



A TALE OF TWO JAMESes

Insert: Picture of the James Webb Telescope and a picture of James Hutton

On Christmas Day 2021 the James Webb Telescope was launched into orbit by an Ariane rocket from Kourou in French Guiana.

It is an astonishing piece of kit, costing \$10 billion, carefully packed away for its journey out of the atmosphere. It spent the first two weeks slowly unfurling like a butterfly emerging from a Chrysalis and spreading its wings. A sunshield the size of tennis court consisting of five thin membranes coated with aluminium was stretched out, followed by three component parts of a six metre diameter gold covered reflecting dish, clicked together as it sped to its one million mile high orbit.

The reason for the sunshield and the size of the reflecting dish is to enable the telescope to peer into the most distant and most ancient reaches of the universe. The faint signal from the most distant objects has taken over thirteen billion years to reach the telescope and is infrared radiation rather than visible light, tiny fragments of heat generated by stars and galaxies long ago – hence the need to protect the sensitive equipment from the heat of our own sun. All being well the telescope will soon allow us to understand more about the origins of the universe.

James Hutton did something similar over two hundred years ago when in 1785 he presented his *Theory of the Earth* to the Royal Society of Edinburgh. He had watched the soil from his farm at Slighouses in Berwickshire washed away by rain and came to believe that this slow process of erosion was how mountains, over millions of years, were reduced in height. The eroded material was transported out to sea and deposited on the seabed. He hypothesised that in time the seabed was uplifted to form new mountains, a cycle that was repeated over immense periods of time. He found evidence to support this in the rocks at Siccar Point and elsewhere and his conclusion was clear: the age of the earth must be far greater than anybody had imagined. In his own words *we find no vestige of a beginning, no prospect of an end.*

How are the two James connected, over 200 years apart and why should we be interested? Both expand our understanding of creation and challenge our imagination to understand time and space in ways that are immeasurably greater than that of human experience. It has been supposed that Hutton's theory, contradicting the story of Genesis, must have upset the Church when it was first made public, but I have yet to find such a reaction from the Church of Scotland or its ministers. There was criticism from scientists, some of whom were also ministers, but little sign of theological shock or horror in Scotland.

The James Webb telescope continues that process of explaining the story of creation in time and space. And that brings us to a third James – the Book of James - in which we are reminded that compared to creation we are but here for a fleeting time: *What is your life? For you are a mist that appears for a little while and then vanishes (James 4:14).*

Just as church ministers appear to have been open to Hutton's theory over 200 years ago so can we marvel at the images we will surely receive from the James Webb Telescope. We can ponder how they will enrich our understanding of creation and our place within it.

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