The Rise of Turkey as a Drone Power:
Implications for Executive Power Enhancement

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This dissertation is submitted in part fulfilment of the
Master of International War Studies

July 2023

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Abstract

In the aftermath of the U.S.'s global war on terror, drones have emerged as prominent weapons for combating militant and insurgent groups in conflict zones. However, its adoption has initiated contentious debates concerning civilian casualties, the legality of strikes, and concerns over democratic oversight in decision-making. In response to the ongoing threat from its separatist terrorists, Turkey strategically invested in domestic drone production and these efforts led to the development of highly effective armed drones. This success has raised a 'drone legend,' gaining widespread public support and empowering the government to employ drones as a foreign policy tool in operations such as Syria, Libya, and Nagorno-Karabakh, while also exporting them to other nations. Skillful government-controlled media coverage portrays drones as symbols of supreme military power, strengthening the current regime's support base and nurturing an increase in executive power and authoritarian tendencies. This thesis challenges the notion of invincibility surrounding drones and emphasizes the importance of a nuanced understanding of their capabilities in modern warfare. Moreover, it explores the potential dangers of a growing military-industrial complex and its entangled relationship with politics. The study explains the widespread drone fetishism in Turkey and asserts that overreliance on drone technology in foreign and security policies, might tempt the government into unnecessary conflicts and risk dangerous escalations. By analyzing drone performances, especially in peer-to-peer warfare scenarios, the research also aims to caution against the allure of drones within society.

Contents

Glossary and Abbreviations

AKP	President Erdoğan's Justice and Development Party (Adalet ve Kalkınma Partisi)
CIA	Central Intelligence Agency
FATA	Federally Administered Tribal Areas in Pakistan
GNR	Government of National Accord (UN-recognized government in Libya)
GWOT	Global War on Terror
HALE	High-Altitude Long-Endurance drones
HIMARS	High Mobility Artillery Rocket System
ISIS	Islamic State in Syria
ISR	Intelligence, Surveillance, Reconnaissance
ISTAR	Intelligence, Surveillance, Target Acquisition and Reconnaissance
LNA	General Hafter's Libyan National Army
MALE	Medium-Altitude Long-Endurance
MIT	Massachusetts Institute of Technology
MİT	National Intelligence Organization of Turkey (Milli İstihbarat Teşkilatı)
PKK	Kurdistan Workers' Party
PYD	A Kurdish entity in northern Syria and an affiliate of PKK
RMA	Revolution in military affairs
RPAS	Remotely Piloted Aerial System
SAM	Surface-to-air missile
TAF	Turkish Armed Forces
TAI	Turkish Aerospace Industries
TEKNOFEST	Annual aerospace and space technology event
UAV	Unmanned Aerial Vehicle
UAS	Uncrewed Aerial System

INTRODUCTION

In the last two decades, extensive use of armed drones has altered the practice of contemporary warfare. The use of large drone systems in the U.S.' global war on terror has become controversial due to their involvement in collateral damage and targeted killings beyond official battlefields. However, drones have now become an inevitable component of conventional warfare between nation-states.[1] The military drone programs exploded in the world increasing from 60 nations states in 2010 to 113 states in 2022.[2]

Although not entirely precise, the commonly used term 'drone' is often employed to refer to aerial military systems. However, military organizations and experts generally prefer alternative terminology such as 'Unmanned Aerial Vehicles' (UAVs), Uncrewed Aerial Systems (UAS) or 'Remotely Piloted Aerial Systems' (RPAS). A military UAV, or Unmanned Aerial Vehicle, can be defined as an airborne vehicle that operates without a human operator on board. It can be controlled remotely, follow a pre-determined flight path, operate autonomously, or employ a combination of these methods. A key characteristic is its recoverability, and it is equipped to carry either lethal or non-lethal payloads. It's important to note that UAVs do not include non-recoverable vehicles and projectiles like ballistic vehicles, cruise missiles, and artillery projectiles.[3]

Drones possess unique features that make them highly suitable for conducting prolonged surveillance, thanks to their exceptional endurance and minimal noise emission. They have the capability to monitor subjects over extended durations, ranging from hours to days or even weeks. In contemporary usage, drones are primarily utilized for reconnaissance purposes, commonly referred to as "ISTAR" in military terminology, which encompasses Intelligence, Surveillance, Target Acquisition, and Reconnaissance. As early as the late 1960s, militarily advanced nations had already introduced basic ISTAR drones into their service, which were subsequently deployed in various military operations. The first armed drone, the US MQ-1 Predator, emerged in 2001. Armed drones typically carry missiles, including the well-known "Hellfire," or bombs weighing up to 250kg.[4] There are various drone technologies

[1] Dominika Kunertova, "The war in Ukraine shows the game-changing effect of drones depends on the game," *Bulletin of the Atomic Scientists*, V. 79:2, (Mar 2023): pp.95-100
[2] James Rogers, "The Second Drone Age: defining war in the 2020s", *Defense & Security Analysis*, (Mar 2023): p.2.
[3] Ulrike Esther Franke, "Military Robots and Drones," in *Routledge Handbook of Defence Studies*, ed. David J. Galbreath and John R., (Routledge: 2018): p. 340.
[4] Ulrike Esther Franke, "Military Robots and Drones," p. 341

and military cultures and therefore their impact in the world's conflicts would differ.[5] According to NATO documents, drones are classified into three groups based on their utmost take-off weight: Class I drones are the ones less than 150 kilograms, including small, mini and micro drones. Class II drones of between 150 and 600 kilograms and Class III drones of greater than 600 kilograms.[6] Another classification is determined by their specific capabilities. There are drones designed to project airpower, single-use ammunition (like loitering ammunition or kamikaze drones), and smaller drones that are repurposed for tactical purposes such as reconnaissance or delivering hand grenades to targets. The most common type of drone concentrated on within the academic discussion is the Medium-Altitude Long-Endurance (MALE) drone. Either armed or unarmed versions of MALE drones have become 'the spearhead of Western force deployment in the post-Cold War world.'[7] The main emphasis of this research is on larger drones, specifically MALE or HALE (High-Altitude Long-Endurance) drones. These types of drones are primarily utilized for strategic surveillance and possess the capability to deploy powerful bombs and missiles. These drones have the potential to achieve significant strategic results for the user.

The United States, China, and Israel have been the primary producers of larger armed drones, while Turkey has also joined their ranks in recent years with its domestically produced UAVs. The use of drones has played a significant role in the success of Turkey's counterterrorism operations, both within its own borders and in the neighboring regions of Iraq and Syria. UAVs played a pivotal role in Turkey's four-decade-long fight against the PKK, turning the tide in its favor. Drones also have provided Turkey with the capability to flex Turkey's muscles beyond its borders, participating in operations in countries such as Syria and Libya, as well as supporting Azerbaijan in Nagorno-Karabakh. The government has showcased the achievements of Turkish drones through controlled media channels, which has fostered nationalist sentiments. Drones have become symbols of national pride, attracting masses to rally around the flag. Through the large-scale production and utilization of drones, Turkey has established itself as a major player in the global drone market.[8] All these developments have supported the executive power's efforts to centralize government authority, with drones

[5] James Rogers, "The Second Drone Age: defining war in the 2020s," *Defense & Security Analysis*, (Mar 2023): p. 1
[6] Dominika Kunertova, "The war in Ukraine," p.96
[7] James Rogers, "The Second Drone Age," p. 1
[8] Digdem Soyaltin-Colella and Tolga Demiryol, "Unusual middle power activism and regime survival: Turkey's drone warfare and its regime-boosting effects, *Third World Quarterly*, (Jan 2023): p.14.

becoming one of the most crucial tools in garnering public support for the continuation of authoritarian tendencies.

Therefore, this study argues that the utilization of UAVs, in the Turkish case, contributes to the centralization of power and strengthens the authority of the executive branch. The effective propaganda surrounding drones, facilitated by the control of a significant portion of the media apparatus, builds a narrative that promotes superiority of the drones in current warfare. This propaganda machinery generates a sense of fascination and obsession with drones among the general public, ultimately bolstering the regime's survival. However, this approach disregards certain realities on the ground in recent conflicts, leading to a more cautious view of drone superiority in present-day warfare. Consequently, this vicious cycle contributes to the consolidation of power by the regime and may even lead to the initiation or involvement in unnecessary conflicts, fueled by the overconfidence instilled by the phenomenon of 'drone fetishism'.[9]

The thesis is structured as follows: after this introduction, the next chapter presents the emergence of drones in the context of the U.S.'s global war on terror following September 11, 2001. The second chapter discusses Turkey's rise as a prominent player in the field of drones. The third chapter examines the arguments surrounding the revolutionary and evolutionary aspects of drones by focusing on the utilization of drones in recent conflicts. Lastly, the final chapter and conclusion explore the contributions of drones to the centralization and authorization of executive power in Turkey.

CHAPTER 1: THE EMERGENCE OF DRONES

There is a parallel between the discussions regarding the role of manned aviation in the early 20th century and the ongoing debates surrounding drones. This is because the emergence of air power as a technological innovation has prompted similar questions about military doctrine, strategy, and civil-military relations.[10]

The primary focus has been on the utilization of armed drones within the framework of the United States Global War on Terror (GWOT). The U.S. started to use drone strikes for the targeted killing of high-level terrorists as a way of counterterrorism mechanism succeeding al-

[9] Aaron Stein (@aaronstein1), "The fetishization of a little drone has reached epic proportions," Twitter, May 19, 2021, 3.35 PM, https://twitter.com/aaronstein1/status/1395022727929552899?t=TakPcTXeIClN1rP3ZwVyXA&s=08

[10] Ulrike Esther Franke, "Military Robots and Drones," p. 341

Qaeda's attack on the World Trade Center on September 11, 2001.[11] The first use of drones as a counterterrorism tool began during the George W. Bush term and they targeted high-value Al-Qaeda and Taliban targets in Afghanistan and Pakistan. In the last two decades, the use of drones by U.S. presidents has been a crucial aspect of their national security and counterterrorism strategy. President Barack Obama embraced the use of drones as a key tool in the fight against terrorism and expanded the drone program, especially in the Federally Administered Tribal Areas (FATA) in Pakistan and then Yemen, Somalia, and other regions.[12]

Western societies dislike seeing their troops come home in body bags. 'Bring the troops home!' is a popular antiwar chant. Unpopular wars usually open the way for loosing elections.[13] James Igoe and Marcus Schulzke argue that drone usage increases public support relative to other forms of warfare and other attack types if drones are used for counterterrorism purposes. The pilot invulnerability and the absence of potential military casualties may encourage drone use by policymakers.[14] Drones effectively reduce the political risk associated with warfare and bypass accountability mechanisms such as public opposition, which would otherwise impose constraints on the use of force.[15] Therefore, in recent years, U.S. presidents developed a tendency to try to keep down the troop numbers abroad.

Former U.S. Secretary of Defense Robert Gates acknowledged that war had become perceived as 'bloodless, painless, and odorless' during the Obama administration. The appeal of addressing imminent national security threats worldwide without declaring war or engaging in mass mobilization was significant for a president who recognized the declining public support for the Global War on Terror.[16]

The wars in Afghanistan and Iraq brought 2,324 and 4,598 U.S. military fatalities.[17] However, previous American wars, the First Gulf War (1991) is known its 'low-cost' success and the Kosovo Campaign (1999) as bloodless 'perfection'. Miscalculations in Afghanistan and Iraq brought a new approach to the practice of war for U.S. policymakers. President Obama, during his election campaign, promised to shift away from ground campaigns and engage in a global counter-terrorist campaign using Joint Special Operations Command

[11] Paul Lushenko, "U.S. Presidents' use of drone warfare," *Defense & Security Analysis*, 38:1, (Feb 2022): p. 31
[12] Ulrike Esther Franke, "Military Robots and Drones," p.358
[13] Sea McFate, *The New Rules of War*, (Harper Collins Publisher, 2019): p.82
[14] James Igoe and Marcus Schulzke, *Drones and Support for the Use of Force*, (University of Michigan Press, 2018)
[15] John Kaag and Sarah Kreps, *Drone Warfare* (Cambridge: Polity Press, 2014): P.65
[16] James Rogers, "Rethinking remote warfare," *International Politics*, (March 2023): p.3
[17] Watson Institute, Costs of War, *Costs of War Project*, (2021): https://watson.brown.edu/costsofwar/figures/2021/WarDeathToll

(JSOC) assets, drones, manned aircraft, and local proxies to target terrorist networks worldwide. He believed that the skill of targeting high-profile individuals with drones was an effective technique. This shift allowed the U.S. to engage in conflicts across various regions without significant casualties to their own troops, relying heavily on remote operations, particularly drones. This approach reduced public awareness and concern for the Global War on Terror as it did not involve large-scale troop deployments.[18] In the last two years of his presidency, President Obama regularly emphasized the phrase 'no boots on the ground in Syria,' highlighting the light footprint, indirect, limited, and remote character of American military involvement.[19]

