

BERTRAND RUSSELL (May 18, 1872-February 2, 1970)

by HEINZ KLAUS STRICK, Germany

BERTRAND ARTHUR WILLIAM RUSSELL was the second son in an influential family of the British nobility. His grandfather JOHN RUSSELL, the first EARL RUSSELL, was for many years a member of the government, including service as prime minister during the reign of QUEEN VICTORIA. When over the course of a few years both of BERTRAND's parents and his grandfather died, the grandmother took over the responsibility for educating the two boys. BERTRAND was educated by private tutors and had little contact with children his own age. In his autobiography, written in his later years, he describes his childhood as an unhappy one.

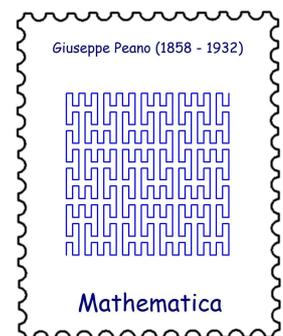


At the age of 20, he began his studies in mathematics and philosophy at the renowned *Trinity College* in Cambridge and graduated with firsts in both subjects after four years of study. He referred later to this phase of his life also as ineffectual and not particularly gratifying except for his contacts with future colleagues (ALFRED NORTH WHITEHEAD, JOHN MAYNARD KEYNES).

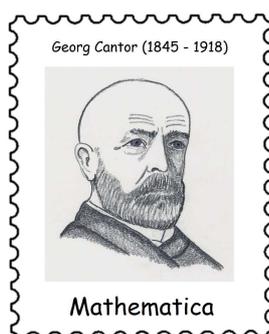
From 1895 till 1901, he held a research fellowship without any teaching duties, which he used to good effect. His first publications dealt with the philosophical foundations of mathematics. In his dissertation, *An Essay on the Foundations of Geometry*, he attempted to reconcile the KANTIAN ideas of space with the new understanding of non-EUCLIDEAN geometry. In his article *The Teaching of EUCLID*, he explored the weaknesses in the logical structure of the *Elements*. Some years later, a reviewer remarked that EUKLID's main error was in not having read RUSSELL's publications.

His paper *A Critical Exposition of the Philosophy of LEIBNIZ* contributed to the long-needed rehabilitation of that German philosopher and mathematician, whose philosophical work had been almost completely ignored in England since the priority dispute between LEIBNIZ and NEWTON two hundred years earlier.

When at a mathematics conference in 1900 he encountered the (so-called) logiscistic approach of the Italian mathematician GIUSEPPE PEANO, he became convinced that mathematics needed to be placed on a more secure foundation. RUSSELL published *The Principles of Mathematics* (1903) and attempted – in collaboration with ALFRED NORTH WHITEHEAD – in the three volumes of the *Principia Mathematica* (1910–1913) to implement a program whereby all mathematical concepts and definitions would be reduced to logical symbols, and the derivation of mathematical theorems from a set of axioms should proceed along strictly logical lines.



While at work on this project, he discovered that the definition of a set introduced a few years earlier by GEORG CANTOR (as a collection of objects of our intuition or thought grouped into a single object) leads to an antinomy (Greek: incompatibility), which has become known as RUSSELL's paradox: a set that contains every set that does not contain itself as an element is a contradiction in terms. Later, RUSSELL offered the following "popular" formulation of the problem: One can define a barber as someone who shaves all those who do not shave themselves. The question then is, does the barber shave himself?



The formation of a set must therefore be subject to certain restrictions. To this end, RUSSELL developed the "*theory of types*", in which there exist sets of various types. This approach solves the problem, but it did not take hold.

The German mathematician and logician GOTTLOB FREGE, on whose work *Die Grundlagen der Arithmetik* (The Foundations of Arithmetic) RUSSELL had also initially relied, fell into a deep depression on learning of RUSSELL's discovery. In an epilogue to the second edition of his book, FREGE acknowledged that through RUSSELL, the foundations of his construction had been shattered.

