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Star Wars. Fiction or Near Reality?

Abstract

The article covers the notion of star wars, aiming to show that it is an idea describing the reality, not just a story (although often associated with one). The space policies implemented at present by different countries prove that space conflicts are still possible. Therefore, the security of the space activity pursued by various countries is compromised – not only in space but also on Earth. And although only some countries carry out space activity, the effects of this activity (be it civil or military) are felt by the entire international community. The militarisation of space is slowly entering a new stage: the stage of use of active satellites, designed to destroy predefined targets. This situation means that star wars are not fiction since it can happen in the future that feuding countries will be settling the conflicts arising between them in cosmic space.

Keywords: star wars, space policy, space militarisation, space security

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A journey in time and space

Many wars were fought in the era of historical “parallel” civilisations.³ Their nature changed under the influence of inventions (determining the principles of warfare) and motives behind them (defending an altar or a throne). Those elements shaped the culture of combat – first “primitive”, and later “civilised”.⁴ The history of our civilisation has changed its nature many times. So have the post-combat landscapes. The post-war setting was different in the Greek-Slavic civilisation (in the era of Ancient Greece, the Byzantine Empire, the Ottoman Empire, and Russia)⁵ and the Latin-Germanic civilisation (the times of Rome and Western Europe).⁶ Each of them competed with the Arab-Muslim civilisation (with its cradle in the Middle East).⁷ Their relationships with other continents started only when the small and backward Europe embarked upon conquering the world.⁸ The European streak of superpowers ended with a burst, i.e. with two world wars. Fortunately, Hitler did not have a chance to take advantage of flying discs and seize control of the world for thousands of years, which surely must have been his dream.

History teaches us that the cradle of the modern army was ancient Rome. The legions of the greatest empire of the time became like a regular army. No other army before the times of the Roman Empire achieved such a level of development

³ See: J. Keegan, *Historia wojen*, Warszawa 1998, pp. 71–376.

⁴ “Primitive” combat transformed into “civilised” combat only when humans turned to a settled way of life, creating the first “city-states”. This happened between the Euphrates and the Tigris, in the Nile valley, on the Indus, and a bit later on the Yellow River, which were the times of the so-called river valley civilisations being born.

⁵ F. Durando, *Grecja. Ludzie, myśl, sztuka*, Warszawa 1997, pp. 18–65. The Greecization of the Byzantine Empire is covered broadly by G. Ostrogorski in *Dzieje Bizancjum*, Warszawa 2007, passim.

⁶ The Roman army was an essential element of civilisation. See: A.M. Liberati, F. Bourbon, *Rzym. Imperium trzech kontynentów*, Warszawa 1996, pp. 22–57 and 92–97. The authors of the album put an emphasis on the military reform carried out by Servius Tullius (obliging the richest class to pay higher taxes and form cavalry units), Gaius Marius (who established professional army), Augustus (who reorganised the Roman legions), Diocletian (who divided the armed forces into the eastern army and the western army) and Constantine (who reformed the whole military sector). Rome’s military administration system later became a model to follow in the times of superpowers clashing in Carolingian Europe. See: B. Simms, *Taniec mocarstw. Walka o dominację w Europie od XV do XXI wieku*, Poznań 2015, passim.

⁷ See: J. Keegan, op. cit., pp. 194–217.

⁸ See: N. Ferguson, *Cywilizacja. Zachód i Reszta Świata*, Kraków 2013, passim.

of the system or organisation, command, and supply. This model of military management, created by the administration of ancient Rome, was later copied by armies of dynastic states of the Latin-Germanic civilisation. In the Middle Ages, they went to battle in the name of their altars and thrones, and after the Reformation, they fought for their countries. The motivation behind wars and the means of combat changed only in the period of colonisation. Colonisers were quick to learn the art of warfare from the conquered peoples. The peak of Roman-styled warfare took the form of World War II, with Americans playing a vital part in it. About 10 thousand "Liberty" and "Victory" ships and "T-2" tankers turned the scales against the military power of Germany and Japan. It is one of the reasons to acknowledge the US a continuator of the military traditions of Rome.

