

THE OUTER SPACE REGIME, SOVEREIGNTY AND THE CHANGING NATURE OF WARFARE

Klisman Murati BSc (Hons) MSc FRSA MEI | klisman.murati.14@ucl.ac.uk

There is general consensus to the claim that we are living in what is probably the most uncertain and geo-politically turbulent times since at least the cold war. With issues ranging from global terrorism, social anxiety in Europe due to the migrant crisis, oil price depreciations, climate change repercussions, territorial disputes in the South China Sea, economic stagnation and virus pandemics in South America etc. All under the umbrella of a global financial crisis and on edge regional powers. One would not be far off therefore in confusing world affairs for a Jackson Pollock painting. The similarities are uncanny; both are chaotic, colourful, inventive, and strategic.

If we add to this milieu of international affairs the dynamics of space based technologies, which I will be talking about in this paper, we would truly be in a state of awe and trepidation when coming to terms with the capabilities and visions we as humans have come to master and conceptualise today.

The prominence of military space technology has not received the media coverage that it necessarily deserves but it most certainly is a field that deserves our full attention. Since the beginning of time man has looked up towards the stars with ambitions to explore and conquer the heavens. This sentiment was expressed in a landmark speech by President Kennedy on May 25th 1961 which came to be known as the 'MOON SPEECH' to congress where he stated the countries ambitions in going to the moon and wondered '*what the ultimate meaning will be of mastery of space*'. We have come a long way from 1961. The technological abilities of powers such as the United States, China, and Russia amongst others are at a level where debates on outer space sovereignty and military capability must be highlighted and brought to the forefront of policy debates in order to create a legal framework and a code of conduct to encompass these new capabilities.

This paper will focus on three core aspects. Firstly, I will identify and what space security is and threats to space activity. Secondly, I will introduce why this matters for sovereignty, and finally, I will attempt to explain why these developments are changing the nature of warfare and what the future may hold.

SPACE SECURITY

Space security is generally understood as *the absence of element of natural or human-made origin that represents unacceptable threats to space activities or space systems*. It is sometimes also used to also include the safety of space operations and the long term sustainability of space activity. We have grown ever more reliant on satellite technology for not only geo-strategic objectives but also for our global financial systems, day to day business operations and daily life activities. Our relationship with space has grown increasingly closer, with opportunities to use space to benefit the world growing in tandem to our abilities to use space as an extension of the industrial military complex.

If we take a step back to see how much human civilisation has invested in space, not only financially, but also as a necessary extension to human development, we will hopefully be more cautious in disrupting the socially created homeostasis we have created and take measured steps in its development for the benefit of all human kind. For example, Space-based data and information provide unique tools for supporting sustainable development (Agenda 2030), e.g. for climate change, food security, water, disaster management, etc. According to a OEDC report in 2014 the space economy in 2013 was worth an estimated 256.2 billion USD.

If we focus on the security/military aspect of space we can identify four pairs of dyads that gave been developed based on the technological capabilities we have come to develop and the threats they pose. Firstly, **ground to space** weaponry such as kinetic ASAT's and lasers (WU 14). Secondly, **space to space** capability, for example duel use satellites, or any manoeuvrable space object etc. Thirdly, **ground to ground** strategy, for example traditional attacks on ground stations with aide from GPS satellites. Finally, **spaces to**

ground technologies, these types of technologies have yet to be revealed¹. Furthermore, we can also cite radio frequency interference (intentional and non-intentional), cyber-attacks (e.g. on ground stations and in orbit), space debris and space weather as some further threats to space security.

SOVEREIGNTY in SPACE

When one thinks of sovereignty images of independence declarations, ethnic group strife's, flags, territory, lines on maps and passionate speeches may be the first things that come to mind. Perhaps the last thing you think of is outer space; however, unbeknownst to the general public the proliferation of the phenomenon of 'space sovereignty' or space nationalism is a concept that is quickly escalating to prominence especially within military strategy and legal theory. This is due to the advancement in space technology that will technically allow space faring nations the ability to use space to fulfil national policy and strategic objectives. Defence and space is a pairing that is frequently used nowadays as an area of research and military strategy.

