

Blast off: scientific adventures at the dawn of the Space Age

by Ken McCracken

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We can be very grateful to Ken McCracken for presenting us with this most enjoyable book of autobiographical reminiscences. For some, looking back, it will be a sentimental narrative, a period piece by which to gauge lives over the same period and to be reminded again about the remarkable developments of the second half of the 20th century in the exploration of space. For others, whose responsibility it is to look forward, there is a great amount to learn from the experience recounted. Especially at this time of reduced interest amongst the young in maths and physics, not to mention the dangers of a post-rational age amongst youngsters moulded by computer games, Harry Potter, and the fantasy of modern movies, what better way to lay out the excitement that the real world can offer, than in the amazing story which McCracken tells here.

McCracken is known to ASEG members for his science looking down into the solid Earth. He was appointed in 1970, about the time the ASEG was founded, to establish the new CSIRO Division of Mineral Physics. Early concentration was on time-domain electromagnetic methods. The considerable benefits of that Division and its outgrowths, and the people whose experience grew with it, have been a major factor in building the present strong mineral exploration reputation of Australia. McCracken's next step was as Director of the CSIRO Office of Space Science and Applications, with the speciality of remote sensing of Earth by satellite images. Later, he was a key contributor to the successful efforts in Australia to develop airborne gravity gradiometers. Thus the contributions of Ken McCracken to Australian science and technology have been huge, and he has been recognised by the award of medals and prizes at the highest level and fellowships in prestigious institutions.

The book, however, focuses particularly on his time earlier in life, as a rocket scientist. Here the term means a scientist whose specially designed instruments are carried by rockets. Not that the young McCracken's interests did not also involve experiments with the basic hardware of home-made rockets, tested with home-made fuels; one of his many good stories is about one such experiment as a teenager, when all the fuel fired a little too simultaneously.

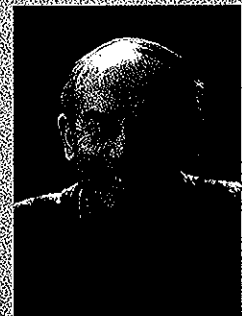
As an Honours student at the University of Tasmania in the mid 1950s, he became involved in cosmic ray research, and in particular the construction of equipment to detect cosmic rays. The hands-on ability which he had naturally, and which was developed more during this time, was to stand him in very good stead indeed, as within 10 years he was designing and constructing such equipment to go as far from Earth as any equipment had yet been. The launch in 1966 of the rocket carrying the Pioneer 7 spacecraft, on the front cover of the book, thus marks a climax of this part of his career. From the time he arrived at MIT in Boston as a young post-doctoral fellow in 1959, till his acceptance of the CSIRO job some 10 years later via university appointments in Dallas and Adelaide, he describes an amazing period in the circumstances of pioneering space research. This period was fertilised by the International Geophysical Year of 1957-58, fuelled by the competition between USA and the USSR in the conditions of the Cold War, and made possible by the rapid development of electronics and computers. Highlights for McCracken, described in non-technical language in the book, include the demonstration of the character of the solar wind by the arrival angle of the radiation guided by it to Earth. Another remarkable first was achieved later, in 1969, when McCracken could look out to an array of his radiation detectors spread around the solar system on the Pioneer spacecraft. Amongst these highlights are many others, including instruments carried by rockets from Woomera, and high-altitude balloons. The stories, told with a great sense of

humour, have a serious message regarding how fertile a new field may be if the first people in it have the power to think clearly, laterally and fast.

McCracken says he was fortunate to be in the right place at the right time. To that I would add that he was also very strongly the right person to be in the right place at the right time. A lot of his good fortune has been of his own making, in his dedication to the task and to the people at hand, and through working very hard with a prodigious amount of energy. McCracken demonstrates how to get a lot out by putting a lot in; fortunate will be young people who can learn this principle from his very readable book.

One aspect of the style of presentation of the book worried me. At the start of each chapter, and throughout, the author's punch lines are taken out of context, and writ large in italics. Perhaps the publisher has done this to appeal to a potential buyer flicking through the book, but to me it is a distraction which does not do the book justice. The gems in the text are many, and all are best found in the normal context of reading.

There is a good Foreword by Barry Jones. Buy the book. Read it. Lend it. Give it. Spread the word. It is in everybody's interests to do so.



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