

EDITORIAL

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THE REWARD OF SCIENTIFIC RESEARCH.

THE late Emilé Duclaux said: "The free disinterested search for truth is useful, in and of itself, from the delight it brings to the one who follows it, from the independence of spirit it begets, from the deep sentiment it develops of liberty and responsibility."

The reward of Dr. F. G. Banting and C. H. Best, discoverers of insulin, is in the joy and satisfaction of relieving thousands from the discomforts of disease and bringing back to health many whose lives were ebbing under its toxic influence. Traits of Dr. Banting's character are evidenced in the lines of news items.—Tendered opportunities for bettering his financial status, even though accompanied by offers in which the professional viewpoint was given consideration, did not persuade the savant to leave Toronto. Evidently he did not seek publicity relative to his invitation to address the recent British Medical Association meeting, for he remained unnoticed for a time, as a listener to the proceedings in the hall of this convention; but when discovered, the members forgot their dignity and heartily cheered the young Canadian. Conclusions may be drawn from these press notices of Dr. Banting's professional character, loyalty to his native country, and modesty.

It is a source of great satisfaction to note that Canada has not been unmindful of the important discovery for mankind, and has provided an unconditional annuity of \$7,500 for Dr. Banting. A provision was also made at the recent session of the Ontario Legislature whereby a department of research is created in the Provincial University of Toronto—the chair is to be known permanently as the Banting—Best Chair of Research—and by understanding with the Government the University of Toronto has appointed Dr. Banting as its first incumbent with a salary of \$6,000 a year. A proposal to further honor the latter is through an insurance policy on his life for \$1,000,000; the proceeds, after a minor contingent provision for the insured, is to be paid as an endowment for research; of interest is the fact that the insurance companies are already benefiting by the discovery, and will bear the greater part of the expense of the policy.

In connection with the foregoing reference may be made to the interesting work carried on in the Department of Biochemistry, University of Alberta, Edmonton, Canada. Dr. J. B. Collip, formerly one of the Toronto University group who first made insulin and now at the University of Alberta, conceived the idea that, since injection of "insulin" enables the animal to burn sugar and store up glycogen, those plants and lower animals which contain glycogen might also contain this active principle. A preliminary paper on the subject "A New Hormone Present in Plant Tissue," by Dr. J. B. Collip, has been printed in the *Journal of Biological Chemistry*, and liberty is taken in reprinting two paragraphs from "General Conclusion" and those of "the Summary" in the article referred to:

"There is a decided difference between the general type of effect produced on both normal rabbits and depancreatized dogs by insulin and by glucokinin. The fall in the concentration of blood sugar in both normal and diabetic animals begins shortly after the administration of insulin. A low point is reached in from 2 to 6 hours and then the return to the original and higher level begins. To obtain the best results in the treatment of diabetic patients with insulin it is therefore necessary for the hormone to be administered frequently (two to three times daily). The effect of glucokinin, on the other hand, develops slowly and is long maintained. If it should develop, therefore, that this latter substance is serviceable in the clinic it will have a great advantage over insulin in this one respect at least. Its source would also be a point of great importance because it would be available the world over."

"The fact that certain extracts made from variety of plant tissues so divergent in character as the unicellular yeast organism, green leaves, and roots of higher plants appear to be, are capable of producing a profound disturbance in the sugar metabolism of normal rabbits and, in the few cases tested out, of depancreatized dogs, points to the existence in the plant kingdom of a hormone somewhat analogous to that produced in the higher animals by the islet of the pancreas. Such a hormone in all probability plays a similar rôle in the metabolism of sugar in the plant to that played by insulin in the animal. As glycogen formation is possible in the animal as a result of the activity of the pancreatic hormone it is possible that starch formation in the plant is, to a certain extent at least, dependent on the activity of glucokinin. A new field of investigation of great scope in plant physiology is hereby opened up. A few of the new problems presenting themselves are about to be studied by the author in collaboration with Dr. F. J. Lewis."