The Greeks had a slightly different "style" of warfare. The wars fought between Sparta and Athens prove that Greeks fought mainly between one another, each group hoping to achieve sovereignty. Internal conflicts led to Greece falling to the Macedonians, who were, in turn, keen enthusiasts for conquests. The ill-conceived strategy of Alexander the Great (the desire to be "the Lord of Asia") contributed to the collapse of the Greek metropolis, attacked by Romans from the west. The Greeks regained their life under the reign of the Byzantine Empire, causing the so-called Byzantinization of the new empire. After Constantinople fell and the Ottomans seized power, new combat methods were introduced, taking advantage of the experience gained in crusades. They were what weakened the Byzantine Empire and contributed to the spread of Christianity to the east of Europe, towards Russia and Eurasia. Today, Russia deserves to be called "the Next Byzantine Empire", being in the centre of the Greek-Slavic civilisation. This empire fights, after all, not in the name of an altar (like the crusaders), but in the name of an idea.

Yet another "style" of warfare was adopted by the Arabs, who were able to not shape only themselves but also the war itself. It is they who added the element of idea to war, referring not as much to a political ideology but to Islam as a militant religion. The Arabian diaspora is connected by close cultural ties, which justified turning to arms without hesitation in the name of brotherhood and war. The invaders from the Steppes had quite a different approach to war. First the Huns and later the Mongols became known for their ruthlessness as they wreaked havoc in Europe and Asia.

The transition from the era of historical "parallel" civilisations to the "cosmic-historical" era came about with the return of the giant (China) to the globalised world.⁹

⁹ See: H. Chołaj, *Powrót olbrzymia w zglobalizowanym świecie*, Warszawa 2011. The author covers the return of the Chinese giant in the era of globalisation (pp. 17–196), the social and political trans-

The development of rocket and satellite technology after World War II. The American–Russian competition

After World War II ended, preparatory works to use rockets to explore the upper part of the atmosphere were launched on both sides of the Atlantic. A set of appropriate instrumentation, placed in a special rocket chamber, made it possible to determine the composition and the properties of the atmosphere at different altitudes, measure the temperature levels, humidity, pressure, and the strength of radiation. Soon enough, American and Russian sounding rockets were able to reach altitudes of several hundred kilometres. There was also a concept of constructing a device which – unlike a rocket – would not fall quickly to Earth, but take advantage of the force of gravity to orbit the planet. The first actual attempts to put artificial satellites into circumterrestrial orbit took place in the 1950s.¹⁰

In the first half of 1950s, the US administration already had a range of study groups and organisational units dealing with issues related to taking advantage of cosmic space for military purposes. In response, the USSR launched the production of its first medium-range ballistic missiles, equipping its forces with these arms successively. Medium-range ballistic missiles are, in principle, not designed for firing at space objects and are not based in space, but a part of their trajectory reaches the cosmic space (Earth-space-Earth).

There were works on the construction of intercontinental ballistic missiles (ICBM) and research on utilising such missiles as carrier rockets for satellites and manned spacecraft underway at the same time. Soon after, both superpowers announced plans to send an artificial satellite into space to orbit the Earth. A race between the US and the USSR ensued, with the aim to create a rocket capable of carrying spacecraft into circumterrestrial orbit. It is believed that putting the first artificial satellite – Sputnik 1 – into circumterrestrial orbit (early October of 1957) marked the beginning of the space era. It opened the door to new wide-scale research, but it also caused a lot of concern about issues related to the military aspect of the event. It became clear that both superpowers had rockets easily capable of reaching any point on the map of the globe. The nuclear loads carried by these rockets could be a threat to the entire world. Surprisingly, the USSR's first ventures into space considerably accelerated similar initiatives pursued by the US.

formations in the People's Republic of China and other countries (pp. 197–238), and the encounters and rivalry between different worlds (pp. 239–284).

¹⁰ G. Nowacki, W. Krzeszowski, *Możliwości wykorzystania przestrzeni kosmicznej, studium teoretyczne*, Warszawa 2001, pp. 62–86; G. Nowacki, *Militaryzacja Kosmosu. Studium teoretyczne*, Warszawa 2003, p. 21 et seq.

This was also a period when the first American and Soviet warning systems appeared, also capable of destroying enemy satellites.¹¹ Yet, both parties soon came to a conclusion that destroying each other's satellites could involve huge losses, and so decided to work out a compromise. This resulted in the signing of a treaty in 1967 (*Outer Space Treaty – OST*), which provided for e.g. free movement of satellites above all countries; attacking one country's satellite could be considered an act of war.¹²

Both the US and the USSR still worked on missile defence systems, known as ABMs. The development of military warning systems in space in both countries played a significant part later on in supporting the treaties on arms limitations, both signed in 1972 (*Strategic Arm Limitation Treaty and Anti-Ballistic Missile Treaty*).¹³ The first space application of IT systems in warfare involved sending weather data from American observation satellites to air operations forces during the Vietnam War. Since then, space technologies have become an inseparable element of combat. There was even a phrase coined to refer to the idea – “space force enforcement”.¹⁴