From 1910 on, RUSSELL worked as a lecturer in mathematics at *Trinity College*; however, the university fired him from that position when – enraged at the general enthusiasm for war and the barbarity of the First World War he publicly declared himself a pacifist. In 1918, he was sentenced to six months' imprisonment for his antiwar activities. While in prison, he wrote a number of books, including *Roads to Freedom: Socialism, Anarchism, and Syndicalism*. An initial sympathy for the socialist experiment ended after he visited the Soviet Union in 1920 and spoke with LENIN. He called Russia *an asylum for dangerous mental patients where the guards are the most dangerous of all*.

The outbreak of the First World War meant for RUSSELL a “*departure of PYTHAGORAS*,” even though he continued to write books and articles on philosophy, such as the *Introduction to Mathematical Philosophy* (1919), written for a general audience, and later the critical review *A History of Western Philosophy* (1946).



In 1920, he accepted a guest professorship in Beijing and immersed himself in Chinese culture. On his return, he earned his living as the author of numerous books on a variety of subjects, including popular-scientific books on atomic physics and the theory of relativity, but also on politics and education. After a fruitless search for a suitable school for his two children, he founded, together with his second wife, the experimental antiauthoritarian private *Beacon Hill School* (about which he later admitted that his goals had not been realized).

He caused a stir with his books *Why I Am Not a Christian* (1927), in which the atheist RUSSELL dealt critically with religion, Christianity in particular, and his *Marriage and Morals* (1929), a plea for a freer sexual morality.



In 1936, he married for a third time and accepted a position at the University of Chicago and then at the University of California, Los Angeles. His appointment to the City College of New York in 1940 was annulled following protests by fundamentalist Christians, who claimed that such an appointment would endanger the morals of the students because RUSSELL approved of divorce and homosexuality.

In 1950, he was awarded the Nobel Prize in literature, “*in recognition of his varied and significant writings in which he champions humanitarian ideals and freedom of thought*”.

During the Second World War, he rejected his earlier absolute pacifism, even advocating a preemptive strike against the Soviet Union. After the Soviet Union obtained the atomic and hydrogen bombs, he became committed to the preservation of world peace: a third world war would threaten the very existence of mankind.

In 1955, together with a number of famous people, he wrote *A manifesto on the consequences of the use of nuclear weapons* and founded the *Pugwash Conference*, which has since then met regularly to discuss questions of disarmament and the responsibilities of the scientific community (this group received the 1995 *Nobel Peace Prize*).



In 1957, he began the *Campaign for Nuclear Disarmament* and became its first president. In 1961, the eighty-nine-year-old RUSSELL was arrested for participating in a strike in London and was sentenced to two months in jail for "*inciting the public to acts of civil disobedience*", though he was released after a week in the prison hospital for reasons of health.



During the Cuban missile crisis of 1962, he sent urgent personal messages to KHRUSHCHEV and KENNEDY with the goal of preventing nuclear war. In 1963, he founded the *BERTRAND RUSSELL Peace Foundation*, which works for peace, social justice, and human rights. In 1966, his foundation established the *Vietnam War Crimes Tribunal*, which ended with a guilty verdict against the United States of America ("*crimes against peace, violation of international human rights and the charter of the United Nations*").

In his memoirs, he looks back on an eventful life. He had received many honors, had rarely conformed to social norms, but had been true to his ten commandments, as he formulated them in 1951.

For example:

- *Do not believe that you are certain about anything.*
- *Have no respect for the authority of others, for there will always be authorities with the precise opposite opinion.*
- *Have no fear of expressing eccentric views; every current opinion was once eccentric.*
- *Rejoice more over intelligent opposition than over passive agreement, for if intelligence is of such value to you as it should be, then in contradiction there lies a deeper agreement.*
- *Do not envy those who have the good fortune to be living in a fool's paradise, for only a fool could consider that to be good fortune.*



First published 2010 by Spektrum der Wissenschaft Verlagsgesellschaft Heidelberg

<https://www.spektrum.de/wissen/bertrand-russell-1872-1970/1021901>

Translated by David Kramer

English version first published by the *European Mathematical Society* 2012

