But there are even better reasons for patenting new ideas whenever possible, and for the discoverer or inventor holding the patent himself. He can push it with more knowledge and energy, and can control it for the general welfare more effectively, than can the financial officers of a university. There is an opinion imputed to Emerson to the effect that the inventor of even a better mouse trap, although he hide in a cabin deep in the forest, will find that the world will beat a wide path to his door. I understand that it is doubtful whether Emerson ever said or wrote anything of the sort. He was a sensible man of considerable experience with new ideas; and certainly this statement is utterly contrary, in the large majority of cases, to actual experience. Inventions, like all other new ideas, have generally to be forced on conservative mankind. It would be easy to point to many inventions and other applications of discovery now saving large numbers of lives that would not yet be in use without advertising and the efforts of salesmen. Without commercialization a large part of all the scientific ideas that are now in constant and active use in our daily lives would be locked in books on the dusty shelves of university libraries. It is properly the business of the creative scholar to see to it that, if possible, his ideas serve mankind in his own generation.

But an even stronger duty rests on a discoverer or inventor. He should see to it that his idea or invention is not misused. He should control it. He should find one or more high-grade concerns to develop it. He should afford them at least such little protection as a patent gives against cut-throat competition, after they have spent money to put the invention into practical form and have made a market for it. Without some assurance of such protection it is difficult to get an idea developed and commercialized. The inventor should so far as possible prevent the sale of inferior or harmful imitations.

Often the investigator or inventor will be unable to accomplish all this. But at least he can do it better than the financial officers of a university. Their responsibilities and duties are sufficiently trying just now without this addition.

In this matter, as in all the other relations of scholars to their universities, it should always be assumed that members of university faculties are men of the highest character. Any new practise, rule or regulation that involves even the smallest imputation to the contrary, or that in any way impairs scholarly freedom, will tend rather to diminish than to insure the maintenance of scholarly ethics and faculty morale. Regulations impair ethics.

YANDELL HENDERSON

YALE UNIVERSITY

UNIVERSITY PATENTS

DR. ALAN GREGG has done a notable service not only to research in medicine but to scientific research in general. John Maynard Keynes has recently said that nothing is more important than that we should get rid of the profit spirit in modern life. His opinion applies more definitely to research than to any other social or human activity. As a matter of history, the scientific discoveries that have ultimately inured to the benefit of society either financially or socially have been made by men like Faraday and Clerk Maxwell who never gave a thought to the possible financial profit of their work. They were driven on by the spirit of curiosity, and that alone should animate workers in scientific laboratories. The moment that research is utilized as a source of profit, its spirit is debased. The state's and the individual's interest in its support is necessarily weakened, and the most glorious characteristic of modern science is debased. There may be a few who will think that Dr. Gregg is treading on their toes. If so, let the "galled jade wince."

ABRAHAM FLEXNER

MATURATION DIVISIONS IN TRADESCANTIA, RHEO AND OENOTHERA

IN a recent communication Dr. Belling,[1] whose sudden and untimely death is a great loss to biology, has made comments on my recent short article in SCIENCE for January 13, 1933 (pp. 49–50). His courteous criticisms seem to turn on the definition of a univalent chromosome. This may conveniently be described as a single (that is not paired with another) chromosome of the first meiotic division. Consequently neither the so-called bivalents nor their constituents can logically be called univalents. According to the results of a number of investigators, in *Tradescantia virginica,* there are found two kinds of chromosome pairs (the so-called synaptic mates), namely, ring pairs, which resemble those generally seen in meiosis in favorable objects, such as Allium, Lilium, etc., and by contrast a varying number of so-called rod pairs. The ring couples are regarded as parasynaptically mated side by side, while the rod bivalents are believed to represent chromosomes paired telosynaptically end to end. We have thus the truly remarkable paradox of the chromosomes of the same species in the identical meiotic division, conducting themselves in fundamentally different fashions. The conception of telosynapsis or end-to-end pairing has long been in growing disrepute, particularly among geneticists. Favorable material seems to show clearly that the meiotic so-called bivalents are primitively always in relation side by side. My extended and somewhat

[1] SCIENCE, 77, p. 260, March 10, 1933.