THE ZURICH CONFERENCE

UN Security Council

Study Guide for Zurich Model United Nations

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April 28 – May 1, 2022

Zurich, Switzerland

THE ZURICH CONFERENCE

Table of Contents

Table of Contents 2
Letter from the Chairs 3
The Security Council of the United Nations 4
Introduction to the committee 4
Topic A - The Tigray War and Foreign Powers 5
Introduction 5
Development of the war 6
Historical Context 8
Foreign Involvement 9
Questions a Resolution Should Answer 10
Useful Resources 11
References 11
Topic B — Killer Robots: Lethal Autonomous Weapons on the Rise 13
What are Lethal Autonomous Weapons? 13
History and Reality of Autonomous Weapons 16
Technological & Military Aspects 16
Ethical Aspects 20
Legal Aspects 22
Past Actions & Current Positions 26
Questions a Resolution Should Answer 30
Conclusions 30
References 31

Letter from the Chairs



Hi! I have the honour of being one of your UN Security Council Chairs at this year's edition of ZuMUN. I am a student of Biomedicine and Political Science at the University of Zurich, which correspond to two of my passions: science and debating. Having been involved in this conference for several years now, it is truly a pleasure to see this wonderful project come to life each year. Let's make sure together that ZuMUN 2022 is a great one!



Hello there! My name is Darya, I study English Literature and Linguistics, and I am your second chair at the UN Security Council. After having participated in various conferences as a delegate, I decided that it was finally time for me to pass to the other side (of MUN Command) and try myself as a chair. And what better conference to do so if not my home conference ZUMUN? I'm looking forward to meeting our delegates in this year's conference!



I am Ferdi, Your third chair of this year's UNSC. Not too long ago, I studied chemistry at ETH, organised the first ever online-ZuMUN as Jess' Co-Secretary-General and travelled the world as a proud member of ETHMUN. After finishing my Bachelor, my studies took me to Munich, where I am currently pursuing a Master's in Politics & Technology. Whenever I am neither studying nor chairing, you can find me taking pictures of people (in fact, I took Jess' picture), cooking, or enjoying the occasional drink (alongside passionate debates) with friends and strangers.

The Security Council of the United Nations

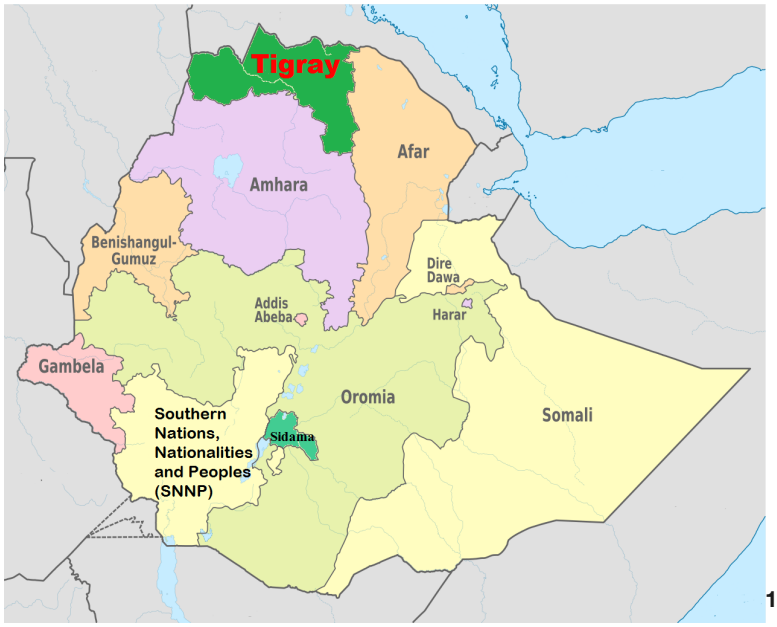
Introduction to the committee

The UNSC was founded in 1945 and met for the first time on the 17th January 1946; its creation was predominantly influenced by the experiences of the Second World War and the need to create an international body to ensure peace and stability in order to avoid a conflict like WWIIto happen again. Since then, this body, whose main aim is to ensure peace and stability and to assist in solving conflicts threatening peace, has passed a total of 2480 resolutions on a plethora of matters, it is arguably the most powerful body of the United Nations, as it has the most farreaching rights, in some cases even to infringe upon aspects of national sovereignty, as in the case of the Responsibility to Protect.

It would be overly excessive to discuss the entire history of the UNSC here, but I refer you to literature like Sievers and Daws' book "The Procedure of the UN Security Council", to read about the inner workings and development of this Council."

Topic A - The Tigray War and Foreign Powers

Introduction



[1]

When Ethiopian Prime Minister Abiy Ahmed was awarded the Nobel Peace Prize in 2019 for ending a longstanding territorial dispute with Eritrea, no one foresaw that he would be governing over a war torn country in the following year. November 3rd 2020, Abiy ordered a military offensive in the northern Tigray region as a response to what the government had declared an illegal election by the country's former ruling party, the Tigray People's Liberation Front (TPLF). The Tigrayans held their regional parliamentary elections although, due to the Corona Virus, Abiy had postponed them across Ethiopia. This military operation has resulted in a brutal civil war. Through it all, it is civilians who have been suffering the most from waves of atrocities committed on both sides, including an estimated 9.4 mio. people suffering from famine famine, sexual violence and ethnic cleansings.[2]

[1] Image source: Tigray | Ethiopia About Ethiopia (ethiovisit.com)

[2] Mackintosh, Eliza. Ethiopia is at war with itself. *Here's what you need to know about the conflict.* November 5, 2021. CNN. https://edition.cnn.com/2021/11/03/africa/ethiopia-tigray-explainer-2-intl/index.html

