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MARIE-ALFRED CORNU.

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News of the death of Professor Alfred Cornu has brought to every student of Physics and Astronomy, and in particular to every spectroscopist, feelings of surprise and deep regret. His work seemed by no means over; and everyone who saw him preside over the meetings of the International Congress of Physics, at Paris, in 1900, felt that he was in the fulness of his powers.

Cornu was born at Châteauneux, March 6, 1841, and died at La Chansonnerie, near Romorantin, April 12, 1902. His professional career was most brilliant. He entered the École Polytechnique at the age of nineteen, and the École des Mines two years later. He left this as "engineer" in 1866; and the next year, at the early age of twenty-six, he was appointed professor of physics at the École Polytechnique, a position which he held until his death. He was elected a member of the Academy of Sciences in 1878, and later a member of the Bureau of Longitudes. He received honors from many scientific societies of many countries. It may be sufficient to mention a few of these: he was foreign member of the Royal Society of London, of the

Academies of Vienna and of St. Petersburg, and had received honorary degrees from both Oxford and Cambridge. At the last named university he delivered, in 1899, the Rede lecture in connection with the jubilee celebration of Sir George Gabriel Stokes, his subject being the "Wave Theory of Light." He had prepared to lecture in English, but being requested by some of his friends to give the address in French, he rewrote it entirely on a few hours' notice. At other times, too, Cornu came to England to deliver public lectures, and always charmed his audiences by his clearness of thought and expression, and by his simplicity of manner.

As Poincaré has well said of Cornu: "He has left his impress upon all portions of Physics; but his preference was specially for Optics. I think that which attracted him in the study of Light was the relative perfection of this branch of science, which, since Fresnel, seems to share at once in the rigorous exactness and the severe elegance of Geometry itself. It was there, better than elsewhere, moreover, where he could fully satisfy the natural longings of his mind for logical order and clearness." He was in a way the successor of Fresnel, Arago, Biot, and Jamin. His first physical papers were on reflection and refraction; and these were soon followed by his famous work on crystalline reflection. He invented a most ingenious and useful method for determining the optical constants of lenses; and the method of studying problems of diffraction by the use of "Cornu's Spirals" is familiar to everyone. His paper on the focal lines of gratings is complete and elegant; and his discussions of all kinds of optical instruments were exhaustive and always interesting.

But the two great researches in Light for which Cornu will always be renowned are those on the velocity of light and on Ultra-violet Spectra. He perfected the method of Fizeau for the measurement of the velocity of light—that of the toothed-wheel—and made a most exact determination of this great constant of nature. In a paper presented at the International Congress in 1900, he gave a critical discussion of the various methods used for the measurement of this quantity, and at his

death he was engaged in superintending a repetition of his research.

His interest in all questions pertaining to spectroscopy was always keen, as is shown by his having been on the Board of Editors of this JOURNAL from its foundation; and his examination of the spectra of hydrogen, of the Sun, and of many metals was epoch making. These researches were carried out mainly at his country home, where he in general spent his holidays.

For a complete list of Cornu's memoirs one must refer to some catalogues such as that of the Royal Society, but no summary of his scientific activity, however brief, would be complete without reference to his repetition of the Cavendish experiment on the density of the earth, in conjunction with Baille; his acoustic investigations; his influence as a member of several electrical commissions; and his work as president of the International Committee of Weights and Measures.

By one who knew Cornu personally, the impression most definitely remembered is that of a broad-minded, modest, clear-thinking scholar; one who must have been an ideal teacher. He was easily the leading physicist of France, and one of the great men of the world. His loss will be felt not alone by his immediate associates, but by all students of physics.