Bells ring out for James Hutton by Martin Whiteley

A recent peal at Haddington celebrated the tercentenary of the birth of James Hutton (1726–1797), the man who is widely regarded as the founder of modern geology. His astute observations about the rocks around the Scottish coastline, and particularly at Siccar Point, near Dunbar, not only established that the Earth is immensely old, but in the process he also saw the possibility of both evolution and natural selection – some fifteen years before Charles Darwin.

The peal was specially arranged on his birth date and it formed part of a programme of lectures, exhibitions, receptions and field trips in Lothian designed to raise the profile of this conspicuous member of the Scottish Enlightenment movement, and to broadcast his extraordinary scientific achievements.

The peal band collectively share Hutton's varied interests in agricultural reform, medicine and geology and the method was named after the world-famous geological locality that is synonymous with his name. As Hutton spent most of his life living and working in the former county of Berwickshire it was appropriate to ring the peal at Haddington. I was also pleased to see that, a few days earlier, a peal of Rock Surprise Major was rung for Hutton's anniversary at Berwick upon Tweed (*RW*6008, p.558) by a band with geographic connections to the area.

After the peal, the band retired for lunch and was joined by members of the committee responsible for orchestrating the tercentenary celebrations. We were thanked for undertaking our performance and presented with facsimiles of field sketches made at Siccar Point in 1788 by Sir John Hall, one of Hutton's scientific colleagues.

Then we drove south to Cockburnspath and walked out to the cliff edge to admire the recently constructed stone edifice that serves as a viewing platform and information point for Siccar Point itself, which is tucked away on the rocky foreshore some 60 metres below. Either the challenge of scrambling down the cliff or the emotion of standing at this amazing site got the better of us, because unfortunately we faltered in our attempt to ring a tercentenary touch of 300 Plain Bob Minor on handbells. However, the small audience of wheeling seagulls and baffled onlookers seemed none the wiser and perhaps it was the gesture rather than the outcome that was more significant.

I'd like to thank my fellow ringers for willingly giving up their time in order to celebrate the anniversary of this extraordinary man who fundamentally changed how humanity understands the planet.

SCOTTISH ASSOCIATION

HADDINGTON, East Lothian, St Mary
Wed 3 Jun 2026 2h52 (11)
5088 Siccar Point S Major
Comp. Donald F Morrison (Op.2783)
1 Christopher W Thomas
2 Sally L Thomas
3 Richard J W Tibbetts
4 Susan E Bryce
5 Colin P North
6 Stephen M Jones
7 Peter G C Ellis (C)
8 Martin J Whiteley
Rung to celebrate the tercentenary of the birth of James Hutton, a leading figure of the Scottish Enlightenment and the founder of modern geology.
Siccar Point Surprise Major.
-3-4-2-236-2-45-2-7(2nds). **£8**



The peal band, clockwise from front right (photo: Martin Whiteley).

James Hutton – the man and his legacy

Hutton was born in Edinburgh on 3rd June 1726 into a prosperous merchant family and he showed an early interest in science and the natural world. He attended the University of Edinburgh, initially studying the humanities before turning to medicine. He continued his studies in Paris and Leiden, earning a medical degree in 1749.

Although trained as a physician, Hutton never practised medicine extensively. Instead, he devoted much of his life to farming and scientific investigation. In the 1750-60s he managed family farms in Berwickshire and this experience proved highly influential. While working the land, Hutton observed the effects of weathering, erosion, soil formation, and water movement. He became fascinated by the processes that shaped the landscape and began to consider how they might have operated throughout Earth's history.

During the eighteenth century, many natural philosophers interpreted geological features through a biblical framework. Influenced by calculations made earlier by Archbishop Ussher, it was commonly believed that the Earth had been created in 4004 BC. Geological formations were often explained as the result of catastrophic events such as Noah's Flood. Hutton, however, reached a very different conclusion.

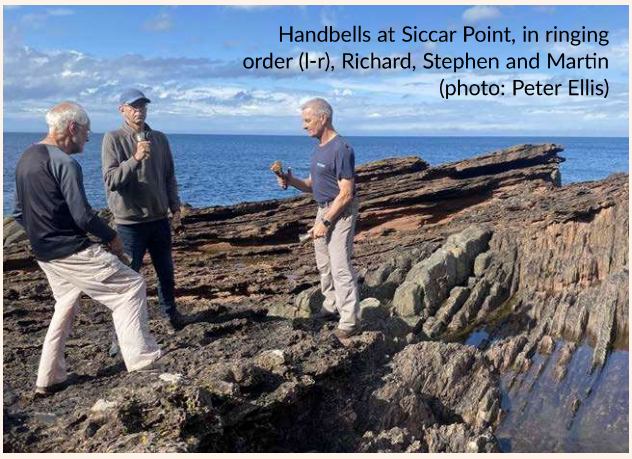
He argued that the Earth's surface was continually being reshaped by the natural processes he observed on a daily basis. Rivers eroded mountains and carried sediment to the sea. Layers of sediment accumulated and eventually hardened into rock. Heat and pressure beneath the Earth's surface uplifted these rocks to form new land. Over vast time periods, this cycle of destruction and renewal slowly repeated itself.

The most dramatic confirmation of Hutton's ideas came from his investigations at Siccar Point, a rocky headland on the Berwickshire coast. In 1788, Hutton visited the site with fellow scientists John Playfair and Sir James Hall. What they observed there would become one of the most celebrated discoveries in the history of geology.

At Siccar Point, the rocks reveal a geological feature known as an angular unconformity. The lower layers consist of grey rocks that were originally deposited as sediments on an ancient ocean floor approximately 435 million years ago. These sediments were compressed, hardened into rock, and later tilted into a vertical position by powerful geological forces.

Above these vertical rocks lies a distinctly different layer of reddish sandstone, deposited much later (around 345 million years ago) in a hot, arid desert. The sandstone layers are almost horizontal and if you look carefully at the Siccar Point photograph you can spot these contrasting rock layers. Between them is a clear boundary, the angular unconformity, that represents a vast time gap of about 90 million years.

This feature provided Hutton with compelling evidence of a complex sequence of geological events that could only have occurred over an immense time span, rather than a short-term event such as a flood.



Handbells at Siccar Point, in ringing order (l-r), Richard, Stephen and Martin (photo: Peter Ellis)

Having heard his colleague espouse his radical theory at Siccar Point, John Playfair later described the moment as one in which *'the mind seemed to grow giddy by looking so far into the abyss of time'*. This phrase perfectly captures the intellectual impact of Hutton's discovery. Siccar Point provided a tangible demonstration of deep time and helped establish a new scientific understanding of Earth's history.