In addition to the humanitarian aspect, this conflict demonstrates foreign power's entanglements with the Horn of Africa, with countries like the United Arab Emirates, Iran and Turkey providing military support and the US and China playing a more indirect role in mediating the conflict. Despite millions of people suffering and the future of one of Africa's most populous nations (population size of 115 million people) being at stake, the conflict, erupting at the height of the Corona Virus pandemic, has not received a proportional amount of mainstream media attention. It seems that the Ethiopian government is trying to keep the conflict hidden from the eyes of the world, by allowing no internet, phone service and barely any journalists in the Tigray region, making it "2021's hidden conflict".[3]

Development of the war

On November 4, 2020, Ethiopian Prime Minister Abiy Ahmed launched a military operation against the Tigray People's Liberation Front (TPLF) in Tigray. The immediate incentive for this attack was an attack on a military base housing government troops in the region. At this point, tensions between the government and the TPLF had been running high for months. The TPLF had long been at the Center of power in Ethiopia, just to be sidelined after Abiy's election in 2018. In September 2020, Tigrayans openly resisted against central authority by holding regional elections, even though Abiy had canceled them in all of the 10 regions in Ethiopia. As a result, the central government declared the election illegal and suspended funding for Tigray.[4]

War crimes

For months after the beginning of the conflict, Abiy denied that civilians were being hurt or that Eritrean forces had joined the conflict. Despite the international demands to end the conflict, fighting has continued in Tigray, which has become the hotspot of a humanitarian crisis. According to the United Nations, people are dying of malnutrition, and relief workers

[3] Cara, Anna. *The war in Ethiopia is 2021's hidden conflict.* Dec 17, 2021. Federal News Network. https://federalnewsnetwork.com/government-news/2021/12/2021-notebook-the-war-in-ethiopia-is-2021s-hidden-conflict/

[4] *Ethiopia's Tigray war: The short, medium and long story.* 29 June, 2021. BBC News. https://www.bbc.com/news/world-africa-54964378

are prevented from reaching the regions most in need. The World Food Program has announced that 9.4 million people in northern Ethiopia are in need of food aid.

Furthermore, the civil war has created the pretext to ethnic cleansing campaigns, giving different militias the excuse to drive Tigrayans from their homes. Evidence has been found that various massacres are being conducted in the Tigray area, particularly by Eritrean forces. [5] -> can get more info out of this source

On top of these atrocities, observers have reported that sexual violence, such as rape, is being used as a systematic weapon of war against the civlian population by both sides. [6]

Peace processes

Emergency Intergovernmental Authority on Development summit

Peace proposals by Tigray Government

Key actors

Abiy Ahmed: Prime Minister of Ethiopia

Debretsion Gebremichael: Chairman of the Tigray People's Liberation Front

Tigrayans: Ethnic group native to the Tigray area in Ethiopia, make up around 6 to 7 percent of Ethiopia's population and are mostly Orthodox Christians.

Oromo: Ethnic group native to the Oromia area in Ethiopia, make up around 34,5 percent of the Ethiopian population and are therefore the largest ethnic group in Ethiopia. They are mostly Muslims (~60%) and Christians (40%~), but also often follow the traditional religion Waaqeffanna, which is native to the region.

Amhara: Ethnic group native to the Highlands of Ethiopia, particularly inhabiting the Amhara Region. They make up around 27 percent of Ethiopia's population and are mostly Oriental Orthodox Christians.

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[5] Mackintosh, Eliza. *Ethiopia is at war with itself. Here's what you need to know about the conflict. November 5, 2021.* https://edition.cnn.com/2021/11/03/africa/ethiopia-tigray-explainer-2-intl/index.html

[6] Nichols, Michelle. *Sexual violence being used as weapon of war in Ethiopia's Tigray, U.N. says.* Reuters. April 15, 2021. https://www.reuters.com/world/africa/sexual-violence-being-used-weapon-war-ethiopias-tigray-un-says-2021-04-15/

Tigray People's Liberation Front (TPLF): Born in the 1970s as a small militia of ethnic Tigrayans in opposition to the then Marxist military dictatorship of Ethiopia. Despite representing an ethnic minority, thex became the dominant rebel force in an alliance that overtrhw the Marxist dictatorship in 1991.

Ethiopian National Defense Force (ENDF)

Oromo Liberation Army: An insurgent group in based in Oromia which has allied with the TPLF to overthrow Abiy Ahmed.

Eritrean Defense Forces

Prosperity Party: merger of Ethiopian people's revolutionary democratic front and several opposition parties

African Union

Sudan and South Sudan (refugees)

Foreign powers offering military assistance: Iran, Turkey, United Arab Emirates, China

Foreign powers offering other assistance: United States

Historical Context

The roots of the Tigray War originate at the end of the last Ethiopian Civil War in 1991, when the military Marxist dictatorship was overthrown by an alliance led by the TPLF. This alliance formed the new government as a ruling coalition: The Ethiopian People's Revolutionary Democratic Front (EPRDF). The EPRDF consisted of a coalition of 4 parties and formed a federal government in 1994, controlling the affairs of 10 regions. TPFL was influential in setting up this system. Under its rule, Ethiopia emerged as a seemingly stable country with significant economic growth.

However, there were concerns over human rights violations and the actual level of democracy under this coalition government. The Tigrayan-dominated government under the former Tigrayan Prime Minister Meles Zenawi systematically suppressed political opponents and free speech. After the death of Zenawi in 2012, the TPLF began to lose its grip on power in Ethiopia. A rise in anti-government protests in 2016 led to the election of Abiy in 2018. Abiy attempted to liberalize politics by setting up a new party and removing key Tigrayan government leaders accused of corruption and repression. Tigrayans, afraid he was trying to centralize power and abolish the federalist system, refused to join the new party.

