Back to Synopsis

From Botany Bay to the Moon — Title 206 A

This was the title of a Leader Page article (63 C-C) which was published on 28 March 1970 to commemorate the Bicentenary of Captain Cook's landing in Australia. The event was widely celebrated in England and in the Antipodes by Museum Exhibitions and special issues of scientific journals. However, my contribution, comparing Cook's achievements with those of the Apollo astronauts, up to Apollo 12, was to say the least somewhat unusual.

There are several similarities. Cook's first voyage in HMS *Endeavour* 1768 -1771 had an official scientific objective, to observe the solar transit of Venus, but secondly he had secret instructions to discover and claim for England any new territories before France or Spain could do so. The Apollo flights to the Moon were also primarily for scientific discoveries, but also with the political objective to forestall the Soviet Union in reaching the Moon first and making possible territorial, political or prestige claims.

The enormous difficulties of accurate navigation, both for Cook in the completely unknown Pacific Ocean and for Apollo 11 across 400 000 km of space and then landing on a precise location on the Moon, may also be compared. Cook had the first *Nautical Almanach*, published one year before his sailing, which contained the vital lunar distances between the Moon and the stars, to be measured by sextant, to give him the longitude. He also had the first portable Marine Chronometer, Harrison Number 4, for longitude, but both were completely new and had never been tried before over such vast distances. With these meagre tools, Cook navigated precisely and then surveyed accurately the coasts of New Zealand and Australia, producing maps which were not superseded for more than a century. On Cook's second and third Pacific Voyages, he proved the Marine Chronometer's great superiority over lunar tables and thus added much to Harrison's reputation.

The accurate navigation across space by the Apollo astronauts also had to rely on the position of the stars, to check the accuracy of their electronic instruments, equally new and untried. Apollo's flight direction indicator and the DISKEY computer were simple to operate by pushing buttons and did not require hour-long logarithmic calculations with pencil and paper, as Cook had to perform. Yet when Apollo 11 landed on the Sea of Tranquility on the Moon, the precise position of its landing site could only be determined from photographs many weeks later.

Cook's other great achievement, to preserve his crew from scurvy, made him the equal of Drake and Nelson in the History of British Seamen, as Lord Blackett, President of the Royal Society, put it in his address when honouring the 200th Anniversary of Cook reaching Australia.

Back to Synopsis

To... Science in London - Apollo 13 - Disaster and Triumph. Title 207.