Borders in Cyberspace

Strategic Information Conflict since 9/11

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> "The idea of degrading the opponent's information flow and, conversely, to protect or improve our own, has gained reasonably widespread acceptance and has resulted in important applications."
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> — Thomas P. Rona, *Weapons Systems and Information War,* 1976[1]

The Cold War ended in 1991 with the Soviet Union extinct and the United States perhaps the most powerful country in history, at least in relative terms. President Bill Clinton suggested at his 1993 inauguration that conflict had become an isolated phenomenon of extremists fighting against world order, disrupting nations and peoples but holding no real hope of accomplishing anything positive.[2] The end of the Cold War seemed to have restored respect for sovereignty grounded in international law. History had "ended" and the world had turned toward liberalism—but not wholly.

The Westphalian ideal that sovereign powers should manage their internal affairs without outside interference had always been honored more in the breach, at least outside of Europe. In the 1990s, however, a new doctrine dawned—that strong nations had the right and, indeed, the duty to collaborate under the auspices of international bodies in order to stop widespread atrocities and humanitarian disasters—with force, if necessary, and even inside the sovereign borders of states unable or unwilling to halt the depredations.

The notion that international law and institutions could be used to justify and potentially even require interventions by military coalitions against autocratic regimes keeping order (however brutally) on their own territory disturbed some prominent United Nations (UN) members, especially Russia. International law of that stripe could potentially find a way around sovereignty to let liberal coalitions foment an insurrection against autocrats—and then use the regime's suppression of the revolt as a pretext under the UN (or some other body) to intervene.

This would have repercussions for international relations, the internet, and every user connecting online.

A Freedom Agenda

"The best hope for peace in our world is the expansion of freedom in all the world."

— President George W. Bush at his Second Inaugural, 2005[3]

UN Secretary-General Kofi Annan in March 2000 issued a report that, perhaps to his surprise, would quietly frame much of the dialogue over international relations in the decade to come:

> Few would disagree that both the defence of humanity and the defence of sovereignty are principles that must be supported....But surely no legal principle — not even sovereignty — can ever shield crimes against humanity. Where such crimes occur and peaceful attempts to halt them have been exhausted, the Security Council has a moral duty to act on behalf of the international community.The fact that we cannot protect people everywhere is no reason for doing nothing when we can. Armed intervention must always remain the option of last resort, but in the face of mass murder it is an option that cannot be relinquished.[4]

The doctrine that the Secretary-General articulated would soon be dubbed the "responsibility to protect." Dictators and one-party states feared it. Their resistance to it had to be indirect or muted, however, while the United States remained the world's preeminent military power and worked in concert with allies. President Bush had implied that certain nations should be wary of such notions in his January 2002 State of the Union address, mentioning North Korea, Iraq, and Iran, and insisting that "[s]tates like these and their terrorist allies constitute an axis of evil, arming to threaten the peace of the world."[5]

Saddam Hussein's regime in Iraq survived barely a year after Bush's speech. The British and Americans argued that they already possessed a warrant for intervention from the UN Security Council's 1991 demand for Iraqi disarmament and its call for "such further steps as may be required...to secure peace and security in the area."[6] Their coalition assault on Iraq in March 2003 resulted in the destruction of Saddam's regime in just three weeks. The Iraq War then paid one nearly immediate bonus—it convinced Libyan dictator Muammar Qaddafi, long a thorn in Europe's side, to abandon his chemical weapons in late 2003.[7] Other states drew the opposite lesson about weapons of mass destruction: North Korea and Iran soon accelerated their nuclear efforts. And in Iraq and Afghanistan, insurgencies arose to bleed the coalition occupiers and complicate their potentially Sisyphean efforts to rebuild those societies.

The years that followed thus saw varied efforts to deter or weaken Western power and resolve to impose international standards of rights in particular sovereignties. Even the possibility of synchronized, regime-changing warfare haunted the dictators. Such strength emboldened

democratic reformers in Ukraine (the Orange Revolution), Burma (the Saffron Revolution), Lebanon (the Cedar Revolution), and other lands who trusted America's commitment to what President Bush called his "freedom agenda."[8] As Bush stated at his second inauguration, the United States applauded such revolutions. Bush stated America would "seek and support the growth of democratic movements and institutions in every nation and culture, with the ultimate goal of ending tyranny in our world."[9]

To survive, the dictators had to adapt. One of the most creative in doing so would be Russia's President Vladimir Putin, who took the time to explain what he was doing when he spoke to the annual Munich Security Conference in February 2007. Russia wanted cooperation, particularly in arms control, Putin insisted, but his speech nonetheless struck an ominous tone. No state however powerful could build a "unipolar world" in modern times, he explained. Yet that did not stop some parties from wanting such an international order, and in this quest they had caused "new human tragedies and created new centres of tension." Putin left little doubt whom he blamed for the "almost uncontained hyper use of force—military force—in international relations, force that is plunging the world into an abyss of permanent conflicts." After all, it was "first and foremost the United States" that had "overstepped its national borders in every way. This is visible in the economic, political, cultural, and educational policies it imposes on other nations."[10]