Furthermore, Abiy strengthened his relationship with President Isaias Afwerki, the authoritarian leader of Eritrea, who nursed a longstanding grudge against Tigrayans. In 2019, Abiy won the Nobel Peace Prize for ending a territorial dispute and therefore two decades of hostilities between Ethiopia and Eritrea. By 2020, this new and improved relationship had turned into a war alliance against Tigray.[7]

Foreign Involvement

Foreign power's entanglements with the Horn of Africa

United Arab Emirates, Turkey and Iran

The United Arab Emirates, Turkey and Iran are directly supporting Abiy Ahmed by providing the army of drones which drove back the Tigrayan forces away from Addis Ababa. (Source)

Eritrea

The Eritrean government has allied with Prime Minister Abiy Ahmed against the Tigrayan Forces. The Eritrean Defense Forces have been linked to several war crimes, including massacres and systematically preventing food from being transported to certain regions. (Source)

United States of America

The United States has demanded peace talks and a ceasefire on multiple occasions. The US senate passed the Ethiopian Stabilization, Peace and Democracy Act. The US, once a close ally, has distanced itself from the Ethiopian government by cutting off its trade privileges and threatening economic sanctions. (Source)

People's Republic of China

As an ally of Eritrea, the People's Republic of China (PRC) is a looming puppet master behind this conflict, profiting from the conflict in such a resource rich region.[8] Ethiopia regularly is among the top five recipients of Chinese investment in Africa. After a recent visit to Eritrea, Foreign Minister Wang Yi announced the creation of a special envoy post for the region, without giving any exact details of what its mandate would be who would hold the post.

[7] Walsh, Declan & Latif Dahir, Abdi. *Why Is Ethiopia at War With Itself?* Jan 12, 2022. The New York Times. https://www.nytimes.com/article/ethiopia-tigray-conflict-explained.html
[8] Mark, David. *China Looms Large Behind The Ethiopian-Tigray Conflict.* Dec 6, 2020. Israel Rising. https://israelrising.com/china-looms-large-behind-the-ethiopian-tigray-conflict/

Typically, the PRC's special envoys play a prominent role in mediation efforts, an example being its mediation in the Sudan and South Sudan Conflict.[9] The Foreign Ministry Spokesperson Wang Wenbin made the following statements after Wang Yi's trip to the horn of Africa:

> *"As African countries' sincere friend and reliable partner, China is ready to play a constructive part in regional countries' efforts to realize peace and security in the region, unleash development potential and improve governance,"*

China's support in these conflicts are often indirect and easily overlooked, including military exchanges, arms sales, capacity building programs and investments in human resource development. Wang also emphasized that the PRC believes in resolving conflicts "the African way" and condemns intervention by"non-regional forces".[10]

Questions a Resolution Should Answer

- Should the United Nations Security Council take action in Ethiopia, specifically the Tigray region?
- How should the international community deal with the atrocities being committed against the civilian population?
- In the case of a continuation of this conflict, how can further suffering of civilians be prevented?

[9] Tiezzi, Shannon. *In South Sudan Conflict, China Tests Its Mediation Skills.* June 6, 2022. The Diplomat. https://thediplomat.com/2014/06/in-south-sudan-conflict-china-tests-its-mediation-skills/
[10] Tiezzi, Shannon. *China Looks to Play More Active Role in Horn of Africa Conflicts.* Jan 7, 2022. The Diplomat. https://thediplomat.com/2022/01/china-looks-to-play-more-active-role-in-horn-of-africa-conflicts/

Useful Resources

Northern Ethiopia - Humanitarian Update, UN Office for the Coordination of Humanitarian Affairs

Ethiopia Tigray Conflict & Famine Explained: Eritrea, Abiy Ahmed, War Crimes & Latest News - Behind the News (Video)

Why Ethiopia is in a civil war - Vox (Video)

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Tiezzi, Shannon. *China Looks to Play More Active Role in Horn of Africa Conflicts.* Jan 7, 2022. The Diplomat. https://thediplomat.com/2022/01/china-looks-to-play-more-active-role-in-horn-of-africa-conflicts/

Tiezzi, Shannon. *In South Sudan Conflict, China Tests Its Mediation Skills.* June 6, 2022. The Diplomat. https://thediplomat.com/2014/06/in-south-sudan-conflict-china-tests-its-mediation-skills/

Topic B — Killer Robots: Lethal Autonomous Weapons on the Rise

What are Lethal Autonomous Weapons?

"**Killer robot**" redirects here.

— from Wikipedia, the free encyclopedia[11]

It was in 1818 when a 20-year-old Mary Shelley first published her Frankenstein and single-handedly founds the science-fiction genre. Frankenstein is the story of a scientist whose invention, a perfectly self-sufficient and conscious being, comes to haunt him. Notably, Frankenstein was published long before the idea of robots, let alone artificial intelligence, was conceived. 200 years later, the idea of robots as tin men, as well-behaved servants or obedient minions, came into play. Isaac Azimov, another prominent representative of the genre, further recognized robotics' harmful potential and their ethical consequences. He settled on three fundamental laws, safety mechanisms that would prevent ethical dilemmas and solve legalistic challenges, and the adherence to which should prohibit Killer Robots.

Reality and our imagination have moved on since. Abstract concepts like Artificial Intelligence have replaced the ideas of tin men. With it, discrete distinctions between "good" and "bad" merged into a continuous spectrum. We are witnessing AI's transformative effects on our society already in our daily lives and we are equally seeing the challenges in regulating and protecting against its adverse effects. From here, it is not difficult to imagine the equally transformative effects this will have on the military world.

Robotic autonomy is already a very common phenomenon: Between tiny Roombas[12] and self-driving cars, we can imagine many examples, each with a varying degree of autonomy.

[11] "Lethal Autonomous Weapon," in *Wikipedia*, February 25, 2022, https://en.wikipedia.org/w/index.php?title=Lethal_autonomous_weapon&oldid=1073894940.

[12] "iRobot: Saugroboter, Wischroboter und Zubehör," accessed March 5, 2022, https://www.irobot.de/.

