



## 50 YEARS AGO

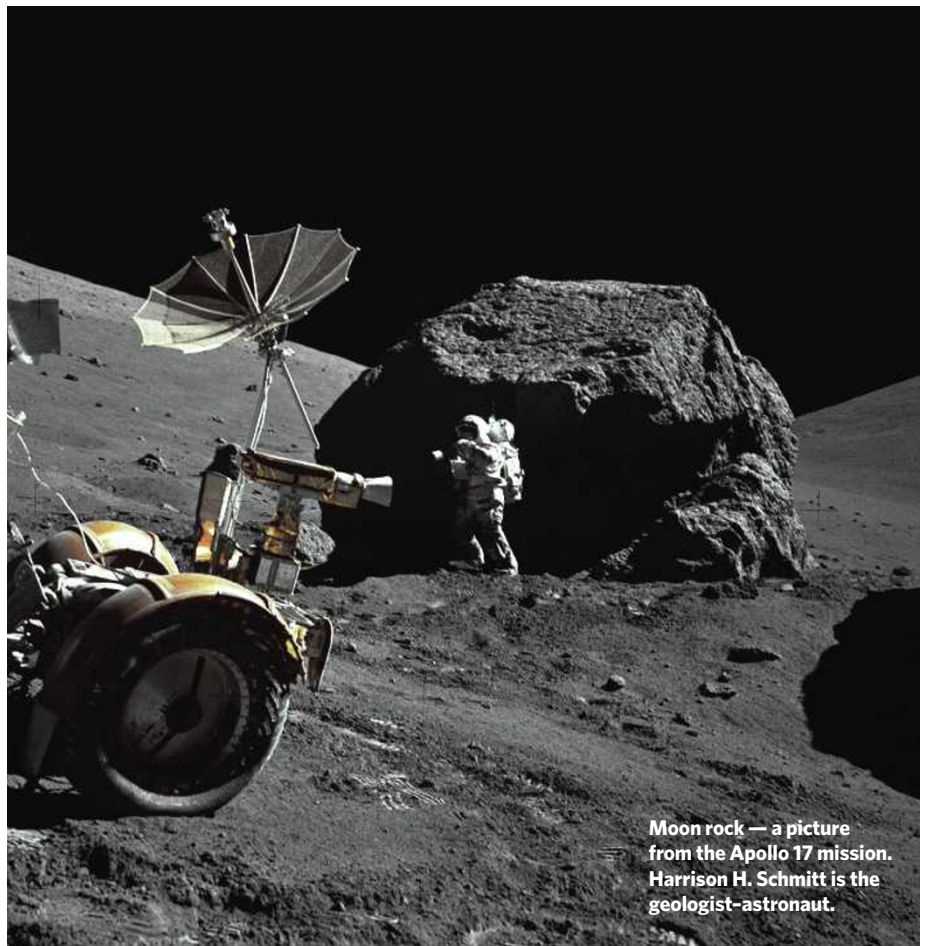
"An experiment on 'telepathy' using television" by Donald Michie & D. J. West — We have made a small-scale trial with the object of testing any generalized extra-sensory perception effect and looking for individuals with strongly manifested telepathic abilities ... The viewers were informed that the cards would be drawn at random from a pack consisting of three types, depicting a canoe, a wheelbarrow and a trumpet, respectively. They were asked to record their guesses on a form printed in the TV Times and post it to the programme contractors ... The pooled results showed no significant deviation from chance expectation. But one entry, submitted by a Mr. B. Downey, with 15 guesses out of 19 was considered sufficiently suggestive to justify further tests. From *Nature* 21 December 1957.

## 100 YEARS AGO

On the day of going to press, we learn of the death of Lord Kelvin, an announcement which will be received with deep sorrow throughout the civilised world ... For the body of one who has brought such honour to the British nation, the only appropriate place of burial is Westminster Abbey.

### ALSO:

The increase in the efficiency of colleges and universities in this country is too pressing a need to be dependent upon party politics. Unless our statesmen can be made to realise the supreme importance of this matter and be persuaded to deal with it in a patriotic manner, generously and expeditiously, as if there were no votes to retain or secure, we must reconcile ourselves to the idea that as manufacturing and distributing people we shall in due course have to occupy a third or fourth place among the nations of the world. In Germany, the United States, and now in Japan, rulers have learnt the lesson that efficient education and industrial success are related to each other as cause and effect. From *Nature* 19 December 1907.



Moon rock — a picture from the Apollo 17 mission. Harrison H. Schmitt is the geologist-astronaut.

E. A. CERMAN/NASA

The later time for the Moon's formation challenges the current view that the terrestrial planets grew rapidly, and also challenges ideas about their early cooling histories<sup>4-6,9</sup>. It may mean that Earth and Mars took at least 50 million years, and possibly hundreds of millions of years, to reach their final mass (that is, 99% of their present size). By contrast, recent models call for a more rapid accretion that took 30 million years or less<sup>9</sup>. Interestingly, the first evidence from the <sup>146</sup>Sm–<sup>142</sup>Nd clock of silicate differentiation in Earth is about 40 million to 60 million years after accretion of the Solar System began<sup>10</sup>. This probably records the time of the onset of cooling of Earth's magma ocean, which overlaps with the earliest new time for lunar formation and the giant impact (Fig. 1). In turn, this implies that earlier core formation in Earth did not necessarily coincide with the development of a magma ocean, and that, for a large terrestrial planet such as Earth, rapid pulses of accretion, which could have been caused by a single giant impactor that ultimately led to the formation of the Moon, might have been necessary to initiate large-scale melting.

The long-lived magma ocean in the Moon raises the question of how long Earth's magma ocean took to solidify. We do not know for certain, but the implication of Touboul and colleagues' lunar W-isotope data<sup>3</sup> is that accretion and early cooling of Earth were not as rapid as

we thought. Application of the <sup>146</sup>Sm–<sup>142</sup>Nd clock to martian meteorites suggests that the magma ocean in Mars took 60 million to 100 million years to solidify<sup>11</sup>, likewise implying that Earth's magma ocean probably took longer to solidify than some current models predict. We need additional evidence to further examine these issues on the earliest history of the Earth–Moon system. The clues might lie in future samples returned from the Moon and Mars.

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