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MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE FRUITS, PROSPECTS AND LESSONS OF RECENT BIOLOGICAL SCIENCE[1]

THE general welfare of mankind has been wonderfully promoted during the past 150 years by the rapid progress of chemical, physical, and biological science. In the early third of that period, physics and chemistry and their applications seem to have played the most active parts in promoting human welfare, although pure botany and zoology enlisted many devoted workers, and made great advances; but during the past 100 years it is biological science that has contributed most to the well-being of humanity. The new methods of transportation and of manufacturing by the aid of machinery with steam as motive power were products of applied physics. So were the great works of civil and mechanical engineering. The improved agriculture of the last half of the nineteenth century was partly due to new tools and machinery, and partly to new applications of chemical knowledge. Latterly biological science has helped the farmer very much to raise better crops and animals, and to protect his products from vegetable and animal pests.

While the industrial and social changes, which applied physics and chemistry made possible, unquestionably improved the general condition of mankind as regards bodily comfort, security against natural catastrophes, longevity, and an increased sense of mutual support and community interest through the vast improvement in the means of communication, these changes

[1] Address of the retiring president of the American Association for the Advancement of Science, given at the Columbus meeting, December 27, 1915.