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BOOK REVIEW: CROWDED ORBITS: CONFLICT AND COOPERATION IN SPACE

Tomáš Hrozenský*

MOLTZ, J.C.: *Crowded Orbits: Conflict and Cooperation in Space*. New York: Columbia University Press, 2014. 256 p. ISBN 978-0-231-15912-8.

Outer space shall be the province of all mankind, free for exploration and use by all states and its exploration and use carried out for the benefit and in the interests of all countries. These provisions from the Outer Space Treaty (an international agreement adopted by the General Assembly of the United Nations that entered into force in 1967, currently with more than one hundred States parties to it) should govern activities by all states conducted in or regarding outer space. However, is outer space really being used for peaceful purposes? As humanity continues its technological advances, exploration and use of outer space are becoming more important even in international politics and security. Militaries do actively participate on usage and development of spacecrafts; civil space budgets in the world are growing each year and 21st Century saw rapid growth of the commercial space sector. Since human lives are ever more dependent on space technologies – in economic area, social issues or even security-related affairs, achieving sustainable approach to space by all is in the interest of the humankind. Therefore, a question whether the current and future approach of relevant actors to outer space is or will be cooperative or rather conflictual was chosen by Dr. **James Clay Moltz** from Naval Postgraduate School in California, USA, as subject of his recent book entitled *Crowded Orbits: Conflict and Cooperation in Space*, published in 2014 by Columbia University Press.

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The overarching rationale behind Dr. **Moltz's** intention to deal with conflict vs. cooperation trend in global space sector lies in uncertainties of both legal and political nature when it comes to current and future space activities. **Moltz** correctly states that so far open armed conflict in space has been successfully avoided. Yet given the historical experience with struggles (often of armed nature) over uncharted territories, world oceans or air, and rather vague and open-to-interpretation provisions of international space law, one could not rule out that harmful activities in space would ultimately occur. This scenario, however, implies multiple risks and threats on global community. In **Moltz's** words, even limited conflict in space could lead to the possible loss of the near-Earth orbital regions. This is due to the unique physical and environmental characteristics of outer space, particularly considering the issue of harmful and dangerous space debris (which was dramatically brought to public attention few years ago in U.S. blockbuster movie *Gravity*), which would undoubtedly be a consequence of harmful activities conducted towards space assets of any country.

Based on these underlying facts, *Crowded Orbits* deals with current trends and possible future scenarios in global space debate. **James Clay Moltz** does not offer deep and exhaustive analysis; in fact, scope of *Crowded Orbits* of slightly more than 200 pages makes it rather brief and concise insight into essential and pressing contemporary issues of space policy, law and security. Yet this relatively limited number of pages is not a weakness of the book. It is important to realise that **Moltz** is not aiming at expert community with his volume; it is rather broader audience that is being the target group of the book. For the purpose of development of the interest in this topic and spread of available knowledge to a wider community, the book definitely serves its purpose well. Though aiming at broader audience, *Crowded Orbits* is not a book of a type "ABCs of space politics" or "Space for Dummies". **Moltz** builds upon his profound background in International Relations and Security Studies, which makes underlying messages of the book well and easily understandable and at the same time backed by strong logical and experience-based arguments.

Crowded Orbits is structured into Introduction and seven chapters - 1)

Getting Into Orbit, 2) The Politics of the Space Age, 3) Civil Space: Science and Exploration, 4) Commercial Space Developments, 5) Military Space: Expanded Uses and New Risks, 6) Space Diplomacy; and 7) Trends and Future Options. Logical progression is well structured and thoroughly developed. **Moltz** start with chapters devoted to provide the reader with technological and historical backgrounds, which are required if one wants to delve deeper into the issues of space policy and space security. Fundamental basics of orbital mechanics and rocket engineering are described in simple and comprehensible way in the first chapter. Second chapter provides the reader with overview of international space relations since the inception of space age in the Cold War period and identifies that over more than half-century of human presence in space, the overall nature of global space sector, in terms of actors, available technology and types of conducted activities, has changed significantly. This eventually led to emergence of the question of conflict vs. cooperation, which is being subject of the entire book.

