



# TURNING THE TIDE

## HOW TURKEY WON THE WAR FOR TRIPOLI

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## ABSTRACT

The latest phase of Libya's ongoing rounds of civil conflict, known as the War for Tripoli (April 2019-June 2020), came to an abrupt end after extensive Turkish military capabilities were introduced to the theater beginning in January 2020.<sup>1</sup> Looking back with the benefit of hindsight to analyze what happened in Libya and compare it to similar civil wars, it is clear that the determinative factors that swayed the course of the War for Tripoli were novel military, technological, and diplomatic phenomena.

This research paper seeks to drill down into the military, logistical, and technological aspects of the war, highlighting the unique role of drones, soft-kill and hard-kill air defense technologies, private military contractors (PMCs, aka mercenaries), and extraterritorial military professionals (i.e. members of foreign armies) in determining the final outcome. Most of these arms and personnel were provisioned into Libya in violation of the U.N. arms embargo, with essentially no penalties for repeat violators. (We will not analyze or discuss the legal technicalities of the U.N. arms embargo in any depth as they were not really instrumental in shaping the trajectory of the fighting — other than possibly to inhibit Western countries from introducing yet more armaments or personnel into the theater, in the way that certain regional powers have done.)

Based on our research, we conclude that the War for Tripoli's definitive engagements were fought aurally and masterminded by non-Libyan actors using exclusively

non-Libyan-owned, non-Libyan-operated technologies.<sup>2</sup> Conversely, the military importance of foreign mercenaries (Syrians, Sudanese, Chadians, and Russians) fighting in ground engagements has been largely overstated. All meaningful ground engagements in which territory was lost or gained were fought by Libyans. Yet, the war was contested by foreigners and essentially won by the Turks.

For the first nine months of the conflict, the Libyan National Army (LNA) coalition enjoyed the upper hand as a result of its aerial dominance, due mainly to Emirati and other parties' technology transfers, vintage ex-Soviet former Gadhafi air force fighter jets and attack helicopters, and skilled personnel. Then from January 2020 onward, Turkey's abrupt introduction of new technologies, armaments, skills, and strategic planning capacities decisively tipped the scales, giving the Government of National Accord (GNA) coalition the ability to suddenly dominate Tripolitania's skies.

This paper shows how and why Turkey's aerial support was: 1.) so different from aerial assistance offered by patrons to their proxies in other civil wars; 2.) decisive for the GNA coalition's fighting fortunes; and 3.) what lessons can be learned for other military theaters, as well as for other low-intensity conflicts around the globe in the 2020s.

## INTRODUCTION

During the spring of 2019, Libya's Wars of Post-Gadhafi Succession entered a new phase.<sup>3</sup> Marshall Khalifa Hifter's LNA launched a surprise offensive to take Tripoli, the residence of Libya's internationally-recognized<sup>4</sup> GNA, as well as the headquarters of the country's most important economic institutions like the Central Bank of Libya, the Libyan Investment Authority, and the National Oil Corporation.<sup>5</sup> The surprise LNA offensive was met with outrage in many corners while enjoying support in others.

Although they had been sporadically fighting each other for years, with LNA-aligned groups incrementally expanding their territories from 2014 to 2019, the sudden threat to Tripoli incentivized the development of a coordination mechanism for the pro-GNA military and militia coalition: Operation Volcano of Rage (VoR).<sup>6</sup> This is an umbrella grouping for inter-militia coordination, which functioned more effectively than anything that had come before it. It is largely led by the powerful military forces and skilled political figures of Misrata, a port city 210 km east of Tripoli that since Moammar Gadhafi's ouster has rivaled Tripoli as western Libya's financial, diplomatic, and military center.

## THE WAR FOR TRIPOLI'S ANTECEDENTS AND OPTICS

The LNA's Battle for Benghazi from 2014 to 2017 was a drawn-out war of attrition lasting more than three years that was finally won via a bloody street-by-street battle replete with civilian casualties and catalogued human rights violations on both sides.<sup>7</sup> After the LNA wrapped up its subsequent Derna operations by early 2019 (also replete with human rights violations on all sides), it began an offensive in southern Libya that saw it first take over the country's largest oil field and then establish the critical logistical lines that would later facilitate and maintain its assault on Tripoli.<sup>8</sup>

Hifter was aware that his attack would be perceived in many quarters as a violation of international law and equivalent to an unprovoked military assault on an internationally recognized government. Independent of whatever popular animosity it would create among Tripoli's residents, Hifter hoped for a swift occupation of the capital. He needed it to be both quick and relatively bloodless to maintain the acquiescence of his support base among the eastern tribes and not to alienate those specific segments of the Tripoli population that would have likely accepted his rule, if it also brought an end to militia dominance.

As things played out, it was anything but short and swift; the initial surprise assault did not elicit the hoped for defections of key GNA-aligned militias like the Rada Force, the Tripoli Revolutionary Brigade (TRB), the Nawasi Brigade, or the powerful



“Unlike the ragtag, but battle-hardened Islamist forces they had previously confronted in Benghazi or Derna the anti-LNA forces in the western region were relatively less ideological, better organized, larger in number, and much better supplied and equipped.” (Photo by MAHMUD TURKIA/AFP via Getty Images)

commanders in Zawiyah or Zintan who Hifter believed would join his cause. Furthermore, the LNA assault suffered from very bad domestic and international optics due to Hifter’s strategic choice to launch it on April 4, 2019 — right before the scheduled U.N.-mediated Ghadames conference, and at a time when U.N. Secretary-General Antonio Gutierrez happened to be visiting Tripoli.<sup>9</sup>

## THE FIGHTING ITSELF: PSYCHOLOGY AND TACTICS

As Hifter began his War on Tripoli, the LNA was faced with a difficult operating environment, one characterized by high population density combined with relatively open urban outskirts and a chaotic inner city road network that could easily lead to

street-by-street battles and heavy civilian casualties — if the fighting ever got to central Tripoli. Furthermore, unlike the ragtag, but battle-hardened Islamist forces they had previously confronted in Benghazi or Derna the anti-LNA forces in the western region were relatively less ideological, better organized, larger in number, and much better supplied and equipped. They possessed artillery, tanks, professional foreign advisors, and air defense systems — items that the LNA’s opponents had conspicuously lacked in Benghazi and Derna.<sup>10</sup>

Hifter began his long-awaited assault to take Libya’s capital on April 4, 2019.<sup>11</sup> Mindful of what had happened in Benghazi, the LNA utilized a strategy to take Tripoli that it hoped would prevent its forces from becoming bogged down, as they had in Benghazi, and capitalize on what it perceived as the GNA-

aligned groups’ relative lack of cohesion and communication. The LNA repeatedly employed what became dubbed “the Tripoli tactic” — a cat-and-mouse military maneuver that sought to draw the anti-LNA forces into the open or the outskirts of the city.<sup>12</sup> The LNA forces would briefly seize a position and soon abandon it, allowing their opponents to come in and occupy the location only to be either barraged by artillery shelling, aerial attack, or an ambush.<sup>13</sup> Using this tactic, the LNA aimed to eliminate, or at least wear down, the Tripoli defenders by leveraging its key offensive capabilities and comparative advantages at the start of the fighting: artillery and aerial firepower.

