Drone as a Target of Terrorist Attack and a Weapon Against Terrorism – Analysis in the Light of International Law

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Abstract
Unmanned aircraft vehicles (or “UAVs”) have become a symbol of modernity and development of aviation, both in its civil and military sector. Stronger connection of UAVs with air industry means not only many advantages for air travellers and military forces, but also potential involvement in terrorism. Unmanned aircraft serving civil air transport can become target of terrorist attack. On the other hand, such a device can also be used as a handful weapon in fight against terrorism. The aim of hereby article is to study both such aspects of usage of UAVs from legal perspective in order to answer a question whether provisions of international law currently being in force accurately reflect the reality of fight against terrorism. For that purpose, applied is research based on a method of analysis of relevant legal acts (conventions forming Tokyo-Hague-Montreal-Beijing system and documents related to international humanitarian law) and critical commentary thereto, enriched with practical review of real and current cases involving unmanned aircraft vehicles.

Keywords Unmanned aircraft · Terrorism · Humanitarian law · International law · Drones

1 Introduction

Unmanned aircraft vehicles (hereinafter referred to as “UAVs”) are doubtlessly a symbol of constant and dynamic development of aviation worldwide [1]. Those machines are widely used both in commercial transport, being a civil branch of aviation, and military. In each of those sectors UAVs are or might be involved in phenomenon that is one the most challenging problems of international community – global terrorism. On one hand, a growing popularity of unmanned aircraft among civil users makes them vulnerable to potential attacks from the side of terrorist organisations. On the other hand, drones used in armed forces became a valuable tool in counter-terrorism activities. In other words, today UAVs might be both perceived as a target of terrorist attacks and as a weapon against such.

Hereby article is a scientific analysis aimed at confronting international legal provisions in force with reality of using unmanned aircraft vehicles, both in civil and in military aviation. Its primary goal is in turn an attempt to answer a question whether such enforceable provisions reflect that reality. We shall then verify if said provision respectively protect unmanned units against terrorist attacks, and adequately regulate questions of liability for usage of unmanned aircraft in fight against terrorists. To provide such an answer, the text has been divided into two relevant parts; in each of them the authors presented an analysis of relevant international law documents and interpreted them in reference to UAVs. In closing chapter outlined are conclusions on the basis of said analysis concerning current legal standards and possible changes in international provisions.

2 International Terrorism and Case of Drones

International terrorism is one of those phenomena that international community brutally experience in recent years. It is remarkable that terrorist networks search for new targets...
of attacks. And therefore, on the basis of object of attempts, researchers have distinguished particular forms of terrorism, including inter alia maritime terrorism, nuclear terrorism or aerial terrorism [2]. Especially important in studies on international terrorism is the latter one [3, 4].

Civil aviation, as a transport sector, definitely “attracts” attention of terrorists, and that is not without reason. It is well known that air travels are marked by “internationalism”—most commercial flights are cross-country and carry passengers of different nationalities. Potentially, a terrorist attempt targeting such a flight is widely commented by media around the world. And extensive broadcast is one of key terrorists’ goals of spreading fear among public. [5, 6] Moreover, aircraft often bare flag of its state of registry or operator— an attack performed against such an aircraft might be then perceived as directed against that state. [7] Finally, attempts against civil aviation contributed to disruption of international air traffic, that is today essential for normal functioning of global economy [8]. In the past, civil aviation was frequently struck by terrorists; an event that affected it the most was of course attack on World Trade Center on 11th September 2001. [9]

Although threat from terrorism is still real, civil aviation constantly develops in a dynamic way. A certain symbol of that growth are unmanned aircraft vehicles, commonly known as “drones” that were previously used mainly by military. Nowadays, they are becoming more and more popular in civil sector of aviation. For that reason it is vital to explain how the term “unmanned aircraft vehicle” by itself should be understood, before more detailed analysis is presented.

