

# Hoover to Attack Crime and Disease

With President Hoover's inaugural promise of "a national commission for a searching investigation of the whole structure of our Federal system of jurisprudence", those interested in the intricate problems of human behavior see the beginnings of another of those famous Hoover inquiries that have already revolutionized ideas and relations in the field of business and the application of science to industry.

Crime in all its aspects will necessarily be considered by the proposed commission, although its recommendations and primary inquiries will be concerned with Federal laws and courts, particularly the enforcement of the eighteenth amendment. Since criminals and personalities do not change with mere legal jurisdiction, the fundamental facts and theories developed will be of interest to state and local police departments and courts that have to cope with murder, robbery, speeding and other such crimes.

The first and most direct step in the remedy of "the failure of our system of criminal justice" will probably be a stock-taking of the national system of jurisprudence in order to make it more efficient and effective in administering and enforcing the laws that now exist. Essentially this will be a task comparable with the reorganization of the production methods of a great factory, using the same designs and policies that the old management had used.

But while the reorganization is in progress there will arise the need for new facts, improved design and the discovery of fundamental facts. The old legal ideals of the sanctity of precedent probably will be found to be inadequate for the conduct of the new business. So early in the Hoover investigation of crime there are foreseen inquiries into the causes, kinds and the personalities that fill our courts and jails. There may be expected questionings of the need for

certain laws and the best penalties to achieve the ideal of public protection with the maximum of individual freedom. On such points, the psychiatrist, psychologist, physician, and sociologist studying the mental and physical attributes of man will need to give evidence along with the lawyer, judge and policeman.

Facts will be utilized by Hoover, the president, as effectively as by Hoover, the engineer or the administrator. Even the most elemental and fundamental statistical facts on crime are lacking for the guidance of the national jurisprudence investigation, if it considers the wide aspects of crime and judicial procedure. Personality diseases, known as crime, must be classified and reported as efficiently as health departments record epidemics of physical disease.

In President Hoover's pronouncement that "in public health the discoveries of science have opened a new era" there is (*Turn to next page*)

## New Einstein Theory Questioned

*Physica*

Doubt as to whether the new Einstein theory, welding electromagnetism and gravitation into one law, should be substituted for existing theories attempting the same unification, is expressed by Prof. A. S. Eddington, the Cambridge astronomer-physicist, in a communication to the leading British scientific magazine, *Nature*.

Questioning of the "unified field theory" of Einstein by Prof. Eddington is particularly significant because the British astronomer introduced the Einstein general theory of relativity to the world when he reported the confirmation afforded Einstein's predictions by the two British solar eclipse expeditions in 1919.

The analysis of the new Einstein theory by Professor Eddington is one of the first critical considerations given the new paper which was published only a few weeks ago.

"For the present, at any rate, a non-mathematical explanation is out of the question," Professor Eddington writes in analysing the Einstein paper, "and in any case would miss the main purpose of the theory which is to weld a number of laws into a mathematical expression of formal simplicity. We are chiefly interested in how it compares, both as to methods and results, with the existing field-theories which

have had some measure of success."

Professor Eddington notes that the equations expressing the Einstein field laws do not appear as identities and he questions whether they will give satisfaction. He remarks critically: "To introduce a field law limiting the geometrical possibilities is a confession that the initial geometry was too wide. The ideal should surely be either to start with a geometry which precisely fits the phenomena so that it needs no supplementary field laws, or to start with the most unrestricted geometry and treat every limitation as a field law."

The field theory preferred by Professor Eddington is that developed by Prof. Hermann Weyl of Zurich, now at Princeton University as an exchange professor. He declares that Weyl's theory and its generalizations afford considerable enlightenment.

*Science News-Letter, March 9, 1929*

More than half the feature moving pictures produced in Japan in 1927 were based on classical Japanese dramas.

The climate of Chile is like that of southern California, and produces luxuriant semi-tropical flowers and trees.

## Coal Powder For Ship

*Engineering*

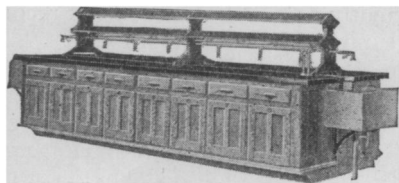
That pulverized fuel can be employed successfully in marine boilers has been demonstrated by C. J. Jefferson, head of the Fuel Conservation Section, United States Shipping Board, Merchant Fleet Corporation, New York, and Commander J. J. Broshek, U. S. N., office-in-charge, Fuel Oil Testing Plant, United States Navy, Philadelphia, in experiments carried on for the past seven years.