Operation Inherent Resolve, the campaign against ISIS in Syria and Iraq, was implemented as 'remote warfare' where precise airstrikes by either manned or unmanned platforms were conducted against ISIS militants and infrastructure. As an example, 20 percent of the munitions deployed came from drones in the U.S. air campaign to capture Raqqa.[20]

Another trend in this U.S.' new way of projecting force was collaborating with local 'partners' who were held responsible for engaging in ground warfare. To support this effort, a very limited number of US military personnel were deployed to Iraq and Syria to provide training and assistance to Iraqi Security Forces and Syrian opposition groups. The United States incurred a relatively low cost in terms of lives lost and resources expended, with 101 fatalities, compared to the wars that had spanned nearly two decades. This strategy of conducting warfare from a distance, with local actors supported by advanced weaponry and specialized training, is expected to continue as a central approach to American and allied force deployment in the early to mid-2020s.[21]

The scholarly discussions related to drone usage in the Global War on Terror concentrate on extrajudicial killings, collateral damage or civilian casualties,[22] the efficiency of drones in the long term, as well as their use by a civilian intelligence agency such as the CIA.[23] Some legal discussions argue that 'the Just War tradition, including *jus ad bellum* (the justice of going to war) and *jus in bello* (the just conduct of war), governing the use of violence

[18] James Rogers, "Rethinking remote warfare," pp. 1-2
[19] James Rogers, "Rethinking remote warfare," p.3
[20] Joe Ritter, "Hellfires Wanted: It's time to start tasking armed drones as combat aircraft," *War on the Rocks*, (June 24, 2021).
[21] James Rogers, "Rethinking remote warfare," p.3-4
[22] Christopher J. Coyne and Abigail R. Hall, "The Drone Paradox: Fighting Terrorism with Mechanized Terror," *The Independent Review*, Vol. 23, No. 1 (Summer 2018).
[23] Milena Sterio, "Lethal Use of Drones: When the Executive Is the Judge, Jury, and Executioner," *The Independent Review* , Vol. 23, No. 1 (Summer 2018).

that is morally permissible in war – that is, just and proportionate – is challenged by the use of armed drone use and its technology.'[24]

The Bureau of Investigative Journalism has reported many civilian killings caused by drone strikes. In 2006, the CIA conducted a strike on a madrassa, a religious school, in Chenegai, Pakistan, resulting in the death of as many as 69 children and 80 civilians. This particular event stands as one of the most severe occurrences during the entire drone campaign, yet it received minimal media coverage.[25]

In tactical terms, the drone campaign reduced the presence of the al-Qaeda organization in the FATA region by 75%. However, most argue that, in the long term, drones, especially with increased civilian casualties, created much more damage to counterterrorism efforts, leading to an increase in participation with al-Qaeda in those regions.[26]

The wide range of these academic discussions extends beyond the scope of this study. Nevertheless, the arguments concerning the impact of drones on the centralization of state power will be addressed in a subsequent chapter. The next chapter will discuss how Turkey's domestic drone industry has evolved and how politics have utilized this niche capability to support their ambitions in foreign and domestic affairs.

CHAPTER 2: TURKEY'S RISE AS A DRONE POWER

A. Emergence of Domestic Drones

Contemporary analyses of the topic perceive Turkey's current rise as a drone power to be a rational outcome of strategic calculations made over the long term.[27] However, there are also arguments suggesting that Turkey's emergence as a drone power was driven by the need to address its internal challenges and coincided with developments in its neighboring regions. Thus, it can be seen as a case of 'trial by fire.'[28]

Since 1984, the Turkish military has been engaged in a prolonged counter-insurgency operation against the Kurdistan Workers' Party (PKK). The PKK maintains its strongholds in

[24] Ian G. R. Shaw, "Predator Empire: The Geopolitics of US Drone Warfare," *Geopolitics*, 18 (3), (2013): p.539
[25] The Bureau of Investigative Journalism, (August 11, 2011): www.thebureauinvestigates.com/stories/2011-08-11/over-160-children-reported-among-drone-deaths.
[26] James Igoe Walsh, "The effectiveness of drone strikes in counterinsurgency and counterterrorism campaigns," *Strategic Studies Institute*, (US Army War College, 2013)
[27] Won-June Hwang and Seung-Hoon Song, "The extension of Turkish influence and the use of drones, *Comparative Strategy*," 41:5, (August 2022), 439-458.
[28] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power: trial by fire," *Defense & Security Analysis*, 38:2, (May 2022): 210-229.

the challenging tri-border mountainous region where Turkey, Iraq, and Iran intersect. The rugged terrain poses difficulties in terms of target identification and engagement for Turkish security forces. Turkey has employed commando-style or special forces-type operations to locate and neutralize PKK militants, as well as established stationary bases or outposts to exert control over the challenging terrain. However, these tactics were not risk-averse and resulted in many police and soldiers' lives being lost.[29] Drawing inspiration from the American utilization of armed drones in Iraq, Afghanistan, and other global contexts, the Turkish government recognized the strategic value of deploying drones to enhance its operations against the PKK.[30]

Turkey's entry into the field of drones began in 1996 when they purchased six GNAT 750 drones from the US company General Atomics. These GNAT drones provided surveillance footage of PKK movements in the challenging mountainous regions; however, it took a considerable amount of time for the Turkish military to respond effectively. During that period, laser systems and guided fighter jet bombs were not available to target the observed threats. Subsequently, in 2006, Turkey placed an order for ten Heron drones from Israel. Yet, it took five years for Israel to deliver these drones to Turkey. Initially, the Heron drones were operated by Israeli personnel, but they encountered numerous issues related to engine and imaging systems.[31] The Heron drones from Israel failed to meet Turkey's requirements, and their delivery was further delayed due to tensions arising from Israel's policies concerning Palestinians.[32] The diplomatic relations between Turkey and Israel were severed in 2010 following an Israeli commando raid in which nine Turkish citizens were killed on a humanitarian aid ship bound for the Gaza Strip.[33]

Starting in 2011, the US drones stationed at Incirlik Airbase in Turkey have been providing real-time intelligence through Predator drones regarding PKK activities in Northern Iraq.[34] However, it was crucial for the Turkish security forces to acquire the capability to

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[29] Ömer Faruk Cantenar and Fatih Tümlü, "PKK Terör Örgütünün Eylemlerinin Güvenlik Güçleri Zayiati Açisindan Analizi," *Science Journal of Turkish Military Academy*, Volume 26, Issue 1, (June 2016): 1-22

[30] Aaron Stein, "Say Hello to Turkey's Little Friend: How Drones Help Level the Playing Field," *War On The Rocks* (June 11, 2021).

[31] Umar Farooq, "The Second Drone Age: How Turkey Defied the U.S. and Became a Killer Drone Power," (May 14, 2019): https://theintercept.com/2019/05/14/turkey-second-drone-age/

[32] Won-June Hwang and Seung-Hoon Song, "The extension of Turkish influence," p.443.

[33] The Guardian, "Israeli commandos kill activists on flotilla bound for Gaza," (May 31, 2010): https://www.theguardian.com/world/2010/may/31/israel-kills-activists-flotilla-gaza

[34] Craig Whitlock, "U.S. drones allowed in Iraqi skies," (December 16, 2011), https://www.washingtonpost.com/blogs/checkpoint-washington/post/us-drones-allowed-in-iraqi-skies/2011/12/16/gIQAV7ESyO_blog.html

complete the ‘kill chain’ by effectively engaging the identified targets. The Turkish defence procurement agency encouraged local companies to develop the capability while also seeking to purchase US-made Reaper drones. However, the US denied the sale of these drones to Turkey, citing export control restrictions and concerns over human rights.[35] According to one perspective, this refusal was motivated by the apprehension that Turkey might employ these drones against Israel.[36]

The Ministry of Defense initiated a project called the "Turkish UAV systems roadmap" that spanned from 2011 to 2030. The objective of this project was to optimize the procurement and research and development (R&D) processes of drones, ensuring cost-effectiveness and efficient utilization of resources for both companies and the government.[37] The first models from the industry were not satisfying for the Turkish Armed Forces (TAF). However, their usage in the field helped to improve the next models.[38] Consequently, advanced military drones including the Bayraktar, ANKA, and Karayel were successfully developed[39] by Turkish companies Baykar, Turkish Aerospace Industries and Vestel respectively.

Among these drones, the Bayraktar TB2 stands as the foremost successful military drone in Turkey.[40] When the Bayraktar drone made its debut, Turkey had already established a drone program, the first version of the ANKA drone, developed by Turkish Aerospace Industries (TAI), a prominent defense manufacturing entity in the country. However, similar to the Heron drones, this first version of the Anka drone was also unarmed.

The rise of the Baykar Defense company, the producer of the TB2 Bayraktar drones, should also be mentioned. Selçuk Bayraktar, the current chief technology officer of Baykar Defense, graduated as an electrical engineer from Turkey's top university. He pursued a master's degree at the University of Pennsylvania and commenced his doctoral education at MIT. During this time, he successfully developed an algorithm capable of facilitating the

[35] Aaron stein, “Can Turkey and the United States Come Together on Drones?” *War on the Rocks*, (April 25, 2016)
[36] Lennart Hofman, “How Turkey became a drone power (and what that tells us about the future of warfare)” (December 10, 2020): https://thecorrespondent.com/832/how-turkey-became-a-drone-power-and-what-that-tells-us-about-the-future-of-warfare
[37] Savunma Sanayi Müsteşarlığı (Undersecretary of Defense Industry), “Türkiye İnsansız Hava Aracı Sistemleri Yol Haritası 2011-2030”, retrieved from http://ercancinar.com/wp-content/uploads/2017/10/SSM_%C4%B0HA_Sistemleri_Yol_Haritas%C4%B1_2012.pdf
[38] Ash Rossiter and Brendon J. Cannon, “Turkey's rise as a drone power,” p.212.
[39] Won-June Hwang and Seung-Hoon Song, “The extension of Turkish influence,” p.443
[40] TB2 Bayraktar drone is categorized as a MALE (Medium-Altitude Long Endurance) type of tactical drone. It can fly at an altitude of 24,000 feet for up to 24 hours but relies on ground control stations for communication, with a range of up to 150 kilometers. It can carry a payload of 120 pounds.

landing of unmanned helicopters in extremely rugged terrains. In 2007, he made the decision to discontinue his studies and redirected his focus towards drone development within his family's car parts manufacturing company.[41]

In 2006, Baykar secured a mini drone contract from Turkish Armed Forces, supplying a total of 19 drones for deployment in the southeastern region of Turkey. The engineers at Bayraktar actively engaged in on-field operations to closely assess the situation and understand the specific requirements of the soldiers. The insights gained from their experiences in the field, coupled with their dedicated efforts, eventually led to the development of their TB2 platform.[42] After successfully completing its initial acceptance tests, the Bayraktar TB2 was officially handed over to the Turkish Armed Forces (TAF) in 2014. While primarily designed and used for tactical reconnaissance and intelligence-gathering purposes, the TB2 later gained lethal capability and precision.[43]

In September 2016, a significant milestone was reached when a Bayraktar TB2 drone successfully executed its first targeted killing operation against PKK targets in the Çukurca district of Hakkâri province in southeastern Turkey. The operation resulted in the neutralization of five militants.[44] Remarkably, the drone engaged the target from an altitude of four kilometers, hitting a location eight kilometers away with the assistance of a guided rocket manufactured by Roketsan.[45] Normally, the integration of the TB2 drone with munitions produced by Roketsan, a semi-government-owned rocket manufacturing company, would have faced significant challenges within the rigid bureaucratic structure of the Turkish state. However, in May 2016, Selçuk Bayraktar, the key figure behind the TB2 project, married the third daughter of President Erdoğan. The close familial relationship and ties between the two families potentially facilitated the collaboration and integration of both companies in the weaponization project.