Currently there are at least several definitions of the term in the legal sciences framework, but regardless of the one that we refer to, one thing should be indicated in the first place. Namely, in the light of law, provisions applicable to aircraft in genere (including jets, helicopters or gliders) apply also to unmanned devices [10]. That rule was confirmed by International Civil Aviation Organisation (ICAO) in its Circular no 328. [11] In other words, if in a particular legal provision, an expression “aircraft” is used, we should assume that it also concerns drones. Mentioned circular also refers to more detailed definition of UAV adopted on the 35th session of ICAO Assembly. So, as UAV perceived should be an aircraft that performs a flight without pilot on board and is either remotely or fully controlled by a pilot from a different location, e.g. from land, another aircraft, aerospac, or a programmed and fully autonomous aircraft. On the basis of such definition, whose value is even higher due to its acceptance by ICAO, we shall conduct our further considerations.

As for the UAVs market and their potential in air operations, today drones are used both for simple tasks, including video recording, or transporting small freight, as well as more sophisticated operations, like medical emergencies (if we take into account only civil machines) [12]. However, the process of implementing new technology in the sector of unmanned aircraft vehicles permits conviction that at the end of 2030s, such devices will be capable of conducting cargo operations [13]. It is quite probable then that in later years we shall also observe adaptation of unmanned aircraft to carriage of passengers. If the development of that industry will not slow down and in consequence it will be possible to perform scheduled international flights on board UAVs in the near future, then we might assume that drones shall become an “attractive” target for various terrorist organisations. Unmanned aircraft, regardless whether it carries passengers or cargo, or is not involved in transport in a given moment, is vulnerable to at least several types of attacks. It can be hijacked, shot down, or in extreme case also used as a weapon.

Certainly, for some persons, problem of hijacking a drone seems as an abstract thing – intuitively, it is impossible to seize an unmanned aircraft as it flies without a pilot on board and can be just controlled by an operator from distance. However, we are aware today that it is totally possible to remotely hijack an aircraft by hacking its on-board systems [12]. A direct evidence for that is an experiment that on 19th September 2016 was performed by American Department of Homeland Security. Its officers on that day made a successful attempt to hack systems of Boeing 757 in flight and direct it to land at the Atlantic City Airport in New Jersey [13]. That experiment, disclosed to public a year afterwards had as an aim to show international community that aircraft are

1 Aleksandrowicz, T. (2008). In the context of “media attractiveness” of terrorist attacks, Aleksandrowicz quoted W. Laqueur: “most of experts agree that terrorism means use or threat to use violence, a method of fight or a strategy to achieve certain goals, that its aim is to threat a state through victims […] and that publicity is an important factor of terrorist strategy”, Laqueur, W. (1986).

2 From international law perspective, there is no obligation of marking civil aircraft with flags of state of registry or operator’s headquarters. However, under Article 17 of Chicago Convention, there is a duty of registering any aircraft destined for air operations.

3 In the attacks from 11th September 2001, four airliners were hijacked by terrorists related to Al-Qaeda. Two aeroplanes were directed at World Trade Centre twin towers, one hit the building of Pentagon and one crashed at Shanksville, Pennsylvannia. In total, more than 3,5 thousand people were killed. See: Aleksandrowicz, T., Liedel, K. (2010).

4 As an “aircraft” we mean “Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth’s surface”. See: Żylicz, M. (2011), p. 25.

5 International Civil Aviation Organisation. (2011), para. 2.5.
vulnerable to attempt of hijacking using cybernetic means. Taking into account that civil aircraft were frequently seized by terrorist in the past,6 we have to admit that UAVs can also constitute a target for hijackers, especially when they carry dangerous goods (e.g. weapons or explosives) – hijacking of such a device and eventual collision with another object may result in huge losses and many victims. A similar effect might be achieved if an unmanned aircraft is intentionally shot down and ultimately crashes on another object. It is vital to mention here that civil aircraft (manned or unmanned) used for causing injury or death to other persons is perceived as a weapon. And practice of using aircraft as a weapon was several times repeated by terrorist organisations.[14]