American politicians and strategists started looking at space activity, involving state-of-the-art technology and huge financial outlays, as an attractive area of the arms race.¹⁵ It was hoped that the USSR's economy and finances would not withstand the burden of preparation for “space wars” and that the US would maintain an unquestionable world dominance thanks to its significant advantage in terms of the material and technical means at its disposal. The hopes materialised at the turn of the 1980s and 1990s, when the Soviet Union collapsed.¹⁶

¹¹ K.K. Spradling, *Military use of International Space Station*, Institute of Air & Space Law – McGill University, Montreal 1988 (a typescript from the IASL Library in Montreal), pp. 20–22; R. Lee, S.L. Steele, *Military use of satellite communications, remote sensing and global positioning systems in the war on terror*, “Journal of Air Law and Commerce” 2014, 79, p. 72 et seq.

¹² S. Israël, *France, Europe and Russia – Two Decades of Space Launch Cooperation*, “Room, The Space Journal” 2016, 2(8), pp. 22–26.

¹³ B.L. Hart, *Anti-satellite, Weapons: Threats, Laws and the Uncertain Future of Space*, Institute of Air & Space Law – McGill University, Montreal 2007, pp. 98–100 (a typescript from the IASL Library in Montreal); Article V of the treaty prohibits the US and the USSR from developing, testing, and deploying any ballistic missile system that would be “sea-based”, “air-based”, “space-based”, and “mobile-land based”. The treaty was in effect for 30 years. In June 2002, the US terminated the treaty after a six month notice period (which was in violation of the provisions included in the treaty itself). A significant thing was that the US overcame the legal obstacle to creating a new anti-ballistic missile system. S.A. Kaiser, *Satellite Navigation System*, “AASL” 2012, 27, p. 369.

¹⁴ W.W.S. Wong, J. Fergusson, *Military Space Power a Guide to the Issues*, Santa Barbara 2010, pp. 1–115.

¹⁵ P. Durys, *Zapobieganie wyścigowi zbrojeń w przestrzeni kosmicznej*, [in:] Z. Galicki, T. Kamiński, K. Myszona-Kostrzewa (eds.), *Wykorzystanie przestrzeni kosmicznej. Świat – Europa – Polska*, Warszawa 2010, pp. 41–50.

¹⁶ I.A. Vlasić, *Space Law and the Military Applications of Space Technology*, [in:] R.S. Jakhu (ed.), *Space Law – General Principles*, Montreal 2007, Vol. I, pp. 483–495.

The environment of American strategists considered satellite devices from the very beginning as an essential component of strategic arms, just as important as ballistic missiles, nuclear submarines or strategic aircraft.¹⁷ In 1957, the US Congress allotted significant amounts for the construction of an interceptor satellite. It turned out that it would be much better and cheaper at the time to develop anti-ballistic systems based on Earth. By 1964, after successful tests involving shooting down own satellites, the systems were constructed and deployed on Pacific islands. But this did not mean suspending the studies on new anti-satellite systems to be deployed in space. The USSR, in turn, decided that the increasing dash of American strategists in shifting space research towards military purposes called for intensive studies on the utilisation of cosmic space to be included in the Soviet war strategy. At first, both superpowers focused on similar goals in their space research, aiming to send man into space, and then to create conditions enabling man to remain there for a longer time. The US was interested mainly in the military utility of the Moon (i.e. building a military base there), whereas the USSR was preparing itself to construct a station to be put in circumterrestrial orbit.

In 1958–1959, Americans sent space probes to explore the space around the Moon. The USSR, in turn, organised the first orbital flight with Yuri Gagarin. In response, the US made an attempt to send man into space. Alan Shepard's first suborbital flight in 1961 was followed by an idea to send man to the Moon. It was also about learning whether it was possible to erect a base there. A base that would be suitable for housing military assets securing the US against the potential threat of a nuclear strike of the USSR.