Apart from the TB2, Turkish Aerospace Industries (TAI) also developed and manufactured ANKA drones. The initial versions of the ANKA, known as ANKA-A, performed below expectations. However, TAI made significant improvements, and the ANKA-B, an upgraded version, made its first flight in 2015. Subsequently, the ANKA-B was further

[41] Umar Farooq, “The Second Drone Age”
[42] Umar Farooq, “The Second Drone Age”
[43] Won-June Hwang and Seung-Hoon Song, “The extension of Turkish influence,” p.444.
[44] Takvim, “Milli İHA Bayraktar’dan ilk operasyon”, (September 9, 2016): https://www.takvim. com.tr/guncel/2016/09/09/milli-iha-bayraktardan-ilk-operasyon
[45] Umar Farooq, The Second Drone Age”

developed into the weaponized variant known as ANKA-S, equipped with precision missiles. The contemporary ANKA-S is Turkey's most advanced drone, featuring a satellite-control capability that enables communication beyond the line of sight.[46] These sophisticated ANKA-S drones were extensively utilized during Operation Spring Shield (2020) in Syria's Idlib due to their endurance against Electronic Warfare and jamming.[47]

The Turkish Armed Forces have escalated the frequency of their drone strikes against the PKK. Following the initial successful targeted killing, Turkish drones have been responsible for eliminating a total of 405 militants over a span of two years.[48] Drones have become the main tool in its domestic fight and the PKK has been displaced from its longstanding strongholds within Turkey, causing the primary areas of engagement to shift towards Northern Iraq.[49]

Later, the drone strikes against PKK targets have increasingly focused on Northern Iraq and Syria. The Turkish intelligence organization (MİT) and the Turkish Air Force have employed their drones and fighter jets to target high-value PKK leadership. Additionally, MİT, with its own drones, has gained operational capabilities beyond Turkey's borders.[50] Unlike the CIA drone attacks in the Pakistan FATA region, the use of Turkish drones in these operations by the main intelligence body has not generated significant debate or discussion at home.

Turkish drones have turned the tide in a decades-old counterinsurgency against PKK. Nearly every day, a Turkish drone, typically a TB2, is either engaged in an attack on a target or provides the coordinates of a target that is subsequently targeted by an F-16 or attack helicopter. Hundreds of militants were killed by drones in Turkey, Syria and Iraq. These aerial operations, publicly announced through official channels, have generated a sense of unity and patriotism among the people, as the elimination of PKK members from the air is celebrated. Therefore, Selçuk Bayraktar has emerged as a national figure, celebrated as a heroic symbol in the field of drone technology.[51] Turkey's possession of this capability fuels its aspiration to

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[46] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," p.213.
[47] Independent Turkish, "ANKA ve SİHA'lar İdlib'de neden daha fazla kullanılıyor, hangi milli silahlar ön plana çıktı?" (March 02, 2020): https://www.indyturk.com/node/140241/haber/anka-ve-siha%E2%80%99lar-idlibde-neden-daha-fazla-kullan%C4%B1l%C4%B1yor-hangi-milli-silahlar-%C3%B6n
[48] Sibel Düz and Muhammet Ismail Üzen, "Terörle Mücadelede İHA'ların Rolü ve Etkileri: Üst Düzey PKK'lı Terörist Liderlerin ve Operatiflerin Tasfiyesi," SETA, (May 2023), p.26.
[49] Aaron Stein, "The American Deconfliction Disadvantage: Ankara's Drone Campaign in Syria and Iraq," *War on the Rocks*, (October 6, 2021)
[50] Ömer Faruk Cantenar, "Turkey Conducting Targeted Killings of PKK Leaders in Iraq: What's Next?" *Jamestown Terrorism Monitor*, Volume: 19 Issue: 15, (July 30, 2021).
[51] Umar Farooq, "The Second Drone Age"

disrupt the existing power dynamics in global politics.[52] Drones have emerged as a significant foreign policy instrument for the Turkish government.[53]

B. Drone 'Campaigns' in Foreign and Domestic Policy: Establishing the 'supreme drone' Narrative

Erdoğan's Justice and Development Party's (AKP) foreign policy is generally divided into three periods since it came to power in 2002. The first period is associated with the first term of AKP's rule in which it allied with liberals and some leftists and pursued a constructive foreign policy with 'zero problems with neighbours' motto. The second period merged with then foreign minister Ahmet Davutoğlu's 'strategic depth' policies which aims to establish a cultural and economic hegemony in the Middle East, Caucasus and the Balkans. It sought to deploy Turkey's soft power in the near abroad, showed the Turkish system as a model for the Middle East and North Africa, and create a regional free-trade zone.[54] It preferred to use Sunni Islam as the most efficient tool of foreign policy and supported Muslim Brotherhood movements in the region.

After the failed coup attempt in July 2016, Turkish foreign policy developed aggressive, and interventionist moves together with a populist and autocratic domestic discourse at home.[55] Some refer to this late-term policy of the AKP government as 'strategic autonomy,' which suggests Turkey's pursuit of a more independent role in regional and international politics.[56]

Turkey's search for greater autonomy in its region could be tied to the changes in the global distribution of power, the weakening of the American leadership and the more assertive and competitive foreign policies of other global powers such as Russia and China.[57] Kutlay and Öniş describe Turkey's activities as an 'unusual middle power activism' and lay out the pathways leading to this assertive foreign policy behaviour.[58] They argue that the Turkish version of strategic autonomy also includes a 'domestic legitimating discourse' maintaining a transition to authoritarianism. Pursuing an assertive autonomy-based foreign policy has

[52] Digdem Soyaltin-Colella and Tolga Demiryol, "Unusual middle power activism and regime survival: Turkey's drone warfare and its regime-boosting effects," *Third World Quarterly*, (2023): p.5
[53] Bruno Oliveira Martins, Pinar Tank and Beste İşleyen, "Turkish Drones as a Foreign Policy Tool: A Technology-Mediated Search for Autonomy," Peace Research, *Mideast Policy Brief*, (Oslo, 01-2023): p.2.
[54] IISS, "Turkey's increasingly assertive foreign policy," *Strategic Comments*, 26:6, iv-vi,(September 2020): p.2
[55] Mehmet Arısan, "Populism, victimhood and Turkish foreign policy under AKP rule" *Turkish Studies*, 23:5, (2022): pp. 694-695.
[56] Mustafa Kutlay and Ziya Öniş, "Turkish Foreign Policy in a Post-Western Order: Strategic Autonomy or New Forms of Dependence?" *International Affairs* 97: 4, (2021): p. 1089.
[57] Muhittin Ataman, "Editor's notes", *Insight Turkey* 21: 4, (2019), pp. 4–5.
[58] Mustafa Kutlay and Ziya Öniş, "Understanding oscillations in Turkish foreign policy: Pathways to unusual middle power activism," *Third World Quarterly*, 42:12, (2021), p.3052.

contributed to President Erdoğan's popularity, resulting in an increase in public approval of his new presidential regime. It is also used as a fruitful instrument to distract attention from political and economic governance crises. Kutlay and Öniş emphasize that Erdoğan's increasing autocracy at home, with the deterioration of free media, government institutions, and check-and-balance mechanisms opens space for foreign policy adventurism. The critics of the government's foreign policy moves are easily labelled as not 'domestic and national'.[59]

This section will briefly outline the use of drones in some military operations, before demonstrating how the Turkish government reaps domestic economic and political advantage from its use of drone technology in military operations. Drone exports benefit high-tech business, particularly businesses looking for export opportunities, while the use of drones generates domestic political propaganda, evident most recently during the May 2023 election. The Syrian civil war had significant security, social, and economic consequences for Turkey, including the refugee flow and the emergence of a Kurdish entity controlled by PYD, which Turkey views as a Syrian branch of PKK. The United States' passivity in Syria against the Assad regime, its collaboration with PYD, and the Russian military's involvement in Syria contributed to Turkey's concerns. To prevent the expansion of PYD in Syria, Turkey conducted several military operations with Russian consent. Operation Euphrates Shield was conducted between August 2016 and March 2017, with the Turkish military coordinating and supporting Free Syrian Army units against ISIS. They controlled the border area between Jarablus and Al-Rai, as well as the town of Al-Bab, located 35 kilometers to the south. This operation effectively cleared the bordering area of ISIS militants and prevented the PYD's attempt to connect Kurdish cantons on both sides of the Euphrates River.[60] During the operation, Turkish drones were rarely used for direct attack missions, as the arming of the TB2s coincided with the duration of the operation. Instead, they were primarily employed for surveillance and reconnaissance missions.

The Turkish military effectively utilized armed drones in Operation Olive Branch, which took place between January and March 2018 in Syria's Afrin region. They also employed armed drones in Operation Peace Spring in October 2019 against the PYD on the northeastern Turkish-Syrian border. These operations provided valuable feedback from the field, aiding in the improvement of armed drone capabilities.

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[59] Mustafa Kutlay and Ziya Öniş, "Turkish Foreign Policy in a Post-Western Order", p. 1099.
[60] Ömer Faruk Cantenar and Cyrian Alexander Kozera, "Fighting ISIS in Syria: Operation Euphrates Shield and the lessons learned from the al-Bab Battle," *Small Wars & Insurgencies*, (February 2021)

Based on these experiences, Turkey recognized the value of armed drones and deployed them in subsequent operations, specifically in Syria, aiming to prevent attacks by Assad regime forces in the Idlib region (March 2020), in Libya's civil war to support internationally recognized GNR forces against General Hafter's LNA forces (summer 2020), and in Nagorno-Karabakh to assist Azerbaijan in its conflict against Armenia (fall 2020). Turkish drones were also utilized during the conflict between Russia and Ukraine by the Ukrainian military. Details of drone usage in these operations will be examined in the following chapter. Nevertheless, within this one-year time frame, the success of the drones, particularly in neutralizing Russian-made air defense systems and altering the situation in favor of Turkey or its supported side, garnered significant attention from global policy circles and international media.

Through the utilization of drones, Turkey engaged in situations that it might otherwise avoid, allowing for expanded military involvement without imposing costs on its own citizens.[61] If armed drones had been operational during the early stages of the Syrian civil war, well before the Russian involvement, we could have witnessed a significantly altered situation in Syria today.

The effective use and publicization of drones made Turkey a prominent global exporter of armed drones. In the aftermath of the second Nagorno-Karabakh war in 2020, Turkish drones have been witnessing high demand. Especially, the TB2 drone has become an ideal choice for lower-income countries seeking to establish or enhance their aerial capabilities. It is combat proven and does not have a strict export control mechanism.[62] A package consisting of six Bayraktar TB2 drones, ground units, and necessary operational equipment carries a price tag in the tens of millions of dollars, as opposed to the hundreds of millions required for the U.S.-manufactured MQ-9.[63]

Although no official inventory exists, somewhere between 24 and 27 countries have acquired TB2s and 5 countries have acquired Akıncı (a new drone model produced by Baykar defense). This is particularly notable among countries that have faced limitations in procuring drone technology from traditional industry leaders such as the United States and Israel.[64] These countries include allies and partners across different regions such as Europe (Ukraine, Albania,

[61] Bruno Oliveira Martins, Pinar Tank and Beste İşleyen, "Turkish Drones as a Foreign Policy Tool," p.2
[62] Aaron Stein, "From Ankara with implications: Turkish drones and alliance entrapment," *War on the Rocks*, (December 15, 2021): https://warontherocks.com/2021/12/from-ankara-with-implications-turkish-drones-and-alliance-entrapment/
[63] Soner Cagaptay and Rich Outzen, "Drones and Resets: The New Era of Turkish Foreign Policy," *Baku Dialogues*, Vol. 5, No. 4, (Summer 2022): p.58
[64] Dominika Kunertova, "The war in Ukraine," p.98

and Poland), Central and South Asia (Kyrgyzstan, Turkmenistan and Pakistan), Africa (Libya, Ethiopia, Morocco, Somalia, and Tunisia), the Gulf and the Levant (Qatar, Iraq), and the Caucasus (Azerbaijan). While these arms deals have been influenced by a combination of mercantilism and geopolitics, they consistently involve countries that hold strategic importance for Turkey.[65]

Specifically, certain African countries acquired drones to enhance the security of their national governments, which faced threats from increasingly powerful domestic non-state groups. For instance, after a prolonged period of twelve months marked by ongoing conflict, the Ethiopian government managed to alter the course of its future by deploying military drones, including Turkey's TB2s, to counter the Tigray Rebels. Armed drones played a decisive role in halting the Tigray forces, as without them, the Ethiopian forces would have been unable to prevent the attack and the government could have been overthrown. Therefore, it was commented that drones possess the potential to shape the destiny of nations embroiled in civil wars.[66]

The UAV platforms manufactured in the United States possess advanced technologies, but they come with a high price tag, and the U.S. export policy is stringent. Israel's UAV platforms, on the other hand, are highly developed and enjoy significant demand, particularly in the Asian region. However, they are primarily employed for intelligence, surveillance, and reconnaissance (ISR) missions. Lastly, inexpensive Chinese products have been exported to numerous countries, including African nations. Nevertheless, these products often suffer from technology quality issues.[67]

Federico Donelli, a foreign policy expert, asserts that Turkey now possesses a stronger bargaining position when engaging with African countries, thanks to its arsenal of drones.[68] Turkey's export of drones has proven to be a strategic tool in establishing a military cooperation framework between Turkey and the purchasing nations.[69] Drone sales bring some soft power associated with reputational gains and allow Turkey to establish fresh geopolitical partnerships and engage in new regions by collaborating on the sales of military technology and subsequent maintenance and upgrades.[70] The defense industry has emerged as a crucial catalyst for