Even the latest kind of non-self-driving cars are equipped with robotic systems, that are acting with some degree of autonomy in order to assist or protect drivers and passengers, and the same applies to military technology. A lethal autonomous weapon system can thus be understood as *"any weapon system with autonomy in its critical functions—that is, a weapon system that can select (search for, detect, identify, track or select) and attack (use force against, neutralize, damage, or destroy) targets without human intervention."* [13]

It is already well-established that all five of the permanent members of the Security Council, as well as most other larger military powers, use some degree of semi-autonomous or AI-powered weapons systems in their arsenal. Fully autonomous weapon systems may not exist in a widespread capacity and have only been used in very limited and isolated cases, but with the advancements in artificial intelligence and robotics, that we are seeing in our daily lives, it is easy to imagine that fully autonomous "killer robots" cannot be far away.

This near future must be neither bleak nor dystopian. Much like automation has in other fields, autonomous systems offer greater security to combatants and might lift the human cost of war. In fact, computer-assisted systems are already protecting the lives of civilians, either through shielding entire cities from missile strikes or through carefully directing those strikes with minimal amounts of required force.

If war is seen as the "continuation of politics by other means", then a reduced human cost will make armed conflicts a more likely and more frequent matter, a taste of which can already be acquired in the American drone wars in Afghanistan and Iraq.

As can already be observed over these few paragraphs, the topic of autonomous weapons and their introduction on the battlefield is an entirely interdisciplinary topic. The debate may touch on technological and military aspects, and dive into the ethical and ultimately legal consequences for politics and international relations. A successful resolution of the topic is therefore only through the combined understanding of LAWS through all of these lenses possible.

The United Nations will eventually be confronted with a no-longer theoretical case of LAWS in action — and rather sooner than later. Humanity already finds itself in unsettling and in

[13] Neil Davison, "A Legal Perspective: Autonomous Weapon Systems under International Humanitarian Law," in *UNODA Occasional Papers No. 30, November 2017*, by United Nations, United Nations Office of Disarmament Affairs (UNODA) Occasional Papers (UN, 2018), 5–18, https://doi.org/10.18356/29a571ba-en.

many ways unpredictable times. The deliberations at the Security Council offer a chance of preemptively resolving the challenges of autonomous weapons before they add further fuel to the fires of the world.

The way in which the international community will answer the profound questions that the topic raises will decide how humanity enters this new age of warfare. The stakes could not be higher, as we stand to lose not just our guiding humanitarian principles but our humanity itself.

History and Reality of Autonomous Weapons

Technological & Military Aspects

At times, it may seem as though the age of robotic warfare is still a subject of the far far future — after all that is what science fiction has taught us. Others might argue that this age began in the early 2000s, with the United States' introduction of UAVs (unmanned aerial vehicles, commonly known as drones) to the battlefields of the Middle East. In truth, however, robots, with the aim of removing the humans from the line of fire, have been used since the first World War.[14]

From a technological perspective, there is no clear definition as to what constitutes a robot. The Encyclopedia Brittanica embraces a broader definition, according to which a robot is 'any automatically operated machine that replaces human effort, though it may not resemble human beings in appearance or perform functions in a humanlike manner.'[15] For more specific purposes, a more narrow definition may be helpful: (Krishnan, 2016) defines robots as machines that (1) sense their environment, (2) are programmed, and (3) manipulate or interact with their environment. It is important to be specific about these differences, given that mines and sentry guns fit easily into the first category but would not be considered an autonomous weapon system, no less a “killer robot”.[16]

All weapon systems fall, with regard to their autonomy, into one of three categories: The human can be either (1) "in the loop", (2) "on the loop" or (3) “out of the loop”.[17]

In the first case, a human would have to still be “**in the loop**” of deciding what targets are to be engaged. Such a system would be able to use autonomous technology to ultimately

[14] Armin Krishnan, *Killer Robots: Legality and Ethicality of Autonomous Weapons* (London: Routledge, 2016), https://doi.org/10.4324/9781315591070.

[15] “Robot | Definition, History, Uses, Types, & Facts | Britannica,” accessed February 21, 2022, https://www.britannica.com/technology/robot-technology.

[16] Krishnan, *Killer Robots*.

[17] Alex Leveringhaus, *Ethics and Autonomous Weapons*, Palgrave Pivot (London New York, NY: Palgrave Macmillan, 2016).

engage a target, but only after a human has deliberately decided on a target and that it is to be engaged. Guided munitions, for instance, have been in use since the Second World War and have been continuously improved. In their basic function, a human would select a target, and the autonomous targeting system of the missile would locate and pursue the target. While this still allows for the same element of human control that any bow and arrow would allow, it also harnesses the computer's supreme speeds and reflexes. Some of these guided munition systems, like the Tomahawk missile, are equipped with the option to recall or retarget the missile even after deployment. Others (so-called "fire and forget") may not have this option, which can be problematic when taking into account the often hour-long time of flight of today's missile systems. An example of portable "fire and forget" weapons are the Javelin system, used by e.g. the US Marine Corps, and the NLAW, which was used by the Ukraine Armed Forces against invading Russian Tanks in February 2022. Human operators, albeit making the decision on their own, are still required to consider what might happen several hours into the future. As a self-guided missile requires little to no further attention, operators can launch multiple missiles and approach multiple targets at once. Further, munition systems might consist of sub-missiles, allowing for the targeting of an entire group of enemies with a single decision.

Despite these systems having greater and potentially more deadly capabilities, they also allow for more controlled and well-tempered use of force. Higher precision weaponry no longer necessitates (or even tolerates) the over-excessive carpet-bombing of entire stretches of jungle. It also unequivocally limits the potential for human error and thereby accidental casualties.[18] Human Rights Watch went even further in calling the use of unguided munition in densely populated areas a war crime.[19]

The second case only requires human supervision: The human is sitting "**on the loop**" of decision and would monitor the weapon's decision. The human would at all times be able to intervene and stop a procedure, in cases where the target or the engagement was not as desired. While still common among most developed nations, "on the loop" systems have been used in a mostly defensive manner. They again harness a computer's supreme speed

[18] Paul Scharre and Michael C Horowitz, "An Introduction to Autonomy in Weapon Systems," n.d., 23.