The United States had accomplices in this work, Putin hinted. International law had become an instrument of the strong, who showed disdain for its principles and independent legal norms. Such overreach was "extremely dangerous" because it had created a situation in which "no one feels safe." Indeed, "no one can feel that international law is like a stone wall that will protect them"—hence, the race by "a number of countries to acquire weapons of mass destruction." The nations of Europe had helped to erode the rule of law and had begun working to isolate Russia, imposing "new dividing lines and walls...that cut through our continent." There were instruments like the Organization for Security and Cooperation in Europe and "non-governmental organisations" financed and controlled from afar for "interfering in the internal affairs of other countries." Groups like these were busily "imposing a regime that determines how these states should live and develop." Now Russia would go its own way, or at least work with "responsible and independent partners" in constructing "a fair and democratic world order that would ensure security and prosperity not only for a select few, but for all."[11]

Putin's speech in Munich previewed the tensions that would emerge over the next decade. Moscow now possessed the resources and will to act on the hitherto academic critiques of Western dominance that Putin had echoed in Munich. In the years since taking over from the garrulous democrat Boris Yeltsin, Putin had consolidated power, strengthening a handful of oligarchs, suppressing independent media outlets, and rigging the political system to keep himself in command. Most dictatorships sooner or later quarrel with their neighbors, even if such frictions do not always lead to war, and Russia was no different. Massive denial-of-service

attacks against Estonian cyberspace briefly crippled the government of Estonia in 2007 after the Estonians moved a Soviet-era war memorial in a gesture that Moscow deemed disrespectful. The disruption of Estonia—a member of the North Atlantic Treaty Organization (NATO) and the European Union (EU)—drew no blood. Nonetheless, a senior EU official was quoted in an article in *The Guardian* just after the attacks as saying, "Frankly it is clear that what happened in Estonia in the cyber-attacks is not acceptable and a very serious disturbance."[12] Russian forces tangled with Georgian troops the following year, this time over the status of two disputed provinces. Moscow sought to teach a lesson to Georgian President Mikheil Saakashvili and Russia's troops advanced to within 40 miles of Georgia's capital before the Kremlin signed a ceasefire. Afterward, President George W. Bush professed to liking Saakashvili but described him to Putin as "hot-blooded." "I'm hot-blooded, too," retorted Putin. "No, Vladimir," Bush observed. "You're cold-blooded."[13]

President Barack Obama's new administration in 2009 sought to turn Putin's energies toward more constructive channels. Hillary Clinton, the new secretary of state, promised a "reset" of bilateral relations, dealing constructively with the Russians where mutual interests converged, showing firmness to "limit their negative behavior," and "engaging consistently with the Russian people themselves."[14] That last element—reaching the peoples of Russia and other dictatorships—would become a cornerstone of American foreign policy during President Obama's first term, as Secretary Clinton later explained in her memoir. Autocracies increasingly sought to shield their subjects from the Internet to decrease U.S. and Western influence, Clinton lamented:

> Around the world, some countries began erecting electronic barriers to prevent their people from using the internet freely and fully. Censors expunged words, names, and phrases from search engine results...One of the most prominent examples was China, which, as of 2013, was home to nearly 600 million internet users but also some of the most repressive limits on internet freedom. The "Great Firewall" blocked foreign websites and particular pages with content perceived as threatening to the Communist Party.[15]

This was information conflict that targeted the populace, Clinton suggested. She pushed the State Department to counter such restrictions—for instance, by training citizen activists around oppressive regimes to employ cyber tools that could "protect their privacy and anonymity online and thwart restrictive government firewalls." By 2011, she noted, "we had invested more than $45 million in tools to help keep dissidents safe online and trained more than five thousand activists worldwide, who turned around and trained thousands more." Clinton herself visited one of these workshops that year in Lithuania, figuratively on Russia's doorstep.[16]

The Internet, as many in the West hoped, became a powerful tool for dissent. Iranian repression would be seen by millions in 2009 with the shooting death in Tehran of a young protester, Neda Agha-Soltan, captured on cell-phone video, uploaded online, and shared via Twitter and Facebook.[17] Iranian authorities crushed widespread protests that year but emerged from the crisis badly shaken. Another long-ruling regime in Tunisia, by contrast, would not survive similarly popular unrest facilitated by social media the following year. When Tunisian strongman Ben Ali tried to suppress social media sites, the leaderless but surging protests against repression and corruption turned to text messaging on nearly ubiquitous cell phones as the organizing tool.[18] Mass protests against the rule of yet another dictator, Hosni Mubarak of Egypt, soon followed the Tunisian example. Mubarak left office less than a month after Tunisia's Ben Ali fled in January 2011. "Thanks to the internet, especially social media, citizens and community organizations had gained much more access to information and a greater ability to speak out than ever before," reflected Secretary Clinton in her memoirs.[19]