The conducted studies proved that it was possible to produce and store energy on the Moon in the amount sufficient to operate a man-managed base.¹⁸ The preparations of Americans to land on the Moon took 9 years; this involved programmes named "Gemini" and "Apollo". The first trial circumterrestrial manned flight took place in 1968, but it was the 1969 spaceflight dubbed "Apollo 11", when a part of the crew set their foot on the surface of the Moon for the first time. There were six landings on the Moon in total, with many scientific studies carried out and many photos taken. The success of the "Apollo" programme made it possible to test new technology in practice, including a new capsule for manned flights and new carrier rockets offering better performance.¹⁹

¹⁷ G. Nowacki, W. Krzeszowski, op. cit., p. 67; L. Caselli, *Space Demilitarization Treaties in a New Era of Manned Nuclear Spaceflights*, "Journal of Air Law and Commerce" 2012, 77, p. 642 et seq.

¹⁸ G. Nowacki, W. Krzeszowski, op. cit., p. 72 et seq.

¹⁹ Apollo Program Summary Report by L.B. Johnson Space Center, NASA, April 1975.

Meanwhile, the USSR was engaged in the “Salyut” (building an orbital station) and “Soyuz” (transporting cosmonauts to the station) programmes. The object was to serve different purposes, including being a part of a military programme. In April 1971 the “Soyuz 10” spacecraft docked at the “Salyut 1” satellite, forming what is believed to be the first space station. Americans carried out similar projects, performing their first trials of connecting two spacecraft units together in 1966, but it was only in 1973 when they managed to dock the “Apollo” capsule at the “Skylab” base satellite.²⁰

The American projects of deploying military bases on the Moon and in circum-terrestrial orbits were an introduction to the next – fourth – stage of the development of military-space programmes. The first stage involved building carrier rockets, the second was about placing a reconnaissance satellite in space, and the third involved creating space systems of warfare support, such as satellite communication, navigation, and meteorological systems.²¹ Stage four was about constructing satellite weaponry systems and putting them in space. The predictive studies performed in the area of the development of satellite assets and their technical-combat potential made it possible to distinguish the fundamental directions of militarisation of the cosmic space, defining the following groups of tasks to be carried out by spacecraft: satellite support for military action on Earth, fighting single enemy satellite units, fire support from space to aid military action on Earth, and pursuing autonomous combat activity in extra-terrestrial space.²²

Doctrines on space wars. China joining the competition in space

The US was capable of destroying Earth-based objects using ballistic missiles and satellites already at the turn of the 1960s and the 1970s. Both superpowers (the US and the USSR) realised, though, that an uncontrolled development of such weapons might lead to a far more destructive war. They therefore decided to sign a treaty on the limitation of anti-ballistic missile systems, obliging themselves to e.g. abide by the prohibition of creating, testing, deploying in space, and – in consequence

²⁰ G. Nowacki, W. Krzeszowski, op. cit., p. 73.

²¹ M. Trögeler, *A Global Legislation for Space Applications in the Field of Civil Protection*, “The Aviation and Space Journal” (hereinafter: ASJ), 2011, 10(4), p. 23 et seq.

²² N.M. Paradise, *Civil-Military Synergies in European Earth Observation Missions*, ASJ 2012, (11)4, p. 41; satellites usually serve a dual purpose: a civil purpose and a military purpose, and a civil-military cooperation is not indispensable here, G. Nowacki, W. Krzeszowski, op. cit., p. 75.

– using any assets capable of destroying intercontinental ballistic missiles when they move in circumterrestrial orbit.²³ Observing the prohibition depended, however, on the will of the signatories exclusively, and it was extremely difficult to control its observance. That is why the possibility of the appearance of anti-ballistic assets, and maybe other, designed to strike earth-based, surface or aerial targets in space was taken into account. The possibility of autonomous operations being pursued in extra-terrestrial space seemed much less likely, although such concepts did appear in the early days of the cosmic era as well. It was thought that any attempt to destroy any of the satellite systems could carry serious consequences leading to an escalation of military action with it. But since the amount of combat assets based in space was relatively small, it was believed that any military activities initiated in space would quickly shift to Earth.

Both superpowers, despite their attempts to reach an agreement, did not rule out that the forthcoming future would offer new opportunities for the creation of a separate cosmic dimension of the theatre of war. Two areas of military action were spoken of: circumterrestrial (from the lower boundary of outer space to about 40 thousand km from the centre of the Earth) – which is where most of the Earth's functioning artificial satellites would be placed, including satellites of military significance, moving in the geostationary orbit. The other area of space warfare would include parts at the altitude from 40 thousand km to the upper boundary of outer space, with a special consideration of the area found 300–450 thousand km from the Earth. The central point of this area was to be the Moon.²⁴ In 2016, the US space program was the largest in the world. Around USD 42 billion was allocated for equipment and intelligence in Space. At that time, the US had around 1,000 objects placed in orbits, half of which were used by the army and intelligence services.²⁵

The Russian Federation is still a country with a large military potential of its space force. Although many space systems and devices became deteriorated in the 1990s, the Russian government has gradually been increasing its financial outlays on the modernisation of some of them. China is a relative newcomer to the “space military club”. In the last decade, it made some significant investments and tests

²³ Y.T. Unehara, S. Matsuda, T. Fuji, M. Kaneoka, *State Responsibility and Liability for Air-Launch over the High Seas*, [in:] C.M. Jorgenson (ed.), *Proceedings of the International Institute of Space Law 2013*, Vol. 56, Leiden 2014, p. 669 et seq.