[19] "Ukraine: Unguided Rockets Killing Civilians," *Human Rights Watch* (blog), July 24, 2014, https://www.hrw.org/news/2014/07/24/ukraine-unguided-rockets-killing-civilians.

and reflexes and are therefore able to engage an approaching target much quicker than their human operator could. By keeping the human "on the loop", they are therefore able to actively counter an attack, even (or especially) from previously discussed guided munition systems. At the same time, the human operator can always halt the system, say for a passing friendly aircraft.[20]

"On the loop" systems are used across all major NATO member states, as well as most notably China, Russia, India, and the United Arab Emirates. The systems in use can be ship-based (US' Aegis system) or land-based (US' Patriot system) and can be used in the defense of both immovable land bases (Dutch Goalkeeper system) or for the protection of vehicles against missile attacks (Russian Arena system).

Notably, these are all defensive systems, whereas offensive systems are not really present to date. The human operators of these systems remain also physically "on the loop" and are able to control and if necessary, halt the system in real-time. The "on the loop" systems are considered an invaluable asset in protecting humans against rapid machine-led attacks — potentially extending that protection to civilian populations in combat zones, as for instance the Jerusalem population in May of 2021.[21] [22]

What constitutes in or on the loop might, however, not always be too clear. Even the Israeli Iron Dome missile defense system, which uses artificial intelligence and is capable of rapidly firing missiles across the entire Jerusalem sky, is still claimed to be "in the loop", according to the Israeli Defense Forces.[23]

Thirdly, if the human is left "**out of the loop**", the weapon system makes its decisions without any guidance and without any opportunity for human intervention. Examples of this are loitering munitions, that are humanly deployed into a general target area, from whereon all

[20] Scharre and Horowitz, "An Introduction to Autonomy in Weapon Systems."

[21] Scharre and Horowitz.

[22] Wall Street Journal, *How Israel's Iron Dome Works | WSJ*, 2021, https://www.youtube.com/watch?v=_eSZaCHXBVA.

[23] "Esper Sees Iron Dome Missile Defense System in Tel Aviv," U.S. Department of Defense, accessed February 23, 2022, https://www.defense.gov/News/News-Stories/Article/Article/2400629/esper-sees-iron-dome-missile-defense-system-in-tel-aviv/.

decisions regarding targeting and engaging are entirely "out of the loop". Such as system could be deployed to seek and destroy radar stations, enemy tanks, ships, or even any kind of target matching a predefined description in that particular area. Even though the human may be giving the order and deciding on a target class, it is the machine that is making the ultimate decision on every individual target.

Loitering munitions differ crucially from previously discussed guided munitions: the latter is only becoming useful with an enemy target in sight. Although their guiding mechanisms may focus on the specific target after deployment, hence before the guiding mechanism may have been in range, the operator must have already had that target in mind — otherwise, these missiles will run out of fuel or simply fail to engage with any target at all. Loitering munitions, on the other hand, require no specific target and may be deployed without knowledge of a target or its location.[24]

The United States repeatedly experimented with such loitering munitions and even employed a Tomahawk Anti-Ship Missile throughout the 1980s but are using these today only with human oversight.[25] Others are developing similar systems, or have loitering munitions like the IAI HAROP already in their arsenal.[26] Portable, rotary-wing attack drones like the STM KARGU-2 were allegedly used in the Libyan civil war. Although not necessarily fully autonomous, a report to the UN Security Council details that the systems in question did not necessarily require a constant connection to their operator, calling them a "fire, forget and find" weapon.[27] In 2020 during the Nagorno-Karabakh conflict, Azerbaijani forces used Israeli-made loitering munitions like the IAI Harpy 2 or HAROP against radar stations. These loitering systems have endurance capabilities of up to six hours and can operate autonomously. In practice, Azerbaijani UAVs served as bait for Armenian air-defense systems; once the UAVs were

[24] Scharre and Horowitz, "An Introduction to Autonomy in Weapon Systems."

[25] Scharre and Horowitz.

[26] "Loitering Munitions : HAROP - Electro-Optically Guided Attack Weapon," accessed March 5, 2022, https://www.iai.co.il/p/harop.

[27] Lipika Majumdar Roy Choudhury et al., "Final Report of the Panel of Experts on Libya Established Pursuant to Security Council Resolution 1973 (2011)," March 8, 2021, https://www.ecoi.net/en/file/local/2047327/S_2021_229_E.pdf.

engaged, the HAROP was able to autonomously detect and destroy the Armenian air defenses.[28]

Ethical Aspects

As shown above, from a technological standpoint, greater autonomy in weapons must not necessarily lead to more destructive wars — it could in principle even do the opposite. This leads to a somewhat paradoxical phenomenon, that a less human war could become a more humane one.

Distancing and eventually removing humans from the battlefields can have two previously discussed effects: Technologically, it limits both the risk of human error on the battlefield and the possibility for human casualties. Ethically then, LAWS must be at least tempting, if not to be fully embraced.[29] Through a more nuanced perspective, this potential for avoiding civilian casualties paired with a reduction of one's own fatalities might "make war more palatable for its perpetrators by diminishing their sense of direct responsibility for victims." Technological advances, from crossbows to aircraft, have rarely led to increased adherence to humanitarian principles on the battlefield and it is at least questionable, why this should change with autonomous weapons. New technologies can be forged into new weapons and with superiority on the battlefield as their prime objective, what would keep their creators from fully harvesting a technology's lethal potential?[30]

Conventional weapons, regardless of their destructiveness, allow for a clear tracking of responsibilities: The consequences of pulling a trigger are laid upon those that pulled the trigger. This picture, however, clouds with an increased distance (physically as much as psychologically) of operators and weapons. This distancing has another novel consequence: the opening of gaps in responsibilities. With conventional non-autonomous weapons, it is mostly clear who is carrying what responsibility in attack — and who is responsible if an attack goes wrong. The awareness of these responsibilities may become muddier in cases of non-autonomous air-raids or through lengthy chains of command but the generally

[28] Joël Postma, "Drones over Nagorno-Karabakh," *Atlantisch Perspectief* 45, no. 2 (2022): 15–22.

