A short scientific tour of central Aberdeen

The 4 pages following this contain information extracted from my articles on the web under the title of ‘The scientific tourist’. The full versions can be found at [http://homepages.abdn.ac.uk/npmuseum/scitour.shtml](http://homepages.abdn.ac.uk/npmuseum/scitour.shtml). Printing the 4 pages off double-sided gives the information on two sheets that can be taken on this short tour. The total distance is about 1.3 km. The implied itinerary is:

**Start in Marischal College quadrangle.**

Exit onto Broad Street, turn left and reach Union Street, turn left and walk past the townhouse (inside of which is Patrick Copland’s heraldic shield on the main hall ceiling but not open to the public) head for the far corner of the Castlegate, walk up Castlehill to the very end with a fine view over the harbour and North Sea. You are at the location of the observatory.

Return to Union Street and walk down the left-hand side pausing at No. 39, a shop. Walk past ‘Adelphi’ where on the entrance wall an image celebrating David Gill was painted in 2014.

Cross Union Street diagonally at the next intersection and walk past No. 78, formally David Gill’s shop.

Walk into St Nicholas churchyard. On left is the large monument to Robert Hamilton, near the right corner is moss-covered gravestone of Patrick Copland; inside the church if open, near West entrance, is the Liddell plaque and also, in a corridor, a Patrick Copland memorial plaque.

Cross Union Street and beside the steps to a lower level is Maxwell’s Aberdeen lodgings at 129 Union Street and the IoP blue plaque. Street plan below courtesy Google maps.

John S. Reid
The Scientific Tourist at Marischal College

Marischal College, close to the centre of Aberdeen, was founded in 1593. It was an independent university until 1860 when it was fused with King's College in Old Aberdeen. The building we see today is not the original College. 18th and some 17th century academics and students would have known its predecessor, which was mainly erected in the last quarter of the 17th century. It is sketched in the left-hand image above. "A great square, hulking yet lofty, ancient lump of a building, impressive by its amorphous grey massiveness even in the daylight, but in winter nights quite weirdly to look at in the dark space that enshrined it, with the few lights twinkling at some of its small windows.....". Through the eye of another former inmate "behold a building, which rustics who cannot read the dignified inscription 'College Court' generally mistake for the Town Jail, so much does it possess of that majestic awe which sobers the student's mind to reflection".

The core of today's building was erected in the late 1830s but the ornate facade was added in the early 20th century and the Mitchell tower at the far end of the quadrangle doubled in height at that time. The result is allegedly the second largest granite building in the world. The photographic thumbnail above right shows the newer building seen through the entrance arch, before it was converted into the city council's new HQ. As of September 2012 there is one plaque to a scientist in the quadrangle (G P Thomson) but this place has hosted a good many who have made significant contributions to the physical sciences

| Colin MacLaurin – mathematician and Newtonian | Patrick Copland – educator, innovator and artisan | James Clerk Maxwell – pioneer in electrical science, molecular science, colour science, optics, mechanics and sympathetic educator |
| Charles Niven – local educator, keeping students up-to-date for 42 years | Frederick Soddy – Nobel Prize winner and writer on social reform | George P. Thomson – Nobel Prize winning physicist |
Short scientific tour of central Aberdeen: JSR

<table>
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<tr>
<th>John A. Carroll – astronomer, solar physicist and defence scientist</th>
<th>Reginald V. Jones – defence scientist and instrument designer</th>
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See [http://homepages.abdn.ac.uk/npmuseum/scitourMarischal.shtml](http://homepages.abdn.ac.uk/npmuseum/scitourMarischal.shtml)

**The site of the Castlehill Observatory**

At one time Aberdeen had the finest astronomical observatory in Scotland, financed by public subscription, organised by Marischal College and equipped with the best instruments in the country. The time was between the years 1781 and 1796. The observatory was located near the centre of town at the top of the Castlehill, a site that would be useless for the same purpose today but in the 1780s industry was powered by water, ships by sail and the oil street lamps gave out scarcely a glimmer in the gloom.

See [http://homepages.abdn.ac.uk/npmuseum/Scitour/Observatory.pdf](http://homepages.abdn.ac.uk/npmuseum/Scitour/Observatory.pdf)

**John Ramage – notable telescope maker, 39 Union Street**

John Ramage (1788–1835) has largely escaped any mention by local historians yet he was something of a sensation in his day. One of Ramage’s telescopes was erected beside the Royal Greenwich Observatory for testing and is described and illustrated in W. Pearson’s well-known book on practical astronomy, the source of the image here. It was not sufficiently good optically but the framework design is said to have been the prototype for the Earl of Rosse’s first large telescope at Parsonstown. Another of Ramage’s telescopes was brought by John P Nichol, Professor of Astronomy at Glasgow. He esablished an optical instrument making shop at 39 Union Street, gave lectures on Astronomy, was treasurer of the Aberdeen Mechanics Institution and sponsored for Fellowship of the Royal Astronomical Society. He died suddenly in 1835.