[65] Soner Cagaptay and Rich Outzen, "Drones and Resets," p.59
[66] James Rogers, "The Second Drone Age" pp 1-2.
[67] Sibel Düz, "Unpacking the debate on Turkish drones," *SETA*, (2021), p.35
[68] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power,"p.222
[69] Sibel Düz, "Unpacking the debate on Turkish drones,"p.35
[70] Bruno Oliveira Martins, Pinar Tank and Beste İşleyen, "Turkish Drones as a Foreign Policy Tool," p.2

Turkey's diplomatic endeavors. According to reports, Turkish defense industry officials have been deployed to nine embassies, with further appointments anticipated. Notably, several African countries' ambassadors assigned to Turkey, including Senegal, Ethiopia, and Tanzania, have backgrounds as former military generals.[71] Military cooperation is one of the highest levels of cooperation possible between two countries. This has the potential of increasing collaboration in other sectors, such as trade, energy and natural resources.[72]

The export of drones has contributed to the growth of Turkey's military-industrial sector. Turkey's defense and aerospace total exports reached $3.2 billion in 2021, and Turkish companies secured new orders worth $8.5 billion.[73] Haluk Bayraktar, older brother of Selçuk Bayraktar and CEO of the company, highlighted that exports reached $1.2 billion and accounted for 98% of the company's revenue in 2022.[74] This not only provides a boost to the struggling Turkish economy but also facilitates the creation of skilled employment opportunities.[75] Export revenues increase the long-term sustainability of the defence sector.[76]

One notable aspect introduced by Turkey in drone warfare is the rapid declassification of images showcasing successful drone strikes. These images are then disseminated through social media platforms, influencing the perception of Turkey's operations and performance of drones. This effective use of propaganda shapes the narrative among the public, portraying drones, particularly TB2s, as decisive instruments for resolving conflicts on Turkey's own terms. Additionally, it symbolizes Turkey's alignment with major powers.[77]

In addition to boosting high technology sectors of the economy and developing exports, the Turkish government has exploited drones in the domestic political arena. The militarization of Turkey's foreign policy, facilitated by the use of drones, contributes to the government's populist nationalism policies, which have been intensified by the implementation of the new presidential system introduced in 2018. The more the AKP weakens in domestic politics and the more apparent its governance failures become, the more it emphasizes drones and other

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[71] Ken Moriyasu, "Turkey learns that hard power is a global common currency: Defense diplomacy elevates Ankara's status on the international stage," *Atlantic Council*, (December 22, 2022): www.atlanticcouncil.org/content-series/ac-turkey-defense-journal/turkey-learns-that-hard-power-is-a-global-common-currency-defense-diplomacy-elevates-ankaras-status-on-the-international-stage/

[72] Mohammad Eslami, "Iran's Drone Supply to Russia and Changing Dynamics of the Ukraine War," *Journal for Peace and Nuclear Disarmament*, 5:2, (2022): p.511

[73] Bruno Oliveira Martins, Pinar Tank and Beste İşleyen, "Turkish Drones as a Foreign Policy Tool," p.2

[74] Baykar Technologies, "Hedef KIZILELMA Belgeseli 2. Bölüm," YouTube, (July 8, 2023): https://www.youtube.com/watch?v=3-HuCN1wRdc,

[75] Bruno Oliveira Martins, Pinar Tank and Beste İşleyen, "Turkish Drones as a Foreign Policy Tool," p.2

[76] Digdem Soyaltin-Colella and Tolga Demiryol, "Unusual middle power activism," p.13.

[77] Aaron Stein, "Say Hello to Turkey's Little Friend"

defense industry products, along with their accomplishments in foreign interventions. This growing alignment between domestic and foreign policies, concentrating on the 'security of the nation' phenomenon, has been effectively communicated to maintain support from the AKP's voter base.[78]

The Presidential Communication Agency, located in a 25-story building with extensive resources, plays a crucial role in shaping public perception in Turkey. Utilizing techniques reminiscent of 'Goebbels' propaganda',[79] it exercises significant control over the media narrative through state-owned and government-affiliated private media channels. Drones serve as a highly effective tool for bolstering the regime's propaganda apparatus. The society is exposed to daily news highlighting drone superiority, whether a drone involves the elimination of PKK figures, a new drone export deal, a future drone model in the production line, or a positive article about Turkish drones featured in prominent international media outlets. In broadcasted discussion programs, government-affiliated 'security experts' provide analyses while holding billiard sticks in their hands, emphasizing the power of the drones on maps. Think tanks and websites associated with the government or its media apparatus consistently produce articles promoting Turkish drone supremacy. The aim is to ensure the public regularly receives a daily dosage of drone superiority, contributing to the creation of a society that becomes increasingly invested in enhancing the military strength of their nation. And it is not only drones but also other defense industry products or new defense projects fall into this category.

From a wider perspective, Turkey's self-perception as a military force corresponds to the nation's historical narrative and identity as a country established on a foundation of military strength.[80] This propaganda machinery is increasingly using Turkey's Ottoman heritage to justify its foreign policy. It glorifies Turkey's military expansion into former Ottoman territories like Syria, Libya, Iraq, and the Caucasus, portraying it as the revival of a dormant powerhouse. Erdoğan himself is hailed as the 'leader of the century,' drawing parallels to Abdulhamid II, a revered late-nineteenth-century sultan who resisted calls for constitutional reform, stood against Western influence, and delayed the empire's decline. The media outlets

[78] Bruno Oliveira Martins, Pinar Tank and Beste İşleyen, "Turkish Drones as a Foreign Policy Tool,"p.3
[79] The main opposition party leader draws a connection between the techniques employed by the Agency and those utilized by Hitler's Goebbels, see https://www.birgun.net/haber/fahrettin-altun-dan-kendisine-vitaminsiz-goebbels-diyen-kilicdaroglu-na-yanit-421586
[80] Altinay, Ayşe Gül. "The Myth of the Military-Nation," In: *The Myth of the Military-Nation*, (Palgrave Macmillan 2004)

commend Erdoğan for adopting a tough stance with major powers and assertively maintaining Turkey's interests in the Middle East and the eastern Mediterranean.[81]

To put it in different words, according to the narrative, Turkey is being targeted by foreign nations due to the remarkable efforts of its government in making Turkey great again, which has sparked envy and apprehension in the Western world. In order for Turkey to overcome this assault, the AKP represents the country's only hope. Those who do not acknowledge this undeniable truth are believed to be under the influence of foreign intruders. These narratives are so influential among the core supporters of the AKP.[82]

A similar analogy, as described by Soyaltin-Colella and Demiryol, highlights the regime survival implications of drones. They emphasize that drones offer significant opportunities for regime elements to perpetuate their rule. Soyaltin-Colella and Demiryol underscore the importance of producing a high-tech weapon, effectively deploying it in domestic and regional conflicts, and showcasing successful drone operations through government-controlled media. This approach appeals to national pride, bolsters support for the regime and strengthens the credibility of the government,[83] namely AKP. Their hypothesis was confirmed during the May 2023 election, as drones and other defense products emerged as significant players in the election 'campaign' and contributed to the persistence of the regime characterized as 'electoral authoritarian'[84] or 'competitive authoritarian.'[85]

In one of their election campaign videos, the AKP showcased a UAV operation against the PKK, featuring the statement 'The right time for trust and stability, the right person for Turkey's Century.'[86] A newly constructed amphibious naval vessel, designed to transport helicopters, named TCG Anadolu, embarked on a journey to major cities before the May 14, 2023 election. It was opened to public and presented as the first drone ship. Bayraktar drones, including the new jet-powered drone model called Kızılelma, along with other defense products

[81] Asli Aydintasbas, "Turkey Will Not Return to the Western Fold: Ankara's Assertive Foreign Policy is Here to Stay," *Foreign Affairs*, (May 19, 2021).
[82] Burak Kadercan, "Symphony of destruction: how the AKP is undermining Turkey's institutions," *War on the Rocks*, (November 22, 2021).
[83] Digdem Soyaltin-Colella and Tolga Demiryol, "Unusual middle power activism," pp.5-6.
[84] Selim Erdem Aytaç, "Effectiveness of Incumbent's Strategic Communication during Economic Crisis under Electoral Authoritarianism: Evidence from Turkey," *American Political Science Review*, Volume 115 Issue 4, (July 05, 2021).
[85] Berk Esen and Sebnem Gumuscu, "How Erdoğan's Populism Won Again," *Journal of Democracy*, Volume 34, Number 3, (July 2023): p.31.
[86] Mynet, "Siyaset gündeminde İHA-SİHA tartışması! Kılıçdaroğlu'nun açıklamalarına AK Parti'den reklamlı yanıt," (April 29, 2023), https://www.mynet.com/siyaset-gundeminde-iha-siha-tartismasi-kilicdaroglu-nun-aciklamalarina-ak-parti-den-reklamli-yanit-110107119721

like the first production of the ALTAY main battle tank, were displayed to visitors. This was criticized by the opposition as the inappropriate use of a naval vessel for party propaganda purposes.[87]

The drones have become symbols of pride, attracting large crowds to the TECHNOFESTs organized in various cities.[88] The T3 Foundation, established by the Bayraktar brothers, collaborates with the Ministry of Industry and Technology to organize an annual aerospace and space technology event called TEKNOFEST. In the past, these festivals, held during the summer months, have also served as a platform for President Erdoğan's propaganda speeches. However, due to the election on May 14, the festival's dates have been moved forward, and it took place from April 27 to May 1. The event serves as a propaganda tool for the AKP's voter base, as it showcases defense products, particularly drones and prototypes of new projects. Criticism has been raised regarding the government's allocation of 28 million Turkish Lira to a contractor for the organization costs of the 2022 event.[89]

The widespread perception of drones as a source of national pride often hinders open and critical discussions about drones. Before the elections in May 2023, the lack of transparency and accountability regarding drone acquisition and exports has been a subject of criticism from opposition parties. Critics argue that the current government policies do not promote competition among the companies operating in the field by favoring the Baykar Defense and the lack of parliamentary oversight related the drone exports.[90] Although many opposition parties continuously express their support of Turkey’s drone program, their minor criticism has been taken out of context by government-affiliated media and presented to the public as evidence of the opposition's desire to halt drone efforts.[91]

The May 2023 elections were won by Erdoğan and his party, despite the worsening economic conditions and other government failings. While the analysis of the reasons behind

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[87] NTV, “Kılıçdaroğlu'ndan TCG Anadolu tepkisi: Ordunun gemisini seçim otobüsü yaptılar,” (May 04, 2023), https://www.ntv.com.tr/turkiye/kilicdaroglundan-tcg-anadolu-tepkisi-ordunun-gemisini-secim-otobusu-yaptilar,hYVFKJOVLEWn3DewRCqkQg

[88] Digdem Soyaltin-Colella and Tolga Demiryol, “Unusual middle power activism,” p.14.

[89] Diken, “TEKNOFEST tarihine seçim ayarı,” (April 27, 2023), https://www.diken.com.tr/teknofest-tarihine-secim-ayari/

[90] Fatih Altaylı, “700 milyon dolarlık SİHA satmışız,” *Habertürk,* (August 2022), https://www.haberturk.com/yazarlar/fatih-altayli-1001/3482419-700-milyon-dolarlik-siha-satmisiz

[91] Yeni Şafak, “İktidara Gelince SİHA’lara dokunacak,” (January 17, 2023): www.yenisafak.com/gundem/iktidara-gelince-sihalara-dokunacak-hdpnin-masadaki-truva-ati-ali-babacan-4500215; Abdülkadir Selvi, “Kılıçdaroğlu İHA’lar, SİHA’lar konusunda kime söz verdi,” *Hürriyet*, (April 20, 2023), https://www.hurriyet.com.tr/yazarlar/abdulkadir-selvi/kilicdaroglu-ihalar-sihalar-konusunda-kime-soz-verdi-42254425.

the outcome of this election is beyond the scope of this study, it is evident that the rising nationalism among the public made the electorate prioritize security issues, and the mentioned propaganda machinery has proven to be effective.[92]

Therefore, Soyaltin-Colella and Demiryol's argument, which highlights the role of drones as instruments that not only strengthen nationalist sentiments but also gather political backing for the ruling regime, especially in autocratic contexts,[93] has been validated by May 2023 elections. However, their assumption is based on the game-changing impact of drones, and their argument does not address the ongoing debate questioning the revolutionary role of drones in modern warfare. The following chapter aims to explore this discourse, considering whether drones play an evolutionary or revolutionary role within the framework of the Revolution in Military Affairs Concept.

Above mentioned highly effective use of propaganda machinery has led most of the public (especially AKP voters) to suggest that Turkish drones are a decisive tool to end conflicts on Turkey's terms. How this illustration shows the reality on the field? Are drones superior in all kinds of conflicts? Can they win all the wars? The next chapter will examine the effectiveness of drones in recent conflicts, raising questions about their supremacy in peer-to-peer warfare.