A brief but tumultuous "Arab Spring" emerged from these upheavals and swept across the Middle East, with protests in Algeria, Bahrain, Jordan, Kuwait, Morocco, Oman, Sudan, Yemen, and beyond. Dictatorships elsewhere saw they had to respond. They did so clumsily at first, trying to close down internet service providers or block social media sites. The smarter ones, like Iran, quickly learned to hunt on the web in order to develop a meaningful understanding of where their adversaries were, what they did, and where they were headed. "The new technologies allow us to identify conspirators and those who are violating the law, without having to control all people individually," boasted Iran's top policeman, Esmail Ahmadi-Moghaddam, in early 2010.[20] No countries saw more violence, however, than Libya and Syria, both ruled by secular Arab dictators and oppressed for decades by pervasive police states. Both regimes turned their militaries on protesters, who rebelled and found arms and courage to defend themselves, pitching both nations into civil war.

Libya proved an early test of the Kofi Annan's "responsibility to protect" doctrine in March 2011. With the African Union condemning the violence and the Arab League voting to impose a No-Fly Zone over rebel-held territory to deter Qaddafi's avenging tanks, the Security Council passed (with Russia and China abstaining) a resolution finding that the "deteriorating situation" constituted "a threat to international peace and security." With this justification for intervening in an internal Libyan crisis, the council authorized "all necessary measures" short of foreign occupation to protect Libyan civilians.[21] The resulting military intervention followed almost immediately in now-classic fashion, with U.S.-led airstrikes and countermeasures to suppress Libyan air defenses and permit NATO aircraft to pound Qaddafi's armor and artillery (under Operation UNIFIED PROTECTOR). An unnamed adviser to President Obama described the American role in the Libya campaign to *The New Yorker* as "leading from behind."[22] Qaddafi's regime shrank to nothing over the following summer, with the dictator himself cornered and killed in October 2011.

Syria would be a much tougher problem. Libya would shape the Syrian conflict that opened in 2011. NATO's intervention had caused uncharacteristic public disagreements among Russian leaders. Putin, then serving as prime minister (and thus officially not the chief executive of the Russian state), alleged Western hypocrisy in attacking Qaddafi's regime while tolerating other dictators: "When the so-called civilized community, with all its might, pounces on a small country, and ruins infrastructure that has been built over generations – well, I don't know, is this good or bad?"[23] His ostensible boss, President Dimitri Medvedev, shunned such rhetoric and had declined to veto the Security Council resolution authorizing "all necessary means" in Libya. The NATO effort still looked to Moscow like a campaign to depose Qaddafi, however, and the Russians felt they could take no such risks with Syria, Russia's only ally in the Middle East (with ties dating back to the Cold War). Moscow thus opposed any Security Council action aimed at Syria's Bashar al-Assad unless it ruled out armed intervention.[24] Russia and China cast the only dissenting votes in vetoing a Security Council resolution condemning Assad's suppression of the growing rebellion. Moscow's foreign minister complained that the resolution was "taking sides in a civil war," while the Russian ambassador to the UN alleged that the Western leaders once again were "calling for regime change, pushing the opposition towards power."[25] Secretary Clinton, in her memoirs called the Russian and Chinese veto "despicable."[26]

Prime Minister Putin for his part had already expressed his contempt for Clinton and her ideas. Shortly after announcing his ultimately successful candidacy to resume the presidency of Russia, which would be decided in a spring 2012 election, Putin showed his anxiety over democratic movements like the Arab Spring. Responding to popular complaints of election corruption in Russia's late 2011 parliamentary balloting, Putin blamed the disturbance on Secretary Clinton: "She set the tone for some actors in our country and gave them a signal," said Putin. "They heard the signal and with the support of the U.S. State Department began active work." Once again, he saw shadowy foreign forces dividing Russians against one another, spending vast sums of "foreign money" to influence the Russian balloting.[27]

For the time Putin could only fume. The liberal West seemed triumphant, with its enemies and all dictators at risk. That moment would ironically prove to be the crest of a soon-receding democratic wave. Baghdad and its Shi'a government promptly turned a blind eye while the Iranian Revolutionary Guard Corps—the Praetorian Guard of Tehran's theocracy—ferried civilian airliners over Iraqi airspace to deliver troops and weapons to Assad's beleaguered regime in Syria.[28] With Iran's military help and Russian diplomatic cover, Assad managed to hold on against the various squabbling rebel groups, and even began using chemical weapons on the insurgents in 2012.[29] Libya meanwhile degenerated into a vicious civil war. Democracy retreated in Egypt. The successor regime to Mubarak's authoritarianism held an election won by the Muslim Brotherhood, who began imposing a different brand of Egyptian authoritarianism until they were ousted a year later by millions of protesters across Egypt and a military coup. Washington showed no inclination for military intervention in the region. Indeed, Secretary