See [http://homepages.abdn.ac.uk/npmuseum/Scitour/Ramage.pdf](http://homepages.abdn.ac.uk/npmuseum/Scitour/Ramage.pdf)
David Gill – leading 19th century astronomer

Sir David Gill (1843-1914) FRS, PRAS, K.C.B. etc., became one of the 19th century’s leading observational astronomers. Gill had been private student in James Clerk Maxwell’s Natural Philosophy class at Marischal College in 1859-60. He was the eldest son in the third generation of a notable Aberdonian watch making family who had their shop at 78 Union Street. Gill eventually became proprietor of the shop and ‘Watchmaker to the Queen’. In cooperation with Maxwell’s successor at the University of Aberdeen, from 1863 he brought accurate time to Aberdeen through a number of electrically controlled slave clocks driven by his master clock at the King’s College Observatory. Gill sold his horological business and became director of the Dun Echt observatory from 1872 – 1875. After organising his own astronomical expedition to Ascension Island measure the solar parallax he was appointed Her Majesty’s Astronomer at the Cape of Good Hope in 1879. In the 27 years spent at the Cape he established the observatory as the best in the southern hemisphere, undertaking work at the leading edge of astronomy at the time.

See http://homepages.abdn.ac.uk/npmuseum/Scitour/CTDG.pdf

St Nicholas Churchyard and Church

Robert Hamilton memorial  Patrick Copland Grave  Duncan Liddell brass

Dr Robert Hamilton FRSE (1743-1829) was in name Professor of Natural Philosophy at Marischal College from 1789 – 1817 but in fact professor of Mathematics. In 1790 he published a short treatise ‘Peace and War’ highlighting the slender grounds on which expensive and bloody wars are often undertaken, and the inadequacy of national advantages to compensate for the loss of men and money incurred by the retention of foreign conquests. What gave him a public presence in the country at large was his book explicitly on economics, first published in the twilight of his life in 1813 entitled “An inquiry concerning the rise and progress, the redemption and present state, and the management of the national debt of Great Britain”. In this he applies the logic of mathematics to point out that the much favoured ‘sinking fund’ for paying off the national debt was flawed to the point that it was doomed to long-term failure.

See http://homepages.abdn.ac.uk/npmuseum/Scitour/Hamilton.pdf
Dr Patrick Copland FRSE (1748-1822) was a son of Fintray manse in Aberdeenshire. He attended Marischal College as a student from 1762-1766, graduating AM. Copland was passionate about Natural Philosophy, about the application of its knowledge to every-day life, to manufacturing, to farming, to engineering practice and, in reverse, about the use of apparatus to illustrate the principles of the subject. From 1775 – 1822 he taught Natural Philosophy at Marischal College, becoming the College’s most effective lecturer. He was in the forefront of teaching by demonstration. Being a first-rate mechanic himself, he built up one of the best collections of apparatus in Europe, admired by Thomas Young among others. He initiated evening classes for workers, more extensive and longer running than the later efforts of George Birkbeck in London. Copland acted as scientific consultant to the Town Council, to Thomas Telford and other others, always concerning the practical application of physics. The first two lines of the inscription used to say ‘They rest not here whose Dust lies ‘neath this Stone / Since Death lays low the Earthly form alone’ but the lines are now mostly gone. The inscription continues ‘Patrick Copland L.L.D./ Professor of Natural Philosophy/ in the University of this City/ died 22d November 1822 aged 73 years’. Actually, he was 74. The rest of the gravestone had a lengthy inscription concerning other members of the family.

See [http://homepages.abdn.ac.uk/npmuseum/Scitour/Coplandgrave.pdf](http://homepages.abdn.ac.uk/npmuseum/Scitour/Coplandgrave.pdf)

Duncan Liddell MD (1561-1613) was an Aberdonian who made his name as a teacher of astronomy and as a medic in the young university of Helmstedt. This was a protestant University founded a few years before Marischal College. He is locally famous for leaving Helmstedt at a relatively young age, returning to Aberdeen with a substantial fortune and on his death donating his large and valuable collection of astronomy and medical books to Marischal College. The brass commemorative plaque was designed by George Jamieson (father-in-law of astronomer James Gregory) and cast in Amsterdam.

See [http://homepages.abdn.ac.uk/npmuseum/Scitour/Liddell.pdf](http://homepages.abdn.ac.uk/npmuseum/Scitour/Liddell.pdf)

**James Clerk Maxwell’s lodgings - 129 Union Street**

The side of his lodgings was the site of a small bronze plaque erected in 1956 to mark the centenary of his appointment as Professor at Marischal College. The plaque was replaced in 2017 by an Institute of Physics Blue Plaque.

See [http://homepages.abdn.ac.uk/npmuseum/Scitour/Maxplaque.pdf](http://homepages.abdn.ac.uk/npmuseum/Scitour/Maxplaque.pdf)