

MUTUAL BENEFITS TO MANUFACTURERS, UNIVERSITIES AND PUBLIC.

When the young men who are conducting the experiments pass over to the corporations, the Universities do not lose interest in them or in the corporations; and the result is becoming apparent that through this arrangement industrialists may learn how to apply science to practical ends. Wholly unexpected and valuable relations have also developed as the number of Fellowships has increased, in the way in which these Fellows are able to help one another; and it seems that as their number increases, this power of discreet mutual helpfulness increases in what may be called geometrical progression. It will be understood that personal integrity is a *sine qua non* to election into these Fellowships, and hence it is in a certain sense a fraternity.

With the increase in the number of Fellowships, there has appeared an increase of mutual helpfulness of the constituent corporations one to another, with striking results. Although these corporations do not know one another, as nearly all desire no publicity in the establishment of a Fellowship, yet the business of all of them passes through the office of the Director, and remarkable opportunities for helpfulness appear and are taken advantage of, some of these opportunities being for general helpfulness to the corporations quite outside of the actual direct business of the Fellowships.

It may be said, further, that what is called in chemistry the "catalytic influence" of these Fellowships is already beginning to be felt in regard to the industrialists of the country, and as the number increases, it may be reasonably predicted that their influence will leaven the whole loaf of American industry. As a matter of fact, they have proved to be a most efficient ferment.

The public is assured of benefit from every one of these investigations, the results of which will be published within reasonable time free to everyone to read and improve upon. While patents may be taken out at any time, as is the right of every human being, it is not generally understood as it should be, that the results of scientific investigation can reach the public only through the industrialists. Röntgen took out no patents on his discovery of the X-rays, but he did not give this discovery to the people, for it could only go into medical practice by the use of X-ray bulbs, and these were manufactured and improved by various corporations through whose factories they went to the people. These corporations, naturally and not at all improperly, placed on these X-ray bulbs all that the trade would bear. The fact that Röntgen took no money for his research simply added that much to the corporations concerned; his generosity did not make the slightest difference in what the people paid. But while industrialists may come and industrialists may go, every new significant fact hangs on forever as a permanent gift to the human race in its struggle for that unknown goal towards which it is proceeding.

A PROPER UNIVERSITY FUNCTION.

There can be not the slightest question that the establishment of these Fellowships is properly a University function, for the objects of every University worthy of the name are three:—(1) the adequate instruction of the young men and women who frequent its halls; (2) the creation of knowledge, both pure and applied; (3) the dissemination of knowledge, both pure and applied, and the rendering of service through such to its outside environment. This tripartite ideal is not to be questioned, nor is any one factor of the three any more important than the others. The University which does not devote itself to research, both pure and applied, is a dead limb on the tree of our civilization, for without research it can neither teach nor be of service. Researches carried on in accordance with these Fellowships result in new knowledge, both pure and applied. When the researches are ultimately published, it will be found