²⁴ G. Nowacki, W. Krzeszowski, op. cit., p. 76 et seq.; W. Świątnicki, Z. Świątnicki, *Wojna w Kosmosie?*, Warszawa 1990, p. 27; J.J. Klein, *Space Warfare: Strategy, Principles and Policy*, Routledge 2006, p. 33 et seq.

²⁵ M.T. King, *Sovereignty's Gray area: The delimitation of Air and Space in the Context of Aerospace Vehicles and the Use of Force*, “*Journal of Air Law and Commerce*” 2016, 81, p. 480 et seq.

of location systems, including an anti-satellite weapon system – ASAT. It also manufactures small satellites operating in low orbits as well as devices (including laser systems) jamming and destroying foreign satellites. China cannot rival the US or Russia in terms of its space-oriented activity yet, but it is quickly developing new systems and programmes. Also, some Western European countries belonging to ESA are involved in military space activity, with France being the most experienced in the field.

Outer space is slowly becoming a theatre of future warfare. This is so because some countries, mainly including the US, are dependent on space technologies designed for both civil and military applications. The US' dominance in outer space may also result in other countries, such as China or Russia, following suit to prevent the US from gaining too much of an advantage. This may lead to an arms race in space, one similar to the nuclear arms race between the US and the USSR in the Cold War period.²⁶

In 2012, in its strategic report, the USDOD argued that the US needed to make investments in space technology to protect the country's interests.²⁷

Laser weapons are among the frequently mentioned new "space weapons", which have a chance to see the light of day in next few years. The development of new weapons is limited virtually only by human imagination and maybe technical-financial factors.²⁸

There has been a moderate renaissance of the issue of nuclear weapons in different fields of political-military activity; it has been proven that nuclear energy is the most effective source of supply for deep space exploration, but there are also significant risks involved.²⁹ One of the obstacles for the "star wars" scenario to become reality can be the huge costs of building technical military equipment. Sending, for example, the X-37B to carry out one space mission cost Americans around USD 100 million. This is coupled with concern about the increase in the amount of space

²⁶ W. Świątnicki, Z. Świątnicki, op. cit., pp. 12–79; G. Nowacki, W. Krzeszowski, op. cit., p. 78.

²⁷ A. Chanock, *The problems and Potential Solutions Related to the Emergence of Space Weapons in the 21st Century*, "Journal of Air Law and Commerce" 2013, 78(4), p. 697 et seq.

²⁸ D. Bielicki, *Militaryzacja i zbrojenia Kosmosu. Studium prawnomiędzynarodowe*, Katowice 2014, a doctoral dissertation developed under the scientific supervision of Professor B. Mikołajczyk, PhD, p. 141.

²⁹ Kosmos 954 – a Soviet naval reconnaissance satellite, equipped with a radar system with an on-board nuclear reactor, whose task was to detect and trace American ships. In January 1978 it fell to Earth in north-western Canada, scattering radioactive matter over a surface area of 124 thousand square kilometres. Only 12 larger parts of the wreck and only 1% of the satellite's nuclear fuel were found.

debris generated by cosmic weapons, and about the potential scenario of this debris damaging various space objects (often very costly).³⁰

In 2001, a commission appointed by Donald Rumsfeld, the Secretary of Defense of the time, developed a report on the consequence of an attack on American military and civil satellites; the report was entitled "Space Pearl Harbour". President Obama also decided that the potential benefits of the weaponisation of space were too big to be ignored; a country with the most up-to-date space weaponry gains a significant tactical advantage. The US fears, however, that it may lose its current advantage in this domain to China if it does not increase its spending and put space weapons into orbit. Such arguments resemble the propaganda resorted to by governments to address American and Soviet citizens in the "Cold War" era.