## THE PILLARS OF THE LNA’S INITIAL AERIAL DOMINANCE

The LNA’s aerial dominance, which lasted throughout all of 2019, was based on its MiG-21 and MiG-23 fighter jets, Mi-24/35 attack helicopters, and skilled UAE drone support. Of the 1,040 recorded drone strikes conducted between April to November, 800 were attributed to the LNA coalition.<sup>14</sup> The UAE had supplied, and likely controlled the operation of, the Chinese Wing Loong II combat drones used to undertake the majority of these strikes.<sup>15</sup> Additionally, UAE- and Egyptian-manned Mirage 2000-9 planes have been accused of undertaking occasional operations over the capital.<sup>16</sup> On the GNA side, about 24 Turkish drones and certain anti-aircraft

weapons were also promptly introduced, but during 2019 these were not sufficient to successfully challenge the LNA’s aerial superiority.<sup>17</sup> All of these flows of arms and personnel were in violation of the U.N. arms embargo. Although they were conducted largely in the open, there were essentially no consequence for the violations.

## THE GNA’S AND LNA’S INTERNATIONAL PATRONS

For a range of reasons, among them the distraction of their leaders by domestic crises, as well as prior scandals about who they had armed in Libya, the GNA’s traditional top international allies (Italy, the U.S., and the U.K.) did not respond to Hifter’s assault on Tripoli by dispatching advanced kit and top advisors to Tripoli.<sup>18</sup> Any of the three powers had the requisite capacities to tip the scales against the LNA immediately, if they were willing to commit sufficient political, and military will. Among the reasons for the reticence of the GNA’s Western supporters to deploy armaments and trainers was both the seriousness with which their foreign ministries and armies take U.N. resolutions and the fears by the political class of domestic blowback for calling attention to previous bungled military actions in Libya. Hence, the only major military consequence of the U.N. embargo on the trajectory of the fighting of the War for Tripoli was to give non-Western powers near total dominance in provisioning of arms, trainers, and advisors

to the two fighting coalitions. Furthermore, Brexit, Donald Trump's unique relationship to Russia, and Italy's complex relationship with France likely also contributed to inhibiting decisive multilateral action as well.

Due to a range of diplomatic factors and the aforementioned optics surrounding the "unenforced" U.N. arms embargo, the role of supplying the GNA fell to its two main non-Western allies: Turkey and Qatar. This report will not discuss Qatari actions as they seem to have consisted of financial, diplomatic, and logistical support for Turkish actions, rather than constituting their own separate military engagement in the Libyan theater, except for the deployment of a limited number of special forces. As such, the Qataris can be considered as junior partners in all that Turkey has engaged in and achieved in Libya in 2020.<sup>19</sup>

Turkey has long been a military supporter of the GNA as well as certain Misratan militias and the Benghazi Revolutionary Shura Council. Ankara provided the GNA with Bayraktar TB2 combat drones a month into the Tripoli War, but these were unable to compete with the LNA's capabilities. Compounding this, the UAE-provisioned Russian Pantsir-S1 surface-to-air systems gave the LNA superior air defense capabilities when compared to the GNA's limited modern anti-aircraft artillery (AAA) and man-portable air defense systems (MANPADS).<sup>20</sup> In short, from the start of the Tripoli War, the LNA could fly largely unopposed and also shoot down many GNA drones or aerial sorties.

The UAE's support of the LNA had been assisted by the latter's long-term ally, Egypt. Egypt allowed the UAE to utilize its airspace and have access to its Sidi Barrani airbase to establish an "air-bridge" to transport military equipment to the LNA and launch occasionally airstrikes.<sup>21</sup> Egypt also supported the LNA more directly, continuing its history of training Hifter's forces while also providing the LNA with military equipment.<sup>22</sup>

As the conflict continued into September 2019, Turkey's initial fleet of drones had been virtually eradicated from the aerial battlefield. It was around this time that the pendulum decidedly swung in the LNA's favor as Russia's direct support for Hifter on the ground became increasingly apparent.<sup>23</sup> After the LNA forces became bogged down on the southern outskirts of Tripoli, Wagner Group, the world's most famous PMC with close links to the Kremlin, increased its technical assistance and maintenance relationship with the LNA from August 2019, especially in the realms of tactical assistance and intelligence, surveillance, and reconnaissance (ISR) for artillery and aerial strikes.<sup>24</sup> With the notable exception of some snipers and targeting experts, Wagner's troops did not fight in ground engagements and there were only a few Russian casualties over the entire duration of the war. Despite (in part intentionally) exaggerated media reports, there were never more than 350-400 Russians directly engaged in the battle for Tripoli, most of whom were not involved in frontline duties. Their most important contribution was aircraft maintenance, specifically of helicopters close to the

frontline. Wagner's activities were simply incapable of swinging the flow of battle one way or another.

## **SIZING UP THE BATTLE DYNAMICS AFTER 8 MONTHS OF WAR**

Operating out of its strategically located military airports, as of late 2019, the LNA dominated Libya's skies. Furthermore, it controlled 90+ percent of its oil installations and was receiving the vast majority of foreign inflows of technical assistance and military technology. It struck some analysts who were discounting domestic opposition to Hifter in Tripoli and Misrata that despite the LNA's mismanagement of the optics of the assault, a military success for the LNA seemed only to be a matter of practicing sustained attrition. In fact, many Tripolitanian and Misratan military commanders that the authors spoke to at the time feared that they were on the verge of losing their grip on the entrances to the capital.

However, unbeknownst to most militia commanders as well as most journalistic and foreign military commentators, behind the scenes the LNA's days of domination over Tripoli's skies were numbered. As soon as the GNA signed a controversial maritime deal with Turkey containing separate military provisions in November 2019, which were subsequently voted into law by the Turkish Parliament in January 2020, it became clear that a massive increase in Turkish technology transfers would be forthcoming.<sup>25</sup> Yet, it remained to be seen

how effective the new equipment would prove or how exactly it would affect the overall battle dynamics.

Although the writing was on the wall that Turkey would be ramping up its arms deliveries, a snapshot of the balance of forces and capabilities in late December 2019 indicated to some that Tripoli was still about to fall into Hifter's hands. This view affected Emirati, Egyptian, and Russian military planners. From a purely military point of view (not considering the diplomatic or domestic context) this was not an unreasonable analysis — several attempts to deploy sophisticated air defense systems from Turkey to Misrata to challenge LNA aerial dominance had previously failed as the equipment was destroyed by the LNA air force before it could be made operational.<sup>26</sup>

## **THE JANUARY 2020 "CEASE-FIRE" — A TURNING POINT**

Given the prevailing dynamics at the end of 2019, the GNA and the VoR Operations Room's leadership realized that they urgently needed a pause in fighting to regroup. They dispatched emissaries to major international capitals pleading for arms and military aid.

