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## Senior Leader Perspective



## Features



## Book Review

SENIOR LEADER PERSPECTIVE

# Australia in an Age of Strategic Competition

Linda Reynolds

It's not by chance that my first domestic address as minister is before an expert audience grappling with the challenges that are rapidly redefining our strategic environment. Challenges that are engaging our sources of national power, in new and old ways. Challenges that are also impacting on the defence force Australia needs to have, now and into the future.

I'll take the opportunity here to outline some of these challenges, as well as to explain strategies the government is adopting to meet them. By doing so, I'll frame some key considerations that strategic and military planners need to have at the fore of their thinking. Certainly, they are front of mind for me as I immerse myself in my new responsibilities.

Less than two weeks ago, two days after being sworn in, I attended the Shangri-La Dialogue in Singapore. What struck me there was a deepening sense of anxiety about the region's future. There are sound reasons for this.

As I noted in my remarks at the dialogue, the Indo-Pacific is becoming more prosperous, but it is also becoming more complex and contested. Competition between the United States and China is intensifying.

Trade and investment are being increasingly used as tools to build strategic influence, not just gain commercial advantage. North Korea has shown no willingness to comply with UN Security Council resolutions addressing its dangerous nuclear and missile programs. International law and norms continue to be challenged, and not only in the South China Sea.

More and more frequently, malevolent cyber activity is threatening our security and economic wellbeing. And terrorist groups continue to seek footholds and opportunities to establish operational cells and networks of supporters in our region.

*Senator Linda Reynolds is the Australian Minister of Defence. This senior-leader perspective is derived from her 13 June 2019 speech at the Australian Strategic Policy Institute's International Conference: War in 2025. For a full version of the speech, please visit the Australian Department of Defence website: https://www.minister.defence.gov.au/minister/lreynolds/speeches/aspi-international-conference-war-2025.

More than at any other time over the past seven decades, national sovereignty is coming under new forms of pressure. What this shows is that the sense of common purpose that has long driven economic liberalization and tighter partnership in our region can no longer be taken for granted.

As the rules that have guided our prosperity and security are eroded, so too is the trust that this common purpose is built on. And so too is the ability of states to withstand new pressures and to avoid having to compromise their strategic interests and, in some cases, national values.

This is not something the Australian government and people can accept. Especially at times of uncertainty, adherence to rules matters.

Let me be more specific. What a rules-based approach means to Australia is actively upholding international law; reinforcing, not undermining, the work of multilateral institutions; acting responsibly and transparently in assisting other countries; enforcing sanctions in response to rogue behaviour; not misusing technology under the cloak of deniability; and punishing terrorists discriminately.

Australia will always identify with rules-based systems and work actively to support them. This does not mean—and let me be clear about this—this does not mean that we want to preserve the past as a way of shaping the future. Far from it. For rules are strengthened by being adapted to new realities.

New rules also need to be written, especially in relation to potentially disruptive technologies that have advanced faster than have regulations governing their use. As Prime Minister Lee of Singapore so wisely remarked at Shangri-La, we need "to bring the global system up to date, and to not upend the system."[1]

To this end, rising powers that have a pivotal role in global prosperity—China and India, in particular—must play a big part. And so too must smaller countries, to ensure their interests and sovereignty are not overlooked.

The key for a highly capable but modestly sized defence force, like Australia's, is being smart about how we respond to strategic and technological trends that are becoming less favourable to our interests. For Defence, this underpins everything we do—from our capability decisions and how we work with allies, industry, and across government, to our international engagement, capacity-building efforts, and use of hard-power assets for soft-power effects. Let me unpack this a little in four key areas.

*Photo courtesy of Australian Army*

**Australian forces.** US and Australian forces first fought alongside one another at the Battle of Hamel on the Western Front of World War I on 4 July 1918. The relationship, often referred to as mateship, forged over a hundred years ago has grown even closer over the years, with the two nations and New Zealand formalizing their security alliance by signing the Australia, New Zealand, United States Security Treaty (ANZUS Treaty) in San Francisco on 1 September 1951.

First and foremost, how we manage our alliance with the United States will be crucial. In my Shangri-La speech, I referred to *mateship* and *trust*. We are now in our second century of mateship with the United States. That matters a great deal.

Today this relationship is not just about our mutual support obligations, enshrined in the ANZUS treaty.[2] Rather, it is about ensuring the alliance is more focused on, and responsive to, shared challenges in the Indo-Pacific.