Above study clearly shows a real threat from the side of terrorists that might be directed against unmanned aircraft vehicles, particularly when they become an integral part of scheduled passenger air traffic in the future. And if a goal of international community is safe development of civil aviation, free from terrorist threat, then we have to pose a question whether states of the world, affiliated with ICAO prepared concrete legal instruments assuring protection from terrorist attacks on UAVs? An overview of the key documents drafted under auspices of ICAO gives a result of positive answer. Legal tools, whose main aim is protection of air passengers against terrorism form so called “Tokyo-Hague-Montreal-Beijing system” that consists of: Convention on Offences and Certain other Acts Committed on Board Aircraft, signed at Tokyo, on 14 September 1963 (hereinafter referred to as “Tokyo Convention”); Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation signed at The Hague on 16 December 1970 (hereinafter referred to as “Hague Convention”); Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation signed at Montreal on 23 September 1971 (hereinafter referred to as “Montreal Convention”); Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation done at Beijing on 10 September 2010 (“Beijing Convention”); Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft done at Beijing on 10 September 2010 (“Beijing Protocol”).

First of mentioned Treaties, Tokyo Convention, applies only to offences against penal law and acts that may jeopardize the safety of passengers on board aircraft [15]. That agreement regulated inter alia powers of aircraft commander and states in the event of commission of any kind of offence or act potentially threatening safety of flight. In consequence the crew of aeroplane might restrain freedom or take particular measures against a passenger. In turn, a state of aircraft’s registry may punish offenders. Finally, states that would bare any kind of loss, are granted jurisdiction when any of acts mentioned in the Convention materialises. Article 11(1) introduces a term “unlawful seizure of aircraft” and defines it as unlawful, committed by force or threat thereof an act of interference, seizure, or other wrongful exercise of control of an aircraft in flight [16].

Analysis of those provisions leads to conclusion that potentially an offender might not only be a passenger, but equally a crew member if they commit above mentioned acts. Moreover, exempted from application of the Convention are aircraft used in military, police or customs. In that way we can assume that drones involved in any of those services are not covered by the treaty. A condition for commission of offence is to have an aircraft “in flight”. It should be remarked here that the Convention provides two definitions of that time interval. The first one indicates that an aircraft is “in flight” from the moment when power is applied for the purpose of take-off until the moment when the landing run ends. In turn, another one underlines that an aircraft is deemed to be “in flight” from the moment when all external doors are closed following embarkation until any such door is opened for disembarkation. Having in mind previously evoked definition of aircraft, we may refer to the term “aircraft commander” that appears in the Convention. The act does not mention precisely, who is viewed as a commander, but analogically to ICAO definitions (“pilot-in-command”) we might establish that it is designated by the operator or the owner as being in command and charged with the safe conduct of a flight. We may affirm then that a pilot who sits outside of unmanned aircraft but has control over it from the ground has powers arising from the Convention when act of unlawful interference occurs. It is worth emphasising that Tokyo Convention shall have limited application against

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6 An escalation of aircraft hijackings was seen at turn of 1960s and 1970s. At that time frequently planes were seized for landing on Cuba or behind “Iron Curtain”. See: Aleksandrowicz, T., Liedel K. (2010), p 11–12.

7 One of the most spectacular attempts of usage of aircraft as weapon was an accident of Airbus A300 having performed Air France flight 8969 from Paris to Algiers on 24th December 1994. A machine was captured by members of terrorist organisation Groupe Islamique Armée, and subsequently seized back by French gendarmerie after landing at Marseilles. Investigation revealed that the original plan of hijackers was to crash the plane on Eiffel Tower. See, Sancton, T. (2001). Another remarkable accident of that type was of course attack on World Trade Center from 11th September 2001.

8 Tokyo Convention entered into force in 1969. The reason for that both its Article 21, that required at least twelve ratifications for an act to to become enforceable and tardiness of states.
drones, as provisions of this act stipulate on offences committed by persons “on board”.

Another tool of legal nature forming a part of Tokyo-Hague-Montreal-Beijing system is Hague Convention from 1970 [15]. That document extended provisions of Tokyo Convention and above all, provided definition of offence committed in flight in Article 1: any person who on board an aircraft in flight unlawfully, by force or threat thereof, or by any other form of intimidation, seizes, or exercises control of, that aircraft, or attempts to perform any such act, or [...] is an accomplice of a person who performs or attempts to perform any such act commits an offence.[17] In the light of that regulation, by “an offence” regarded might be also an attempt to commit an act, as well as accomplice. Subsequent article obliges states-parties to accept a catalogue of offences that allow to pursue offenders. What is more, in the Convention mentioned are traits of crime committed on board aircraft, inducing: usage of violence or threat/another form of coercion, direct intent to seize aircraft, or exercise control over it in order to transfer to a different place with change of flight path, or crime scene – important is that the offence itself has to be committed on board aircraft in flight [9].