CHAPTER 3: REVOLUTION OR EVOLUTION IN MILITARY AFFAIRS? OBSERVATIONS FROM RECENT CONFLICTS

A. The Place of Drones in the Revolution in Military Affairs

The debate about military drones whether they should be considered as a 'revolution in warfare' is still in progress. This section establishes a connection between the ongoing discourse on the revolutionary effects of drones and the wider conversations surrounding military revolutions and the role of technology in changing the nature of warfare.[94] This is a debate inside the larger 'discussion about the role of technology plays an independent variable affecting the character and perhaps the nature of war. How far can the introduction of a new technology really alter ways of fighting or radically impact battlefield outcomes?'[95]

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[92] Berk Esen and Sebnem Gumuscu, "How Erdoğan's Populism Won Again," p.25.
[93] Digdem Soyaltin-Colella and Tolga Demiryol, "Unusual middle power activism," p.5
[94] Ash Rossiter, "Military technology and revolutions in warfare: priming the drone debate," *Defense & Security Analysis*, (March 05, 2023), p.1
[95] Ash Rossiter, "Military technology and revolutions," p.1

What defines a military revolution is a subjective argument. The proponents of the revolution in military affairs (RMA) thought that a 'qualitative change in the technology of war that would render all existing militaries obsolete and change the very nature of warfare.'[96] To them, acquiring a new technology can provide the owner with massive military advantages over others – at least until adversaries learn to adapt or find ways to counter this advantage.[97] Material capabilities have always played a crucial role in a state-centric and military-oriented perspective on national security.[98] Technological revolutions from the invention of machine guns and airplanes to the development of radar and satellites are all considered revolutions in warfare.[99] The role of gunpowder played in history could be another example in that sense.[100] The advocators of RMA also argued that technologically developed weapons deployed by air power and precision strikes in the Desert Storm (First Gulf War) have contributed to the 'revolution in military affairs' wave.[101]

However, security studies scholars and historians hold differing opinions on the technologies they believe have brought about military revolutions, and their lists often do not align. Military historians have focused on other factors that strengthen military effectiveness, for example, innovation in organizational behavior.[102]

Have drones revolutionized war? There are experts who defend that drones have irreversibly changed war and they believe that drones provide a significant advantage to nations employing them in warfare, while others support the opposite view, maintaining a more cautious stance regarding the actual benefits gained from incorporating drones into military forces and stating that drone technology has not created a 'revolution' in military affairs.[103] As mentioned above, there are already wider disagreements about the causal weight of technology as an independent variable in forming war and it is normal that this debate is also reflected to drones. It is a complex issue and there are more to see in wars about the topic. There is no easy answer for selecting a side on the discussions 'whether drones have revolutionized warfare.' That is why, some researchers, rather than providing an answer, preferred to explore the

[96] David R. Lake, *The Pursuit of Technological Superiority* (Palgrave Macmillan, 2019): pp. 75–76.
[97] Ash Rossiter, "Military technology and revolutions," p.2
[98] Martin van Creveld, *Technology and War: from 2000 B.C to the Present*, (The Free Press, 1991)
[99] Kenneth N. Waltz, "NATO expansion: A realist's view," *Contemporary Security Policy*, 21:2, 23-38, (2000)
[100] Ash Rossiter, "Military technology and revolutions," p.2
[101] Thomas G. Mahnken, *Technology and the American Way of War*, (Columbia University Press, 2008): pp. 175–179.
[102] Ash Rossiter, "Military technology and revolutions," p.2
[103] Sarah Kreps and Paul Lushenko, "Drones in modern war: evolutionary, revolutionary, or both?", *Defense & Security Analysis*, (Mar 15, 2023): p.1

question.[104] They argue that the ongoing debate surrounding the impact of drones in modern warfare is overly simplistic. The reality of their implications lies somewhere between the claims that drones are a 'magic bullet' and the assertion that they do not have the revolutionary effects often attributed to them.[105]

The scholars who advocate for drones and those who are more cautious about their impact analyze recent conflicts and wars where drones played a prominent role. Depending on their stance, their perspectives differ. It is generally agreed that drones are effective tools in countering terrorism or insurgency. However, their effectiveness in a near-peer warfare environment is still being examined. Operations in Syria's Idlib, Libya, and Nagorno-Karabakh involved the use of Turkish drones against states or state-like groups, rather than solely targeting militants or terrorists. Consequently, after the Russian invasion of Ukraine in February 2022, the Ukrainian armed forces employed armed TB2 drones against Russian military targets. These conflicts provided the first opportunity to test drones in peer-to-peer or near-peer warfare conditions. The following section will examine the effectiveness of drones in these operations to assess their revolutionary or evolutionary roles.

B. The analysis of the role of drones in recent conflicts

1) Syria's Idlib

Drones were used in Turkey's operations in Syria against ISIS and PKK, but their impressive impact became apparent when the Turkish military executed a five-day drone-based air campaign against the Syrian Assad regime's military in the Idlib region. Starting from August 2016, Turkey has conducted military operations in a border area of over 900 kilometers with Syria. These operations aimed either to establish a secure zone by clearing out ISIS militants or to prevent the advancement and influence of the PYD, a Syrian Kurdish entity affiliated with the PKK. The three ground operations, namely Operation Euphrates Shield (2016-2017), Operation Olive Branch (2018), and Operation Peace Spring (2019), resulted in the creation of three controlled pockets along the border. These pockets were held by Syrian moderate opposition groups known as the Free Syrian Army or Syrian National Army. As mentioned earlier, armed drones were utilized in these operations. The lessons learned from the usage of drones in these operations contributed to the improvement of the targeting systems and weapons of the drones.

[104] Ash Rossiter, "Military technology and revolutions," p.1
[105] Sarah Kreps and Paul Lushenko, "Drones in modern war"p.3.

In addition to these military operations against ISIS and PYD, Turkey also established observation posts in the outskirts of Syria's Idlib governorate to deter potential attacks by the Syrian regime. Idlib was one of the four de-escalation zones established during the Astana peace process involving Turkey, Russia, and Iran. However, over time, with the support of Russia, the Syrian regime successfully gained control over the other three regions within the country, leading to the relocation of many opposing groups to the Idlib area.

The significant number of displaced people in Idlib was a major concern for Turkey, as any offensive by the Syrian regime and Russia would potentially push this population towards Turkey, which was already facing challenges in hosting more than 3 million Syrian refugees. Before the war, the estimated population of Idlib was 750,000, but due to the displacement, the number of forcibly displaced Syrians throughout the countryside increased to 2.5 to 3.3 million, making them highly vulnerable to any attacks from the regime.[106]

During an ongoing attack on Idlib, Russian and Syrian jets targeted a Turkish convoy and an observation post, resulting in the deaths of 33 soldiers and over 30 injuries on February 27, 2020, according to official reports.[107] There were allegations suggesting that the actual death toll was higher. This incident marked the largest loss of Turkish military personnel in an overseas conflict since the 1974 Cyprus War.[108] Turkish officials placed the blame on the Syrian regime and created a perception that the attack was carried out by Syrian jets.

However, during an emergency meeting of the UN Security Council, the Turkish Permanent Representative to the UN presented radar footage that revealed the involvement of Russian and Syrian aircraft operating in the same mission configuration. The representative highlighted that the attacks persisted for five hours despite calls made to the Russian operation center, and even ambulances were targeted. Nevertheless, in the public domain, the Turkish government has maintained that the responsibility lies with the Syrians.[109]

As a response to the aerial attack, on March 1, 2020, the Turkish military initiated Operation Spring Shield, a large-scale air campaign primarily carried out by drones, targeting Syrian regime airbases, arms depots, heavy weapons, and air defense systems. Within a matter

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[106] Max Markusen, "Idlib Province and the Future of Instability in Syria," *Center for Strategic & International Studies*, (September 2018): p. 5, 6

[107] Middle East Eye, "33 Turkish Soldiers killed in Idlib," (February 28, 2020): www.middleeasteye.net/video/33-turkish-soldiers-killed-syrian-air-raid-major-idlib-escalation

[108] Rich Outzen, "Deals, Drones, and National Will The New Era in Turkish Power Projection," *The Washington Institute for Near East Policy*, Policy Note No:18, (July 2021): p.2

[109] Levent Kemal, "Turkey blamed Syria for a deadly air strike. Its troops blame Russia," *Middle East Eye*, (November 5, 2021).

of days, hundreds of regime fighters were killed.[110] The Turkish Minister of Defense reported that 135 tanks, two jet fighters, eight helicopters, two drones, and dozens of howitzers were rendered inoperable.[111] The Turkish air campaign lasted for a brief period of five days, after which Turkey and Russia engaged in negotiations for a cease-fire.[112]

The Turkish government promptly released video footage showcasing its drone strikes, which rapidly spread across social media platforms. These videos created an image of Turkish drones as a decisive tool in conflicts and elevated Ankara's perceived power status.[113] The domestic and international impact of these videos was significant, as they depicted an operation fought against a combined-arms adversary—the Syrian Arab Army, backed by Iranian militias and Russian and Syrian airpower—rather than irregular forces.[114] Some observers quickly commented on the operation, highlighting it as the first-ever "drone blitz" in military history, focusing on its success and the technical aspects of the drones used.[115]

The element of surprise was a significant factor in the effective utilization of UAVs, as Syrian forces were caught off guard by the extensive Turkish presence in the airspace over Idlib.[116] A notable achievement of this operation was the neutralization of the Russian-made Syrian regime's air defense systems.[117] In their role of suppressing enemy air defenses, Turkish drones successfully destroyed a total of eight Pantsir and Russian-made Tor air defense systems.[118] Turkey's utilization of Electronic Warfare systems enabled it to disrupt and hinder communication links. Turkish intelligence and observation systems swiftly identified targets. The operation effectively integrated drones, artillery, and rocket fire.[119] The Turkish Anka-S drones, operating at high altitudes with satellite communication and extended range capabilities, played a crucial role in both expanding the arsenal of armaments and transmitting target information to precision-strike platforms like artillery or TB2s. Additionally, the

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[110] Charles Lister, "The puzzling outcome of the Moscow Summit," *Middle East Eye*, (March 16, 2020)
[111] Lennart Hofman, "How Turkey became a drone power"
[112] AP, "Russia, Turkey reach cease-fire deal in northwestern Syria," (March 1, 2020): https://apnews.com/article/moscow-syria-turkey-international-news-recep-tayyip-erdogan-e70a96d67ec37e4908a71adab85bc096
[113] Aaron Stein, "Say Hello to Turkey's Little Friend"
[114] Rich Outzen, "Deals, Drones, and National Will," p.2
[115] Can Kasapoglu, "Turkey's Drone Blitz Over Idlib," *Terrorism Monitor,* Volume: 18 Issue: 8, (April 17, 2020)
[116] Rich Outzen, "Deals, Drones, and National Will" p.12
[117] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," p.216.
[118] Yeni Şafak, "Koral, SİHA ve F-16lar: Rus yapımı hava savunma sistemlerinin kabusu oldular," (March 4, 2020): https://www.yenisafak.com/dunya/koral-siha-ve-f-16lar-rusyapimi-hava-savunma-sistemlerinin-kabusu-oldular-3528104.
[119] Rich Outzen, "Deals, Drones, and National Will," p.2

operation served as a testing ground for drones, with some systems that were still in development being deployed to assess their performance.[120]

The Syrian regime claimed to have eliminated six Turkish drones, but in terms of the overall impact on Turkish drone combat losses, it was considered minimal. Some analysts suggest that if the operation had lasted longer than five days, the Syrian regime could have adapted and potentially caused more drone losses for Turkey.[121]

The Turkish drone strikes successfully halted the Syrian regime's advance to capture Idlib, prevented civilian massacres, and averted a potential influx of refugees into Turkey.[122] However, it is important to note that the Assad regime has managed to capture over 45% of the territory in the Idlib zone that was previously controlled by the rebels.[123] Despite the success in preventing further losses, the drones were not able to regain the territorial losses suffered by the opposition. This outcome cannot be considered a total win for Turkey, but the online propaganda surrounding the operation reinforced the perception of a decisive victory.[124]

Russia possessed the capability to utilize airpower to halt the Turkish drone attacks. However, initially, it permitted Turkey to carry out these operations. Later, Russia resumed its own flights over Idlib while declaring that it could no longer guarantee the safety of Turkish aircraft operating in the region, effectively putting an end to the Turkish drone attacks.[125] The Syrian regime was caught off guard and ill-prepared for the intense drone attack, as it relied on the perceived political and military deterrence capacity of Russia. However, Russia might have realized that the significant number of Turkish troop casualties resulting from its own attack could potentially shift the positive perception of Russia among the Turkish public, political bodies, and security apparatus. In order to avoid anger being directed towards Russia and to maintain the support of pro-Russian circles in Turkey, Russia may have allowed Turkish assets to have the airspace needed to retaliate against the Syrian regime. Another view argued that the Russian goal 'has been to push the Syrian armed forces to the forefront of the fighting in Syria, with only Russian enablers and airpower to support offensive operations.'[126]

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[120] Douglas Barrie, Niklas Ebert, Oskar Glaese and Franz-Stefan Gady, "Armed uninhabited aerial vehicles and the challenges of autonomy," *IISS,* (December 2021), p.13-14
[121] Scott Crino and Andy Dreby, "Turkey's Drone War in Syria – A Red Team View," (April 16, 2020): https://smallwarsjournal.com/jrnl/art/turkeys-drone-war-syria-red-team-view#_edn2
[122] Francesco Siccardi, "How Syria Changed Turkey's Foreign Policy, Carnegie Europe Working Paper," (September 2021), p. 6.
[123] Emile Hokayem, "The battle for Idlib: Q&A," *IISS,* (March 5, 2020).
[124] Aaron Stein, "Say Hello to Turkey's Little Friend"
[125] Emile Hokayem, "The battle for Idlib"
[126] Aaron Stein, "Say Hello to Turkey's Little Friend"

In summary, the operation was considered a successful attack as it halted the Syrian advance and allowed Turkey to stabilize the conditions on the battlefield. However, it is important to note that the outcomes of this five-day drone operation may not provide an accurate assessment of near-peer drone warfare.