Clinton, in contemplating the "wicked problem" that was Syria, found little willingness to arm insurgent factions or allow U.S. forces to engage. She and President Obama's advisors felt a military solution was "impossible" and resolved to avoid "another quagmire, like Iraq."[30]

The diplomatic and military turn against democracy corresponded with a new boldness among autocracies and one-party states in using cyberspace operations to defend themselves from falling to the sorts of popular unrest seen in the Arab Spring. As Clinton noted above, they worked to guard their digital as well as their physical borders, erecting national firewalls, enhancing the reach and quality of internal propaganda, tightening control of state media, and floating proposals in international forums to replace the allegedly U.S.-dominated "multi-stakeholder model" of Internet governance. Perhaps just as importantly, they turned their portions of cyberspace into surveillance systems with which they could monitor internal and external challenges. So disturbed, the regimes perhaps shared little beyond an abhorrence and a fear of liberal nostrums like elections, dissent, and a free press. Ironically, the Internet soon proved to be just as powerful a support for the centralization of political power as it had been for dissent.

The Internet had endangered state control in many ways, yet, at the same time, it facilitated state surveillance on a hitherto unimagined scale and repression even beyond a state's physical borders. Seen from the perspective of the regimes in question, such steps looked purely defensive and, indeed, necessary in a world where liberal ideals like international law could now be used, as in the cases of Kosovo and Libya, to trump the traditional, Westphalian defense of state sovereignty. A Chinese military organ, for example, implicitly rejected Secretary Clinton's optimism about the web's force for good; as noted by *Xinhua* in 2015:

> The Chinese military's mouthpiece newspaper has warned of the possibility of "Western hostile forces" using the Internet to foment revolution in China. "The Internet has grown into an ideological battlefield, and whoever controls the tool will win the war," according to an editorial published in the People's Liberation Army (PLA) Daily on Wednesday. It stressed the need for cyber security measures to ensure "online ideological safety", euphemisms suggesting efforts to safeguard China's mainstream ideology. "Western hostile forces along with a small number of Chinese 'ideological traitors', have maliciously attacked the Communist Party of China, and smeared our founding leaders and heroes, with the help of the Internet," according to the paper. "Their fundamental objective is to confuse us with 'universal values', disturb us with 'constitutional democracy', and eventually overthrow our country through 'color revolution'," it added, using a term commonly applied to revolutionary movements that first developed in the former Soviet Union in the early 2000s. "Regime collapse that can occur overnight often starts from long-term ideological erosion," it warned. The paper said the military should not only safeguard national sovereignty and security on traditional battlefields, but also "protect ideological and political security on the invisible battleground of the Internet."[31]

These sentiments echoed those voiced by senior Chinese military spokesmen since 2010, when China began informing American diplomats that its territorial claims in the South China Sea were now "core interests," on par with Taiwan and Tibet in Beijing's strategic calculus. The Americans, Chinese rear admiral Guan Youfei angrily remarked to a delegation that included Secretary Clinton, were acting like a "hegemon" and seeking to encircle China.[32]

The key development here was something that might have seemed impossible: a merging of Information Age–technology facilitating regime propaganda and surveillance. Authoritarian, anti-liberal regimes craved external threats to justify central direction; mobilization of the citizenry; and, ultimately, repression. Such states could not abide open borders with prosperous, liberal democracies, so they sought to keep those physical and virtual borders closed—or those neighbors less free. These regimes, moreover, could now surveil their opponents' every keystroke. Targeting and suppression of civilian dissent were aided as well by intelligence services utilizing cyber means to attain global reach and unprecedented economies of scale. Even the poorest dictators now could acquire means to monitor dissidents on distant continents.[33]

A Return to War

"…it is essential to have a clear understanding of the forms and methods of the use of the application of force."

— General Valery Gerasimov, Chief of Russia's General Staff, 2013[34]

The Winter Olympics in 2014 opened in Sochi, Russia, showcasing some of the world's best athletes competing for medals and honors rather than land and treasure. That year the Olympic spirit of sportsmanship did not linger, however, after the Games' closing ceremony on February 23. Two subsequent events would soon shape global relations in the years to come. Russian troops intervened in Ukraine just days later, effectively seizing Crimea. Their intervention shook Western leaders. "You just don't in the 21st century behave in 19th century fashion by invading another country on a completely trumped up pretext," complained the new U.S. Secretary of State, John Kerry, when asked on a news program about Russia's bullying of Ukraine.[35] The 19th century looked civilized, however, compared to what happened in the Middle East. Barely a hundred days after the Olympics, fighters from the Islamic State of Iraq and the Levant (ISIL)—whom President Obama in January had called the "JV team"—burst out of Syria into western Iraq.[36] In weeks they overran perhaps 35,000 square miles in Syria and Iraq, including Mosul, Iraq's second-largest city, where they seized the central bank and hundreds of millions of dollars in assets. ISIL then declared itself "the Islamic State" and proclaimed it was now a worldwide caliphate to which was owed the allegiance of all faithful Muslims.[37]