By analysing above mentioned, we may assume that mean of commission is indifferent, as a perpetrator may commit an offence using e.g. a gun, or explosives. Convention regulates also beginning and end of flight of an aircraft seized by terrorists. In the light of Article 3 aircraft is in flight from the moment when all its external doors are closed following embarkation until the moment when any such door is opened for disembarkation. Moreover, the treaty regulates extradition, a process of passing a perpetrator into hands of state having interest in their punishment. In that way the Convention introduces obligation of exercising national jurisdiction and judging an offender under the law of state of occurrence.

Another instrument of Tokyo-Hague-Montreal-Beijing system is Montreal Convention. That document provides detailed definition of offence committed in flight. In the light of Article 1, any person commits an offence if he unlawfully and intentionally:

- performs an act of violence against a person on board an aircraft in flight if that act is likely to endanger the safety of that aircraft; or
- destroys an aircraft in service or causes damage to such an aircraft which renders it incapable of flight or which is likely to endanger its safety in flight; or
- places or causes to be placed on an aircraft in service, by any means whatsoever, a device or substance which is likely to destroy that aircraft, or to cause damage to it which renders it incapable of flight, or to cause damage to it which is likely to endanger its safety in flight; or
- destroys or damages air navigation facilities or interferes with their operation, if any such act is likely to endanger the safety of aircraft in flight; or
- communicates information which he knows to be false, thereby endangering the safety of an aircraft in flight [18].

Regarding aforementioned provisions, we may establish that in the case of unmanned aircraft vehicles the most probable scenarios referring to acts of unlawful interference might be offences mentioned in Article 1(1), sub-paragraphs: b, c, d, e and Article 2. Therefore, an offender would destroy a drone being in service, or place a charge or substance causing damage on its board.

In 1988, Montreal Protocol was drafted, extending applicability of Convention over acts of violence directed against persons at airports serving international civil aviation which causes or is likely to cause serious injury or death, or acts aimed at destruction or serious damage to the facilities of such airport or aircraft not in service located thereon [19].

Already in 2010 during Beijing Conference both Beijing Convention and Protocol thereto were adopted. The aim of Beijing Convention is replacing Montreal Convention. However, until the former one becomes applicable in a particular state, the latter one will be still in force. Doubtlessly, Beijing instrument criminalises a wider catalogue of offences, like usage of nuclear, biological or chemical weapon or explosive materials from board of aircraft. Mentioned treaty also recognises as offence a threat to commit an act of unlawful interference and also refers to cyber security. Under this instrument, in category of offences we can include destruction and damaging of navigation facilities or interfering with their operation. In that way, we may assume that in case of drones, a perpetrator would place nuclear, biological or chemical weapon (or explosive materials) on board aircraft and then drop it on a selected target, thereby causing damage on the ground. Moreover, possible scenario would be a threat to commit an act of unlawful interference against e.g. airport infrastructure or another place open to public. Today frequent are cases of drone incursion at airport premises, that only strengthen statement that potential terrorist attacks on such facilities are absolutely real [20]. Additionally, unmanned aircraft vehicle would also constitute an object of cyberattack. In consequence, a seized drone would be used as a weapon in the hands of terrorist.

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[9] 77 states and many observers from international organisations participated in Hague Conference. The Convention entered into force on 14th October 1971.

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Similarly, Beijing Protocol that updates provisions of Hague Convention criminalises cyberattacks [21].

According thereto, any person that unlawfully and intentionally seizes or exercises control of an aircraft in service by force or threat thereof, or by coercion, or by any other form of intimidation, or by any technological means, commits an offence. Analogically, just like in the case of Beijing Convention, we might establish that offenders would seize a drone and ultimately use it in terrorist attempt.

