

Satellite deployment must be regulated to keep space usable and safe.

## SPACE POLICY

## A clearer final frontier

David Southwood finds that a study on safeguarding space is shorter on cooperation than conflict.

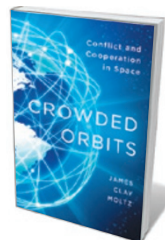
As I read policy expert James Clay Moltz's *Crowded Orbits*, an old saying came to mind: 'If all you have is a hammer, you see every problem as a nail.' The proverb points to the risks in knowing a lot from a particular point of view. Having worked on putative and actual space alliances involving India, China, Canada, Japan, Russia, the United States and nearly every European country, I knew a lot; but my limited perspective became clear as I read. So did limitations in the book itself. International space activities — conflictual, competitive or cooperative — look different depending on where you stand.

Moltz's background is military; the focus of *Crowded Orbits* is the international regulation of space access and use, and the avoidance of war in space. Moltz argues for serious geopolitical engagement to protect space against catastrophic threats: actions, intentional or otherwise, that could render regions of space unusable as a result of debris or, less likely, radiation. His understanding of the threats from debris makes the book valuable to anyone involved in space, from astronomer to

industrialist to civil servant. Nevertheless, the context given is only part of the story of why the final frontier needs to be kept clear.

Increasingly, space is crucial in civilian infrastructure and terrestrial military activity: communications, geospatial information, environmental monitoring and navigation depend on it. Should not nations cooperate to prevent a debris catastrophe? The United Nations has committees on disarmament and on peaceful uses of outer space, yet neither looks capable of managing this task. At the root of the problem is the dialectic of self-interest and competition versus mutually supportive cooperation. Moltz makes the case that means need to be found.

He examines models of cooperation and concentrates on the International Space



**Crowded Orbits: Conflict and Cooperation in Space**  
JAMES CLAY MOLTZ  
Columbia University  
Press: 2014.

Station. His examination of other astronomical and exploration cooperation efforts is somewhat cursory, and there are small errors. The Rosetta mission of the European Space Agency (ESA), for instance, is not a solar mission, but instead will rendezvous with and observe a comet. The lunar probe Chandrayaan-1 was a collaboration between India, ESA, NASA and Bulgaria; and unmentioned is the ground-breaking Double Star Sino-European joint mission.

Failures in cooperation offer many lessons, and Moltz looks at the International Solar Polar Mission almost 25 years ago, as well as the United States' 2012 pull-out from collaboration with ESA on Mars exploration. However, he misses the pivotal case of the International Gamma-Ray Laboratory (INTEGRAL), launched in 2002, the absence of expected levels of US support for which led to the first close ESA Science Programme cooperation with Russia. The distinction between cooperation and competition had, however, emerged decades before, with US refusal to launch the Franco-German communications satellite *Symphonie*. Europe learnt that it had to go it alone in using space for commercial or near-to-market purposes.

Moltz accepts that space is important to commerce, but readers might query whether he sees how this may drive regulation. The European Union, the largest economic grouping in the world, is this year launching multiple spacecraft; these include members of the Sentinel family of Earth-monitoring satellites. The move is economic, and the use of space is evolving and increasingly focused on societal benefits such as navigation and environmental monitoring. Moltz integrates this less well into his vision of the future.

These quibbles do not detract from Moltz's case for internationally regulating and safeguarding use of space. The way to achieve it, however, could be different from joint interest in exploration or military stand-off. Lessons can be drawn from civil cooperation in areas such as Earth observation. Every nation has an interest in managing our planet better, which requires space data. Is an alternative way of raising consciousness something like the Group on Earth Observations (GEO)?

GEO is Switzerland-based, US-proposed and G8-initiated; through it, 90 countries have signed up to free exchange of space data for Earth monitoring. GEO will never launch satellites, but could its reach lead to a worldwide sense of the need to preserve access to and use of space? As good as *Crowded Orbits* is, it is clear that the future will need a complete tool kit — not just hammers. ■

**David Southwood**, a senior research investigator at Imperial College London is chairman of the board of trustees of the London Institute for Space Policy and Law. e-mail: d.southwood@imperial.ac.uk