of the assumptions made are not very plausible.

At first thought, one might conclude that, with the problem of asymmetric syntheses as with the problem of life itself, the main difficulty is to account for the initial step. Given the unit living cell, all others might have developed from this; likewise given the unit asymmetric group, this might serve as the "seed" from which all the countless forms that exist in nature may have sprung. Granting, however, that the formation of the original asymmetric group or groups is satisfactorily explained, another perplexing question at once presents itself. For with perhaps a single exception, in all the partial asymmetric syntheses effected in the laboratory, both forms have been produced. In other words, the best we can do is to synthesize the one form in excess of the other and as a rule this excess is only slight. On the other hand, out of all the infinite variety of optically active compounds found in nature, only in very rare instances are both forms found. Ordinary lactic acid, produced by the fermentation of lactose, contains both forms, although in slightly unequal amounts: *dl*-limonene (dipentene) occurs in certain turpentine oils, while levo-asparagine is found in some plants along with small amounts of the dextro compound. In the laboratory, therefore, the production of both forms is the almost invariable rule; in nature it is the marked exception. To explain this difference upon the assumption that the methods of nature like those of the laboratory lead to the synthesis of both forms, one of which is destroyed as fast as generated, is, in the light of our present knowledge, quite as unsatisfactory as is the assumption that one form only is produced.

The assumption that there exists in the living organism a vital or guiding force which directs the changes that take place within the organism has never been a popular one among chemists. It is fortunate that this is so, for to accept such a belief would be to destroy the spirit of investigation, so far as it applies to a study of many of the problems connected with the living organism. However, the chemist, familiar with the wonderful results that may be accomplished through the action of chemical forces and recognizing that as yet we have but little insight into the nature of these forces, is apt to ascribe to them powers that can not be justified in the light of the knowledge at hand.

The discovery of Wöhler that urea can be synthesized in the laboratory was of the greatest importance; but neither the synthesis of urea nor the synthesis of any other of the almost countless number of compounds effected in the laboratory actually disproves the existence of a vital force in the living organism. Likewise it is certain, to my mind at least, that while the facts of asymmetric synthesis, so far as we can discern at the present time, do not prove the existence of such a force in the living organism, neither do they present any valid argument against the belief in its existence. So far as they have a bearing upon the question, life remains as it always has been—the great mystery.

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SCIENTIFIC EVENTS

MINUTE ON THE LIFE AND SERVICES OF HUGO MÜNSTERBERG

THE following minute on the life and services of Professor Hugo Münsterberg was placed upon the records of the faculty of arts and sciences of Harvard University at the meeting of January 16, 1917:

Hugo Münsterberg, professor of psychology, died in Cambridge on the sixteenth of December, 1916. He was born in Danzig, West Prussia, June 1, 1863. After leaving the gymnasium in his native

city, he studied philosophy in Leipzig, under Wundt among others, taking the degree of Doctor of Philosophy in 1885, and went on with physiological studies in Heidelberg (M.D., in 1887).

In 1887 he habilitated at Freiburg, in Baden, and in 1891 was made professor extraordinary there. An acquaintance with William James, whom he met at a psychological congress in Paris in 1889, led to a call to a professorship of experimental psychology in this university, and he began teaching here in the fall of 1892. The academic years 1895–96 and 1896–97 were spent in Freiburg again, on leave of absence, and on his return to Cambridge in 1897 he was appointed professor of psychology. Professor Münsterberg received the honorary degree of A.M. from Harvard in 1901, LL.D., from Washington University, St. Louis, in 1904, and Litt.D., from Lafayette College in 1907. He was president of the American Psychological Association in 1898 and of the American Philosophical Association in 1908, and was a Fellow of the American Academy of Arts and Sciences and a member of the Washington Academy of Sciences. He had a leading part in forming and carrying out the plans for the International Congress of Arts and Sciences at the St. Louis Exposition in 1904 and in the subsequent publication of its proceedings. In 1901–11 he was the Harvard exchange professor at the University of Berlin.

Münsterberg's fertility and enormous industry were conspicuous from the beginning. While still at Freiburg he published four parts of a theoretical and experimental work entitled "Beiträge zur experimentellen Psychologie," and four volumes on psychological subjects.

His first years in Cambridge were mainly spent, beside the daily tasks of instruction, in developing the psychological laboratory and fostering research. To the students who resorted to him for training in the new methods of experimental psychology he gave freely of time and interest, and his fertile invention supplied many and varied problems for investigation. The production of the laboratory steadily increased in volume and significance, and in 1903 a medium of publication was established under Münsterberg's direction in the "Harvard Psychological Studies." The well planned and equipped laboratory in Emerson Hall, opened in 1905, was chiefly due to his efforts.

His first American book appeared in 1899, a collection of essays entitled "Psychology and Life." It was followed by more than twenty volumes, besides a prodigious number of articles in periodicals. Of his more strictly scientific writings during this period the most important are "Grundzüge der Psychologie" (1900)—the first volume of a largely planned work which was never completed—"Science and Idealism" (1906), "The Eternal Values" (1909), "Grundzüge der Psychotechnik" (1914). In the latter years of his life his interest turned more and more to the applications of psychology, the practical bearings of the science on education, law, medicine and industry. To this series belong, "Psychotherapy" (1909), "Psychology and the Teacher" (1910), "Psychology and Industrial Efficiency" (1913), with many occasional publications. Münsterberg had a deep interest also in educational, social and political problems, and wrote much upon them, from "American Traits" (1901) and "Die Amerikaner" (1904), translated (1905) "The Americans," to his recent books on "The War and America," "The Peace and America" and "To-morrow" (1916).

With this great productivity, he was a notable teacher not only of advanced students in the seminary or laboratory but of large classes of undergraduates whom from year to year he introduced to the elements of psychology.

A man of strong and self-confident opinions and positive expression, he was of a kindly spirit, hospitable, generous, appreciative of others. His mental energy seemed limitless, his industry tireless, his optimism unquenchable. He exemplified his own ideal of productive scholarship, and carried to the grave with him plans for more books than most of us would think of achieving in a lifetime.

MEMORIAL TO SUSANNA PHELPS GAGE

Professor Simon Henry Gage and his son Henry Phelps Gage, Ph.D. Cornell 1909, have given to Cornell University ten thousand dollars as a memorial to Susanna Phelps Gage, Ph.B. 1880, who was the first woman to take laboratory work in physics in that institution and who in her subsequent career as a neurologist showed the highest appreciation of the need for research in our country.

The fund thus established is to be known as the *Susanna Phelps Gage Fund for Research in Physics in Cornell University.*

It is the wish of the donors that the income be administered by the professors of physics with the cooperation of the president of the university; and that it be used in any way which at the time gives promise of advancing knowledge in physics. The