

annual pay roll of these men is \$40,000, individual salaries varying from \$700 to \$3,500. These amounts are paid entirely by manufacturing interests. The scheme in Pittsburgh promises to be one of great importance. In Kansas there are twenty fellowships paid by manufacturers and in Pittsburgh nineteen. Professor Duncan deals with the manufacturer as to his problem and what he is willing to pay for investigation for two or three years. The professor has sole choice of his experts. As a matter of fact three of the Pittsburgh experts are from Toronto University, and the remainder are graduates of various Universities. If a discovery is made it is the sole property for three years of the manufacturer contributing to it. At the end of three years it is the property of the public. The experimenter has a share in the profit, but Professor Duncan has none. The most important questions taken up in Pittsburgh Laboratory are Baking, Smoke Nuisance, Glass perfection, Soap making, Glue, Orange Culls, Crude Petroleum, (\$10,000 a year for two years and bonus), Cement, Natural Gas, etc.

The advantages of this system as stated by Professor Duncan are:

1. A great advantage to the Industrialist.
2. The general elevation of Industry by introducing experts into factories (much after the fashion in Germany.)
3. The co-operation of a large expert staff in which personal integrity is the sine qua non to election to these fellowships. Thus is constituted a fraternity of mutual helpfulness.
4. A remarkable effect upon the Industrialists, interested in elevating and widening their aims and projects.
5. A most important effect on the University concerned, in their relation to the Industrial communities.

Gentlemen of the Canadian Institute, Research is a practical subject. It is no dream or visionary fad. I have endeavored to describe it in its different phases. If Canadian Manufacturers are to succeed, this cannot be done by artificial bolstering up, or sleight of hand, or industrial cornering, or anything else except plain, intelligent hard work. I have pointed out how success may be obtained. It can only be done by Governments—Dominion, Local, and Municipal co-operating heartily in advancing Technical Education, by the co-operative association of Universities and Technical Schools, and it can be greatly assisted by the shrewd but interested support in co-operative plans of the Canadian Manufacturers. Besides, all these may be mightily stimulated by the gifts of rich and generous Canadians—and I am further sure that the Local Governments will pardon us if we should advise the wealthy men to take steps to escape the Legacy Tax by giving hundreds of thousands of dollars while they are still living, that they may see the fruit of their labours.