Events turned as they did in 2014 because dictators accelerated measures to protect their physical and virtual borders, keeping the democracies at a distance by building buffer zones around themselves. Russian leaders claimed aloud that this was a defensive strategy, made

necessary by the liberal West's promotion of regime change under the guise of humanitarian intervention. Indeed, one of Putin's advisors, Vladislav Surkov, had been watching for years the progress of the color revolutions. An interviewer from *Spiegel* asked Surkov in 2005 how Moscow might defend itself "against the revolutionary virus that could jump over into Russia from Georgia, Kyrgyzstan and Ukraine." Surkov responded that Russia would see no such uprising, despite the desires of some in his country. He complained of "various foreign non-governmental organizations that would like to see the scenario repeated in Russia. We understand this. By now, there are even technologies for overthrowing governments and schools where one can learn the trade."[38]

The possibility of an Arab Spring in Russia also occurred to General Valery Gerasimov, chief of the General Staff, before he visited the Academy of Military Science in February 2013 to call on its experts to help Russian leaders adapt in a rapidly changing world. "In the 21st century," he began, "we have seen a tendency toward blurring the lines between the states of war and peace. Wars are no longer declared and, having begun, proceed according to an unfamiliar template."[39] This lack of sharp lines between peace and war made contemporary conflicts seemingly non-linear but no less deadly, said Gerasimov:

> The experience of military conflicts — including those connected with the so-called [color] revolutions in north Africa and the Middle East — confirm that a perfectly thriving state can, in a matter of months and even days, be transformed into an arena of fierce armed conflict, become a victim of foreign intervention, and sink into a web of chaos, humanitarian catastrophe, and civil war.[40]

Gerasimov suggested to his military audience that crises like the Arab Spring might just be "typical of warfare in the 21st century." "The information space" created by global networking and mass media had opened "wide asymmetrical possibilities" for attacking a regime: "In North Africa, we witnessed the use of technologies for influencing state structures and the population with the help of information networks." Indeed, nonmilitary means of achieving strategic goals often exceeded "the power of force of weapons in their effectiveness," for "methods of conflict" such as "political, economic, informational, humanitarian, and other non-military measures" could now be "applied in coordination with the protest potential of the population." Aggressor powers bide their time, holding their armed forces in reserve until the right moment: "The open use of forces — often under the guise of peacekeeping and crisis regulation — is resorted to only at a certain stage, primarily for the achievement of final success in the conflict."[41]

What General Gerasimov viewed as so potentially deadly was the combination by the "world's leading states" of the Information Warfare concepts derived from Thomas Rona with the new media- and diplomacy-enabled means of influencing a population ruled by the target regime. Mobile, combined arms forces, "acting in a single intelligence-information space because of the use of the new possibilities of command-and-control systems," now ensured that a victim had no respite or opportunity to counterattack. "Frontal engagements of large formations" would

be few, for the United States and others were learning to launch "[l]ong-distance, contactless actions" to defeat an adversary "throughout the entire depth of his territory." Even powerful adversaries (and, by implication, Russia, Gerasimov hinted) could see their military advantages nullified by "the use of special operations forces and internal opposition to create a permanently operating front through the entire territory."

Russia, suggested Gerasimov, should heed that warning and learn to conduct "activities in the information space, including the defense of our own objects." The Russian military, he said, well understood "the essence of traditional military actions carried out by regular armed forces," but Russian military leaders possessed "only a superficial understanding of asymmetrical forms and means"—hence, his request to the Academy of Military Science to help "create a comprehensive theory of such actions." Conflicts in Ukraine and Syria would soon demonstrate how quickly the Russians learned.[43]

A newly democratic Russia had once pledged (in 1994) to respect Ukraine's borders when the post-Communist government there had returned Soviet-era nuclear weapons to Moscow's control. Russian troops took control of Crimea in 2014, however, six days after the pro-Russian President of Ukraine, Viktor Yanukovych, fled in what Moscow had called a coup. The new, pro-Western government in Kiev hailed his flight as a liberation, calling the revolution the *Euromaidan* (after the protests that erupted when Yanukovych's government derailed an imminent association agreement with the EU). Russian leaders insisted they had not violated the 1994 pledge, yet offered no consistent rationale for their position. Masked, Russian-speaking troops with no insignia suddenly were guarding Russian-made, heavy weapons all over Crimea. Local residents noted their alien origin and dubbed them "little green men," a term that was quickly echoed in the Ukrainian press and beyond.[44]