3 Drones as a Tool in Fight Against Terrorism

As it was already mentioned, unmanned aircraft vehicles might constitute a target for terrorist attacks, but are also a strong tool in fight against it, which is only proven by growing demand of that technology among armed forces worldwide. And it is not too surprising – in case when a drone is shot down by an enemy, a loss is counted in money, not in number of fatalities in the midst of military personnel [22]. Since many years, states have been trying to minimise damage to their armed forces equally increasing efficiency and precision of weapons, which is required from them inter alia by law of war, known as international humanitarian law (or “IHL”) [23].

In hereby chapter presented shall be history of usage of drones in armed conflicts along with associated juridical problems. Moreover, discussed shall be controversies related to use of drones for military purposes, mostly in the view of protection of life and health, which shall be illustrated by cases from recent years. Discussed issues will be subject to considerations aimed at understanding core function of humanitarian law towards problems that usage of UAVs in armed conflicts and in fight against terrorism generates.

3.1 Army and Drones – Past, Present and Future

“We have just won a war with a lot of heroes flying around in planes. The next war may be fought by airplanes with no men in them at all….Take everything you’ve learned about aviation in war, throw it out of the window, and let’s go to work on tomorrow’s aviation. It will be different from anything the world has ever seen.”[24] – although those words were said by Henry H. Arnold, general of US Air Force already in 1945, it is difficult to disagree with them, especially in the view of current development of UAV technology.

The concept of such aircraft itself appeared even earlier, namely during World War I; in the United States and the United Kingdom tested were aircraft controlled remotely by radio transmitter. Despite successful attempts of conducting flights by them, those units have never been used by military. During interwar period, the UAV projects were constantly modernised and used inter alia as exercise target for anti-air artillery [25]. But UAVs were first used on a large scale during war in Vietnam (1955–1975) – American army used them as bait in combat, to launch missiles, drop brochures during psychological operations and also for spying (notable example here is Ryan AQM-34 Firebee model). Unmanned devices have been constantly being improved henceforth, but they begun to function in common awareness after events from 11th September 2001 – subsequently USA initiated activities within “war on terror”[26], which resulted in high interest in capabilities of UAVs, mostly those designed for fight, so-called “unmanned combat aerial vehicles (UCAV).

Currently, drones are being used by armies around the world and were already deployed on multiple battlefields, including: Iraq, Syria, Yemen, Somalia, Ukraine[27] or Nagorno-Karabakh. According to Bard’s Center for the Study of the Drone report from 2019, around 95 states have armed UAVs at their disposal [28], but not all of them were capable of having built them alone – many aircraft were produced in China, being one of their largest manufacturers, along with the United States and Israel [29]. Prices of units may vary depending on their purpose, applied technology or country of origin.

Jane’s Information Group predicts that until 2028, the number of UCAVs and spying drones will increase, in comparison with present day quantities, by 2,000 and 80,000 examples respectively. New units shall be acquired mostly by the United States, China and Russia [27].

Although it is difficult to precisely predict how the future of UAVs used by armies will look, it should be admitted that they revolutionised military market around the world. Use of drones in armed conflicts is advantageous on multiple levels. From financial point of view, cost of a single drone is up to three times lower than cost of fighter jet [30]. Without doubt, their strong point is also applied technology that enables detailed observation of terrain and fastly developing combat capabilities, as well as efficiency and lower vulnerability to detection by enemy. Finally, important is also uninterrupted performance – a drone can be constantly airborne for 24 h.[31]
3.2 Legal Bases for Using Unmanned Aircraft Vehicles in Armed Conflicts

Usage of unmanned aircraft vehicles in armed conflicts is a complex issue that must be reviewed in the light of IHL, as well as acts of international law, or more precisely, lack thereof. Amid fast development of UAV technology, states and international organisations remain with already existing provisions and do not aim for creating new laws regulating their usage [32].

Following the concept “Law should not follow drones, drones should follow law”, we establish that applicable shall be general principles of international humanitarian law, on the basis of which it should be reviewed when a drone becomes a combat tool and what are boundaries of conflict with use thereof. Such bases are stipulated in Geneva Conventions – system of legal acts fundamental for humanitarian law – the first Geneva Convention from 1864 concerned ameliorating the effects of war on soldiers, but the most important in the view of hereby article are four Geneva Conventions from 12th August 1949 on protection of war victims, along with Protocols thereto.