On the other hand, the US' military and economic interests depend largely on the devices sent to space. If military satellites are not protected well enough, the country's defence potential will decrease. US civil satellites, in turn, are often used to support telecommunications, banking, energy, transportation and other sectors, which makes these sectors of the economy vulnerable to space attacks. Many American politicians share an opinion that instead of accessing the restrictive international legal regime that will deprive the US from its military advantage in space, America should dominate the forthcoming arms race in space without any supervision. Some think, however, that it is rather unlikely for the US to dominate the outer space completely with China in the way. The Asian rival could force the US to allot more funds for the development of space weaponry, whereas the US is trying to reduce its budget deficit. China and Russia, in turn, facing America's advantage in space, could opt for the development of nuclear weapons and new defence measures. In spite of the above, the US Congress is persistent in rejecting all drafts of legal acts concerning banning the use of space weaponry.³¹

Russia has been expressing its fears of attacks on its early warning and surveillance systems in its documents on its military doctrine since 1992, hence its goal was to protect the country's space system and IT technology as well as to modernise its nuclear missile attack warning system. Russia's revised military doctrine stresses that Russia regards the US' space militarisation policy as a threat to the international community. It was also raised that when Russia and China proposed a range of disarmament solutions, all of them were blocked by the US.

China's space activity involves many diverse participants, civil-military applications (indiscernible), and a limited and unstable coordination. Although China

³⁰ A. Chanock, op. cit., p. 691 et seq.; R.D. Onley, *Death from Above? The Weaponization of Space and the Threat to International Humanitarian Law*, "Journal of Air Law Commerce" 2013, 78, p. 751.

³¹ A. Chanock, op. cit., pp. 700–710; R.D. Onley, loc. cit.

speaks in favour of international cooperation in the area of space exploration, its foreign relations existing on this plane seem to be tense. The country remains suspicious of the US' space doctrine, and speaks of developing its own space defence capabilities.³²

The international community in the face of the threat of space wars and its impact on the programmes of space activity

The threat of weapons of mass destruction and of a new arms race in space should stress the importance of the prohibition of the use of force, which should become a vital part of the integrated legal order on the international, regional, and national scale, encompassing law and policies implemented by competent institutions following certain procedures. It is a near-unfeasible task because the world now faces the "failed state" problem³³ and a growing wave of terrorism.³⁴ But this does not mean that we should abandon following the right direction to synchronise the existing legal orders within one system and arrange a hierarchy within an integrated legal order.

Practical considerations speak in favour of placing the resolutions of the UN Security Council at the top of the hierarchy of sources of warfare law, with the resolutions adopted in accordance with the provisions of Chapter VII of the United Nations Charter. In one of its resolutions, the UN Security Council argues that the "proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constitutes a threat to international peace and security", and obliges its member states to tighten their systems of control of proliferation of weapons of mass destruction with regard to non-state entities in the relevant acts of respective national laws.³⁵ The UN SC resolution is reflected in the security doctrines of NATO (1999), the EU (2003), and the OSCE (2003). It is clear proof of the existence of intentions to establish an integrated legal order with regard to the problem of international

³² A. Krzyżanowska, *Biała Księga Obronności Chin – pokojowe deklaracje i realia*, "Bezpieczeństwo Narodowe" 2011, 20(4), pp. 55–75.

³³ See: J. Zajadło, *Prawo międzynarodowe wobec problemu „państwa upadłego”*, "Państwo i Prawo" 2005, 2, pp. 3–20.

³⁴ Acts of terrorism create a new perspective of perception of armed activity undertaken not only by states but also by irregular groups. See: J. Kranz, *Między wojną a pokojem: świat współczesny wobec użycia siły zbrojnej*, [in:] idem (ed.), *Świat współczesny wobec użycia siły zbrojnej. Dylematy prawa i polityki*, Warszawa 2009, pp. 163–185.

³⁵ Resolution 1540 (2004).

security and human security,³⁶ without excluding space security. Such intentions were expressed in the relatively quick appearance of international treaties concerning space activity.³⁷ The Outer Space Treaty of 1967³⁸ laid down several fundamental legal principles governing the activity that countries could undertake in the area of exploration and use of the cosmic space. These principles are related directly (the principle of free exploration, use, and access of outer space, the principle of non-appropriation of outer space) or indirectly (the principle of peaceful and safe use of outer space, the prohibition of placing any objects carrying nuclear weapons or any other weapons of mass destruction into extraterrestrial orbit) with the issue of the demilitarisation of space.

