

Acknowledgements

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Henri Poincaré was born on April 29, 1854 at Nancy in France. His mathematical talents must have been obvious early on, for one of his teachers at school wrote to a colleague of his 'I have a mathematical monster in my class, he is Henri Poincaré.' He attended École Polytechnique in Paris (1872–75) graduating with top honours in mathematics. He got his doctorate in 1879 from École Nationale Supérieure des Mines; his thesis was on differential equations. He joined the Université Paris in 1881. By the time he was thirty he had finished his monumental work on automorphic functions. He worked in many areas of pure and applied mathematics, theoretical astronomy, and philosophy of science. He made fundamental contributions to the study of Riemann surfaces and of discontinuous groups, algebraic geometry, functions of several complex variables and non-Euclidean geometry. He was a pioneer in many major fields – dynamical systems, algebraic and differential topology, ergodic theory and use of topology in studying non-linear phenomena. In his Men of Mathematics, E T Bell describes Poincaré as 'the last universalist'. He was a gifted interpreter of science to the general public. It is surprising to note that in addition to his intense scientific pursuits – his scientific publications number nearly 450 – he found time and effort to address questions on school education and the like. Poincaré's concept of mathematics emphasises geometrical and analytical intuition, creativity and the relation of mathematics to the natural sciences. He liked to describe himself as a 'pragmatist' in mathematics. To quote him, "The principal aim of mathematical education is to develop certain faculties of the mind, and among these intuition is not the least precious. It is through it that the mathematical world remains in touch with the real world, and even if pure mathematics could do without it, we should still have recourse to it to fill up the gulf that separates the symbol from reality". Poincaré died on July 17, 1912 in Paris while still at the height of his creative powers.

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