[29] Leveringhaus, *Ethics and Autonomous Weapons*.

[30] Karolina Zawieska, "An Ethical Perspective on Autonomous Weapon Systems," Text (United Nations, January 23, 2018), https://doi.org/10.18356/019c7755-en.

principle that whatever unfolds after the pushing of a button or pulling of a trigger is the responsibility of those that pushed and pulled. This concept is challenged by autonomous weapons. If an operator orders an autonomous weapon to spare civilian lives in an advance and the machine defies that order (whether through malfunction or faulty programming), who then is to blame? Conventionally, one would simply have to follow a chain of commands, in order to find its loose end.[31]

The question of responsibility circles around our understanding of autonomy and our concepts of human autonomy do not always translate perfectly into a machine analogy. Drawing on the analogy of child soldiers, it becomes apparent that the ability to reach autonomous decisions does not necessarily constitute a moral liability. The case of LAWS is similarly complicated. In addition to the ambiguity of autonomy concepts, uncertainty also poises a challenge: If we do not deeply understand the motivations and the reasoning of an autonomous weapon system, it is difficult to understand whether its decision to kill was a consequence of an order or merely its own interpretation of an – perhaps vaguely formulated – order. Criminal responsibility however requires in most cases some form of purpose, knowledge or recklessness, whereas negligence is only rarely used. In conclusion, we require a deeper and more reliable understanding of the reasoning of AWS and new rules that fill the responsibility gaps that arise with AWS.[32]

Finally, in a topic as heavy-laden with abstract concepts as this one, finding practical every-day analogies may seem natural. Our imagination does so by lending images from popular culture and science fiction, from Star Wars to Marvel, with the Terminator as the ultimate Killer Robot. Our language follows suit with concepts like “machine learning”, “artificial intelligence”, or by describing a central processing unit as a computer’s brain. Extending this process to the field of ethics can give us the understanding that human-made ethics would have a machine-made analogy so that machines if properly instructed, could eventually come to the same ethical conclusions. This understanding of machines as human or at least human-like, however, is a two-way street: If we view machines to be like humans, what then is distinctively human? (Zawieska, 2017) concludes that “whether or not we allow autonomous

[31] Leveringhaus, *Ethics and Autonomous Weapons*.

[32] Nehal Bhuta et al., eds., *Autonomous Weapons Systems: Law, Ethics, Policy*, 1st ed. (Cambridge University Press, 2016), https://doi.org/10.1017/CBO9781316597873.

systems to make life-and-death decisions on our behalf will shape not just political and military outcomes, but also our self-conception as humans."[33]

Legal Aspects

To gain an understanding of the legalities guiding the conduct of states in war and to further dissect the role LAWS may be planning in this and the regulations and regulatory challenges LAWS are subject to, some groundwork is in order.

Because wars and armed conflicts are violent, humans have sought to limit that violence and to protect those that are involuntarily affected by war. International Humanitarian Law (IHL) has therefore to main objectives: protecting those that are not taking part in a fight and regulating how and by what means those that must conduct themselves. This includes the weapons that are available to them.

International Humanitarian Law draws its content mainly from two sources: treaties, i.e. conventions and protocols that must be signed and adopted by states. The most important ones are the Geneva Conventions and their Additional Protocols. Secondly, so-called customary law, does not require adoption by states and applies to all conflict parties, regardless of their approval.[34]

As of today, there are a total of four Geneva Conventions, each concerning

1. those wounded in the field,
2. those wounded or shipwrecked at sea,
3. prisoners of war, and
4. protection of civilians in times of war. [35]

While treaties only bind states that have signed them, the Geneva Conventions have been ratified by a total of 196 States and are therefore quasi-universal. The only more general,

[33] Zawieska, "An Ethical Perspective on Autonomous Weapon Systems."

[34] "Treaties and Customary Law," October 29, 2010, https://www.icrc.org/en/document/treaties-and-customary-law.

[35] "Geneva Conventions and Their Additional Protocols | ICRC," January 1, 2014, https://www.icrc.org/en/document/geneva-conventions-1949-additional-protocols.

while still binding, element of IHL is customary international law. Elements of it are found in the general practices of armed forces around the world and are therefore "accepted as law".[36]

War and violence, in general, are not considered unlawful or immoral by IHL. It rather aims to strike a balance between military interests and their effects on non-combatants and therefore accepts that civilians will be affected by war. IHL also does not guide or evaluate the aims and purposes of an armed conflict and instead presupposes the rationality of all involved actors.

IHL recognizes certain fundamental principles that are derived as the result of the aforementioned conventions and treaties or can be found in sources of customary international law. These more general principles are the principles of humanity, necessity, proportionality, and distinction, as well as the prohibition on causing unnecessary suffering. Further, *jus ad bellum* (laws establishing the legality of the use of force) and *jus in bello* (laws upholding humanity in warfare) must be treated as independent.[37]

Humanity can be a rather ambiguous term heavy in meaning and its use and application in IHL are not always clear. It is, nonetheless, foundational to the doctrine of IHL. The enhanced powers that weapons grant to their wielders stand in stark contrast to the safety and well-being of others. Recognizing and incorporating this into a universal ethic “shared between all people involved in the process of going to war” can be understood as the principle of humanity.[38]

The principles of military necessity and proportionality guide the severity of measures to accomplish a certain military target. A military operation must therefore have a goal or purpose that is of actual military significance and in accordance with other elements of IHL and the means necessary to achieve that purpose must be in accordance with it. The principle of proportionality aims to strike a further balance between military interests and civilian

[36] “Customary International Humanitarian Law,” October 29, 2010, https://www.icrc.org/en/document/customary-international-humanitarian-law-0.

[37] “Fundamental Principles of IHL | How Does Law Protect in War? - Online Casebook,” accessed March 5, 2022, https://casebook.icrc.org/glossary/fundamental-principles-ihl.