At the end of the war the United States Shipping Board had left on its hands a large fleet of ships, most of which were driven by steam and many of them burning coal. The efficiency of the hand-fired coal-burning boiler is rarely over 65 per cent. and ordinarily much lower, and the cost of the conversion of the vessels to oil-burning boilers or to oil-using Diesel engines would be considerable, so it was determined to test the pulverized fuel scheme on them. The S. S. Mercer, a cargo vessel of 9,500 tons, was fitted out with pulverizers and burners and so steamed out to sea on the first off-shore voyage of a sea-going vessel using pulverized coal as fuel. On her initial trip her efficiency was 95 per cent. of that of her best voyage as an oil burner. Certain defects in the apparatus were disclosed, but the method was demonstrated as safe and reliable for sea service and is recommended for small power plants on land. *Science News-Letter, March 9, 1929*

## For the Teaching of Chemistry

For the teaching of Chemistry, as well as for instruction in other sciences, it is generally admitted that there is no equipment that enjoys the prestige and reputation among educators to the extent of

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## Hoover to Use Scientific Methods—Continued

promise that this new scientific progress will be made available to thousands who otherwise would suffer. The man who saved the Belgian people during the World War, who then rescued the hordes of starving children that the war had left in Europe, believes that health is as

much a concern of government as education. Vigorous warfare for better health is forecast in his statement that "many sections of our country and many groups of our citizens suffer from diseases the eradication of which are mere matters of administration and moderate expenditure."

## What Is Time?

*Astronomy—Philosophy*

A. S. EDDINGTON, in *The Nature of the Physical World* (Macmillan):

I have sometimes thought it would be very entertaining to hear a discussion between the Astronomer Royal and, let us say, Prof. Bergson on the nature of time. Professor Bergson's authority on the subject is well known; and I may remind you that the Astronomer Royal is entrusted with the duty of finding out time for our everyday use, so presumably he has some idea of what he has to find. I must date the discussion some twenty years back, before the spread of Einstein's ideas brought about a *rapprochement*. There would then probably have been a keen disagreement, and I rather think that the philosopher would have had the best of the verbal argument. After showing that the Astronomer Royal's idea of time was quite nonsensical, Prof. Bergson would probably end the discussion by looking at his watch and rushing off to catch a train which was starting by the Astronomer Royal's time.

Whatever may be time *de jure*, the Astronomer Royal's time is time *de facto*. His time permeates every corner of physics. It stands in no need of logical defence; it is in the much stronger position of a vested interest. It has been woven into the structure of the classical physical scheme. "Time" in physics means Astronomer Royal's time. You may be aware that it is revealed to us in Einstein's theory that time and space are mixed up in a rather strange way. This is a great stumbling-block to the beginner. He is inclined to say, "That is impossible. I feel it in my bones that time and space must be of entirely different nature. They cannot possibly be mixed up." The Astronomer Royal complacently retorts, "It is not impossible. I have mixed them up." Well, that settles it. If the Astronomer Royal has mixed them, then his mixture will be the groundwork of present-day physics.

We have to distinguish two ques-

tions which are not necessarily identical. First, what is the true nature of time? Second, what is the nature of that quantity which has under the name of time become a fundamental part of the structure of classical physics? By long history of experiment and theory the results of physical investigation have been woven into a scheme which has on the whole proved wonderfully successful. Time—the Astronomer Royal's time—has its importance from the fact that it is a constituent of that scheme, the binding material or mortar of it. That importance is not lessened if it should prove to be only imperfectly representative of the time familiar to our consciousness.

*Science News-Letter, March 9, 1929*

A world wide shortage of soft woods is predicted by O. J. Sanger, of the British forestry commission.

Forty per cent. of the milk produced in the United States is made into butter.

The volcano Mount Etna is said to have decreased in height 112 feet between 1861 and 1900.

The brain of Anatole France, brilliant French author, weighed considerably less than the brain of an average day laborer.

A substitute for gum arabic and starch as a filler for fabrics is now being manufactured from sea-weed of the Pacific coast.

Government estimates show that there are about 30,000,000 students enrolled in educational institutions in the United States.

A steam engine designed by a Frenchman in 1769 was run on the streets of Paris at a speed of three miles an hour until it ended its career by turning over.