As I discussed with key allies at Shangri-La, it is now about coordinating implementation of our respective Indo-Pacific strategies. And it is about determining where we can have a better combined effect, particularly with our Five Eyes

partners, where we need to develop complementarities, and where we must build self-reliance.[3]

These will be important messages both I and the minister for foreign affairs will be reinforcing not long from now at the next Australia–United States Ministerial Consultations. They will help guide how we focus lines of interoperability and where we direct effort to ensure that the alliance's whole remains greater than the sum of its parts—in terms of the intelligence that guides us, the capability we operate, and the technology that advantages us.

Second, the government is taking a more proactive and imaginative approach to how we engage other allies and partners. We have made especially long strides in our engagement with Japan and France, both being key players in the Indo-Pacific region. Both relationships were reaffirmed at the Shangri-La Dialogue. And we are exploring new opportunities for cooperation with India and the United Kingdom.

At the same time, our engagement with regional partners has gone from strength to strength—since being mainstreamed under the 2016 Defence White Paper as a core activity. Under the Defence Cooperation Program, we have delivered wide-ranging capacity-building and training support, both in country and in Australia, to a host of regional countries.

And we have been imaginative in how we do this. A good example is the support we provided to Vietnam in airlifting its peacekeepers to South Sudan. This served not only to assist our UN peacekeeping credentials but also to enhance our standing in the region by helping others shoulder more responsibility for the global rules-based order. These are all important investments in deepening trust, with practical benefits ranging from frank high-level dialogues with traditional and nontraditional partners, to expanded access in the region.

Third, Defence is working more closely with other government agencies to broaden Australia's influence in highly tangible ways. An excellent example of this is the Pacific step-up, which the prime minister announced last November.

Building the resilience of our Pacific neighbours, and helping them reinforce their sovereignty, demands a whole-of-government effort. No one should be under any illusions about the strength of the Morrison government's commitment to the Pacific Ocean states, well beyond the AUD 1.3 billion–worth of assistance that already goes to the region. Australia will do all it can to help members of our Pacific family further develop their infrastructure, providing what is needed and what is affordable. We will also help guard against the impacts of climate change and protect their economic interests.

Defence is doing its part to ensure we remain a responsive and effective security partner of choice. Through both enhanced people-to-people links and maritime

security assistance, building on the 10-year AUD 2 billion Pacific Maritime Security Program.

Fourth, the Coalition government has worked hard to put Defence's relationship with industry on a more collaborative footing. The results are impressive. There have been many achievements in the wake of the release of the 2017 Naval Shipbuilding Plan and the 2018 Defence Industrial Capability Plan, as well as the establishment of the Australian Defence Export Office.

This is about more than building a robust, resilient, and internationally competitive Australian defence industry base—by placing trust in our industries and our people. It is also about ensuring that our industrial base adds to Australia's strategic weight—by fueling innovation and developing and nurturing our own sovereign capabilities.

The Morrison government is firmly committed to Australia authoring its own future in a prosperous and secure Indo-Pacific region. Investing in a capable and potent defence force—one that can provide credible deterrence and withstand and counter coercion—will be an integral part of this commitment. JIPA

**Notes**

1. Yen Nee Lee, "Singapore's leader appeals to the US and China to resolve their differences," *CNBC*, 31 May 2019, https://www.cnbc.com/2019/05/31/singapore-lee-hsien-loong-asks-the-us-and-china-to-resolve-conflict.html.
2. The Australia, New Zealand, United States Security Treaty of 1951 is an agreement signed in 1951 to protect the security of the Pacific.
3. The Five Eyes is an Anglophone intelligence alliance, comprised of Australia, Canada, New Zealand, the United Kingdom, and the United States.

FEATURE

# Russia, South Asia, and the United States

## A New Great Game?

Stephen F. Burgess

Russia will continue to struggle to regain the level of influence in South Asia that its predecessor, the Soviet Union (USSR), had in the 1980s—before it retreated from Afghanistan and before the Central Asian republics gained independence, geographically separating the fledgling Russian Federation from the subcontinent. While Russia has been resurgent in parts of Eastern Europe and Central Asia and has succeeded in creating divisions among NATO members and degrading the Western alliance to a limited extent, the power structure in most of Asia has changed to such an extent that Russia's reach and influence are limited and will remain so, especially in South Asia. Structural realism provides the principal explanation for a resurgent Russia's inability to resume its previously dominant role in South Asia. The collapse of the USSR, detachment from South Asia, and the rapid growth of China and India are structural obstacles to renewed Russian hegemony. These dynamics were similar to those that faced Britain and France in the 1940s as they tried but failed to resume their hegemonic roles in Asia. In addition, Russia's acceptance of a junior role in its strategic partnership with China in the 2010s has created another obstacle preventing Moscow from resuming the close partnership that it had with New Delhi in the 1970s and 1980s. Most importantly, the reentry of the US superpower into South Asia in 2001 and America's forging of strategic partnerships with India, Pakistan, and Afghanistan, especially using the military instrument of power has Russian preempted resurgence.

