

EDITORIAL

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PROTECTING SCIENTIFIC RESEARCH.

LEGISLATION that will interfere with scientific medical and pharmaceutical research should incite coöperative counter-efforts on the part of doctors and pharmacists. Legislation of the kind referred to is contemplated, and, in some states, favorable action was sought at the polls.

Reason indicates that the "Death Bill" in Colorado will not be endorsed by the people, but further efforts will be made in behalf of legislation of this kind—therefore this comment. The selfish motive almost invariably enters into the promotion of this type of legislation; usually, the intentions are more far-reaching than is gleaned from a casual reading of proposed measures, and evidenced by the proponents. No attempt is made at this time to discuss such motives by any interests, but only to direct attention to some of the results that might or would follow the passage of a bill like that voted on in Colorado. This bill if enacted into law would make punishable by fine and imprisonment "any painful experiment, operation or administration upon an animal without the use of anesthetics." The *Rocky Mountain Druggist* comments that "the bill is sweeping in its scope and would not only prevent the use of laboratory animals by agriculturalists, veterinarians, and physicians, but, if strictly interpreted, would make it illegal to exterminate vermin, to hunt and fish, and even to kill animals for food."

There can hardly be any question relative to the contemplated prohibition by the measure of the use of test animals in standardizing drugs and determining their strength and efficiency, and such intent in legislation should be sufficient incentive to call forth the opposition of pharmacists.

E. G. E.

SCIENTIFIC RESEARCH DETERMINES FACTS.

SCIENTIFIC research is being applied in all activities, because it determines facts and does away with guesswork; that empirical experiments contributed largely to the progress of science no one will deny—Sir Humphrey Davy discovered the principle that has made possible the establishment of the electrochemical industry; electric welding resulted from experiments of another character; the listening through the ground, on dark nights, to determine the direction in which cattle were straying, has made possible the long-distance transmission of telephonic and telegraphic messages; Faraday's experiments with gases gave us the benefits of anesthesia; the discovery of the way to separate nickel from copper resulted from study in the fight to control a yellow-fever epidemic. References of one type or another could be multiplied, but the point in research is to determine; while the results may not always be those expected, guesswork is deprived of some of its secrets thereby.

In the modern cultivation of medicinal plants the purpose is not so much to increase acreage as to make the plants larger producers of active constituents, in one way or another. As Floyd W. Parsons rightly says: "In an era of national scientific research the farmer will not seek to supply the increased demand for a product of the soil by simply adding additional acreage, but will discover a way to get more of the product from each acre cultivated. So in the factory, the management will not serenely assume that a larger output entails more men, but rather that the solution involves an increased production per individual." These are results of scientific research in the industries.

A report in a bulletin on research of the Chamber of Commerce of the United States says that American industry is spending about \$70,000,000 annually on scientific research. The bulletin states that about one-half of this sum is spent by American manufacturers in the conduct of laboratory research, while the remainder is expended in experimental and development work plants. The further statement is made that, as a result of scientific research work, approximately one-half billion dollars are saved annually by industry in this country.

"The value of scientific research, both from an economic and industrial standpoint," the department bulletin says, "has never been so fully appreciated as at the present time. The problems of the recent war forced science and its research activities to the front in all civilized countries. It is now realized by leading manufacturers that scientific investigation is a necessary adjunct to efficient coöperation. A utilization of the scientific knowledge now available, and a sympathetic coöperation in the free interchange of such information will lead to the adoption of improved manufacturing processes and do much to obviate the danger of ignorant destructive competition. The realization of this fact is shown by the 500 or more firms now maintaining laboratories for industrial research."

There is an interdependence of the professions and the industries—in practice, in trade and commerce, and an interrelation in scientific investigation. E. G. E.

DANGERS PRESENTED BY THE FREE SALE OF LIVING PATHOGENIC CULTURES.

FROM THE FRENCH—BY WM. H. GANO.

An interesting article has recently been published in *Annales d'hygiène publique et de médecine légale*, pointing out the dangers of the unrestricted sale of living pathogenic germs, which could be used for criminal ends.

The affair of one Girard directed the attention of the writer toward the matter.

This Girard was accused of having poisoned several persons, upon whose lives he had effected insurance in his own favor.

Girard did not expiate the crime for which he was convicted—because he died before the courts passed sentence upon him—but the information obtained against him showed the method he used in order to realize his diabolical designs.

When he was mobilized, Girard had already an experience with the police—he was surprised in the very act of robbery. A search of his domicile disclosed tubes of microbic cultures, ampuls of strychnine sulphate and of potassium cyanide, some cocaine, a number of pharmaceutical preparations, a microscope, and a work on toxicology. Questioned by the military judge, Girard replied