Chapters Three, Four, and Five accurately reflect general sectorial division of space activities into various specific areas of exploration and use of outer space. In this regard, these chapters offer analyses of civil space activities usually conducted by governmental agencies in areas such as space exploration or space sciences, military space sector encompassing security and defence-related space activities of states' armed forces and commercial space sector, which is rather a generalising term describing recent trends of privatisation, commercialisation and globalisation of space activities. Sixth chapter with appealing title Space Diplomacy focuses on multilateral dimension of international politics of space, with particular attention given to international space governance and diplomatic, legal and transparency and confidence-building initiatives, both past and current ones. Before moving on to Chapter Seven, with overall findings and conclusions herein stated, it would be worth to highlight approach taken by **James Clay Moltz** and his effort to introduce and concisely analyse topical issues also for broader audience in order to contribute to growth of still relatively small "space community" in the world. Increasing fact-based and professional knowledge about compelling issues of space policy and

security put in interesting and understandable way, as was done in *Crowded Orbits*, serve as a good example in this regard. Therefore, if a student of International Relations, governmental employee or even any space enthusiast aims to get involved with politics of space, *Crowded Orbits* is a resource worth looking into.

Chapter Seven under the title *Trends and Future Options*, which is the last one of the book, brings concluding remarks and outlook to the future. Based on this, it is probably the most important part of the book as it includes overall conclusions of **Moltz's** work in previous 170 pages. According to the author, the future of space activities will depend on multiple variables. Emergence of new actors, of both state and non-state nature, growing commercialisation of space, technological advances, expansions of military space programs, this all together rather poses more and more question than aids in providing answers. Consequently, *Crowded Orbits* offers three possible future scenarios: military hegemony based on relative power, gradual global engagement, or enhanced international mechanisms. First scenario, looking relatively pessimistic, is considered by **Moltz** as seemingly unrealistic yet not completely implausible. Second scenario, based on some form of soft governance offers several benefits but at the same time suffer from drawbacks. Last scenario of enhanced international institutions outlines the most optimistic feature but given contemporary world politics, leading spacefaring countries would have to go a long way if they are to pursue this route successfully. Nevertheless, **Moltz** concludes his book with slightly optimistic outlook. Achieving route of enhanced cooperation will be a difficult job but nature of human beings is a purposeful one, which eventually makes outlined road a feasible goal.

Although the assessment of *Crowded Orbits* in this book review is a positive one, there is a place for critical evaluation of several aspects. *Crowded Orbits* would benefit from a higher number of included data, figures and graphical portrayals. This is not to say the book is lacking attention to figures and graphical models, but since it is aimed at broader audience, stronger inclusion of these tools would strengthen its explanatory and descriptive potential. Our assessment of approach taken by the author is a positive one. It is not common

that author from the USA comes up with approach not taking into account U.S. perspective, but rather focuses on universal, global dimension of space security issues. In this regard, *Crowded Orbits* would also benefit from rather more explicit and detailed ideas and suitable solutions for current state of affairs. Particularly, if one takes into account long-term and extensive academic and professional experience of the author.

Although last paragraph stated some possible areas of improvement, overall assessment of *Crowded Orbits* remains positive. Given its up-to-date subject and clear language, it may be of interest for truly a broad audience. In near and distant future as well, the importance of exploitation of space assets will grow and humanity will continue to push the limits of space exploration. Eventually, using the words from famous TV series *Star Trek*, people of Earth will *boldly go where no man has gone before*. Therefore, it is good that **James Clay Moltz** brought to the spotlight the importance of safeguarding safe and sustainable access to outer space and imperative of intensified international cooperation in the sector of space activities.