The UN Security Council soon debated the Crimea crisis. A draft resolution in March did not mention Russia but declared invalid the upcoming, Moscow-endorsed referendum in Crimea (which asked Crimeans whether they wanted Russian rule). The UN Security Council resolution also noted the international community's "commitment to the sovereignty, independence, unity and territorial integrity of Ukraine within its internationally recognized borders." Moscow vetoed the draft resolution, and in the Crimea referendum the following day, 97 percent of voters expressed their desire to join Russia. The Kremlin quickly granted their request, declaring its annexation of Crimea on March 18, 2014.[45] Unlike the Iraqi annexation of Kuwait in 1990, however, this time the UN never contemplated armed intervention to restore the pre-crisis borders of Ukraine. Instead, the democracies turned to the UN General Assembly, which passed a nonbinding resolution of its own, calling on "all States, international organizations and specialized agencies not to recognize any alteration of the status of the Autonomous Republic of Crimea and the city of Sevastopol."[46] Russia's Foreign Ministry called the General Assembly's resolution counterproductive and complained that "shameless pressure, up to the point of political blackmail and economic threats, was brought to bear on a number of

[UN] member states" by Western diplomats seeking "yes" votes for the measure.[47] Moscow's subsequent intervention in Ukraine appeared ad hoc and driven by circumstances. After the Crimean annexation, ethnic Russians in two eastern Ukrainian districts also began agitating to join Russia, forcibly resisting Ukrainian troops and declaring their territory "New Russia" that spring. Kiev launched a counteroffensive in July, only to see it stall as the rebels gained support from units of the Russian military with armor, artillery, and anti-aircraft missiles. The missiles nullified the combat effectiveness of Ukraine's small air force and promptly caused a major international embarrassment for Moscow when a battery of SA-11s downed Malaysian Airlines Flight 17 that July, destroying the cruising jetliner at 33,000 feet and killing all 298 people aboard.

Moscow denied responsibility and blamed Ukrainian forces, in keeping with its official disavowal of any direct role in the conflict. Russia's misdirection from the beginning outraged European governments. Britain's Secret Intelligence Service told its parliamentary oversight committee in late 2017, for example, that Russia had mounted a massive disinformation effort to support its actions in Ukraine and beyond:

> An early example of this was a hugely intensive, multi-channel propaganda effort to persuade the world that Russia bore no responsibility for the shooting down of [Malaysian Airlines flight] MH-17 (an outright falsehood: we know beyond any reasonable doubt that the Russian military supplied and subsequently recovered the missile launcher).[48]

Eastern Ukrainian separatists received their support from more "little green men," who advised in all manner of military and civil matters. "We're Russian. We're all Russian," quipped one in Donetsk to the BBC in April 2014. "And this land isn't Ukraine: it's Novorossiya - and we will defend it."[49] NATO, especially its eastern members, took alarm at this mostly nonviolent but effective display of force, calling it "hybrid" warfare, in which "a wide range of overt and covert military, paramilitary, and civilian measures are employed in a highly integrated design."[50] As in Syria, diplomatic efforts to end the conflict in Ukraine proved futile.[51] Low-level hostilities between the Ukrainian military and Russian-backed separatists continue to this day.

As the Ukrainian conflict erupted in 2014, another crisis emerged almost simultaneously from the ongoing Syrian Civil War and its threat to Russia's allies in Damascus. Insurgencies and even terrorists seek in their various ways to attain statehood—to overturn an existing regime or to fashion a new one from the territory of some other power. Al-Qaeda came closest to attaining global influence while not ruling its own territory, but that was while its Taliban allies ran most of Afghanistan. The chaotic conflict in Syria by 2014 had created a political and military vacuum in Syria's eastern reaches, while the Shi'a-dominated government of neighboring Iraq alienated the Sunnis of its western districts. The American withdrawal from Iraq at the end of 2011 had ended the sustained presence of sophisticated intelligence, reconnaissance, and strike forces in the area, and now troops and vehicles could once again gather on a battlefield.

Into the vacuum stepped ISIL, which in 2013 turned its energies from fighting Assad; despite its retrograde social views, ISIL saw statehood as its best path toward the ultimate goal of a caliphate across the Muslim world. ISIL stormed over Iraq's border in early 2014, its reputation for savagery preceding it, panicking Iraqi defenders (the group tortured and executed those soldiers it caught).[52] Its fighters seized thousands of square miles of Syrian and Iraqi territory in just weeks. By summer, ISIL had erected "a primitive but rigid administrative system" maintaining "some basic services in a highly repressive environment" and imposing its version of Islamic law on more than eight million people, including Sunnis and Shiites, along with Christians, Yazidis, Kurds, and other beleaguered minorities.[53]

