

## ÉLIE CARTAN AND HIS MATHEMATICAL WORK

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After a long illness Élie Cartan died on May 6, 1951, in Paris. His death came at a time when his reputation and the influence of his ideas were in full ascent. Undoubtedly one of the greatest mathematicians of this century, his career was characterized by a rare harmony of genius and modesty.

Élie Cartan was born on April 9, 1869 in Dolomieu (Isère), a village in the south of France. His father was a blacksmith. Cartan's elementary education was made possible by one of the state stipends for gifted children. In 1888 he entered the "École Normale Supérieure," where he learned higher mathematics from such masters as Tannery, Picard, Darboux, and Hermite. His research work started with his famous thesis on continuous groups, a subject suggested to him by his fellow student Tresse, recently returned from studying with Sophus Lie in Leipzig. Cartan's first teaching position was at Montpellier, where he was "maitre de conférences"; he then went successively to Lyon, to Nancy, and finally in 1909 to Paris. He was made a professor at the Sorbonne in 1912. The report on his work which was the basis for this promotion was written by Poincaré;<sup>1</sup> this was one of the circumstances in his career of which he seemed to have been genuinely proud. He remained at the Sorbonne until his retirement in 1940.

Cartan was an excellent teacher; his lectures were gratifying intellectual experiences, which left the student with a generally mistaken idea that he had grasped all there was on the subject. It is therefore the more surprising that for a long time his ideas did not exert the influence they so richly deserved to have on young mathematicians. This was perhaps partly due to Cartan's extreme modesty. Unlike Poincaré, he did not try to avoid having students work under his direction. However, he had too much of a sense of humor to organize around himself the kind of enthusiastic fanaticism which helps to form a mathematical school. On the other hand, the bulk of the mathematical research which was accomplished at the beginning of this century in France centered around the theory of analytic functions; this subject, made glamorous by the achievement represented

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<sup>1</sup> This report was in part published in *Acta Math.* vol. 38 (1921) pp. 137-145. It should be of considerable historic interest to have now a complete version of this report.