The treaty in question deserves to be called “the constitution of space”, the provisions of which supplement other norms of treaty space law. From the point of view of “star wars”, the Moon Treaty of 1979 seems to be especially important.³⁹ Its provisions also concern other celestial bodies within the solar system, excluding Earth. The treaty regulates the matter of international “peace and security”, expecting that the Moon would be used by all parties thereto for “peaceful purposes” only. Its provisions prohibit using the Moon to commit any hostile act (a threat or use of force) against Earth, the Moon, spacecraft or other man-made space objects; the prohibition also includes placing any objects carrying nuclear weapons or any other kinds of weapons of mass destruction in the Moon’s orbit, establishing military bases, installations, and fortifications on the Moon as well as conducting military manoeuvres on the Moon.

The starting point in the analysis of the issue of demilitarisation of outer space in the light of international law is the principle of freedom of outer space, which tends to be compared to the principle of freedom of the seas. Applying the “everything that is not forbidden is allowed” formula in the context of outer space militarisation is an antithesis of freedom. It would be more appropriate here to understand the freedom of outer space as the freedom of airspace, treating the prohibition of space

³⁶ See: Z. Brodecki, A. Brodecka, *Koncepcja Human Security*, “Prace Naukowe Wyższej Szkoły Bankowej w Gdańsku” 2014, 31, pp. 233–243.

³⁷ Unlike the Law of the Sea, which was initially common law. See: Z. Brodecki, *Kosmos a morze. Prawo eksterytorialnych przestrzeni*, to be printed.

³⁸ The agreement is a part of international law and respects its principles. M. Polkowska, *Prawo kosmiczne w obliczu nowych problemów współczesności*, Warszawa 2011, p. 52. The author cites, among others, a text by L. Tate, *The Status of the Outer Space Treaty in International Law During “War” and “those Measures Short of War”*, “Journal of Space Law” 2006, 32(1), pp. 180–181.

³⁹ This significant instrument of space law was not ratified by the military superpowers: the US, Russia, and China. The reasons for the low rate of ratification are covered by A. Farand in *On the Status of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, cited by M. Polkowska (op. cit., p. 89). Hence the opinions for the need to modify its content.

militarisation as a principle with some exceptions – interpreted in accordance with their nature, in a specifying manner. This type of interpretation is applied to all departures from prohibitions defined in Article 3 of the Moon Treaty and Article IV of the Outer Space Treaty,⁴⁰ which are the apple of a diplomat's eye on account of their degree of specificity.⁴¹

An overly general definition of legal principles related to human activity in outer space does not stand the test of time. For this reason, we should appreciate all diplomatic efforts made, especially those that lead to bilateral agreements between the US and Russia (limitation of nuclear armament) and the US and China (on the positions on fissile materials).

The diversity of concepts of national security of EU Member States has led to the EU still being a political weakling. The content of Article 189, section 2 of TFEU seems to be particularly surprising since it implies a lack of an option to oblige EU Member States to harmonise their statutory and executive regulations under the provisions of the European Space Policy.⁴² The integration between EU Member States is too weak for this organisation to be able to effectively implement TUE provisions concerning the common foreign and security policy⁴³ and international agreements concluded on the basis of TFEU provisions with one or more third countries or international organisations.⁴⁴ These agreements enforce the EU's obligation to regulate its relations with the European Space Agency.⁴⁵ They also influence the actual shape of the solidarity clause in the EU and NATO versions.

The focus is now on the control of space technology, carried out by sovereign states as part of their respective jurisdictions.⁴⁶ That is why experts start placing more attention on national security in space, analysing the law, the policies, and the strategies of the US, China, Russia, and the EU in great detail.

⁴⁰ Meaning the 1967 treaty.

⁴¹ One should not forget about the space law norms, which are *lex specialis*. In practice, their role is really significant. These include treaties banning tests (Limited Test Ban Treaty, 1963; Threshold Test Ban Treaty, 1974; Comprehensive Nuclear Test Ban Treaty, 1996) and proliferation (Nuclear Non-Proliferation Treaty, 1968).

⁴² M. Nowacki, *Uwagi do art. 189 ust. 2 TFUE*, [in:] A. Wróbel (ed.), *Traktat o Funkcjonowaniu Unii Europejskiej*, Vol. 2, K. Kowalik-Bańczyk, M. Szwarc-Kuczer (eds.), Warszawa 2012, p. 1255.

⁴³ On Title V ("Provisions Covering the Common Foreign and Security Policy") – see: J. Barcz, *Przewodnik po Traktacie z Lizbony. Traktaty stanowiące Unię Europejską*, Warszawa 2008, pp. 79–80.

