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# Evariste Galois

by Ng Lo Mun

Evariste Galois was a French mathematician whose discoveries are considered to be some of the most original mathematical ideas of the nineteenth century. Born in year 1811 and died a mere twenty years later in 1832, his life was one of disillusionment and disappointments.

As a boy, Galois had boundless energy and enthusiasm. His love for learning led him to read books of mathematics much like what other boys would read mysteries. Because of his superior intelligence, school was extremely boring and unchallenging for Galois and he rebelled against the harsh domineering treatment by teacher whom he found unmotivating. Galois also loved to do mathematics in his head and would not bother to write out the proofs systematically on paper. This proved to be highly detrimental to him for he failed the entrance test to the Ecole Polytechnique as a result. Galois was extremely disappointed in the unjust test results as he found the questions not difficult.

When Galois was 17 years old, Professor Louis-Paul-Emile Richard, a great teacher, came to his school. Professor Richard immediately recognised the genius in Galois and encouraged him to compile his discoveries and sent them to the French Academy which was French's finest group of scholars. Galois promptly took up the challenge and sent his papers to Augustin-Louis Cauchy, a professor at Ecole Polytechnique. But, most unfortunately for Galois, Cauchy never read his work and lost his paper as well.

Later, Galois decided to take the Ecole Polytechnique entrance test again. Only two tries were allowed and this would be second chance. However, the examiners had already heard of his intelligence and had their minds set against him even before the test. They taunted him during the oral test so much that Galois lost his temper and hurled an eraser at them. That ended all his hopes for admission into the best school of mathematics in Europe.

Galois went to the university at the age of 19 and he produced some very important papers on algebra, in particular, an important function of algebra to solve equations. Galois discovered the type of equations that could be solved and those that could not. In a moment of optimism, he submitted his work to the Academy of Science in competition for the Grand Prize in mathematics. The secretary received his work but died before reading it. To make matters worse, when officials went to retrieve the papers, they had mysteriously disappeared.

Disappointments and setbacks finally took their toll on Galois and he became a very bitter man. He developed a distrust for teachers and institutions and got involved in politics instead. He joined the Republicans which was a forbidden radical group. Galois was arrested in a couple of times but was acquitted of the charges which were difficult to prove. He was finally jailed for 6 months on some trumped up trivial charge of wearing the uniform of a non-existent National Guard.

During his sojourn in jail, Galois renewed his interest in mathematics. On his release, he sorted out his papers but was unable to complete them before he was forced into a duel over a girl that he was barely acquainted with and hardly cared for. The duel proved to be his end.

The death of Galois was indeed a terrible waste. If he had known that his work would be of great significance to mathematics, life would have been more meaningful for him. As it was, he died a very disappointed man. M<sup>2</sup>



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