

Exploiting the parallels – maximising the outreach potentials for the European Space Agency's Rosetta comet chaser mission

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The European Space Agency (ESA)'s comet chaser mission, Rosetta, has been more than a quarter of a century in coming to fruition. Whilst it might sound a long time humankind has been interested in comets for much longer. For over a thousand years depictions of comets have been appearing in Art¹ including many humorous cartoons². There are numerous cometary metaphors throughout literature. With this in mind we have recognised that there is a tremendous opportunity with comets to introduce science to different non-scientific audiences who would not necessarily believe they were interested in science. A similar approach was adopted with great success for the Beagle 2 involvement in ESA's Mars Express^{3,4}. By exploiting the perhaps sometimes less obvious connections to the Rosetta mission we hope to capture the attention of non-scientists and introduce them to science unawares – a case of a little sugar to help the medicine go down. It is our belief that the Rosetta mission has enormous potential for bringing science to the unconverted. We give here one example of a connection between Art and the Rosetta mission.

By choosing the allegorical name Rosetta for its cometary mission, ESA have immediately invited comparison with the stone tablet which provided the key to translating the languages of ancient cultures, particularly Egyptian hieroglyphics. It is well known that a scientist, Thomas Young, foreign secretary of The Royal Society, made the break through which recognised the name Ptolemy in a cartouche on the Rosetta stone which can be seen today at the British Museum. The events concerning the 'capture' of the Rosetta stone were witnessed by scientists Sir William Hamilton (a renowned geophysicist as well as husband of Horatio Nelson's notorious mistress Lady Hamilton) and Edward Daniel Clarke, a geologist who would become first Professor of Mineralogy at Cambridge and an early meteoricist. Young's inspiration allowed Jean-Francois Champollion to decipher the three language inscription on the Rosetta stone completely; that amazing piece of work can be viewed greatly magnified at Figeac in southern France.

It however is less well known that the name chosen for the Rosetta lander, Philae, also has an important link to the story of interpreting hieroglyphics and it was another British scholar and adventurer, William John Bankes, who recognised the name Cleopatra on a stone obelisk sculpted as a complaint about unjustified taxation. Bankes, who was unaware of what the inscription read but recognised it could be valuable in his collection of Egyptology, had it transported to his home in Dorset where it has resided for nearly 200 years. The story of how the Philae obelisk made its way to Britain is one which is guaranteed to attract an audience's attention. It has rivalries between the British, French and Italian explorers, including a hold-

up at pistol point and an element of farce as the priceless antique fell into the Nile. History has been less kind to Banks than it was to Young and Champollion – he was forced to live out his life in exile after a scandal. Any hint of scandal immediately makes audiences prick their ears up.

The Planetary and Space Sciences involvement in the Rosetta mission is very easily linked to the story the translation of hieroglyphics. The gas analysis package we have contributed to the Philae lander is called Ptolemy. The experiments it will perform have the generic name MODULUS (Young's best known contribution to science), its strength (apologies for the pun) being the use of isotopic measurements as the key to understanding the origin of cometary molecules and the processes they undergo as the comet travels through the solar system.

References

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- 2 'Space is a funny place' Colin Pillinger. Cartoon Art Trust (2007) 224 pages 220 cartoons. ISBN 978-0-00-723296-3.
- 3 'Beagle from Darwin's epic voyage to the British mission to Mars' Colin Pillinger. Faber and Faber (2003) 166 pages. ISBN 0-571-22323-0.
- 4 'The Beagle Voyages' an exhibition comparing the Beagle 2 Mars lander to HMS Beagle the ship that took Charles Darwin around the World ran for seven months at the National Maritime Museum, London in 2003