2) Libya

The use of drones by Turkey in Syria originated from security concerns that directly affected Turkey's national interests. However, the context in Libya was distinct. Despite the considerable distance of approximately 1200 km and being separated by the Mediterranean Sea, Turkey's increasing confidence in the successful use of its drones led to their deployment in Libya. This demonstrated Ankara's belief in the capabilities of its drones even in long-distance foreign territories.[127]

In April 2020, the Government of National Accord (GNA) launched Operation Peace Storm, a counter-offensive against the Libyan National Army (LNA) with the support of Turkey. The objective was to regain control of the Al-Watiya air base, situated approximately 80 miles south of Tripoli, which had been captured by LNA sympathizers in 2014 and served as a key hub for their air attacks. Employing a strategy reminiscent of Operation Spring Shield in Syria, the Turkish intervention involved a combination of electronic warfare, drones, and precision strikes. This support enabled the GNA to successfully seize the Al-Watiya air base in May. With the assistance of Turkish drones and other military aid, the GNA managed to reclaim nearly all of western Libya by mid-2020.[128] During these operations, the GNA destroyed around one hundred military vehicles, including 11 Pantsir air defense systems, as well as various howitzers and tanks. Additionally, approximately one thousand personnel from the opposing side were neutralized or rendered ineffective.[129]

The initial performance of the TB2 drones was unsatisfactory, and reports indicate that between two to ten systems were destroyed by LNA airstrikes, which utilized Wing Loong drones, by the end of October 2019.[130] Nevertheless, the newly deployed Turkish drones quickly established air superiority in Libya's airspace by utilizing electronic warfare capabilities to disrupt the LNA's drones and manned aircraft. The Baykar company, benefiting

[127] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," p.216
[128] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," p.217
[129] Rich Outzen, "Deals, Drones, and National Will," p.2
[130] Arnaud Delalande, "Libya: Drones Test Laboratory for a New Type of Air Warfare," Air & Cosmos International, (November 15, 2019): https://www.aircosmosinternational.com/ article/libya-drones-test-laboratory-for-a-new-type-of-air-warfare-2613.

from its family connections to the president, promptly implemented necessary modifications to the TB2 drones. These new configurations helped the Turkish Air Force extend the operational range of the drones by utilizing relay antennas.[131] This extended range, combined with skilled Turkish pilots, enabled the GNA to conduct aerial reconnaissance across vast territories of Libya and gather real-time information on the ongoing conflict. This significantly undermined the LNA's logistical capabilities and allowed for effective targeting of their convoys.

In June and July, fighting intensified between the GNA and LNA, raising concerns of increased foreign intervention, with both Egypt and Turkey threatening to deploy troops. The Russian Wagner group further bolstered the LNA's air capabilities by deploying Mig-29 and Su-24 fighter jets at the Al-Jufra Airbase.[132] The potential use of these fighter jets posed a challenge to the GNA's drone superiority. In response, Turkey sought alternative options to balance the military forces on the battlefield and deter the use of these fighter jets. Turkey conducted an exercise near the Libyan coast and airspace, demonstrating its ability to project fighter jets from the mainland if necessary, utilizing its tanker fleet and F-16s.[133] Additionally, the Turkish Minister of Defense visited Malta,[134] presumably to secure approval for a potential deployment of Turkish F-16 aircraft in the country.

Meanwhile, in August, diplomatic efforts resulted in a ceasefire agreement between the warring factions. Subsequently, in October, the LNA and GNA reached terms aimed at establishing a unity government. Both Turkey and Russia have managed to maintain a subtle form of cooperation while supporting opposing forces through indirect means. Yasar Yakis, a former foreign minister of Turkey, suggests that Russia has shown a preference for maintaining a balance between the two fractions in Libya and continued cooperating with Turkey in facilitating peace talks in the region.[135]

Undoubtedly, Turkey's military assistance and the use of drones have had a profound and decisive impact on the course of the war. However, drones alone could not match the capabilities of modern fighter jets. The deployment of Russian jets to the region by the Wagner

[131] Ash Rossiter, "Military technology and revolutions,"p.217
[132] Douglas Barrie, Niklas Ebert, Oskar Glaese and Franz-Stefan Gady, "Armed uninhabited aerial vehicles," p.11
[133] Savunma Sanayi ST, "Türkiye'den Libya sınırında tatbikat," (April 17, 2020): https://www.savunmasanayist.com/turkiyeden-libya-sinirinda-tatbikat/
[134] Anadolu Agency, "Milli Savunma Bakanı Hulusi Akar Malta'da," (July 4, 2020): https://www.aa.com.tr/tr/pg/foto-galeri/milli-savunma-bakani-hulusi-akar-maltada#!
[135] Won-June Hwang and Seung-Hoon Song, "The extension of Turkish influence," p. 447

group forced Turkey to seek opportunities to deploy its own jets in order to restore the balance of power.

3) Nagorno-Karabakh

The landlocked and mountainous region of Nagorno-Karabakh remains an unresolved dispute between Azerbaijan and Armenia, the countries it is situated between.[136] Following the collapse of the Soviet Union, the First Nagorno-Karabakh War (1988-1994) erupted between the two nations. This conflict resulted in approximately 30,000 casualties and over a million people being displaced. Azerbaijan lost a significant portion of its territory, leaving Armenians in control of most of Karabakh, as well as additional areas surrounding it. Azerbaijan made a commitment to retake control of the territory.[137] In the second Nagorno-Karabakh war, which took place from September to November 2020, Azerbaijan launched a six-week offensive with the aim of reclaiming territories occupied by Armenian forces.[138]

Azerbaijan employed a combination of ISR (Intelligence, Surveillance, and Reconnaissance) and armed drones, alongside kamikaze drones known as loitering munitions, during the conflict. Among these, Bayraktar TB2 and Israeli-produced Harop stood out as particularly effective against Armenian defensive positions and mobile targets.[139] In contrast, Armenia lacked a comparable inventory of ISR or armed UAVs, and its ground-based air defense systems were unable to effectively counter the Azerbaijani UAV operations. The extensive use of UAVs and loitering munitions by Azerbaijan provided a clear advantage to its armed forces, contributing to their success in the conflict.[140]

During the 2020 war, both states, Azerbaijan and Armenia, had limited usage of crewed combat aircraft due to their relatively small aircraft fleets. Turkey deployed F-16s to the theatre and with the presence of Russian aircraft in the region, their combined forces likely deterred and limited crewed aircraft activities.[141] Azerbaijan, which has substantial oil and gas reserves, has been a significant ally of Turkey, partly because of their shared ethnic roots. Ensuring

[136] BBC, "Nagorno-Karabakh profile," (April 10, 2023), https://www.bbc.com/news/world-europe-18270325
[137] Aljazeera, "Explainer: What is Nagorno-Karabakh and why are tensions rising?" (April 24, 2023) https://www.aljazeera.com/news/2023/4/24/explainer-what-is-nagorno-karabakh-why-are-tensions-rising
[138] Rich Outzen, "Deals, Drones, and National Will" p.4
[139] Joël Postma, "Drones over Nagorno-Karabakh Source," *Atlantisch Perspectief*, Vol. 45, No. 2, (2021):p.16
[140] Douglas Barrie, Niklas Ebert, Oskar Glaese and Franz-Stefan Gady, "Armed uninhabited aerial vehicles," p.5
[141] Douglas Barrie, Niklas Ebert, Oskar Glaese and Franz-Stefan Gady, "Armed uninhabited aerial vehicles," p.6

stability in the region and maintaining good relations with Azerbaijan are crucial for Turkey's aspirations to become an energy hub.[142]

The utilization of Turkish drones, through a network warfare approach that integrated precision fires, real-time intelligence, electronic warfare, rapid targeting, and ground maneuver forces, had a remarkable impact in supporting Azerbaijan's victory in the Second Karabakh War.[143] In the initial two weeks, Armenia reportedly lost 60 surface-to-air missile (SAM) systems of various types, including the notable destruction of an S-300 medium-to-long-range SAM using loitering munitions. The elimination of layered air defense systems significantly increased the survival chances of Azerbaijani attack aircraft, helicopters, and certainly drones.[144] The Armenian forces remained highly vulnerable to detection and destruction without an air defense umbrella.[145] According to unconfirmed reports, which may contain exaggerated numbers, Armenia suffered significant losses during the conflict, including a high number of air defense assets, approximately 190 main battle tanks, one hundred armored personnel carriers and infantry fighting vehicles, and over four thousand personnel.[146]

Proponents of drone warfare attribute Azerbaijan's success solely to the use of drones, particularly the operational concept developed by Turkey. In their view, Turkey's experience in Syria and Libya played a significant role in shaping an impressive operational doctrine for drone usage. Once the Armenian air defense systems were neutralized, the drones shifted their focus to targeting Armenian reserves and fire support units located in the rear areas. Missiles were employed to destroy bridges and roads, cutting off the frontline from reinforcements and resupply. This strategic approach allowed the Azerbaijani army to advance against isolated Armenian positions, rendering their Soviet-era tanks vulnerable to drone strikes and loitering munitions. This innovative tactical maneuvering, devised by Turkish military advisors, demonstrated intellectual creativity in combating a low-tech adversary.[147]

However, according to one perspective on Azerbaijan's success, it can be attributed to its preexisting strength as the stronger party. Azerbaijan had a defense budget three times larger

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[142] Won-June Hwang and Seung-Hoon Song, "The extension of Turkish influence," p.448.
[143] Soner Cagaptay and Rich Outzen, "Drones and Resets," p.58.
[144] Douglas Barrie, Niklas Ebert, Oskar Glaese and Franz-Stefan Gady, "Armed uninhabited aerial vehicles,"p.6
[145] Soner Cagaptay and Rich Outzen, "Drones and Resets," p.58.
[146] Can Kasapoglu, "Hard Fighting in the Caucasus: The Azerbaijani Armed Forces' Combat Performance and Military Strategy in the 2020 Nagorno-Karabakh War," SAM Paper 18, *Center for Strategic Research*, (Istanbul,
February 2021): http://sam.gov.tr/pdf/sam-papers/SAM-Papers-No.-18.pdf.
[147] G. Gressel, "Military lessons from Nagorno-Karabakh," *European Council on Foreign Relations*, (November 24, 2020): https://ecfr.eu/article/military-lessons-from-nagorno-karabakh-reason-for-europe-to-worry/

than that of Armenia, and it had been investing in its defense capabilities for many years. Additionally, Azerbaijan received comprehensive support from Turkey, including not only drones but also electronic warfare systems, target acquisition aircraft, short-range air defense systems, and other military assets.[148] In contrast, Armenia did not receive any assistance and lacked a layered and integrated air defense network capable of effectively countering multiple threats at different ranges.[149]

Furthermore, Armenia suffered from a shortage of skilled personnel to operate their air defense systems and lacked modern surface-to-air missile batteries, which consequently hindered their ability to detect smaller targets. The air defense systems used by Armenia were outdated Russian models that lacked the capability of "plot-fusion" required to detect advanced drones or stealth aircraft. This capacity was retained exclusively in Russia's own version of air defense systems. The export versions of Russian air defense systems sold to countries like Armenia and Syria did not possess plot-fusion capability. As a result, there was a significant performance disparity between Russian air defense systems protecting Russian bases in Armenia and Syria and those exported to Armenia and Syria.[150]

On the Azerbaijani side, artillery, multiple-rocket systems, missiles, and infantry units also played pivotal roles, particularly in capturing territory. For instance, during the battle for the key city of Susha, Azerbaijani special forces had limited reliance on UAVs due to adverse weather conditions.[151] The war involved maneuver warfare, with land forces engaging the opposing side, capturing territory, and facing casualties. According to the Azerbaijani government, the number of deceased soldiers reached 2,906, with an additional 8 reported missing. On the Armenian side, the total losses, including soldiers and civilians, amounted to 3,822, with 208 reported missing.[152] Therefore, it was not only the drones that won the war, but infantry and other conventional elements also played a crucial role, albeit with a high casualty rate from the winning side as well.