[38] Robin Coupland, “Humanity: What Is It and How Does It Influence International Law?” 83, no. 844 (2001): 22.

suffering. The prohibition of unnecessary suffering can be seen as a consequence of these principles and includes cruelty and use of force against those outside of combat (enemy combatants that are injured or otherwise incapable of self-defense and civilians).[39] [40]

In armed conflicts, it is usually civilians that suffer the most. As a consequence, the principle of distinction demands that involved parties must "at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives". Any weapon system that is incapable or only partially capable of discriminating between what is civilian and what is not must therefore be viewed as illegal. This includes over-excessive use of force, which may affect civilian bystanders or civilians that are still inhabiting the area of an attack.[41]

In regard to customary elements of IHL, the so-called Martens Clause is of some relevance. It relates to gaps in IHL, that arise during international armed conflicts due to unprecedented and thus unregulated circumstances. The Martens Clause is mentioned in repeatedly in various treaties and states that

> "*civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience.*"

Throughout the past decade, the idea of autonomous systems and their potentially harmful impacts have continuously moved further into the public eye. Campaigns like the one to "Ban Killer Robots" have sought to educate the public on the matter of LAWS and create a public conscience against AWS. Finally, the general unease that is felt by most humans at the idea of lethal killing machines, an idea that Hollywood makes use of every other year, can all be

[39] M. Sassòli et al., "How Does Law Protect in War?," *ICRC*, 2014, https://casebook.icrc.org/glossary/military-necessity.

[40] M. Sassòli et al., "How Does Law Protect in War?," *ICRC*, 2014, https://casebook.icrc.org/glossary/proportionality.

[41] M. Sassòli et al., "How Does Law Protect in War?," *ICRC*, 2014, https://casebook.icrc.org/glossary/distinction.

indicators of the relevance of the Martens Clause on the matter of yet unregulated LAWS. It could even be (and has been) used in support of outlawing AWS.[42]

Over the course of the 20th century and with the second and third industrial revolutions, scientific research entered new realms and new methods of production became available. As a consequence, weapons design and manufacture also greatly advanced, even outside of nuclear, biological, and chemical warfare. These new types of conventional weapons led to increased human suffering and thus were recognized as an issue by the international community in the second half of the past century. The International Committee of the Red Cross was first to call expert meetings addressing the unnecessarily harmful and indiscriminate nature of these new types of weapons. A few years later, the United Nations General Assembly called for the convening of a conference that in 1979 then produced the Convention on Certain Conventional Weapons (CCW). It entered into force with its first three protocols in 1982. Protocols IV and V were added in 1995 and 2003, respectively.

In accordance with the fundamental principles of IHL, the CCW aims to further shield civilians from the scourges of war and reaffirms the principles of proportionality and distinction, as well as the Martens Clause. It also extends to the conduct of non-state actors and has led to the establishment of customary international law.

The five protocols of the CCW address

I. Non-detectable Fragments,

II. Mines, Booby-Traps and Other Devices,

III. Incendiary Weapons,

IV. Blinding Laser Weapons, and

V. Explosive Remnants of War.

Protocol II, regarding mines but also “remote-delivery mines” (i.e. a munition delivered by missile, artillery, etc.), requires self-destruction/self-deactivation mechanisms for remote-delivered anti-personnel mines, in order to limit the risks of civilian casualties. Without such mechanisms, anti-personnel mines would become incapable of discriminating between civilians and combatants and would thus be in violation of the principle of distinction. This

[42] Erika Steinholt Mortensen, “Autonomous Weapon Systems That Decide Whom to Kill,” May 3, 2016, 86.

understanding could be extended to AWS that could be considered a kind of self-delivery mine, where operators lack "meaningful human control and oversight" after deployment. Further, if states were to lose contact with a fully autonomous weapon system, it could be viewed similarly as a lone mine, that requires self-destruction mechanisms according to Protocol II of the CCW.[43]

Past Actions & Current Positions

Positions on LAWS can be divided up into three categories: those calling for an outright ban of LAWS, varying degrees of regulation, and a largely unregulated approach that would at least warrant the research and development of LAWS. The following section provides examples for each of these pathways.

The International Committee of the Red Cross (ICRC) has been instrumental in the creation of IHL, as well as the CCW. As an organization dealing with the consequences of armed conflict, its position is naturally critical of emerging weapon technologies. Regarding AWS, the ICRC states that the "loss of human control and judgment in the use of force and weapons raises serious concerns from humanitarian, legal and ethical perspectives."

Bearing these risks in mind, the ICRC urges member states to adopt new binding legislation, that should

1. Rule out AWS that "cannot be sufficiently understood, predicted and explained" and whose effects on the battlefield would therefore become unpredictable;
2. Rule out AWS that are designed to target human beings to further protect persons outside of a conflict;
3. Regulate unprohibited AWS through limiting target types, the scale of use, and "requirements for human-machine interaction".

This position of the ICRC is not a full prohibition of AWS, but rather a strict regulation.[44]

[43] United Nations Office for Disarmament Affairs, "Convention on Certain Conventional Weapons" (United Nations, 2014).

[44] International Committee of the Red Cross, "ICRC Position on Autonomous Weapon Systems," May 12, 2021, https://www.icrc.org/en/download/file/166330/icrc_position_on_aws_and_background_paper.pdf.

