain to concentrate in rapidly growing cells.

This is the opinion of Drs. A. E. Osterberg, J. A. Borgen, and B. T. Horton of the Mayo Clinic, Rochester, Minn.

Dr. Osterberg pointed out that encouraging results in the treatment of cancer have already been obtained through the use of one lead compound already available, namely colloidal lead phosphate.

In a series of eighty-five cases of cancer in the hopeless stage, treatment with colloidal lead phosphate produced apparent cures in at least seven cases. Seven additional cures occurred in the group, but these patients had received other treatment in addition to lead therapy and the cause of recovery could not be definitely assigned.

In explanation of the failures which have been met by other experimenters with lead therapy, Dr. Osterberg stated that enough lead must be administered to cause obvious poisoning. If this is not done, the concentration of lead in the cancerous cells, despite their tendency

to collect it, is not sufficient to cause their necrosis or deterioration.

The patients are later cured of the lead poisoning by the administration of calcium, which facilitates deposition of the lead in the bony structures of the body.

Dr. Osterberg believes lead therapy holds out definite promise in cancer treatment, but is certain that more nearly ideal lead compounds are yet to be found.

Favorable results have been obtained on all types of cancer.

Science News Letter, August 31, 1935

BIOCHEMISTRY

Synthetic Cortin to Pave Way for Disease Conquest

IMPORTANT information concerning the chemistry of substances closely related to cortin, the secretion of the outer layer of the adrenal glands, was reported by three representatives of the Mayo Foundation, Drs. E. C. Kendall, H. L. Mason, and C. S. Myers, to the American Chemical Society.

They expressed the hope that the knowledge they have gained from these related compounds, one akin to a complex glucose, another akin to glycerine and the third a crystalline alcohol, will aid in determining the chemistry of cortin itself and bring closer the day when this valuable hormone will become available at reasonable cost for medical therapy.

It was pointed out that adequate supplies of cortin provide one of the most hopeful means of alleviating the fatal Addison's disease. Also, glaucoma, a common cause of blindness in the aged, can be successfully treated by injections of the glandular substance containing cortin. Even that type of near-sightedness known as progressive myopia, long considered incurable, is helped by the administration of the hormone. The scientists said:

"Vast possibilities for the eventual cure of many of man's illnesses will be opened up when cortin can be successfully manufactured by the commercial chemical industry."

Science News Letter, August 31, 1935



NEW PLANE IS QUEER-LOOKING, BUT SAFE

The bureau of aeronautics, U. S. Department of Commerce, continues its search for a low-priced, safe airplane suitable for everybody's use. The newest specimen, with no tail, rudders on the wing-ends, and a "pusher" propeller, is a very queer-looking craft, but is said to be a good flier and extraordinarily stable and safe.