ISIL sought to make its offensive global over the next year, accepting allegiance from like-minded groups in Asia and Africa and calling for attacks in the West. Thousands of adherents from around the world journeyed to ISIL-controlled areas to fight on its behalf.[54] ISIL's barbarity attracted adherents, yet succeeded in uniting a diverse coalition of states to oppose it in the Middle East and beyond.[55] The United States assembled in late 2014 a Coalition of fifty-nine states and the EU to work against ISIL; its charter endorsed "a common, multifaceted, and long-term strategy to degrade and defeat ISIL" by military, diplomatic, and economic means. The Coalition's communique also noted that some participants insisted on the need for "effective ground forces to ultimately defeat ISIL" and "increased support to these moderate opposition forces which are fighting on multiple fronts against ISIL/Daesh, Al Nusrah Front, and the Syrian regime." Iraq and its neighbors cosigned the communique; Syria, Iran, and Russia did not. The U.S. military soon organized a Combined Joint Task Force in Kuwait to coordinate combat operations against ISIL. The military intervention that followed in Iraq and Syria was patterned on the model of NATO operations in Libya and Afghanistan, with advanced coalition forces mounting airstrikes and supporting commandos working with local forces, who did most of the fighting against their countrymen (and sometimes even their neighbors). The U.S. campaign began reaching into Syria in May 2015 with a Special Forces raid that killed senior ISIL leader Abu Sayyaf. Washington also hinted in August that it would defend friendly Syrian forces with airstrikes, even against Assad's troops.[58]

Russia and Iran then worried that Assad's regime could collapse under the simultaneous (though uncoordinated) pressure from ISIL and the Coalition-backed "moderate opposition forces." Assad controlled less than a fifth of Syria's territory by the summer of 2015.[59] The international effort to suppress ISIL thus gave Moscow a diplomatic opening to introduce Russian forces directly into the Syrian conflict. All services of Russia's military joined in the campaign that fall, mounting well publicized strikes with all of the advanced conventional arms at their disposal. Russian strategic bombers and warships firing cruise missiles saw their combat debuts as General Gerasimov and his lieutenants gained practical experience synchronizing long-range strike operations, ostensibly mounted against ISIL, but often hitting the Coalition-backed Syrian opposition instead.[60] Moscow implicitly patterned its intervention on the

U.S.-led Coalition effort, in which the advanced militaries provided local allied forces with the intelligence, surveillance, and reconnaissance; logistics; and command and control essential for sustained, modern campaigns.[61] With Russia's newest and most powerful weapons now frequenting Syria's crowded airspace, moreover, Coalition leaders lost whatever opportunity they might have had to impose on Assad a military solution to the Syrian Civil War.

The intervention by Russia and Iran allowed Assad to slowly reclaim Syrian cities from his opponents as the Coalition drove ISIL from Iraq and reduced its holdings in Syria. Assad's forces took Aleppo in late 2016, while the Iraqi army, with Coalition support, uprooted ISIL from Mosul in July 2017 and declared Iraqi territory ISIL-free the following December. By then the Syrian city of Raqqah, the ostensible capital of ISIL's caliphate, had already fallen to Coalition forces. ISIL had "lost nearly all of the territory they once held," explained a Combined Joint Task Force spokesman at the end of 2017, though he cautioned that ISIL was not quite finished. "We know this enemy is as adaptive and savvy as it is cruel and evil."[62] Yet Moscow and Washington apparently agreed at this point that military victory in the Middle East was not impossible.

A Clash of Worlds?

General Gerasimov, in 2013, predicted that future conflicts would be waged in what he called the "information space." Within a few years of his speech, every shooting war also had a digital dimension. Almost every gun or missile today is employed with the aid of some digital device, even if only the cell phone that detonates the roadside bomb or the video that spurs the aspiring jihadist. Networked digital information gets the weapons and ammunition to the right place at the right time—whether such armaments reach the battlefield on tanks, fighter jets, or ships, or in men's arms—and digital technology helps to maintain and control them. At the same time, several regimes now attack opponents in cyberspace as well. The clashes over borders between the West and the various anti-liberal regimes became virtual as well as physical.

Such attacks had already begun when General Gerasimov made his prediction. Iranian hackers between late 2011 and mid-2013 attacked American financial companies, according to the indictments of seven Iranians won by the Justice Department in March 2016:

> Using botnets and other malicious computer code, the individuals—employed by two Iran-based computer companies sponsored and directed by the Iranian government —engaged in a systematic campaign of distributed denial of service (DDoS) attacks against nearly 50 institutions in the U.S. financial sector.