For the GNA, a cease-fire could provide a window of opportunity for the deployment of air defense systems to protect the crucial airports of debarkation (APODs) for military supplies — Misrata airport and Tripoli's Mitiga airport — as well as the main

seaport of debarkation (SPOD), Misrata. Fortuitously, the Russians were also keen on having a cease-fire at the same moment. As a result of the media backlash against the introduction of Wagner Group personnel and the Russians' fear of losing control of the Libya-mediation file, Vladimir Putin decided to try to achieve through diplomacy what he had thus far failed to secure via force of arms. After several days of secret summit-level talks, Marshall Hifter supposedly verbally accepted a nominal cease-fire as of Jan. 12, under heavy pressure from Egypt and the UAE.<sup>27</sup> He probably believed that Russia would make sure that Turkey would keep its "promise" and not use the cease-fire to deploy troops or weapons to Libya. He may not have realized that due to the stalemate around Tripoli, a Sirte/Jufra demarcation line was already being discussed as the future boundary between Russian and Turkish spheres of influence.

Against this backdrop, on Jan. 13 Prime Minister Fayez al-Serraj of the GNA signed the cease-fire document in Moscow that was jointly prepared by Russia and Turkey; he then left Russia without having a face-to-face meeting with Hifter, who he viewed as the aggressor and a killer of civilians.<sup>28</sup> For his part, Hifter refused to sign the original document (potentially backtracking from the previous day's verbal assurances) and insisted on certain changes, including his frequently voiced "non-starter" provision of "disarmament of the militias (i.e. the pro-GNA forces in Tripoli)," as well as the departure from Tripolitania of the Syrian mercenaries recruited by Turkey. In addition

to his obviously unrealistic demands, Hifter had embarrassed his patron Putin by being late to their meeting and then not signing the Russian-prepared document. On the night of Jan. 13, Hifter departed Moscow without signing, feeling abandoned by the Russians, while they also felt betrayed by him.

Subsequently, the cease-fire supposedly promised by Turkey was kept for just about 24 hours. Turkish leaders had seen their rivals undermine their interests without massive retaliation, but when the harm to their interests that a defeat of Operation VoR would entail fully dawned on them, they became willing to exponentially increase their introduction of armaments. This realization, coupled with changes in the international system over the course of 2019 that further inhibited a unified European or American response, allowed the Turks to capitalize on the permissive diplomatic environment.

Turkish Air Force transport aircraft deployed a HAWK XXI medium-range surface-to-air missile (SAM) battery to Misrata airport, which was made operational immediately. Shortly thereafter, a second battery was deployed to Tripoli's Mitiga airport.<sup>29</sup> The air superiority of the LNA air force was gone overnight, and the preconditions for the deployment of yet further sophisticated Turkish equipment were now established. Furthermore, in the wake of the January 2020 Berlin Conference, which supposedly sought to finally enforce the U.N. arms embargo, both the UAE and Turkey vastly ramped up their introduction of military hardware. The UAE, however, lacked the

extensive professional staff and first-rate capabilities that a NATO country's military with vast combat experience could deploy. It also relied on intermediaries, restraining its smaller, but quite elite, professional military from intervening directly in force, as Turkey's did.

## TURKISH STRATEGY AND TACTICS TO BREAK THE SIEGE OF TRIPOLI

The nominal cease-fire that was touted by the media throughout mid-January, but never unequivocally came into force on the ground was gradually shown to be a complete fiction as the Turks continued their arms build-up through their APODs and SPODs, unhindered by the LNA air force, while Emirati arms deliveries continued to

Libya's east, but on a much lower level than the new Turkish deployments. Therefore, the major change in the GNA's effectiveness as a fighting force began as soon as experienced Turkish military planners more or less took over the planning of the VoR and developed it into a modern military campaign, rationally structured into discrete phases with concrete objectives. Furthermore, Turkish logistics support ensured that the defenders of Tripoli did not run out of ammunition or other supply goods.

## THE WILLPOWER GAP

Neither the UAE nor Egypt had demonstrated the will to deliver the comprehensive support of a major regional power. Both countries possessed relatively



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more advanced military hardware than Turkey, although they lacked the advantages that the Turkish forces have acquired via frequently interfacing with their NATO allies. Overall, the Egyptians and Emiratis possessed the ability to swing the battle in favor of the LNA, if they were willing to fully commit their joint financial and professional military resources. Yet, they decided not to strike the newly arrived Turkish air defense systems, although they would have certainly been capable of doing so. Conversely, Wagner Group did not have this capability and — as developments in late May demonstrated (when Russia sent fighter jets to Libya, but did not intervene in the fighting as it did not want to be caught acting too directly in Libya) — neither Wagner nor the Russian air force had the “green light” from the Kremlin to overtly bring their full capacities to bear. The reasons for this willpower gap between the Turks and the Egyptians, Emiratis, and Russians are further analyzed in the Conclusion.

## MERCENARIES

From about May 2019, the VoR hired a significant number of mercenaries, some from Chad and some Darfuri rebels, of which the largest single group came from the Justice and Equality Movement.<sup>30</sup> Conversely, the LNA employed Sudanese Rapid Support Forces (or Janjaweed) and other troops to defend oil installations, Libyan Toubou and Chadian fighters in the south to defend fields and airstrips, and Russian PMCs for more technical jobs.<sup>31</sup> A smaller number of Assad regime Syrian

troops were also brought in on the LNA side, although they likely did not fight in the vicinity of Tripoli.

Conversely, Turkey had started to deploy anti-Assad mercenaries from Syria as ground troops as early as December 2019, just after the signing of the interlocking maritime and military agreements with the GNA the month before.<sup>32</sup> Most of these fighters belonged to the “Syrian National Army” formed to confront the Assad regime.<sup>33</sup> The majority came from two formations: the Sultan Murad Brigade (consisting partially of Turkmen from the Aleppo area and self-branded as an “Islamist” group) and the al-Sham Brigade (mostly from Idlib and designated as a terrorist organization by the U.S.). Several others were from the al-Mu'tasim Brigade (Aleppo) and Jabhat al-Nusra (a part of al-Qaeda). For the most part, these groups were well-trained and experienced in cooperating with Turkish combat support. The VoR's intention was that these Syrian mercenaries not directly engage in larger offensive operations, but rather be used to provide the infantry manpower necessary to hold and retake terrain when supported via significant artillery and air cover. This method of utilizing of Syrian mercenaries allowed for certain kinetic offensive operations to be undertaken by Libyan militia personnel, while keeping the body count for pro-GNA fighters of Libyan nationality artificially low.