It is important to note, however obvious, that our understanding and application of sovereignty for the last few hundred years has been strictly earth bound. That is, all our efforts have been engaged in building a philosophical, legal and political understanding of sovereignty that serves as a basis in dealing with territorial disputes (observe the term territorial). As human technology advances so too has our appetite for expansion. As E.H.Carr (1946) and Tilly (1992) note, changing technology changes the form and character of international relations in relation to the ontology of the state.

For example, we were required to encompass sovereignty over the seas when we became able to sail, it was then necessary to encompass sovereignty over the skies when we became airborne. Our understanding of sovereignty has constantly needed to adjust when innovations in technology were made, which in turn challenged the ontology of the state

¹ These dyads are not mutually exclusive however, the development of these dyads have been as a response to the types of technologies available, we see a blurring of the lines when trying to figure out where cyber-attacks fit into these classifications.

system. A new age has now come upon us where we again must readjust and grapple with a new dimension to sovereignty, that being outer space.

One problem we immediately run into when trying to fathom how, in theory, sovereignty can be understood in space is the fundamental territorial aspect of it. The following question begs to be asked; **Without concrete physical territory can any legitimate claim of sovereignty be made?** Well, in theory, yes and no. Leaving aside the current international law which prohibits any nation to claim territorial sovereignty in space (Article 2, Outer Space Treaty). A nation can in theory establish bases on the moon for example and declare a territorial thresh-hold, however, this concept would not work in free-floating space. We run into trouble when trying to use established political and legal paradigms when facing new theoretical, political, legal and strategic challenges such as space policy. However, this has not stopped nations from developing their military arsenal to the point of bringing back into question our relationship to space and the peaceful use of it to further humanity as a whole.

CHANGING NATURE of WAR

How specifically will our relationship with space evolve throughout the decades is still unknown, however, history has shown the reliability of the following maxim: *As human technology advances so too does its appetite for expansion.* The international community understands this and are attempting to push forward a legal agenda that serves, to put them in a position of advantage, if accepted as the status quo. Weapons in space have been a concern for decades, starting with US President R. Reagan's 1983 Strategic Defence Initiative nicknamed Star Wars all the way to 2002 when Russia and China jointing presented a working paper to the Conference of Disarmament at the UN containing "Possible Elements for a Future International Legal Agreement on the Prevention of the Deployment of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects".

Two points need to be made here in relation to the recent trends in outer space, both concerning the diverse nature of actors requiring space launch capabilities. Firstly, space is no longer an arena dominated by two major state powers, the cold war days are behind us.

There are 60+ nations now active in space. This means less dependence on the likes of the United States to forward the agenda of smaller, less powerful states which then means more opportunities for creative alliances to be established between states forwarding scientific and technological progress. A liberalising of scientific potential if you will. Secondly, there has been a protrusion of private sector actors in space such as S3, Space X, Deep Space Mining etc who are opening up a new field of business and commerce that has never been seen before. The advent of asteroid mining for example brings up a legion of legal, economic, and social questions and concerns that we as global community must grapple with.

If one thing is for certain it is this, space may not be an area for war in itself but will be used as an extension to any nations military and strategic arsenal which will also include cyber warfare, advanced ground weaponry (e.g DREAD Weapons), neuromorphic computers, machine soldiers, financial rigging etc. Warfare has become a hybrid of tactics and technology that is quickly challenging our legal doctrines, territorial integrity, and ethical paradigms. We as an international community in all our capacities and professions from legal theorists, policy makers, scientists, economists, human rights advocates etc. still have a lot to understand about the final frontier. Space can be used as a means to any end we as a global community desire, it will be the collective will that will determine how we progress, it is up to us to decide on what we want.

Bibliography

Carr, E. H. (1946) *The Twenty Years' Crisis, 1919-1939: An Introduction to the Study of International Relations*. London: Macmillian.

Murati, K., (2015) Space Act could open door to multi-trillion dollar industry. Global Risk Insights: London

<http://globalriskinsights.com/2015/12/space-act-could-open-door-to-multi-trillion-dollar-industry/>

OECD (2014), *The Space Economy at a Glance 2014*, OECD Publishing.

<http://dx.doi.org/10.1787/9789264217294-en>

Tilly, C., (1994) 'The Time of States'. *Social Research*, 61:2. pp 269-295