UAV, as a combat tool, might be regarded as lawful or unlawful depending on the context – it mostly concerns a phenomenon of targeted killing, described later in subsequent part, that during military activities may be qualified as genuine, but outside of armed conflict would be viewed as assassination or extra-judicial execution [33]. Significant here would be then existence of an armed conflict under common Article 2 of four Geneva Conventions from 1949 [34]. International conflicts were also addressed, but not defined in Article 3, with indication that they concern armed conflict on the territory of one of the parties to the Conventions that has no international character. A criterion of intensity or scale of hostilities was not apprehended by the Conventions for the purpose of assuming the existence of an armed conflict [35].

The sole existence of an armed conflict does not absolutely mean that states have unlimited possibilities of usage of drones. Under Article 35(1) of Additional Protocol I to Geneva Conventions relating to the Protection of Victims of International Armed Conflicts, usage of methods of warfare that might cause unnecessary suffering is prohibited. Observed should be also principle of distinction related to identification of civilians and soldiers, as well as civilian and military targets – it is then prohibited under provisions of IV Geneva Conventions to attack civilians and civilian targets, and in consequence also conduct massive attacks that do not make distinction between military targets and other ones.

Equally important are principle of proportionality and principle of precautions. The former one institutes ban on launching an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated [35]. As for precautions, their observance or ignorance may make an attack justified on the grounds of humanitarian law unlawful [36]. They would consists of inter alia certainty that a target has a military character and that selected method of attack minimises collateral damage among civilians.

In assessing whether in a given situation an UAV was used in accordance with existing regulations, we have to take into account aforementioned criteria. Here we cannot forget also about another, equally important as lawfulness, aspect – namely, if usage of drones in armed conflicts, even genuine, is moral in the light of humanitarian law?

3.3 Drone Wars – Boundaries of Morality and Controversies in Usage of Drones in the Context of Humanitarian Law

Si vis pacem, para bellum, (“if you want peace, prepare for war”) it is difficult to disagree that this statement illustrates certain contradiction and radicalism. And those are emotions typical for war – its goals ignite social sense of integrity and unity for a certain idea, but acts committed within always spread fear. Historically, there has been a common factor connecting all wars – human. Since Antiquity, it was human that fought, commandeered, and also caused conflicts. Today, we witness a spectacular form of “drone wars”—events of different dimensions. So, what are the biggest controversies raised by new generation of armed conflicts?

First of all, previously mentioned human factor might be totally replaced by autonomous aircraft. The autonomy itself does not raise as high controversies as functioning of autonomous device which may in fact decide on using violence, so engage in activity that shall affect human life [37]. When a drone is controlled by an operator, an error can be justified by lack of human infallibility. But an error of an autonomous machine will be a result of faulty software, or a cyberattack,

12 That statement was said by Christof Heyns, The United Nations Special Rapporteur on extrajudicial, summary or arbitrary executions during United Nations General Assembly session on 22nd October, 2014.

13 The following definition of an armed conflict formulated in The Prosecutor v. Dusko Tadić judgement by ICTY is generally accepted: “[A]n armed conflict exists whenever there is a resort to armed force between States”.

14 The proverb is a paraphrase of the words of a Roman historian, Vegetius, in the work ”Epitoma rei militaris” devoted to military issues in the fourth century BC.
e.g. an act of hacking (as it was already explained in section II of this article). If in consequence of those errors a person is killed, exposed will be totally different problem. Supporters of UAVs will emphasize impeccable precision and efficiency of drones as armament that outweigh even potential risk of hacking. Nevertheless, it is difficult to treat equally a fully digitalized device to human being that has relevant training and above all, ability to assess situation [36].

Controversies related to usage of drones in warfare lead to considerations on the level of dehumanisation of war. First of all, a role of human is considerably limited and replaced by technological solution, that was created de facto for the purpose of protecting people – we speak about protection of soldiers that do not have to be physically present on battlefield. However, in whole picture, “drone wars” deprive war of emotions, human factors and become pure calculations [38].