"1. Extracts have been prepared from the vegetative tissues of several angiospermous plants as well as yeast, subcutaneous administration of which produces marked hypoglycemia in normal rabbits.

"2. Certain of these extracts have been administered to depancreatized dogs. A fall in the level of blood sugar and a decrease in the hourly excretion of sugar results.

"3. The primary effect was an increase in the rate of sugar elimination.

"4. The name glucokinin has been suggested for the new hormone derived from plant sources.

"5. The physiological effect of glucokinin develops slowly and is long maintained."

Paraphrasing statements, in closing this comment, by *Emilé Duclaux*—
"You will not always find glory in the laboratories, but you will experience there the delight of every day being something more than the day before, and of having brought into the world your share of the truth. There is no end to science. So long as there shall be men, there will be savants, and so long as there shall be savants there will be discoveries."

E. G. E.

"TRADE ASSOCIATION ACTIVITIES."

DECLARING that the trade association as a facility for the promotion and self-regulation of industry and commerce has become, by reason of its scope and activity, an important American business institution, with which the public, generally speaking, is little acquainted, the Secretary of Commerce, in the introduction to that Department's new book entitled "Trade Association Activities," expressed the opinion that the constructive purposes of these organizations have unfortunately been confused with the minority of activities which have been used as a cloak for action against public interest. "Just as a business house or an individual meets its obligations and carries on its daily relations within the community, so the trade association has a real individuality in the business fabric," according to Secretary Hoover. It can safely be stated that Government officials

as well as the public now have a very different concept of the values of association, organization and even combination in trade, than a decade ago. There are still greater opportunities and obligations for both government and associations in coördinated coöperative service. There is no question but that the group idea is misleading many and persuading them to work for themselves, their interest alone—business groups, social groups, labor groups, etc.—thus enlisted they add to the problems of government and, hence, to those of the individuals in the groups.

Secretary Hoover states that "the interest of any one industry or trade, to be sound in the ultimate analysis, must be the public interest, and in their legislative activities many trade associations have borne this axiom foremost. The demand of legislatures for the views of the different trades upon all sorts of questions of public interest is incessant, and the open preparation and presentation of such matters is far more consonant with proper development of public life than the private lobbying of the few or powerful.

"Waste elimination in a vast area of problems can only be accomplished by collective action in a trade. Hundreds of millions of dollars have been saved through the adoption of principles laid down in each program, not alone to the business groups concerned, but to the ultimate consumer. They have brought about lower prices, through attacking directly the costs of raw material, inefficient plant operation and unnecessary stock maintenance."

Secretary Hoover points to the truly remarkable findings of government agencies in the war years regarding the knowledge and understanding of costs in production and distribution, and says the trade association is proving itself the most potent organized influence in the study of costs in industry and trade.

In commenting on the service of trade associations in the preparation of statistical data which will serve as guides, Secretary Hoover says in part: "There is no question but that the curves in the business cycle from activity to depression have been less disastrous in those industries or trades where accurate, lawful statistical data have been available to all. Fundamentally it is impossible for business men to form those vital judgments as to their future course of action in the wise and safe direction of their activities unless they are informed as to the changing currents of production and consumption, not only in their own lines but also in other lines of business, which indicate broader currents of economic life. The only criteria are statistics and if industry is to march with reasonable profits instead of undergoing fits of famine and feast, if employment is to be held constant and not subjected to vast waves of hardship, there must be adequate statistical service. Whether these services are to be maintained by the Government or by trade associations, they must be maintained if we are to have an orderly economic life."

There is strength in a foundation of confidence, respect and trust, and wisdom in bringing the Government into closer relation with the activities that are essential for the prosperity of the country.—E. G. E.

DEATH OF THE PRESIDENT.

The Nation has bowed its head as one in sorrow because of the death of its Chief Magistrate, and evidenced its tender sympathy for Mrs. Harding. The country has expressed its confidence in President Coolidge as a wise and constructive leader and is hopeful that its affairs will go steadily forward.