Until mid-January, only about 1,000 Syrians were deployed, but those figures rose quickly and reached 10,000-12,000 in April/early May, some of them potentially battle-

hardened jihadists that Turkey wanted to exfiltrate out of Syria and Turkey.<sup>34</sup> After this new stage of fighting commenced, about 500 Syrians mercenaries were killed and more than 2,000 wounded by June 2020, with most of those casualties occurring in the Syrians' first months in Tripoli.<sup>35</sup> After the initial operations, the mercenaries did not see large-scale infantry battles, but were more involved in holding defensive lines, mopping-up operations, and other low glamor operations where discipline and reliability were essential (two characteristics that Libyan militia fighters have not traditionally displayed). The relations between some of the Tripoli militias and the Syrians became strained, initially due to Libyan cultural prejudices toward Levantines, and later as a result of instances of harassment of civilians by Syrian mercenaries that were later amplified and possibly exaggerated on social media.

## TECHNICAL CAPABILITIES

Despite the important functions undertaken by the Syrian mercenaries, they did not truly tip the scales of the battle, just as the LNA's motley crew of mercenaries had not in the first nine months of the conflict. Rather, the decisive element in the Turkish campaign plan was the successful neutralization of the LNA's air force, which had been an essential backbone of Hifter's battle plan and his initial advantage over GNA forces. From mid-January onwards, a layered GNA air defense system was built up, including several components around the American

HAWK XXI SAM system.<sup>36</sup> Additionally, Turkish-manufactured Korkut 35-mm self-propelled anti-aircraft guns (SPAAG) provided low-level all-weather air defense within 4 km. Another important component was the American Stinger MANPADS operated by Turkish special forces, while modernized ex-U.S., now Turkish, missile frigates of the Gabya class established an early warning and long-range air defense system.<sup>37</sup> This was a sufficiently effective multipronged anti-aircraft (and anti-drone) system cobbled together from different components at speed. It was also the first of its kind —operated in the middle of a civil war by an extraterritorial military to defeat the opposing side's third-party patron.

While all this build up was happening, after Jan. 12 the LNA's air force did not choose to return to the skies of Tripoli in force, as its vintage jets, helicopters, and slower drones would now have been fairly easy prey for the relatively sophisticated and multilayered Turkish air defense system. Further away from Tripoli, as 2020 went on, there were a few LNA combat drone and attack helicopter sorties in the areas of Sabratha and Abu Grein. These also ended after some of them were shot down by the Turkish frigates and (probably) by Stinger teams.<sup>38</sup>

## THE ROLE OF INTELLIGENCE

Therefore, after having reversed which side held air supremacy, the next phase of the Turkish battle plan was an asymmetrical war of attrition to degrade the LNA's ground

forces by using a version of the LNA's cat-and-mouse air and artillery barrage tactics against them. A precondition for this approach was precise information about the location of Hifter's troops, artillery, air defense systems, logistics hubs, and headquarters. Turkish ISR, including signals intelligence (SIGINT) — intercepting and locating signals from communications and other electronic devices on the battlefield — reconnaissance drones, and satellites, provided the necessary information to pinpoint the targets for subsequent destruction by artillery and combat drones.<sup>39</sup> Before January, the ISR support provided by Turkey/Qatar and Egypt/UAE was at about the same level. Now, the full weight of Turkish capabilities once again changed the situation entirely.

## ARTILLERY, DRONES, AND RADAR

Turkey deployed at least one, later probably two batteries of self-propelled 155-mm heavy artillery T-155 Firtina with extended-range precision-guided ammunition and T-122 Sakarya rocket launchers. Supported by weapon-locating radar, their first mission was to suppress and destroy the capabilities of the LNA artillery.<sup>40</sup> Such weapon-locating radar is designed to detect and track incoming mortars, artillery, and rocket fire so as to pinpoint their origin and respond with counter-battery fire within about 30-60 seconds.

The LNA was caught off-guard by these rapid shifts in battle dynamics. After suffering some heavy losses, the LNA brought back a couple of old 2S1 122-mm and 2S3 152-mm self-propelled gun

howitzers from Gadhafi-era army stocks, probably with some help from Wagner Group repair and maintenance experts. Batteries equipped with these guns were initially capable of moving into position, firing a quick salvo of about five or six shells, and leaving before the impact of counter fire. While this worked for some time in the early spring of 2020, combat drones finally hunted down and disabled most of these LNA guns.

Aerial supremacy remained the predominant factor in determining the outcome of most military operations in the Libyan theater. Turkish unmanned combat aerial vehicles (UCAVs, "combat drones") played a key role over the battlefield. The Bayraktar TB2 is a 630-kg drone with a weapons payload of just 55 kg (i.e. very light missiles and bombs).<sup>41</sup> It is controlled by a ground control station via line-of-sight datalink. Limited in its range to 150 km, the TB2s were complemented by TAI Anka-S, which is operated via SATCOM and hence has a broader range capable of covering the whole of Libya and delivering a 200-kg payload.<sup>42</sup> The Anka-S was mainly used to hunt LNA logistic convoys emanating from Sebha or Jufra, in the Fezzanese or central desert areas respectively, and destined for the Tripoli environs.

Already in 2019, mini-UAVs were used by both sides for battlefield reconnaissance and artillery fire observation. But most of them were commercial models, which proved unreliable and relatively easy to jam. From January 2020 onward, Turkey delivered an increasing number of military models to VoR. These proved widely

resistant to Emirati, Russian, and Chinese military and commercial jamming methods, hence allowing the more sophisticated Turkish drone jammers to operate freely and counter the LNA's mini-UAVs.<sup>43</sup> This dynamic of increased Turkish jamming of LNA mini-UAVs contributed significantly to the superior situational awareness of VoR and more efficient artillery fire, while slowly diminishing the LNA's capacities.

## THE TURNING OF THE TIDE

Altogether several dozen TB2 and a few Anka-S were delivered to Libya, presumably operated exclusively by Turkish specialists. At first, some were shot down by UAE-delivered Russian-made Pantsir S-1 self-propelled SAM/AAA systems, but over time, Turkey managed to counter this threat successfully by relying on the now asymmetrical jamming capabilities.<sup>44</sup> KORAL long-range electronic warfare systems (EWS) located the radar of the Pantsirs and either jammed them to allow subsequent attack by combat drones or preemptively pinpointed the Pantsirs to enable their destruction with precision long-range artillery at a distance of almost 50 km.

Of all the above-listed developments the defeat of the Pantsirs was among the most significant. In May 2020, the Pantsir operators (some of them Wagner Group personnel) switched their tactics by using their systems mostly in the passive electro-optical mode, which made jamming by



"Aerial supremacy remained the predominant factor in determining the outcome of most military operations in the Libyan theater. Turkish unmanned combat aerial vehicles played a key role over the battlefield." (Photo by Muhammed Enes Yildirim/Anadolu Agency via Getty Images)



KORAL or detection and destruction by artillery less likely. As a result, several Turkish combat drones were shot down thereafter, but it was already too late to have a real impact on the battlefield dynamics. The remaining Pantsirs were either knocked out of action, captured, or rendered irrelevant by the advancing VoR ground forces.