With Russia's resurgence under Pres. Vladimir Putin as a major "petro-power" in the 2000s,[1] Moscow has attempted to get back into the Asian game.[2] Besides strengthening military forces in the Far East, Russia has ramped up its "soft power" activities and has led a campaign of "soft balancing" aimed against the United States.[3] Moscow has worked with Beijing and led in enlisting New Delhi into the Shanghai Cooperation Organization (SCO) as an observer in 2005 and full member in 2015 and the Brazil-Russia-India-China-South Africa (BRICS) economic group in 2009; both organizations excluded the United States.[4] Russia has also courted the Taliban and held talks in Moscow concerning a settlement of

the Afghan conflict that could be unfavorable to Washington. In addition, the country has maintained its role as a major arms supplier to India, most notably selling the advanced S400 surface-to-air missile to India in 2018.[5] Russia's increased cooperation with China to counter US dominance in Asia works against India's interests and has been counterproductive in Moscow's efforts to rebuild relations with New Delhi.

A widespread view of Russia's limited resurgence was captured by US Pres. Barack Obama, who responding to Russia's 2014 seizure of Ukraine, commented that Russia was a "regional power" that could only threaten its immediate neighbors, implying that it was not the Soviet superpower that had much greater reach and partnerships.[6] A number of factors preempted Russian resurgence in South Asia, including US military intervention in Afghanistan in 2001 to battle al-Qaeda, a "non-NATO major alliance" with Pakistan in 2004 to maintain access to Afghanistan, and a strategic partnership with an increasingly powerful India in 2002 to counter the rise of China. In addition, China surpassed Russia as the most-powerful Eurasian state in the 2000s and assumed a more important role in South Asia, having forged a strategic partnership with Pakistan and encroached on India's northern border.

This article analyzes a contemporary case of the ways in which a resurgent power tries to regain influence in a region where it once was dominant but has been thwarted by changing power dynamics. These dynamics thwart resurgent powers in resuming full membership in a regional security complex,[7] limiting them to transactional relations and "soft balancing," with policies at two different levels that contradict each other.[8] A structural realist approach supports the argument, demonstrating how changing power dynamics in a region have shaped the behavior of great powers and, in particular, thwarting a resurgent power's efforts to reassert itself.[9] In sum, the weakening of a major power, removal from a "neighborhood," and shifting regional power dynamics prevent a resurgent power with even the most-prescient strategy from successfully resuming its role in a neighborhood where it once was dominant.

## Approach

The article shall assess the argument by describing how the Asian power structure has changed since the 1970s and 1980s and how Russia's power has been eclipsed; examining Russia's efforts and interactions with India and other South Asian countries in an effort to regain the status that it lost in the 1990s and demonstrating how Russia's efforts are falling short of recouped status by examining Russian relations with India and other subcontinental actors in the 2010s. The article includes a focus on US entry into the subcontinent and its strategic

partnership with India that has preempted Russia's resurgence, as well as analysis of India's grand strategy that emphasizes the US strategic partnership while not excluding engagement with Russia. The article relies upon interviews conducted with Indian governmental and think tanks security experts in December 2017 and upon secondary sources.

The article analyzes the major reasons why the power structure of South Asia has changed so much and why Russia will continue to struggle to regain its status. The first reasons to be explored will be the power that Russia lost because of the Soviet withdrawal from the subcontinent at the end of the 1980s and the collapse of the Soviet Union in 1991. The amount of power that Russia lost in 1991 when the Soviet Union broke up is similar to that lost by Britain and France in the postwar 1940s.[10] The second factor is the filling of the regional power vacuum filled by the China-Pakistan partnership as opposed by India that has complicated Russian efforts to regain status. The third reason is the US reentry into the region in the 2000s, with the United States offering considerable security cooperation to India, Afghanistan, and Pakistan, which has created a multipolar structure in the subcontinent wherein there is no space for Russia. The fourth factor is a resurgent Russia leaning toward a rising China, which has created a "two-level game" in which Russia has armed China to counter the United States and India at the continental level, while arming India to counter Pakistan and China in South Asia. Regarding power shifts, Russia's 1991 detachment from the subcontinent and US reentry in 2001 are the most significant.

