CHILDHOOD

MICHAEL FRANCIS ATIYAH was born in London on 22nd April 1929. His father, EDWARD ATIYAH, was Lebanese with an Oxford education. His mother, JEAN, came from a Scottish family. Both parents were from middle class professional families, one grandfather being a minister of the church in Yorkshire and the other a doctor in Khartoum.

MICHAEL ATIYAH lived most of his childhood in the Middle East, as his father worked as a civil servant in Khartoum until 1945, when the family moved permanently to England. EDWARD ATIYAH became an author and was involved in representing the Palestinian cause.

During the war, after elementary schooling in Khartoum, MICHAL ATIYAH went first to Victoria College in Cairo and subsequently in Alexandria. This was an English boarding school with a very cosmopolitan population. From those days ATIYAH remembers priding himself on being able to count to 10 in a dozen different languages.

Called "The Abbot" within the family, this picture was taken when ATIYAH was 2 years old.

At Victoria College he obtained a good basic education. In his final year, at the age of 15, he focused on mathematics and chemistry, but when he found memorizing large amounts of factual information in chemistry very boring, he gravitated towards mathematics where only principles and basic ideas matter.

From this point on he saw clearly that his future lay in mathematics.

M. ATIYAH at age 10, studying.

YOUTH

In England ATIYAH completed his school education in the Manchester Grammar School (MGS), the leading school for mathematics in the country. There he became, and remained, primarily a geometer. He acquired a lasting love of projective geometry, with its elegant synthetic proofs, and of quaternions. The mathematics class at MGS, a small and highly selected group, were all trained for the Cambridge entrance scholarship examinations. In due course all the class went on to Cambridge except for one who went to Oxford instead. The students were steered to different colleges, depending on their abilities, and ATIYAH was one of the top three sent to Trinity College, home of ISAAC NEWTON, JAMES CLERK MAXWELL, BERTRAND RUSSELL and other famous scientists.

After being awarded a Trinity scholarship in 1947, ATIYAH spent two years doing his National Service in the military. In his spare time he read mathematics for his own enjoyment (HARDY and WRIGHT's book on Number Theory, for example). He finally started at Cambridge in 1949, at age 20, and in the examination at the end of the first year he came top of the whole university.

Graduation (1952) with friends. From left to right: JAMES MACKAY, Lord Chancellor, M. F. ATIYAH; IAN MACDONALD, FRS, mathematician; JOHN POLKINGHORNE, FRS, physicist and theologian; JOHN AITCHISON, professor of statistics.

EARLY RESEARCH

After graduation, ATIYAH started research in algebraic geometry and differential geometry under the supervision of W. HODGE.

His thesis grew out of his own background in classical projective geometry and a very early mastering of the brand new theories of sheaves and characteristic classes. The leading names in these developments were JEAN-PIERRE SERRE and FRIEDRICH HIRZEBRUCH, who were just a few years older than ATIYAH. He met them very early: both had a decisive influence on him.

ATIYAH's thesis had two parts, one dealing with vector bundles on algebraic curves (which later became a very popular topic) and the other, jointly with HODGE, on "Integrals of the Second Kind". This was a modern treatment of an old subject.

SIR WILLIAM VALLANCE DOUGLAS HODGE (1903-1975). Lowndean Professor of Astronomy and Geometry in Cambridge, his name is forever associated with his theory of "Harmonic integrals" (Hodge theory).
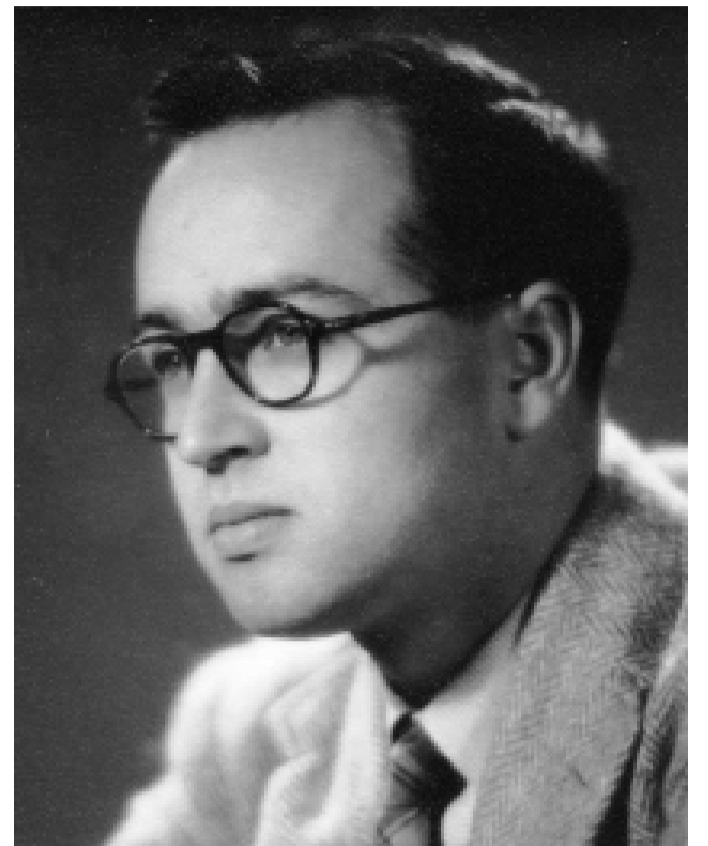
TRINITY FELLOW

ATIYAH's thesis (1954) earned him one of the highly-prized Research Fellowships at Trinity.

He also got a Fellowship (1955) to go to the Institute for Advanced Study in Princeton.

Trinity Fellow, Cambridge, 1954.

In Princeton he met many of those who would influence or collaborate with him in the future. In addition to SERRE and HIRZEBRUCH, there were KODAIRA and SPENCER, of the older geometers, and BOTT and SINGER of the younger ones.

ATIYAH returned frequently to the Institute, his second mathematical home, in later times. The longest stay was as a permanent member of the Institute 1969-72.

Sources

The text on this poster is extracted from [1], with some slight changes to fit the narrative style. All the pictures, except HODGE's, belong to [2]. HODGE's picture is a digital reproduction of one of the pictures in [3] (it can also be found in Hodge's MacTutor biography).

[1] M. ATIYAH: *Autobiography* (text written for the Abel Prize Committee, 2004).
[2] M. ATIYAH: *Abel Prize Album* (set of pictures selected for the Abel Prize Committee).
[3] P. R. HALMOS, *I have a photographic memory* (Providence, 1987).

MICHAEL ATIYAH married LILY BROWN in 1955, just before going to the Institute for Advanced Study in Princeton.

LILY BROWN was a fellow student of ATIYAH. She came from Edinburgh and her Ph.D. supervisor was MARY CARTWRIGHT. She resigned a university position in London to accompany her husband to Princeton.