Another valuable tactic adopted from the Turkish experience was the skillful utilization of drone footage for propaganda purposes. By sharing video recordings of successful drone

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[148] G. Gressel, "Military lessons from Nagorno-Karabakh,"
[149] Andrea Gilli, "Drone warfare: an evolution in military affairs," NDC Policy Brief, *Research Division NATO Defense College*, No.17, (October 2022)
[150] G. Gressel, "Military lessons from Nagorno-Karabakh,"
[151] Douglas Barrie, Niklas Ebert, Oskar Glaese and Franz-Stefan Gady, "Armed uninhabited aerial vehicles," p.6
[152] Ariel Karlinsky and Orsola Torrisi, "The Casualties of War: An Excess Mortality Estimate of Lives Lost in the 2020 Nagorno-Karabakh Conflict," *Popul Res Policy Rev*. 42(3) (2023): p. 41

strikes with the public, Azerbaijan gained dominance in the battlefield propaganda arena, further reinforcing the narrative of the drones' effectiveness.[153]

Turkish drone proponents often overlook the attrition rate of drones. In this war, despite the significant gains, Azerbaijan experienced a total of at least 22 UAV losses (not all of them TB2s).[154] It is worth noting that UAVs were vulnerable even to the limited air defense capabilities and other counter-drone measures employed by a low-tech country like Armenia.

Azerbaijan's victory was quickly portrayed to the Turkish public as a triumph for Turkey and its drones, promoted through government-affiliated media outlets and nationalist channels. However, little attention was given to the downed TB2 drones and, more importantly, nearly three thousand Azerbaijani soldiers who lost their lives. While it was a victory, it came at a high cost despite the conventional superiority of the Azerbaijani side.

To commemorate the victory, Azerbaijan organized a military parade that prominently featured the TB2 drones. The parade also included the participation of a commando battalion from the Turkish Army. President Erdoğan joined Azerbaijani President Aliyev in this celebration.[155] Later, Selçuk Bayraktar, the creator of the TB2 drones, was personally received by President Aliyev and awarded a national medal for his contributions to the victory.[156]

In the strategic realm, Russia, a longstanding ally of Armenia, initially chose not to directly engage in the conflict. Putin publicly stated that the Collective Security agreement between the two nations was only applicable to protect the internationally recognized borders of Armenia, which does not encompass Nagorno-Karabakh.[157] Some argue that Russia essentially handed Azerbaijan and Turkey a victory by creating an opportunity for the effective use of drones,[158] but it is likely that this was a deliberate choice and a typical Russian approach to penalize countries (in this case, Armenia) that deviate from Russian influence or align themselves with the Western alliance. Over the past two decades, Moscow has been exerting pressure on the Armenian side to accept a diplomatic settlement. However, the Armenian side consistently refused to make any concessions.[159] Additionally, President Putin had a

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[153] Won-June Hwang and Seung-Hoon Song, "The extension of Turkish influence," p. 449
[154] Douglas Barrie, Niklas Ebert, Oskar Glaese and Franz-Stefan Gady, "Armed uninhabited aerial vehicles," p.6
[155] Yeni Şafak, "Zafer ve Grur Günü," (December 10,2020): https://www.yenisafak.com/dunya/zafer-ve-gurur-gunu-azerbaycanda-kutlama-3589020
[156] Haber7, "Azerbaycan'dan Selçuk Bayraktar'a Madalya," (April 01, 2021): https://www.haber7.com/dunya/haber/3083785-azerbaycandan-selcuk-bayraktara-madalya
[157] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," p.219
[158] G. Gressel, "Military lessons from Nagorno-Karabakh,"
[159] BBC, "Russia and Turkey - unlikely victors of Karabakh conflict," (November 12, 2020):

dissatisfaction with the approach of Armenian Prime Minister Nikol Pashinyan towards the European Union and Western alliance.

Later in the conflict, when the Azeri military captured Shusha, the second-largest city in Karabakh, Russia decided to utilize its leverage. It deployed the Krasukha electronic warfare system to disrupt Azeri deep reconnaissance activities in Armenia,[160] while also activating Russian fighter jets in the region.[161] Employing a combination of diplomacy and pressure, Moscow managed to secure a peace deal. As part of the agreement, Russia dispatched 2,000 peacekeepers to safeguard the remaining Armenian population, create a buffer zone between the conflicting parties, and patrol a corridor connecting Armenia to Nagorno-Karabakh.[162]

4) Russia-Ukraine War

In 2019, Ukraine became the initial export market for Turkey's drones when they acquired TB2s. Prior to the outbreak of the armed conflict with Russia in February 2022, Ukrainian officials had around 20 drones at their disposal. Turkey later supplied an undisclosed number of additional drones to Ukraine over two weeks into the conflict.[163] The prevailing belief was that Russia would swiftly and decisively defeat Ukraine. However, the resilience displayed by the Ukrainian forces, the backing they received from the West, Russia's hesitance to employ its air force, and disruptions in the logistical network of the Russian military all contributed to the slow progress of the Russian advances in Ukraine.[164]

The TB2 Bayraktar drone played a crucial role in the early stages of the war, greatly enhancing Ukraine's tactical capabilities and extending the range of its operational firepower. It executed numerous strategically important strikes, exemplified by the Ukrainian forces' successful sinking of the Moskva cruiser, the flagship of the Russian Black Sea Fleet. During this operation, the Bayraktar TB2 drones effectively countered Russia's air defense systems, enabling Kyiv's Neptune anti-ship missiles to reach their target unimpeded. Furthermore, these drones neutralized a significant portion of Russia's surface-to-air missile systems, tank convoys, military vehicles, and even two logistics trains by mid-March.[165]

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https://www.bbc.com/news/world-europe-54903869

[160] G. Gressel, "Military lessons from Nagorno-Karabakh,"

[161] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," p. 218

[162] BBC, "Russia and Turkey - unlikely victors of Karabakh conflict,"

[163] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," p.219

[164] Robert Dalsjö, Michael Jonsson and Johan Norberg, "A Brutal Examination**:** Russian Military Capability in Light of the Ukraine War," *Survival*, 64:3, (2022): 7-28

[165] Sarah Kreps and Paul Lushenko, "Drones in modern war," p.2

Within the first four months of the war, there were over 75 confirmed and successful TB2 drone strikes on Russian tanks, artillery pieces, vehicles, and supply trains, with likely many more unreported incidents.[166] Russia's vulnerability in protecting its military convoys from aerial attacks has been astonishing and has sparked intense discussions among experts regarding Russia's aerial strategy.[167]

Due to its instrumental role in aiding Ukraine to repel the initial Russian attack wave, the Bayraktar TB2 drone was hailed as a 'game changer' by certain observers early in the war.[168] It attained a near-mythical status among the Ukrainian resistance, and there were even songs composed to pay tribute to its impact.[169] An American military expert even likened it to the 'Toyota Corolla of drones,' highlighting that 'while it may not possess all the features of a high-end sports car, it delivers about 80% of their capabilities.'[170]

According to initial assessments, drones have proven to be highly effective by capitalizing on certain factors. There was an assumption that these drones could evade Russia's air defense systems due to their small size, low altitude, and slow speed, making them difficult to detect for modern radar systems.[171] However, for an integrated air defense system, radars can be adjusted to capture the drone waves by using different frequencies. Additionally, the payloads (missiles and cameras) and engines of the drones are not shielded from incoming radar waves, at least in the current models.[172] As a result, Russia adapted its approach by focusing on electronic warfare and deploying lower-altitude air defense weapons to limit the use of drones.

Subsequently, the drones faced significant attrition, with Ukraine experiencing increasing losses as Russia improved its capability to counter this threat. Open-source resources indicate that during the first nine months of the conflict, Ukraine lost around 40 drones (not only TB2s). The reason for these losses can be attributed to the vulnerability of the data links used by the drones to jamming, as well as the drones' operation at lower and medium altitudes,

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[166] Soner Cagaptay and Rich Outzen, "Drones and Resets," p.61
[167] Mohammad Eslami, "Iran's Drone Supply to Russia" p.507
[168] Marc R. DeVore, "No end of a lesson: observations from the first high-intensity drone war," *Defense & Security Analysis*, (Apr 2023): p.2
[169] Kronika24.pl, "Bayraktar - Ukrainian War Song," YouTube, (May 23, 2022): https://www.youtube.com/watch?v=S3FGWPMjl6M
[170] Matthew Wever, "What Weapons have Other Countries Supplied to Ukraine?" *The Guardian*, (March 17, 2022): https://www.theguardian.com/world/2022/mar/17/what-weaponshave-other-countries-supplied-to-ukraine
[171] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," pp. 219-220.
[172] Antonio Calcara, Ivan Zaccagnini, Mauro Gilli and Andrea Gilli, "Military drones, air defence, and the hider-finder competition in air warfare," *Defense & Security Analysis*, (Mar 05, 2023), p.2

making them susceptible to short-range air defenses. Furthermore, Ukrainian forces deployed drones in areas where the intensity of enemy air defenses was too high to risk manned aircraft.[173]

As Western support has grown, Ukraine has adopted alternative ground-based long-range precision artillery systems, such as HIMARS and M270s, supplied by its Western partners. These systems have been employed to successfully target and destroy numerous Russian ammunition depots and command centers.[174] In light of this, Ukraine has started to exercise more caution in the use of TB2 drones, aiming to avoid unnecessary risks with these valuable assets.[175]

It is important to acknowledge that the use of these drones did not bring about the cessation of Russia's invasion. The contribution of Bayraktar TB2 drones amounts to just over 1% when compared to the total number of Russian equipment and weapons destroyed by Ukraine.[176] However, given the significant disparity in military capabilities, the drones provided Ukraine with an asymmetric advantage. They served as a cost-effective means to minimize casualties, engage Russian tanks with reduced risk, and also played a role in disseminating propaganda.[177] According to Aaron Stein, while the number of TB2 strikes may be relatively small compared to ground combat, they hold considerable significance for Ukrainian morale as they demonstrate that Russia does not have complete control over the skies.[178]

The war in Ukraine witnessed the utilization of various types of drones, including smaller tactical drones and kamikaze drones. Small drones, like the Chinese commercial DJI Mavic Mini, played a critical role in tactical reconnaissance and artillery targeting. These drones were often modified to carry grenades or mortar rounds, providing support to frontline units on the battlefield. Kamikaze drones, also known as loitering ammunition, have been extensively used, particularly by the Russian forces.[179] Kamikaze drones supplied by Iran to

[173] Marc R. DeVore, “No end of a lesson,” p.2.
[174] Mohammad Eslami, “Iran’s Drone Supply to Russia,” p. 510
[175] Task & Purpose, “The Truth About Ukraine's Bayraktar TB2 Drone: Project Ukraine,” YouTube, (April 24, 2022): https://www.youtube.com/watch?v=BAwE9e3GY_0
[176] EngineerReact, “The Rise And Fall Of Bayraktar TB2 In Ukraine,” YouTube, (Nov 20, 2022): https://www.youtube.com/watch?v=gqgWDMFGWkQ
[177] Sarah Kreps and Paul Lushenko, “Drones in modern war,” p.2
[178] Task & Purpose, “The Truth About Ukraine's Bayraktar TB2”
[179] Dominika Kunertova, “The war in Ukraine,” P.96, 97

Russia starting from September 2022 have been used against Ukraine's energy infrastructure and its major civilian centers.[180]

The Russo-Ukrainian War stands as a notable example of the first large-scale symmetric drone warfare, with both sides employing drones in significant numbers. Despite their comparatively lower costs compared to manned combat aircraft, with estimated prices ranging from $5 to $10 million per unit for drones like the Bayraktar, they still placed a considerable strain on resources due to their vulnerability. Consequently, both Ukrainian and Russian forces began shifting towards the utilization of low-cost or disposable drones.[181]

One crucial lesson learned from the use of drones in the Russo-Ukrainian War is the importance of rapid technological adaptation. Drones are highly susceptible to countermeasures that exploit their unique digital and mechanical characteristics. It can be argued that the first year of the war indicates that cheaper, simpler, and purpose-built drones hold more advantages than their sophisticated and expensive counterparts. Marc R. DeVore characterizes the landscape of drone warfare with the principle attributed to Joseph Stalin, albeit potentially apocryphal, that 'quantity has a quality all its own.'[182]

C. Drone lessons from the Wars

In Syria, Libya, and Nagorno-Karabakh, Turkey and Russia supported opposing sides, and drones were used against the belligerents aligned with Russia. In Syria, Russia controlled the airspace, and Turkish operations mostly relied on Russian consent to use the airspace. During drone attacks against Syrian regime forces, Russia initially allowed five days before intervening. In Nagorno-Karabakh, Russia declared that its protection of Armenia only extended to its internationally recognized borders, which excluded Nagorno-Karabakh. When Azerbaijan forces approached the Armenian border, Russia intervened with its jets and electronic warfare capabilities. These operations also served as an opportunity for Russia to remind and demonstrate to the Syrian regime and Armenian government the potential outcomes when Russia does not intervene in their favor. In Libya, Russia deployed fighter jets, under the banner of Wagner, as a deterrent to maintain the status quo, and it also sought to strengthen relations with the GNA side.

