

SCIENCE

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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 INTERRELATIONS OF PURE AND APPLIED CHEMISTRY¹

WITHIN the past fifty years there has been a revolution in civilized industries more far-reaching in its effects than the rise or fall of dynasties or the arbitrament of war. It is a quiet, peaceful revolution, so unobtrusive that even its active agents have rarely been aware of its significance. Even the astounding efficiency of armies in the present European war is but a minor item in the forward movement.

This revolution, which is still going on, and may continue indefinitely, is both simple and complex. It is merely the gradual substitution of scientific accuracy for empiricism, of quantitative and rational methods for rule of thumb. It means better service, better wares, intelligent agriculture, improved sanitation, the suppression of epidemics, and the prevention of waste. Through its agency the luxuries of a century ago have become almost necessities; travel has been made easier and cheaper; commerce is broadened; and all the nations of the earth are now brought together in a community of interests which is only interrupted temporarily by war. Even the horrors of war are somewhat mitigated by the beneficent activities of the Red Cross service, which owes much of its effectiveness to the discoveries of science; an effectiveness which would have been impossible in the days of our grandfathers. With the aid of modern inventions the powers not at war are now able to relieve much of the suffering due to war. Steam and the telegraph have made charity more prompt and

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