United States, in response to tragic events from 11th September, decided to counter terrorist attempts and for that purpose used unmanned aircraft in “targeted killing”. To combat against terrorism and above all, prevent it, N. Melzer indicated circumstances in which elimination of target would be eligible. He claimed that such a target would be a person with intent to act against the United States, but that at the same time cannot be apprehended – therefore elimination of such person would not violate international law. Melzer then defined “targeted killing” as usage of lethal force by international law subject in planned way, aimed at depriving particular persons of life [39].

It is estimated that the first state that performed “targeted killing” in combat against terrorism was Israel. On 16th February 1992, its Defence Forces launched a missile attack on secretary-general of Lebanese organisation Hezbollah. Sheikh Abbas as-Musawi, accompanied with wife and son was being observed by a drone and ultimately eliminated by projectile fired from a helicopter [31]. What is more, from information received after the attack, it appeared clear that a decisive person was perfectly aware that those who suffered apart from as-Musawi had nothing to do with Israeli-Palestinian conflict [40]. Additionality, it can be claimed that a mean of eliminating target was non-proportional, and consequentially ineligible under IHL, as there was a high risk of endangering or causing death to civil population. Referring to above mentioned violations, that affect human life, we are looking back to a problem of decreasing involvement of living persons in the context of dehumanisation of activities. A role of the one who decides is again reduced to receive data transmitted by UAVs and although it is difficult to contradict precision of unmanned devices, we have to admit that situational awareness that a human has in the moment of taking decision is much different from one that accompanies them during physical presence on battlefield. In the case when an operator has doubts on whether analysed target has a military character, or when there is a high probability of conducting strike also against civil population, then he should abstain from attack.

Israeli case is not in any way isolated, as also American drone attacks in Pakistan, Yemen and Somalia contributed to deaths of nearly 380 civilians. Although states are entitled to individually or collectively refer to self-defence under Article 51 of Charter of the United Nations, then in practice interpretation of that right was frequently abused and attacks were conducted against persons that were in fact on the opposite side of armed conflict, but there was no clear evidence indicating their involvement in terrorist activities [41]. Taking that into account, we would notice another problem of abuses by states which, using remotely controlled or autonomous weapons, try to avoid public dissemination of details of targeted killing and in that way keep basic information on who and why is the target in secret [42].

Modern military technology enables conduct of hostilities in different locations in the world, but at the same time terrorist activities have global outreach. Then, notion of state self-defence in relation to fight with terrorist organisations being non-state actors that cumulate in different corners of the world is also applicable under Article 51 of the UN Charter. Recognition of those provisions in that case is justified, if mentioned terrorist organisation is separate entity and therefore, attempts that had been conducted by it led to act of self-defence by a given state [43]. Such an act of self-defence is then in accordance with Article 51 of the UN Charter and applicable to all cells of organisation at stake.

Controversy related to UAVs is also their usage outside warfare. In that case, if it is clear that there were no circumstances justifying attack, like identification of persons that could pose danger – then such behaviour should be regarded as execution infringing international law of human rights [44].

Problem of taking decisions regarding human life is difficult if we talk about a person that, using technological solutions, has to make a choice within minutes or even seconds. How we then can consider decisive powers of autonomous combat drones? It is extremely difficult to discuss it in the context of calculations that a drone (a robot) makes to finally decide about once life or death. Complicated here is especially establishing subjects liable for death of persons not related to terrorism. Equally sophisticated is drafting legal provisions that would regulate those questions, as they have moral nature. We would remind here, that technology overwhelmingly surpasses law. Omnipresent technology facilitates fight against terrorism with the use of unmanned devices, but there is a very thin line, that, due to gravity of conduct should be hardly executed by law. That is to make sure that technological development does not lead to certain “vileness” in taking decisions.
3.4 Drone vs. Tank – Lessons Learnt from Nagorno-Karabakh War

Recognised by international community as part of Azerbaijan, Nagorno-Karabakh is under control of ethical Armenian forces since cease-fire in 1994, but the conflict itself ignited in 1988. At present, Armenian and Azerbaijani forces are engaged in the most brutal hostilities since mentioned cease-fire and drones are being used on larger scale than ever before. Both Armenia and Azerbaijan do not dispose of powerful air force, so usage of unmanned aircraft vehicles by them is viewed as appropriate [45]—especially as hostilities are being conducted on hard mountainous terrain, on which classical methods of land and air attack are difficult to be applied. From that reason, main exchange of fire was conducted by missiles and artillery.