⁴⁴ See: M. Niedźwiedź, *Uwagi do tytułu V TFUE "Umowy międzynarodowe"*, [in:] A. Wróbel (ed.), op. cit., pp. 1558–1638.

⁴⁵ The obligation arises clearly from art. 189, section 3 TFUE. See: M. Nowacki, op. cit., pp. 1255–1257.

⁴⁶ This is about e.g. the Wassenaar Arrangement (signed by Western countries, Russia, and China), which makes it possible to impose an embargo on a country in order to prevent the proliferation of conventional weapons and *dual-use* technologies for military purposes.

In the US, the private space sector plays a significant part. And not just in the area of telecommunications and teledetection but in the military sector as well. The American Commercial Space Launch Act (CSLA) of 1984 makes it clear that granting a license to private operators depends on considerations related to national security and on the interests of US foreign policy. This is of particular importance to the implementation of the Strategic Defense Initiative (SDI) of 1983 and the National Security Policy (NSP) managed by US Presidents – Clinton, Bush (Junior), and Obama, as well as to military space strategy projects. What will Trump's defence strategy and national security policy be like? We can assume that this president ruling in the times of a turning point in international affairs will follow in the footsteps of Reagan – the creator of the American vision of star wars.

China defines the objectives of its space policy in its White Paper, published twice a year. Practically every one of them talks of plans of development of technology for civil and military use. The included declarations suggest that "the Giant" is refraining from making its army dependent on the development of space and satellite technology, limiting itself to working on systems designed to jam the operations of military satellites. This country is joining the negotiation of a treaty to stop the arms race. Perhaps this superpower will become possessed by a "gold fever" which will make it focus on the development of space mining.

Russia and China have submitted a few proposals at a UN convention, and the Russian concept of development of armed forces by 2030 mentions Europe as the main partner to work with in outer space. At the same time, Russia's diplomats threaten countries that make attempts to place their weapons in outer space with retaliatory action. Only the most outstanding experts in international relations and military science are able to fathom the true meaning of the "beautiful words" behind the Russian security strategy – taking the scenario of star wars fought by Russia into consideration.

Applying the Hobbesian "law of force" to international relations will surely, over time, start turning into an international custom which will legalise the so-called passive militarisation, if only by way of a common approval for reconnaissance satellites. UN COPUOS experts (doctrine) and international courts (judgements) will then be trying to draw a precise line to separate it from the so-called active militarisation. It may turn out that any military activities undertaken in outer space will be permitted under a new military doctrine, with only hostile acts remaining prohibited.

Conclusion

The development of space technologies in recent years and the “space policies” implemented by some countries suggest that conflicts in outer space are still possible. This is even a scenario predicted by American observers.⁴⁷ Conflicts on Earth may resound through the cosmic space, which will have devastating effects on the security in outer space and of all countries worldwide. The development of space technology in the 21st century causes concern and instils optimism at the same time. Military technologies, essential to outer space activity, are available to some countries that may have less interest in protecting outer space and adopting international norms. If China or the US use kinetic space weaponry, it may be considered either a harbinger of a future conflict or a warning against the proliferation thereof.⁴⁸

At present, more and more countries use or intend to use cosmic space for military purposes. Moreover, an increasing number of civil satellites is used for military purposes. Maintaining the principle of the peaceful use of outer space is becoming increasingly harder. The militarisation of outer space is slowly moving into a new stage: from passive satellites, supporting military operations, through collecting and transmitting various types of relevant information to active satellites, which – equipped with anti-ballistic systems – are to be able to destroy the set targets. All this leads to a question as to whether we can expect to see a new “Cosmic Cold War” in the near future, and whether it will not transform into a global armed clash this time.

⁴⁷ The concern about space is reflected in the titles of articles published in the American press in recent years: “War in Space May Be Closer Than Ever”, “US Military Gears Up for Space Warfare”, “Pentagon Rushing to Open Space-War Center To Counter China, Russia”, “A Coming War in Space?”, “When it Comes to War in Space, U.S. Has the Edge”, “The X-37B: Backdoor weaponization of Space?”.

⁴⁸ C. Al-Ekabi, B. Baranes, P. Hulsroj, A. Lahcen (eds.), *Yearbook on Space Policy 2014. The Governance of Space*, Vienna–New York 2016, p. 40; J.C. Moltz, *The Crowded Orbits. Conflict and Cooperation in Space*, Columbia 2014, p. 170.