Their coordinated attacks disabled bank websites, frustrated customers, and "collectively required tens of millions of dollars to mitigate."[63] North Korea entered the fray the following year, attacking Sony Pictures Entertainment for releasing an otherwise forgettable satire about an assassination attempt on North Korea's dictator Kim Jong-un. Secretary of State Kerry publicly condemned North Korea's "cyber-attack targeting Sony Pictures Entertainment and

the unacceptable threats against movie theatres and moviegoers." Kerry called the attacks "a brazen attempt by an isolated regime to suppress free speech and stifle the creative expression of artists beyond the borders of its own country."[64] China moved with greater discretion. In March 2015, someone attacked the website of GreatFire for hosting material that would help computer users avoid official censorship. Independent researchers at the University of Toronto's Citizen Lab found that this new weapon rested on China's so-called "Great Firewall"; Citizen Lab called this capability "the Great Cannon" and noted its sinister novelty:

> The operational deployment of the Great Cannon represents a significant escalation in state-level information control: the normalization of widespread use of an attack tool to enforce censorship by weaponizing users. Specifically, the Cannon manipulates the traffic of "bystander" systems outside China, silently programming their browsers to create a massive [distributed denial-of-service] attack.[65]

At least one regime has gone well beyond censorship and cyberattacks on opponents to manipulate information with cyber tools. According to the indictment of 13 Russians handed up by Special Counsel Robert Mueller's investigation in February 2018, for instance, Moscow, soon after the Ukrainian intervention, mounted a covert campaign to get Americans arguing with one another. A Russian organization called the Internet Research Agency "as early as 2014... began operations to interfere with the U.S. political system, including the 2016 U.S. presidential election," noted the indictment.[66] The Russians employed a classic divide-and-conquer tactic, attacking the presidential candidates that they (along with most American experts) considered strongest while ignoring their apparently weaker challengers. Russian agents, said the indictment:

> engaged in operations primarily intended to communicate derogatory information about Hillary Clinton, to denigrate other candidates such as Ted Cruz and Marco Rubio, and to support Bernie Sanders and then-candidate Donald Trump...On or about February 10, 2016, Defendants and their co-conspirators internally circulated an outline of themes for future content to be posted to [Internet Research Agency]-controlled social media accounts. Specialists were instructed to post content that focused on "politics in the USA" and to "use any opportunity to criticize Hillary and the rest (except Sanders and Trump—we support them)."[67]

The efforts of these Russian hackers received support from leaks of embarrassing emails exfiltrated from the headquarters of the Democratic Party and released to the news media in increments to hamper Clinton's campaign. A month before the election, the secretary of homeland security and the director of national intelligence jointly explained to the world that the "Russian Government directed the recent compromises of e-mails from US persons and institutions, including from US political organizations." The disclosures resembled "the methods and motivations of Russian-directed efforts"; indeed, "the Russians have used similar tactics and techniques across Europe and Eurasia, for example, to influence public opinion there."

Secretary Jeh Johnson and Director James Clapper assessed, in light of "the scope and sensitivity of these efforts, that only Russia's senior-most officials could have authorized these activities."[68]

As the world saw in America's 2016 election, such targeting of individuals and societies via the "information space" can have strategic effects. Cyber campaigns backed by massive arsenals looked very formidable indeed by late 2017. British leaders began discussing in public the apparently growing threat of Russian cyber and electoral disruption backed by powerful, conventional, and even nuclear forces. Prime Minister Theresa May warned in November 2017 that Moscow had "mounted a sustained campaign of cyber-espionage and disruption."[69] Its tactics, she claimed, "included meddling in elections and hacking the Danish Ministry of Defence and the [German] Bundestag among many others." A few days later, Ciaran Martin, chief of Britain's new National Cyber Security Centre, accused Russia of attacking Britain's media, telecommunications, and energy sectors, and of "seeking to undermine the international system."[70]

American strategists recognized as well the return of great-power competition by 2018. Secretary of Defense James Mattis released his *National Defense Strategy* that January and observers immediately noted its bleak tone and its argument that "inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security."[71] The new American strategy saw states remaining the primary locus of power in the modern world, but perhaps did not see how much states were now driven by technological and ideological influences beyond their control.

CONCLUSION

> ...war was now understood as a process, more exactly, part of a process, its acute phase, but maybe not the most important.
>
> — Natan Dubovitsky, "Without Sky"[72]

Ancient ways of mobilizing power for force and using it to scatter foes have gained new reach and impact in the last two decades, both on the battlefield and for internal security. It lies beyond the scope of this paper to explain how these new means became subject, for the sake of efficiency, to automated logical programs sorting digitized data and new concepts of international law. What the paper narrates is how that very technology opened new avenues for force and extraordinary opportunities for surveillance while new ideas of law ironically canalized conflict in a "humanitarian" direction. The question of trust remained throughout, at the level of the leader, the commander, and the individual. Can you trust those with whom you would do business? Can you trust that your computer is guarding your data or presenting you with the truth? Can you trust that international law will protect your sovereignty—or protect you from

your government? Conflict endured as regimes and organizations that could not live at peace with their own citizens ultimately could not remain at peace with their neighbors. The liberal ascendancy that President Clinton described in 1993 thus brought not peace but a long struggle for survival on the part of dictators against the ostensibly universal appeal of liberal ideals. For the foreseeable future, that struggle will proceed on physical, legal, and virtual battlefields, with the "borders" between narratives and visions—and questions of trust—cutting across geographic terrain and reaching into every nation.

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