Concerning the size of armed forces of both sides, there is no significant divergence, but Azerbaijan has access to much more modern forms of armament, including artillery and unmanned vehicles from Turkey and Israel [46]. Both sides of conflict have similar number of drones, so in this category, we observe no clear disproportionality on the battlefield. Nevertheless, resources themselves are not that important as form and intensity of hostilities. Armenia has slightly smaller fleet of UAVs and adopted less aggressive strategy of fight as it engaged drones to spy on enemy rather than to eliminate hostile targets. In turn, Azerbaijan has taken more offensive tactic of attacks against tanks and artillery. Before the war, the country also bought advanced unmanned aircraft from Israel and in 2016, was a first one to use a kamikaze drone [47].

“In my opinion, just like during World War I, the true king of battlefield was a heavy machine gun, during World War II – a tank, probably in the period of Vietnam War – it was a helicopter, then today it is an unmanned vehicle, a drone”—this quote from M. Baruszewski clearly shows the reality of warfare that we can see on recordings from Nagorno-Karabakh. The view of battles being published on videos resembles the picture of wars that were associated with the future. This example should show the world a direction that we follow. Assembling military resources of states should be related not only to acquisition of unmanned aircraft vehicles, but also search for modern anti-drone defence measures. The newest prototype destined to repel even a “swarm of drones” is THOR[48] that was firstly presented in 2019 and has been tested since then. This system would use a net to intercept drones that are airborne and make them land on the ground without a risk of causing explosion.

So, how does a historical colossus—a tank stand against a modern “piece of plastic”—a flying object called “drone”? Warfare in Nagorno-Karabakh has shown that a Turkish UCAV Bayraktar TB2 is capable of striking against Russian Armata T-14 battle tank [49]. It is also possible that reactions to use of unmanned aircraft for military purposes or for fight against terrorism will also change along with development of anti-drone defence systems. Then the history will come full circle and we will observe new technological solutions brought by the future with great curiosity.

4 Conclusion

Concerning the usage of UAVs for terrorist purposes, since 2010 no significant changes has been implemented into international conventions that cover acts of unlawful interference. Taking into account the speed of technological development, growth of drones industry and evolution of new forms of terrorism, like cyberterrorism, we should take initiatives on updating law so that it would reflect current reality. Drone is an aircraft and therefore applicable thereto are legal regulations relevant for manned machines. But should all provisions apply to UAVs as they are? Today we can assume that some provisions present in international conventions cannot be applied to unmanned aircraft, including those referring to passengers and their rights during unlawful acts on board aircraft and others should be amended so that they reflect specificity of UAVs. Those limitations result from the fact that there are still no passenger drone flights, that may be launched in the future [50]. To some extent, protection from potential terrorist attacks targeting unmanned aircraft would be granted by provisions of Beijing Convention and Beijing Protocol, that criminalise cyberattacks, to whom drones are especially vulnerable. However, until those instruments are more widely ratified worldwide, such protection would be just illusive. Moreover, we cannot forget about unmanned aircraft vehicles used in military, customs or police services, that are not object to any of those conventions. Such units are more and more frequently used by states in fight against terrorism and we should regulate that [35, 43].

As for usage of drones in military activities, especially those that have in aim elimination of terrorist targets, we should appreciate a fact that unmanned devices are present in military forces of more and more states – growing number of drones in air forces coupled with decreasing number of manned jet fighters means potentially lower number of fatalities during armed conflicts. We absolutely should not approve outlawing UAVs as means of combat, but for the sake of ethical issues, it is essential to implement regulations (e.g. via Protocols to Geneva Conventions) that clearly indicate liability for usage of drones against humanitarian law, especially in situations when machine was used to eliminate civilian target. At present, due to high level of technological sophistication and different approaches to liability in particular states, it is very difficult to assign liability to a given person: drone operator, commander that gave an order, or the one who programmed the machine. Indeed, the military
drone industry “escapes” from provisions in force, which means that soldiers using unmanned device to eliminate civilian target would be left unpunished. The need for implementation of new provisions is then urgent, especially in the light of dynamic development of drones that become more and more technologically advanced.

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