After the neutralization of the LNA's air force and then the subsequent destruction of its ability to effectively use anti-aircraft batteries, the Turkish-GNA-VoR war of attrition tactics established the preconditions for the final phase of the battle plan, the breaking of the siege of southern Tripoli and expelling of the surviving Hifter troops from Tripolitania. Syrians were neither involved in the lightning advance along the coast toward Tunisia to capture Sabratha and Surman (formerly LNA ground bases) in April, nor the occupation of (formerly LNA-controlled) al-Wattiya air base in May, nor in the battle for Tarhuna in June (the stronghold of the LNA's most important western Libyan allies). Taken together, these actions ended the War for Tripoli.

Sabratha, Surman, al-Wattiya, and Tarhuna had all fallen without major casualties. With air superiority achieved and the LNA defenders open to continual artillery or aerial barrages, they simply fled, continuing a pattern that has characterized Libyan warfare since 2011.

## **CONCLUSION: THE UNIQUELY LIBYAN WAY OF WARFARE AND GENERALIZABLE MILITARY OBSERVATIONS**

We have demonstrated that the final outcome of the War for Tripoli was not significantly shaped by Russian, Syrian, or other mercenaries.<sup>45</sup> The ability of Libyan or mercenary ground forces to conquer or retake territory was only ever possible when and where aerial dominance was previously achieved. This may be understood as partially stemming from the uniquely Libyan way of warfare, which throughout the Wars of Post-Gadhafi Succession has revealed itself to be highly casualty averse (with certain exceptions of disregard for civilian casualties) and usually involving columns of troops advancing in pickup trucks and technicals and then rapidly retreating in disarray when they are outflanked, come under fire, or potentially even before any opponent fire or ground maneuvering transpires, if they determine themselves to be outgunned or subject to enemy air superiority. Control of key pieces of transport infrastructure — highways, airports, strategic crossroads — is essential to this form of war and those locations cannot be held against an enemy who can project air superiority over the key nodes of transport infrastructure in question and therefore put opponent ground forces to flight.

During 2019, this Libyan way of warfare enabled certain LNA gains around southern Tripoli due to its air superiority. Then from

mid-January 2020 onward, the belligerent parties' levels of military capabilities rapidly diverged. Ever increasing levels of Turkish ISR and aerial firepower capabilities were the decisive elements in an uneven war of attrition. From March onward, it was obvious that the LNA would eventually be defeated, if it did not promptly receive significant outside support to eliminate the Turkish air defenses that had grounded its aerial capabilities. Therefore, as Turkish aerial superiority mounted and softened up LNA positions and patronage for the LNA did not drastically increase, it was also inevitable that LNA defenders would eventually slink away back to eastern Libya.

The three potential candidates to provide the LNA with the required capabilities were Egypt, Russia, and the UAE. Yet Egypt was never pleased with Hifter's ambition to take Tripoli by force. It was also aware that Algeria would never accept an open military engagement in Tripolitania and any attempts would likely occasion a response. Therefore, direct Egyptian intervention did not materialize. Egypt's vital security interests in Libya are to keep Turkish forces and rogue Libyan Islamist militias away from the Egyptian border, in specific, and unable to operate in Cyrenaica, in general. Cairo did not need a Hifter victory in the War for Tripoli to meet these requirements. This was effectively expressed by President Abdel-Fattah el-Sisi's declaration of a "red line" around Sirte — that if it were transgressed by Turkey or their affiliated Libyan militias, would occasion a decisive Egyptian intervention.

Russia's objectives in Libya have been to enhance its regional stature as a diplomatic facilitator, consolidate infrastructure contracts, collect back payments, and more broadly undermine Western and American hegemony while promoting forms of insecurity that take crude production offline.<sup>46</sup> Traditionally, Moscow has pursued this through a dual engagement strategy, primarily supporting the LNA, but partially hedging between the GNA and LNA through its Foreign and Defense Ministries respectively.<sup>47</sup> However, at some point in 2019, this balancing act was temporarily abandoned, and Moscow threw its weight further behind Hifter's offensive even though it was not consulted in the decision to launch it.

Despite this development, it is important to highlight that Russia's support of Hifter has usually been overstated. Moscow helped him gain greater territorial control and elevated his profile only so far as the Russians thought it would provide them with enough leverage and an opportunity to arbitrate a negotiated settlement, rather than in a belief he would achieve an outright military victory.<sup>48</sup> The Russians do not support Hifter unconditionally for the sake of an alliance with Hifter per se, but out of a desire to achieve their dominance over the "Libya file," so as to mediate a solution to their liking. For Russia, its support of Hifter's assault on Tripoli came at a low cost financially and politically: neither the U.S. nor the EU placed retaliatory sanctions specifically about Russian actions in Libya while the Wagner mercenaries it deployed were probably paid for by the UAE and

used as a geopolitical tool that could maintain a modicum of Moscow's plausible deniability.<sup>49</sup>

For the Emiratis, the calculus was slightly different. They were less concerned with strategic, financial, or security outcomes than the Egyptians or Russians. Their desire was more ideological and long term: to prevent the rise of a chaotic Libya — possibly Islamist or possibly democratic — which could have cascading effects throughout the whole region. The UAE is fundamentally a status quo actor needing not to upend the existing order but rather to maintain its global position as a respected player bound by financial and diplomatic ties to all major world powers. An overt military escalation in Libya to counter Turkey would have cast them too much in the role of a rogue.

By contrast, Turkish interests in western Libya were of a far more existential nature than Russian, Egyptian, or even Emirati interests.<sup>50</sup> Increasingly isolated in the eastern Mediterranean and with an economy in freefall, the Libyan theater offered Turkish strategists an ability to single-handedly resuscitate their entire geostrategic positioning, while potentially offering significant medium-term economic advantages in the form of back payments on tens of billions of dollars of construction contracts, potential eastern Mediterranean gas discoveries, and the preservation of a long-standing unique relationship with Libya's Central Bank, which makes Istanbul the key center for a whole range of licit and illicit financial services connected to the Libyan economy.

Due to their asymmetrical interests in western Libya, the Turks decided to asymmetrically introduce military capabilities. As a NATO country with years of experience training and organizing Syrian militias and provisioning air defenses against a Russian-supported Assad regime, they possessed both the required technical and strategic capacities. Viewed in its totality, Turkey's successful degradation of the LNA's prior aerial superiority offers a few stark lessons for other global conflicts in the 2020s:

1. International norms and even U.N. resolutions are no longer capable of preventing the unbridled introduction of sophisticated weapon systems and operatives into previously low-intensity and low-tech civil wars.
2. Especially when adversaries suffer from casualty-aversion or are fighting in the largely open spaces of desert-like terrain, aerial supremacy can offer the decisive factor in contemporary low-intensity civil wars.
3. Mercenary ground troops are unlikely to win civil wars in situations where the local populations lack the requisite will and casualty thresholds, or lack the ability to fight effectively. Mercenary forces are likely to suffer from casualty-aversion and to outrage local populations by their excesses. Furthermore, any mercenary successes in ground fighting can become propaganda successes for their opponents.

4. In Libya-like scenarios with a battle theater spread out along a vast coastline, air defense frigates can easily provide flexible early warning and area air defense without a real risk to the ships.

