

Obituary

## Minoru Oda (1923–2001)

Leaders of research in Japan come in two contrasting styles. There are martinets in the mould of the traditional university professor, who issue orders and expect their subordinates to carry them out. And there are cultivated men (but not many women yet) whose method is to encourage lesser mortals to work up their ideas into projects and then give them wholehearted support. Minoru Oda, who died on 1 March 2001, was emphatically in the second style. He was also recognized as one of the dozen or so people who had largely modernized Japan's science in the quarter of a century beginning around 1965, at least partially wresting management (and even micro-management) of basic research from feuding government departments.

Oda was born in rural Sapporo in 1923 and won a place at Osaka University (then the imperial university of the same name). He escaped war service, graduating in 1944, and immediately embarked on graduate study of cosmic rays. His destiny seemed to be a traditional academic career, leading eventually to a martinetship. But that pattern was broken by a three-year spell at the Massachusetts Institute of Technology (MIT), beginning in 1953, which he later said had changed his life. He learned that research, meritocratic though it must be, could be a democratic process too. He also used his pre-Sputnik time at MIT to cultivate an enduring interest in X-ray astronomy.

He returned not to Osaka but to Tokyo, where he became one of the ring-leaders of the project hatched within the physics department to build and launch Earth-orbiting satellites. Elsewhere — even at MIT — the idea that university departments might nurse such an ambition might seem to be a joke: at Tokyo, interministerial rivalry helped to make it a reality. At a time when the government was planning to set up a national space programme to be carried out by a new organization (the National Space Development Agency as it has become), shrewd observers could easily calculate that the education ministry (then known as Monbusho) might fall for a plea to launch a cheaper and quicker scheme under its own control. That was the origin of the Institute of Space and Aeronautical Science (ISAS), of which *Nature* asked, a few years ago, "Is this the best lab in the world?"

After a further stint at MIT, Oda returned as project director at the space



### Guiding hand in Japanese science in the late twentieth century

institute, which in due course became a national facility to which all Japanese universities have access. He became director-general of the organization in 1984, which in Japanese custom is a pre-retirement post, and became chairman of its council a few years later. The institute's virtues are that it has been able to launch Earth satellites cheaply and without fuss. Several of these have broken new ground in, for instance, the use of soft X-rays to study the Sun's surface, and in using pairs of satellites for making long-baseline interferometry measurements at radio and microwave frequencies.

ISAS may be Oda's most conspicuous and tangible legacy, but it is easy to underestimate his accomplishment. Cannot anybody set up a new lab, if only the government will hand out the funds? In reality, success in a daring enterprise such as this rests on the accuracy of the judgement that success is possible, for otherwise the money-bags will be closed. Persuading them to open in the first place requires not merely charm (of which Oda had plenty) but guile and determination. His achievement at ISAS is a proof of his confidence in his colleagues and of theirs in him. His confidence in himself was habitually belied by his soft-spoken modesty.

The same talents helped Oda to make a success of his spell from 1988 to 1993 as president of one of Japan's other iconoclastic laboratories, RIKEN. This is a general-purpose laboratory, founded in 1917 with a benefaction from the then Emperor, when it first dawned on some Japanese that they had failed to keep up with the rest of the world in science. The laboratory is now a dependant of the education ministry, and has grown hugely in size to several thousand people, but it retains a large degree of independence. Although most of its work is in physical science and engineering, a few years ago it was able to jump into work on the Human Genome Project. Oda was a staunch defender of RIKEN's freedom to do what it believed to be important, provided that it could see a way of succeeding. During this period, he also worked hard at increasing the numbers of foreign scientists at RIKEN.

For his final essay in institution-building, in 1994 Oda became director of the newly established International Institute for Advanced Studies near Osaka. This again was an opportunity for casting a net beyond Japan. Oda had a particular fondness both for the United States and for France (where his daughter Reiko now works).

Ironically, Oda found that the last few months of his life were occupied with anxiety that the impending reorganization of Japanese science may undermine some of the achievements of recent decades. The particular proposal that the two national space agencies should be merged risks the ethos of what began as the University of Tokyo's project. Hierarchical decision-making, Oda's anathema, is the obvious danger.

Luckily, the mood in Japan has radically changed. The education ministry has learned from the likes of Oda that research is a delicate process requiring the consent and enthusiasm of those who carry it out; the ministry may yet find ways of carrying through policies that reflect its new knowledge that not all universities are equal. And there is now a small army of people in universities and research institutes holding the views about the conduct of research that Oda's associates have championed. Probably there is no turning back.

Oda is survived by his two children, both scientists, and by his wife, Tomo Oda, a woman of outstanding elegance even by Japanese standards. **John Maddox**  
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