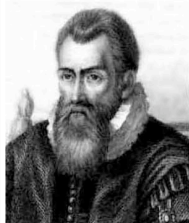


MATHEMATICAL HISTORY OF ST ANDREWS

JOHN NAPIER: 1550 —1617



John Napier entered the University of St Andrews in 1563 — at the age of thirteen — and studied Theology here. He left without a degree.

His most important mathematical contribution was the invention of logarithms — widely used in calculation until the invention of the calculator and computer.

As the French mathematician Laplace said:
 "...by shortening the labours he doubled the life of the astronomer."



The title page of Napier's 1614 work:

Mirifici logarithmorum canonis descriptio

[A description of the wonderful canon of logarithms]

in which he introduces the logarithm.

D'ARCY THOMPSON: 1860 —1948



D'Arcy Thompson was appointed to a professorship in Dundee (then part of the University of St Andrews) in 1884 and held professorial posts there and in St Andrews for 64 years.

He is famous as the first person to apply mathematics to biology. His ground-breaking book *On Growth and Form* is still a standard text. He appears in the Kate Kennedy procession with a parrot on his shoulder — as he used to walk around the St Andrews streets.



In the picture above D'Arcy Thompson is shown holding a shell of a many-chambered Nautilus. In the picture on the left the shell is shown with the graph of the *Equiangular Spiral* superimposed on it.

This is the curve given in Polar coordinates by the equation

$$r = ae^{c\theta}$$

This curve appears in a wide variety of mathematical applications.

GEORGE CHRYSAL: 1851 —1911



George Chrystal was appointed Regius Professor of Mathematics at University of St Andrews in 1877.

He is best known for the influential two volume text *Algebra* published in 1889.

He played an important part in setting up the Scottish secondary education system where his influence persists to this day.

HERBERT TURNBULL: 1885 —1961



Herbert Turnbull was Regius Professor of Mathematics at University of St Andrews from 1921 to 1950.

He was an expert in Invariant Theory and an enthusiast for the History of Mathematics.

He started the Edinburgh Mathematical Society St Andrews Mathematical Colloquium which has been held (about) every four years up to the present day.

JAMES GREGORY: 1638 — 1675



James Gregory was appointed the first Regius Professor of Mathematics at University of St Andrews in 1668.

He is important as an astronomer for the invention of the reflecting telescope and in mathematics for the discovery of certain infinite series, including:

$$\frac{\pi}{4} = 1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \dots$$



The upper room above Parliament Hall which Gregory used for his Observatory



This picture shows D'Arcy Thompson in about 1946 outside Jannetta's ice-cream shop in South Street.

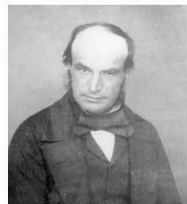
EDWARD COPSON: 1901 —1980



Edward Copson was Regius Professor of Mathematics at University of St Andrews from 1950 to 1969.

He was an expert in Complex Analysis.

JOHN COUCH ADAMS: 1819 —1892



John Couch Adams was appointed Regius Professor of Mathematics at University of St Andrews in 1868 but only spent a short time here before going on to Cambridge.

He is best known for his work in astronomy and was able to predict the existence of the planet Neptune by studying the irregularities in the orbit of Uranus.

Edinburgh Mathematical Society Colloquium in St Andrews in 1938



The Edinburgh Mathematical Society has held sixteen summer colloquia in St Andrews starting in the 1920's.

Many famous mathematicians have attended these meetings . . . and some others.

The man fourth from the left at the back in the picture above is Klaus Fuchs, an atomic scientist who was arrested in 1950 for spying for the Soviet Union

GREGORY'S MERIDIAN LINE

JAMES GREGORY (1638-1675) WAS THE FIRST REGIUS PROFESSOR OF MATHEMATICS AT THE UNIVERSITY OF ST ANDREWS AND AN EARLY FELLOW OF THE ROYAL SOCIETY. HE USED THE UPPER HALL OF THIS BUILDING, KNOWN AS THE KING JAMES LIBRARY AS HIS LABORATORY FROM 1668-1675. A NORTH-SOUTH MERIDIAN LINE WAS LAID DOWN IN THE FLOOR OF THE LIBRARY IN 1748 (CONTINUED HERE ACROSS THE PAVEMENT).

GREGORY, ALONG WITH NEWTON AND LEIBNIZ, WAS ONE OF THE FOUNDERS OF CALCULUS. HE WROTE THE FIRST TEXTBOOK ON THE SUBJECT, AND CALCULUS WAS TAUGHT AT ST ANDREWS 100 YEARS BEFORE IT WAS ON THE CURRICULUM AT THE UNIVERSITY OF CAMBRIDGE. GREGORY IS ALSO REMEMBERED FOR HIS DISCOVERY OF THE DIFFRACTION GRATING BY USING A BIRD'S FEATHER, AND FOR HIS INVENTION OF THE "GREGORIAN" TELESCOPE, WHICH IS STILL IN USE TODAY.

THIS MERIDIAN LINE WAS SET IN PLACE THANKS TO THE SUPPORT OF THE UNIVERSITY OF ST ANDREWS AND THE ST ANDREWS PRESERVATION TRUSTS' GORDON CHRISTIE BEQUEST.

The plaque in South Street outside Gregory's observatory



Groups St Andrews Conferences

Groups St Andrews Conferences have been held every four years since 1981, either in St Andrews or in other venues. They have attracted top workers in the field from all over the world. The picture above is of the 1981 conference taken at David Russell Hall.



The MacTutor History of Mathematics Archive, based at St Andrews, is the leading history of mathematics web-site. It is accessed by about 200 000 users every week from all over the world and they download more than 2 000 000 files. It includes the biographies of more than 2500 mathematicians.