5. The War for Tripoli demonstrated that the outcome of a conflict can become inevitable as soon as one side's patrons are willing to contemplate a greater escalation than its opponents are comfortable with and the international community prevaricates or lacks the resolve to punish escalations. In the Libyan case, although the LNA and its patrons, Egypt, UAE, France, and Russia, have been viewed by some as the aggressors of the conflict, they later showed a clear lack of willingness for indefinite escalation. Turkey possessed the required military capabilities to prevail and then became willing to employ them as a result of geopolitical calculations that came into play from late 2019 onward. All of these acts — from the initial aggression to the subsequent escalations — occurred at the same time as all the patrons claimed to outwardly be respecting the arms embargo.

6. If a major global stakeholder, like the EU, keeps out of a conflict in its neighborhood — whether for legal or moral reasons — it must later learn to live with whatever outcome emerges. Although many European countries were partially militarily and diplomatically involved in Libya's civil war, particularly France, Italy, and Greece, the EU as an institution did not find a coherent or an effective way to put its thumb on the scale of the crisis in Libya. In fact, given the profound nature of EU interests

at stake and the proximity to Europe, the EU was remarkably passive throughout the War for Tripoli. Now the EU is faced with the challenge of finding a way to mitigate the negative impact of a sustained Turkish and Russian presence in Libya.<sup>51</sup> All of which is to say that due to an initial lack of decisive decision making, EU decision makers will now have much tougher choices forced upon them.

In summation, the recently concluded War for Tripoli was the first of a new kind of military conflict. The way in which drones and counter anti-aircraft capabilities were decisively deployed by Turkey is surely to be studied and likely imitated in other theaters. Nonetheless, the Turks' successful defense of Tripoli never meant that they could conquer the LNA's heartland in eastern Libya or would want to face the ensuing global political backlash, even if they could. Over the last months the KORAL EWS, TB2s, Anka-S, and mini-UAVs have left their imprint on Libya's future and shown new aspects of how airpower will likely be used in non-state and extraterritorial warfare in the mid-2020s. Now it is time for the international community, especially the U.N., EU, and U.S., to begin addressing the real underlying causes of conflict in Libya, especially the oft-neglected dysfunctional economic system.<sup>52</sup>

## ENDNOTES

1. Jason Pack, "The Turkish Victory Dividend in Libya," *InsideArabia*, May 25, 2020, <https://insidearabia.com/the-turkish-victory-dividend-in-libya/>.
2. Jason Pack, "Turkey Doubles Down on Libya," Middle East Institute, December 10, 2019, <https://www.mei.edu/publications/turkey-doubles-down-libya>.
3. Jason Pack. *Kingdom of Militias: Libya's Second War of Post-Qadhafi Succession*. (Milan: Italian Institute for International Political Studies, 2019), <https://www.ispionline.it/en/pubblicazione/kingdom-militias-libyas-second-war-post-qadhafi-succession-23121>.
4. Article 1, Clause 4 of the 2015 Skhirat Agreement (also known as the Libya Political Agreement) states: "The term of the Government of National Accord shall be one year as of the date of granting it a vote of confidence by the House of Representatives." Article 3 states again that the GNA needs a vote of confidence of the HoR. As none of these events have ever happened, the legal basis of the GNA in international law remains uncertain. That said, all Western and most international and regional governments considered the GNA (from March 2016 to the time of publication) as "the sovereign government of the State of Libya" and in U.N. resolutions and official Western government legislation and communiques it is referred to as the "the International-Recognized Government." Many in Libya and abroad disagree with the U.N. and international community's approach to the GNA from a legal and legitimacy perspective, others consider the GNA as having been formed legitimately from the Skhirat Agreement and that it is the HoR who acted illegitimately by not approving its cabinet list and mandate. For more background information on this very complex topic and how this is currently affecting diplomatic attempts to resolve the conflict please consult: Sami Zaptia, "LPA remains sole internationally recognized political framework in Libya: international community," *Libya Herald*, April 29, 2020, [libyaherald.com/2020/04/29/lpa-remains-sole-internationally-recognized-political-framework-in-libya-international-community/](https://www.libyaherald.com/2020/04/29/lpa-remains-sole-internationally-recognized-political-framework-in-libya-international-community/); Jason Pack, "How to End Libya's War," *The New York Times*, January 21, 2015, <https://www.nytimes.com/2015/01/22/opinion/how-to-end-libyas-war.html>; International Crisis Group, "The Libyan Political Agreement: Time for a Reset", Report 170 / Middle East & North Africa, November 4, 2016, <https://www.crisisgroup.org/middle-east-north-africa/north-africa/libya/libyan-political-agreement-time-reset>; Azza Maghur, "Leading Constitutional Lawyer Azza Maghur Evaluates the Next 'Plan' for Libya," *Al Marsad*, September 27, 2020, <https://almarsad.co/en/2020/09/27/constitutional-lawyer-azza-maghur-evaluates-the-next-plan-for-libya/>.