In a 2012 publication titled "Losing Humanity", Human Rights Watch, together with Harvard's International Human Rights Clinic, recommends the prohibition of "the development, production, and use of fully autonomous weapons" through both international legally binding instruments and national laws. They further urge states to continuously review technologies that could eventually produce or be used for the development of LAWS. The recommendations further involve researchers, that are asked to "establish a professional code of conduct governing the research and development" of LAWS, so that "legal and ethical concerns [...] are adequately considered at all stages of technological development." This compares to banning LAWS altogether and it is questionable whether that goal is still achievable today. [45]

As the name suggests, the Campaign to Stop Killer Robots calls for a strict maintaining of "meaningful human control" in all weapon systems. Their plan involves three key elements to establish a new international legal treaty, namely

1. an "Obligation to Maintain Meaningful Human Control" throughout the application of force;
2. prohibiting certain AWS, such as those targeting humans or those without meaningful human control;
3. regulating non-prohibited AWS through "positive obligations to ensure meaningful human control" in these weapons.[46]

NATO, as a military alliance, has always had an interest in staying technologically ahead of its military competitors. As a consequence, NATO members agreed in 2019 on an Emerging and Disruptive Technology Implementation Roadmap, that includes the key areas of AI and autonomy. NATO's AI strategy calls for the responsible use of AWS.[47] From a strategic point

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[45] Bonnie Docherty, *Losing Humanity: The Case against Killer Robots* (Amsterdam Berlin: Human Rights Watch, 2012).

[46] Stop Killer Robots, "Stopping Killer Robots - A Guide for Policy Makers," accessed March 4, 2022, https://www.stopkillerrobots.org/wp-content/uploads/2021/11/211123-A-Guide-for-Policy-Makers-WEB.pdf.

[47] NATO, "Emerging and Disruptive Technologies," NATO, accessed March 5, 2022, https://www.nato.int/cps/en/natohq/topics_184303.htm.

of view, the defense pact sees opportunities and threats in AWS and justifies its position with adversaries seeking their gain as well.[48]

The Convention on Certain Conventional Weapons does not address LAWS in either of its five protocols. However, it has begun deliberations on the matter and emerged as the prime forum for the treatment of emerging technologies such as LAWS. The CCW's Group of Governmental Experts recommended eleven guiding principles on LAWS that were adopted in 2019 by the High Contracting Parties to the CCW. These eleven non-binding principles can be abbreviated and summarized as follows:

(a) *IHL continues to apply fully to all weapons systems, including LAWS;*

(b) *Human responsibility must be retained across the entire life cycle of weapon systems;*

(c) *Human-machine interaction should ensure that the potential use of LAWS is in compliance with IHL;*

(d) *Accountability must be ensured, especially through the operation of LAWS within a responsible chain of human command and control;*

(e) *States must, in the study, development, acquisition, or adoption of a new weapon, means, or method of warfare, determine whether its employment would be prohibited by international law;*

(f) *Physical security, appropriate non-physical safeguards (including cyber-security against hacking or data spoofing), the risk of acquisition by terrorist groups and the risk of proliferation should be considered in the development and acquisition of LAWS;*

(g) *Risk assessments and mitigation measures should be employed throughout the entire development and life-cycle of any weapons system;*

(h) *Consideration should be given to the use of LAWS in upholding IHL;*

(i) *LAWS should not be anthropomorphized in potential policy measures;*

(j) *Discussions and any potential policy measures should not hamper peaceful uses of intelligent autonomous technologies;*

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[48] Andrew Williams and Paul Scharre, *Autonomous Systems: Issues for Defence Policymakers*, 2015.

(k) *The CCW offers an appropriate framework for dealing with LAWS that can strike a balance between military necessity and humanitarian considerations.*[49]

The CCW further addressed the matter at its 2021 meeting but initiations to start the negotiations on a treaty governing the use of LAWS failed. Russia, India, and the United States, all of which are high-contracting parties to the CCW, had expressed doubts about a new treaty, much to the disappointment of other member states and present NGOs. [50]

The UN Security Council has not dealt actively with LAWS, but a number of other cases are still noteworthy. Resolution 1540 (2004) of the Security Council prohibited the non-state proliferation of nuclear, chemical, or biological weapons and required states to take the necessary steps to enforce this non-proliferation. It makes a specific mention of "terrorist purposes", as well as "weapons of mass destruction".[51]

Resolution 1973 (2011) of the Security Council established a Panel of Experts on Libya, which in its final report mentions an unprecedented use of LAWS against logistics convoys. The LAWS that were allegedly used in Lybia "were programmed to attack targets without requiring data connectivity between the operator and the munition", something the report calls "a true 'fire, forget and find' capability." It is, however, unclear whether or not these autonomous drones actually killed someone.[52]

[49] "Background on LAWS in the CCW – UNODA," accessed March 5, 2022, https://www.un.org/disarmament/the-convention-on-certain-conventional-weapons/background-on-laws-in-the-ccw/.

[50] "U.N. Talks Adjourn without Deal to Regulate 'Killer Robots,'" *Reuters*, December 17, 2021, sec. World News, https://www.reuters.com/article/us-un-disarmament-idAFKBN2IW1UJ.

[51] "UN Security Council Resolution 1540 (2004) – UNODA," accessed March 5, 2022, https://www.un.org/disarmament/wmd/sc1540/.

[52] Lipika Majumdar Roy Choudhury et al., "Final Report of the Panel of Experts on Libya."

Questions a Resolution Should Answer

To successfully tackle the subject, a resolution should

(a) Reach an understanding of the characteristics of and distinctions between the systems in question;

(b) Weigh the benefits and drawbacks of civil and military research;

(c) Consider humanitarian consequences of increased autonomy in weapon systems;

(d) Address the question of proliferation of LAWS; and finally

(e) Identify a common goal for the regulation of LAWS;

in order to present a roadmap for the international community in matters of lethal autonomous weapons.

Conclusions

With the cases of Libya and Nagorno-Karabakh in mind, as well as the accelerating speed of technological advancements, the urgency of finding common ground within the international community on the matter of LAWS cannot be overstated.

Despite the suggestions that terms like “killer robots” or “slaughterbots” and movies like Terminator might lead to, autonomous technology and with it autonomous weapon systems are not matters of black and white. Instead, a sustainable solution must weigh the civilian benefits of autonomous technology against military risks.

The changes that lethal autonomous weapons will bring to humanity’s battlefields are both qualitative and quantitative: The unending fighting capabilities of robotic weapons will accelerate warfare in all of its dimensions. At the same time, the fundamental differences of LAWS pose equally fundamental questions about human elements in war and the upholding of international humanitarian law, and ultimately about humanity itself.

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