

Observatory Film Launch

Observation, *Revolution* and *A Leap of Faith* are imaginary dialogues with the revolutionary Italian physicist, mathematician, astronomer and philosopher Galileo Galilei (1564 - 1642). He was credited with improvements to the telescope, advances in the science of kinematics or motion, the discovery of the four moons of Jupiter, the confirmation of the phases of Venus and the observation and analysis of sunspots. But it was his championing of Copernicanism, the radical and even blasphemous theory that the earth travelled around the sun which brought him most controversy in his lifetime. Known as the founder of observational science, he was tried by the Inquisition for his most famous work 'Dialogue Concerning the Two Chief World Systems' found 'vehemently suspect of heresy', forced to recant and spent the rest of his life under house arrest.

Conceived as a series of time-travelling dialogues, Galileo appears to the scientists in these films as a kind of inspirational ghost at their moments of profound discovery or despairing disillusion. They are not designed as historically accurate dissertations, and, although the science in them is precise, there are deliberate and self-conscious historical anachronisms, as you will see. I was lucky enough to work with an extremely well-informed astronomer, Dr Nick Lomb and an extremely supportive and adventurous Observatory manager, Toner Stephenson. Both of them know their subjects and audience so well that they could clearly and carefully detail to me the science involved and the ideas they wished to communicate. Nick and Toner were fastidious about the science being accurate but they were also trusting and empowering in their desire for the pieces to be funny and entertaining. Science is so magical and astronomy is so remarkable that it lends itself to drama very easily. We offer them to you as playful portraits of passionate men and women of discovery. Their aim is to engage audiences with the enthusiasm, curiosity and human foibles of the scientists featured, to urge people who watch them to want to find out more about these courageous and radical thinkers.

Observation is a short film about Galileo's visit to astronomer Caroline Herschel (1750 - 1848) on the morning after she discovers her eighth comet. A German-born English astronomer, Caroline was the brother of Sir William Herschel. Both of them began their careers as musicians and it was a source of continuing regret for Caroline that her early acclaim as a singer was finally subsumed by the demands of their joint careers as astronomers. William became highly adept at contriving high performance telescopes with which he used a 2 metre, 15 cm diameter mirror to discover Uranus in 1781. In *Observation* you will learn about the least known of these scientists and the work which saw her awarded the Royal Astronomical Society's gold medal and honorary membership.

Revolution is a short film about a melancholy day in the life of Charles Darwin (1809 - 1882) an English naturalist whose writings, like Galileo, brought him controversy and religious skepticism in his lifetime. Though he was never condemned as a heretic as Galileo was, the two shared an uncomfortable acquaintance with the unwillingness of the 'powers that be' to accept truth, even when it is presented to them via evidentiary methodology and scientific exactitude. In *Revolution* you will see Darwin gain strength and courage from Galileo's experience and vision.

Finally, *A Leap of Faith* is a very cheeky conversation between Sir Isaac Newton (1643 - 1727) an English physicist, mathematician, astronomer, natural philosopher, alchemist and theologian who is considered by a substantial number of scholars to be one of the most influential persons in history. In *A Leap of Faith* we meet Newton on a balcony as he puzzles over his desire to articulate the laws of motion. With the help of Galileo he does

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indeed solidify his thoughts and explains these laws in a simple, practical way that, we hope, is comprehensible to a general audience.

The unstated premise of all three of these films is, of course, that science always builds on the vision, imagination and daring of those who have gone before us. Both within his own disciplines, to Newton and Herschel, Galileo's findings and theories are directly responsible for making new conclusions possible, and even in branches of science without shared theories, such as Darwin's biological discoveries, the rigour and fortitude and determination of scientific predecessors can provide an essential edifice on which to build. in this the International Year of Astronomy, we celebrate astronomy as the first of all the sciences, and the discovery, observation and discipline which comes from great thinkers as the foundation of our modern civilization.

Here now - beautifully shot and edited by Max Harrison - is Peter Flett as Galileo Galilei, Annie Byron and Caroline Herschel, Brian Adams as Charles Darwin, and Drew Fairley as Sir Isaac Newton.