5. Jason Pack. *It's the Economy Stupid: How Libya's Civil War Is Rooted in Its Economic Structures* (Rome: Istituto Affari Internazionali, 2019), <https://www.iai.it/sites/default/files/iaip1917.pdf>.
6. Wolfgang Puzstai, "Libya's Conflict: A Very Short Introduction," *European Union Institute for Security Studies*, November 4, 2019, <https://www.iss.europa.eu/content/libyas-conflict>.
7. Pack, *Kingdom of Militias*; Sami Zaptia, "Haftar Announces 'Liberation' of Derna," *Libya Herald*, June 29, 2018, <https://www.libyaherald.com/2018/06/29/hafter-announces-liberation-of-derna/>; "Libya: battle for City Endangers Civilians," *Human Rights Watch*, May 14, 2018, <https://www.hrw.org/news/2018/05/14/libya-battle-city-endangers-civilians#>.
8. Umberto Profazio, "Push for Southern Libya Test Ethnic Ties and Regional Alliances," *International Institute for Strategic Studies*, March 15, 2019, <https://www.iiss.org/blogs/analysis/2019/03/southern-libya>.
9. Jason Pack and Matthew Sinkez, "Khalifa Haftar's Miscalculated Attack on Tripoli Will Cost Him Dearly," *Foreign Policy*, April 10, 2019, <https://foreignpolicy.com/2019/04/10/khalifa-haftars-miscalculated-attack-on-tripoli-will-cost-him-and-libya-dearly-un-benghazi-gna-lna/>.
10. Wolfram Lacher, *Who is Fighting Whom in Tripoli? How the 2019 Civil War is Transforming Libya's Military Landscape* (Geneva: Graduate Institute of International and Development Studies, 2019), <http://www.smallarmssurvey.org/fileadmin/docs/T-Briefing-Papers/SAS-SANA-BP-Tripoli-2019.pdf>.
11. Pack and Sinkez, "Khalifa Haftar's Miscalculated Attack."
12. Pack, *Kingdom of Militias*; Michel Cousins, "In Deliberate Tactic, LNA Tries to Draw GNA Forces to South Tripoli," *The Arab Weekly*, April 4, 2019, <https://the arabweekly.com/deliberate-tactic-lna-tries-draw-gna-forces-south-tripoli>.
13. "Libya: Haftar's LNA Begins to Strike Back After String of Losses," *Middle East Eye*, June 2, 2020, <https://www.middleeasteye.net/news/libya-haftar-lna-strike-back-losses-west-gna#:~:text=%E2%80%9CPulling%20back%20troops%20from%20Tripoli.city%20earlier%20in%20Libya's%20conflict>.
14. "Foreign Involvement in Libya Must Be Stopped, Top Official Tells Security Council, Describing 'Race against Time' to Reach Peaceful Solution, Spare Lives," *United Nations Security Council*, November 18, 2019, <https://www.un.org/press/en/2019/sc14023.doc.htm>.
15. Ryan Oliver, "The Strategic Implication of Chinese UAVs: Insights from the Libya Conflict," *China Brief* (20), no. 15, August 31, 2020, <https://jamestown.org/program/the-strategic-implications-of-chinese-uavs-insights-from-the-libyan-conflict/>.
16. Tarek Megerisi, "Geostrategic Dimensions of Libya's Civil War," *Africa Security Brief*, no.17, May 2020, [https://www.jstor.org/stable/resrep24408?seq=1#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/resrep24408?seq=1#metadata_info_tab_contents).
17. Paul Iddon, "Turkey is Fighting a Formidable Drone War in Libya," *Ahval News*, September 14, 2019, <https://ahvalnews.com/libya/turkey-fighting-formidable-drone-war-libya>; Although the focus of this paper is Turkey's game-changing military assistance to the VoR starting in January 2020, it is crucial to note that during 2019 Ankara did deploy some advisers and delivered a number of drones, armored vehicles, ammunition, and some modern MANPADS. Although these caused some problems for the LNA and added to the VoR's operational capacity, they were far from sufficient to break the LNA's siege of Tripoli.
18. James Risen, Mark Mazzetti, and Michael S. Schmidt, "U.S.-Approved Arms for Libya Rebels Fell Into Jihadis' Hands," *The New York Times*, December 5, 2012, <https://www.nytimes.com/2012/12/06/world/africa/weapons-sent-to-libyan-rebels-with-us-approval-fell-into-islamist-hands.html>; Furthermore, some Western governments' militaries were also concerned about intelligence information concerning certain radical Islamists fighting in the ranks of VoR. They feared another scandal akin to when Western armaments and training later indirectly benefited jihadists in Syria from 2013-17 or in Libya from 2011-15.
19. "Turkey, Libya, and Qatar Agree on Signing Military Deal," *TRT World*, August 12, 2020, <https://www.trtworld.com/africa/turkey-libya-and-qatar-agree-on-signing-military-deal-38967>.
20. Ben Fishman and Conor Hiney, "What Turned the Battle for Tripoli?," *Washington Institute for Near East Policy*, May 6, 2020, <https://www.washingtoninstitute.org/policy-analysis/view/what-turned-the-battle-for-tripoli>.
21. "UAE Mirages Deployed in Egypt," *Itamilradar*, May 7, 2020, <https://www.itamilradar.com/2020/05/07/uae-mirages-deployed-in-egypt/>.
22. Jalel Harchaoui and Mohamed-Essaïd Lazib, *Proxy War Dynamics in Libya*, (Blacksburg: Proxy Wars Project, 2019), <https://vtechworks.lib.vt.edu/bitstream/handle/10919/91990/HarchaouiLazibLibya.pdf?sequence=1&isAllowed=y>; "Point Blank: Egypt, Russia and UAE sent arms to Libya's Haftar," *Al Jazeera*, November 13, 2019, <https://www.aljazeera.com/news/2019/11/13/point-blank-egypt-russia-and-uae-sent-arms-to-libyas-haftar/>.
23. Dario Cristiani, "A Piece of a Greater Puzzle: The Libyan Civil War, External Influences and Regional Trends," *Terrorism Monitor* (18), no.