[180] Dominika Kunertova, "The war in Ukraine," P.96
[181] Marc R. DeVore, "No end of a lesson," p.2
[182] Marc R. DeVore, "No end of a lesson," p.3

Initially, in Libya, the TB2 drones were not as promising since they were operated by GNA pilots. However, after the agreement was signed between Libya and Turkey, Turkish TB2 operators and other conventional and support elements were deployed. In Azerbaijan, Turkish advisors were present, and it is highly likely that the drones were operated by Turkish personnel. Therefore, it was not just the superiority of the weapon itself, but also the Turkish concept of drone operation that proved to be a crucial factor in determining the outcome. Achieving proficiency with a new weapon necessitates not only technological expertise but also the capability to effectively incorporate these systems into the overall strategies and tactics of warfare.[183] The Russia-Ukraine War has highlighted the ongoing significance of employing a comprehensive approach to warfare, which includes integrating UAV and counter-UAV capabilities within ground units. It has also underscored the potential risks that widespread surveillance poses to maneuver forces.[184]

The TB2 drones faced a relatively high level of attrition in Syria and Libya. However, due to their low cost, Turkey managed to maintain a high operational tempo. The susceptibility of these drones to ground fire has led Russian planners to believe that modern air defense systems can effectively counter them. As a result, Russian security elites have shown minimal concern regarding the proliferation of Turkish drones in Eastern Europe counting on their integrated air defense concept.[185] However, when they initiated the invasion of Ukraine, they were unable to achieve air superiority or develop an effective air defense capability for their ground forces during the initial phase.

Turkish drones have demonstrated remarkable effectiveness in situations where air defense capabilities were lacking, as seen in previous conflicts and the early stages of the Ukraine war. This success has elevated Turkey's international reputation and generated a strong demand for further development of drone capabilities within the country. However, the sustainability of this acclaim will depend on Turkey's ability to counter the adaptive strategies employed by adversaries, as evidenced in the later phases of the Russia-Ukraine conflict. It remains to be seen how additional technological advancements or new drone models from production lines will provide immunity against Russian-style defensive measures, both in terms

[183] Dominika Kunertova, “The war in Ukraine,” p.100
[184] Defence and military analysis, “The Military Balance,” 123:1, IISS, (February 14, 2023): p.11-12.
[185] Aaron Stein, “Say Hello to Turkey’s Little Friend,”

of soft kill and hard kill tactics. Otherwise, the international prestige associated with drones may prove to be short-lived.[186]

Antonio Calcara et al. argue that armed medium-altitude long-endurance (MALE) drones like TB2 and U.S.-manufactured Reaper correspond to evolution rather than a revolution. This view accepts the contribution and role that these drones play in current armed struggles.[187] During asymmetric conflicts such as intra-state conflicts or counterterrorism operations, larger drones are highly effective in uncontested airspaces due to their long endurance for surveillance and remote strikes. However, these large aerial systems become fragile in active shooting wars when neither side has control over the skies.[188] When it comes to conduct offensive operations against countries with capable air defenses, these MALE drones require wide infrastructural and organizational support, such as competent and trained personnel, detailed mission planning, target acquisition, proper tactics and electronic warfare.[189]

In conclusion, UAVs are highly effective in enhancing military capabilities, particularly when strategically employed against opponents who possess specific weaknesses.[190] The effectiveness of drones diminishes as adversaries introduce more advanced air-defense systems and electronic warfare; and drones were systematically shot down, i.e. like any normal aircraft. The military revolution has not occurred yet since drones cannot provide a war-winning capability alone, specifically without the presence of ground troops.[191] In addition to that, these systems, at present, cannot replace a modern air force.[192] The conflict between Russia and Ukraine highlights that UAVs are necessary, but not the sole capability required for achieving victory in modern conflicts.[193]

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[186] Ash Rossiter and Brendon J. Cannon, "Turkey's rise as a drone power," p.224.
[187] Antonio Calcara et al., "Military drones, air defence," p.1
[188] Dominika Kunertova, "The war in Ukraine," p.95
[189] Antonio Calcara et al., "Military drones, air defence," p.1
[190] Can Kasapoglu and Sine Ozkarasahin, "Drone Warfare: Drone Wars, Defense Economics and Turkey's Way", *EDAM*, (04/2022).
[191] Andrea Gilli, "Drone warfare: an evolution in military affairs," No.17, NDC Policy Brief, *Research Division NATO Defense College*, (October 2022): p.2-3
[192] Aaron Stein, "Say Hello to Turkey's Little Friend,"
[193] Dominika Kunertova, "The war in Ukraine," p.95

CONCLUSION: CONTRIBUTION OF DRONES TO THE AUTOCRACY OF THE EXECUTIVE

By using remote warfare, decision-making barriers to the use of force were diminished, as public scrutiny and democratic engagement were reduced.[194] Even in the United States, which is classified as a democratic country, President Obama acknowledged that the drone program created an illusion of a non-warlike approach but also recognized the potential dangers of relying too heavily on such machinery. His reflections after leaving office shed light on the policies and the concerns associated with the ease and lack of accountability in remote warfare.[195]

The prevailing mainstream theory suggests that international relations are primarily motivated by states' pursuit of security and power, often at the cost of others. In contrast, Paul Lushenko argues that the analysis should center on the social-psychological factors that influence leaders, who ultimately authorize drone strikes, rather than solely focusing on the states involved. He explains the central role of American presidents in authorizing drone strikes. Multiple instances, such as France's strikes in Mali and Turkey's strikes in Syria, illustrate the significant role played by leaders in approving the controversial use of drone warfare.[196]

The growing self-sufficiency of Turkey's military-industrial complex has instilled confidence in its leaders to exert influence in the region. President Erdoğan recognizes the universal appeal of hard power as a means to enhance Ankara's international standing.[197] Additionally, he understands that emphasizing military strength resonates strongly with his domestic electoral base, thus helping to solidify his new regime.

According to a political analyst, Turkish politics have been experiencing significant transformation and the primary underlying factor contributing to this transformation is institutional decay.[198] In the new executive presidential system, which was established through a constitutional change in 2017, Erdogan's consolidation of executive power has resulted in the personalization and weakening of foreign policy institutions. The involvement of experts in the

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[194] James Rogers, “Rethinking remote warfare,” p.2
[195] The Late Show, Remarks by the President with Stephen Colbert: President Obama reflects on the drone program and "The illusion that it is not war”, (November 30, 2020): www.cbs.com/shows/video/JbVTTV1VVrzTsuyXKULXC9cUnRRSebhk/
[196] Paul Lushenko, “U.S. Presidents’ use of drone warfare,”
[197] Ken Moriyasu, “Turkey learns that hard power is a global common currency”
[198] Burak Kadercan, “Symphony of destruction”

formulation of foreign policy has significantly diminished, with decisions now being made by Erdogan in consultation with a small group of advisors selected primarily for loyalty rather than experience or expertise.[199] The failed coup attempt in July 2016 resulted in the Turkish military coming under strict government control. As a consequence, the Turkish military lost its remaining influence over security and defense policies, and its freedom to act independently in order to avoid political pressures.

There is no coherent defence technological strategy and approach to export policy.[200] The primary responsibility for enforcing export control regulations and granting licenses lies with the Ministry of Defense. Although the ministry should seek evaluations from the Foreign Office, intelligence agency, and national police regarding specific export licenses, in practice, the President's office holds considerable influence and makes most critical decisions.[201]

This situation could potentially align with US President Eisenhower's concerns about the capabilities of the military-industrial complex. Turkey's emerging arms industry might heavily lobby in favor of military incursions with the expectation of maintaining continuous orders and gaining new markets. Additionally, if there are familiar ties with high-level politics, this process could be made much easier. Ultimately, the policy associated with the military-industrial complex could promote the militarization of foreign policy, posing a challenge to regional peace.[202]

Public opinion plays a crucial role in normalizing and garnering support for the use of drones. The video footage of the drone strikes on social media normalized public opinion about drones and facilitated their acceptance by the majority of society. The art of drone warfare, whether through drone marketing videos, movies, or the language used by drone pilots has contributed to the normalization of drones in everyday life. This, in turn, has made it more challenging to criticize their negative impacts and has contributed to the militarization of society.[203] The recent Turkish military operations received approximately 70% overall public support.[204] This, coupled with a growing authoritarian inclination, restricts opposition parties'

[199] IISS, "Turkey's increasingly assertive foreign policy,"
[200] Can Kasapoglu and Sine Ozkarasahin, "Drone Warfare"
[201] Bruno Oliveira Martins, Pinar Tank and Beste İşleyen, "Turkish Drones as a Foreign Policy Tool," p.3
[202] Sea McFate, *The New Rules of War*, p.131-132
[203] Beryl Pong, "The Art of Drone Warfare," *Journal of War & Culture Studies*, 15:4, (2022): p. 381
[204] Siri Neset, Mustafa Aydin, Evren Balta, Kaan Kutlu Ataç, Hasret Dikici Bilgin and Arne Strand "Turkey as a Regional Security Actor in the Black Sea, the Mediterranean, and the Levant Region." Chr. Michelsen Institute Report no. 2. (2021), p.14

ability to challenge government policies based on democratic and human rights principles, potentially eliciting a response from voters.

Turkey's drone strikes have already resulted in civilian casualties within Turkey, Syria, and Iraq.[205] However, due to the high level of public support for these strikes, these incidents often receive limited attention, and there is no incentive from the government or the public to establish oversight mechanisms. While popular protests have occasionally occurred in northern Iraq, the close relationship between Ankara and Iraq's Kurdistan Democratic Party has rendered the political cost negligible. Nevertheless, drone strikes in Syria have the potential to create a political problem with the United States, given the presence of U.S. military forces in the region. Turkey has repeatedly targeted PKK-linked PYD cadres in Syria, while U.S. forces are on the ground working alongside the PYD.[206]

Turkish drones, with their destructive capabilities, could potentially lead to unintended consequences in overseas as well. Reports from Ethiopia indicate that the government's utilization of TB2 drones has resulted in the loss of over 50 civilian lives in a rural region. This unfavorable publicity has the potential to harm Turkey's reputation and create a negative perception of its drones, similar to the reputation associated with the United States and its drones.[207] Under the one-man rule, with a weakened parliament and a majority nationalist population, the question arises as to how the use of exported drones can be assessed from a human rights perspective in overseas. It appears that the military-industrial base, with its close ties to the government, would suppress any dissenting voices from other segments of society, including the press and main opposition parties, who themselves have been leaning towards autocracy and nationalism. Considering the lack of any inspection mechanism for the use of drones within Turkey or near border areas, it appears that achieving an overseas vetting mechanism in the foreseeable future is highly unlikely. This could potentially lead to an international political problem, resulting in significant costs for Turkey in the long run if no steps are taken to address the situation.

As the regime becomes more autocratic, the need for regime survival efforts increases, leading politicians to potentially pursue ambitious goals that may surpass the country’s

[205] Abdulrazek S., “Turkey Continues its Drone War in Northern Syria” *Asharq Al-Awsat*, (August 5, 2022): https://english.aawsat.com/home/article/3799211/turkey-continues-its-drone-war-northern-syria.
[206] Aaron Stein, “The American Deconfliction Disadvantage”
[207] Ash Rossiter and Brendon J. Cannon, “Turkey's rise as a drone power,” p.222

conventional material and ideational capabilities. Drones serve as tools to advance this policy agenda.[208]

It remains to be seen how long the executive can rely on drones (or the supreme military myth seasoned with nationalism) to divert attention from other problems during prolonged economic downturns in Turkey. When domestic issues worsen, the executive may choose to initiate new military adventures to distract voters from the economy and other problems.[209] However, considering that drones are not yet revolutionary or game-changers, particularly in peer conflicts, the situation could quickly spiral out of control and pose a threat to the stability of both the regime and the country.

[208] Digdem Soyaltin-Colella and Tolga Demiryol, "Unusual middle power activism,"
[209] Selim Erdem Aytaç, "Effectiveness of Incumbent's Strategic Communication"

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