- 3, February 7, 2020, <https://jamestown.org/program/a-piece-of-a-greater-puzzle-the-libyan-civil-war-external-influences-and-regional-trends/>.
24. *East Africa and North and West Africa Counterterrorism Operations* (Washington D.C.: U.S. Department of Defense, USAID, and U.S. Department of State, 2019), <https://media.defense.gov/2020/Feb/21/2002252793/-1/-1/1/LEAD%20G%20EAST%20AFRICA%20AND%20NORTH%20AND%20WEST%20AFRICA%20COUNTERTERRORISM%20OPERATIONS.PDF>.
25. Pack, "Turkey Doubles Down"; Ethan Chorin, "Turkey's Mediterranean Challenge — A Step Too Far," *Forbes*, December 23, 2019, <https://www.forbes.com/sites/ethanchorin/2019/12/23/confronting-turkeys-christmas-surprise/?sh=7fb32a0b16b6>.
26. Ayman al-Warfalli, "East Libyan Forces Target Munitions in Misrata With Air Strikes," *Reuters*, November 19, 2019, <https://www.reuters.com/article/us-libya-security-idUSKBN1XT16D>.
27. "Forces Loyal to Libyan Strongman Haftar Announce Ceasefire," *France24*, January 11, 2020, <https://www.france24.com/en/20200111-forces-loyal-to-libyan-strongman-haftar-announce-ceasefire>.
28. "Libya Conflict: Haftar 'Leaves' Moscow Ceasefire Talks Without Deal," *BBC*, January 14, 2020, <https://www.bbc.com/news/world-africa-51104846>.
29. "Turkish 'Hawk' Deployed in Tripoli," *Itamilradar*, January 18, 2020, <https://www.itamilradar.com/2020/01/18/turkish-hawk-deployed-in-tripoli/>.
30. UN Panel of Experts Established Pursuant to Security Council Resolution 1591 (2005). *Letter dated 10 January 2019 from the Panel of Experts on the Sudan established pursuant to resolution 1591 (2005) addressed to the President of the Security Council* (New York City: United Nations Security Council, 2019), <https://digitallibrary.un.org/record/1659763#record-files-collapse-header>.
31. "Who Are Sudan's RSF and Their Commander Hemeti?," *Al Jazeera*, June 6, 2019, <https://www.aljazeera.com/news/2019/06/06/who-are-sudans-rsf-and-their-commander-hemeti/>.
32. "Footage Reveals 'Syrian Mercenaries' in Libya," *Middle East Monitor*, December 30, 2019, <https://www.middleeastmonitor.com/20191230-footage-reveals-syrian-mercenaries-in-libya/>; Pack, "Turkey Doubles Down."
33. Elizabeth Tsurkov, "The Syrian Mercenaries Fighting Foreign Wars for Russia and Turkey," *The New York Review*, October 16, 2020, <https://www.nybooks.com/daily/2020/10/16/the-syrian-mercenaries-fighting-foreign-wars-for-russia-and-turkey/>.
34. "Reports Shed Light on Mercenaries, Terrorists Sent by Turkey to Libya," *The Arab Weekly*, July 18, 2020, <https://the arabweekly.com/reports-shed-light-mercenaries-terrorists-sent-turkey-libya>.
35. Hassanin Tayea, "SOHR: Turkey Deployed 15,300 Turkish-Backed Mercenaries in Libya," *Sada Elbalad English*, July 5, 2020, <https://see.news/sohr-number-of-syrian-mercenaries-in-libya-rises-to-153/>; "Turkey Sending More Syrian Mercenaries to Die in Libya," *Middle East Online*, May 18, 2020, <https://middle-east-online.com/en/turkey-sending-more-syrian-mercenaries-die-libya>.
36. Can Kasapoğlu, "Turkey's Air Defense System Deployments to Libya," *Edam*, January 17, 2020, <https://edam.org.tr/en/turkeys-air-defense-system-deployments-to-libya/>.
37. "Gabya Class (O.H. Perry)," *Bosphorus Naval News*, <https://turkishnavy.net/gabya-o-h-perry-class/>.
38. "Turkey's Warships Use Long-range Anti-aircraft Missiles Against Haftar's Aircraft," *Bulgarian Military*, April 3, 2020, <https://bulgarianmilitary.com/2020/04/03/turkeys-warships-use-long-range-anti-aircraft-missiles-against-haftars-aircraft/>.
39. "Turkey AWACS off Libya," *Itamilradar*, February 13, 2020, <https://www.itamilradar.com/2020/02/13/turkish-awacs-off-libya-2/>; "Turkey Is Using E-7T AEW&C Aircraft to Command Drones Operating in Libya," *South Front*, March 29, 2020, <https://southfront.org/turkey-is-using-e-7t-awc-aircraft-to-command-drones-operating-in-libya/>.
40. Gianandrea Gaiani, "I Turchi Sbarcano a Tripoli Artiglieria e Cingolati da Combattimento," *Analisi Difesa*, February 1, 2020, <https://www.analisedifesa.it/2020/02/a-tripoli-i-turchi-sbarcano-artiglieria-e-cingolati-da-combattimento/>; "Turkey Deploys T-122 Sakarya and T-155 Firtina in Libya," *Global Defense Corp*, May 31, 2020, <https://www.globaldefensecorp.com/2020/05/31/turkey-deploys-t-122-sakarya-and-t-155-firtina-in-libya/>; "T-155 Firtina," *Military Today*, [http://www.military-today.com/artillery/t155\\_firtina.htm](http://www.military-today.com/artillery/t155_firtina.htm); "T-122 Çnra 122 MM Çok Namlulu Roketatar Sistemi," *Roketsan*, <https://www.roketsan.com.tr/urun/t-122-cnra-122-mm-cok-namlulu-roketatar-sistemi/>.
41. "Bayraktar TB2 Tactical UAV," *Army Technology*, <https://www.army-technology.com/projects/bayraktar-tb2-tactical-uav/>.
42. Turkish military-grade drones usually chose to fly above 2,000 meters so as to avoid 23-mm AAA fire. After suffering some heavy losses in the fall of 2019 when they did not enjoy air superiority, Turkey optimized the way it was operating the TB2, creating a "relay"-based approach to help the drone fleet operate as a single unity. While Misrata and Tripoli-Mitiga remained the main drone bases, several other take-off/landing strips and a network of "relay stations" were used to extend the operating area of the drone fleet. The TB2s were stored in remote sites and transported to the take-off strips by truck, where they were armed, and then took off within minutes to make it more difficult for the LNA to eliminate them on the ground by simply bombing the airstrips.
43. "Anti Drone Defense System Military Drone Jamming Gun," *Made-in-China*, <https://zzhanvy.en.made-in-china.com/product/CvHEwrSjZQGL/China-Anti-Drone-Defense-System-Military-Drone-Jamming-Gun.html>.
44. Harm, "Lethal Stalkers: How Turkish Drones Are Neutralizing Haftar's Pantsirs in Libya (BDA)," *T-Intelligence*, May 22, 2020, <https://t-intell.com/2020/05/22/lethal-stalkers-how-turkish-drones-are-neutralizing-haftars-pantsirs-in-libya-bda/>.
45. Jason Pack, "Can the Turks Be Magnanimous After Their Victory in Libya?," *Middle East Institute*, May 26, 2020, <https://www.mei.edu/blog/can-turks-be-magnanimous-after-their-victory-libya>.
46. Ekaterina Stepanova, "Russia's Approach to the Conflict in Libya, the East-West Dimension and the Role of the OSCE," in *The Search for Stability in Libya: OSCE's Role between Internal Obstacles and External Challenges*, eds. Andrea Dessi and Ettore Greco (Rome: Istituto Affari Internazionali/Nuova Cultura, 2018), pp. 89-111, [http://www.estepanova.net/Stepanova\\_Russia\\_Libya.pdf](http://www.estepanova.net/Stepanova_Russia_Libya.pdf).
47. Ekaterina Stepanova. *Russia's Foreign and Security Policy in the Middle East: Entering the 2020s* (Rome: Istituto Affari Internazionali, 2020), <https://www.iai.it/sites/default/files/iaip2016.pdf>.
48. Samuel Ramani, "Russia's Strategy in Libya," *Royal United Services Institute*, April 7, 2020, <https://rusi.org/commentary/russias-strategy-libya>.
49. Sergey Sukhankin, "Wagner Group in Libya: Weapon of War or Geopolitical Tool," *Terrorism Monitor* (18), no. 3, June 26, 2020, <https://jamestown.org/program/wagner-group-in-libya-weapon-of-war-or-geopolitical-tool/>.
50. Wolfgang Puzstai, "Libya: From Civil War to Regional Conflict," *The Affiliate Network*, May 21, 2020, <http://affiliate-network.co/2020/05/libya-from-civil-war-to-regional-conflict/>.
51. Wolfgang Puzstai, "Turkey and Russia's Libyan Adventure Is a European Problem," *Institute for International Political Studies*, July 2, 2020, <https://www.ispionline.it/it/pubblicazione/turkey-and-russias-libyan-adventure-european-problem-26807>.
52. Jason Pack, "An International Financial Commission is Libya's Last Hope," *Middle East Institute*, September 14, 2020, <https://www.mei.edu/publications/international-financial-commission-libyas-last-hope>.

## ADDITIONAL PHOTOGRAPHS

Cover photo: Libyan people gather at Martyrs Square in Tripoli to inspect Russian-made Pantsir-type air defense system used by Khalifa Hifter's forces, after it was destroyed. (Photo by Hazem Turkia/Anadolu Agency via Getty Images)

Contents photo: Vehicles of the "Tripoli Brigade", a militia loyal to the UN-recognised Government of National Accord (GNA), parade through the Martyrs' Square at the centre of Tripoli on July 10, 2020. (Photo by MAHMUD TURKIA/AFP via Getty Images)

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