Constructivism provides a second set of reasons why Russia struggles with regaining influence in South Asia.[11] India and the United States formed their strategic partnership in 2002 based upon the conception that the world's two largest democracies were "natural allies." In 2005, when the Bush administration's commitment to global democracy was at its height, Secretary of State Condoleezza Rice stated that US policy was to make democratic India a "global power."[12] The US-based Indian-American lobby has influenced the foreign policies of both democracies, especially in securing the 2008 US–India Nuclear Deal. The lobby has helped to increase US–India engagement, rendering comparatively less effective efforts by a resurgent Russia to resume a prominent role in South Asia.

Constructivism also explains factors that have allowed Russia to make a limited return to the game. Indian leaders' traditional stance of "strategic autonomy" and view of their country as a peace-loving one with a foreign policy based upon "nonalignment" (no alliances; only partnerships) have left the door open to "old friends" like Russia, explaining Moscow's limited revived status in South Asia. While constructivism plays a role in explaining Indian and US behavior, structural realism is more significant in explaining limits to Russian resurgence.

## Power Structure of South Asia in the 1970s and 1980s: Soviet–Indian Dominance

Toward the end of the Cold War, the power structure in Asia was one in which the Soviet Union partnered with and armed India and had the upper hand over the United States and its partners—China and Pakistan.[13] During this period, Soviet strategy was to protect its Central Asian territories by supporting allies and partners in South Asia and by being prepared to use hard power. The United States believed that the Soviets were challenging American interests in the Persian Gulf and threatening oil supplies to the West. The Soviet Navy established a presence in the Indian Ocean, and there was evidence that the Soviets were supporting revolutionary movements in Afghanistan, Iran, and Pakistan's Baluchistan Province. The Soviet military intervention in Afghanistan in December 1979 heightened US concerns.[14]

In the early 1970s, the United States was bogged down in Vietnam, and China was still in the midst of the Cultural Revolution, weakening both powers. The Soviets had scored a tactical victory over China over the Ussuri River boundary in eastern Siberia in 1969, which also signaled Soviet dominance in Asia.[15] With the onset of the East Pakistan crisis in March 1971 and massive human rights abuses by the Pakistan Army, India sought the backing of the USSR to intervene. In August 1971, Moscow and New Delhi concluded a 20-year "Treaty of Peace, Friendship, and Cooperation," which established the strategic partnership.[16] The treaty contained an implied Soviet promise not to provide support to Pakistan or its ally—China—in case of a war with India. In December, the Soviet Union supported India in the war to defeat the Pakistan Army in East Pakistan. India's quick victory led to the dismemberment of India's mortal adversary—Pakistan—and to the creation of Bangladesh. In May 1974, the Soviet Union publically supported India's nuclear test as a "peaceful" one, which provided diplomatic cover, though Moscow—as a cosponsor of the 1970 Nuclear Non-Proliferation Treaty—had pressured New Delhi not to conduct it.[17]

In the 1970s, the USSR became India's major arms supplier. The Soviets facilitated arms sales by permitting India to make deferred rupee payments, easing its chronic foreign exchange shortage. The USSR helped India build factories for the MiG 21 and MiG 23/27 fighter aircraft, which were assembled under Soviet license. The Soviets also sold T-72 tanks and built a repair factory in India.[18] By the end of the 1970s, the USSR was supplying 80 percent of India's arms and had become its number one trading partner. India's reliance on Soviet legacy weapons systems is today a problem that the country is trying to overcome.

In Afghanistan, after Daoud Khan's 1973 coup, Soviet influence grew, culminating in the 1978 communist takeover led by Hafizullah Amin. Pakistan believed that this constituted encirclement and sponsored the Afghan *mujahidin*. The subsequent mujahidin threat to topple the Amin regime led to the Soviet invasion in December 1979 and the installation of the Najibullah regime. India did not oppose the Soviet occupation of Afghanistan and kept its embassy in Kabul open. With the occupation, the United States feared that the Soviet strategy was one of gaining access to the Persian Gulf through Afghanistan, Pakistan, and Iran.[19] Therefore, Washington allied with Pakistan in supporting the Afghan mujahidin. The Soviet occupation led to a decade-long war, which constituted strategic overreach. Also, Rajiv Gandhi replaced Indira Gandhi as Indian prime minister in 1984 and began to open to the West, seeking Western weaponry that was more advanced than that provided by the Soviets.[20] Afghanistan became the USSR's Vietnam and coincided with rapid economic decline, leading to the installation of Premier Mikhail Gorbachev and his *perestroika* and *glasnost* reforms and culminating in the dismantlement of the Soviet Union in December 1991. The Soviet withdrawal from Afghanistan in 1988 and the end of US support for the mujahidin and Pakistan left a vacuum in South Asia that led to chaos in the 1990s, the Taliban–al-Qaeda takeover of Afghanistan in 1996, and a violent extremist campaign in Kashmir against India.

The dismantlement of the Soviet Union led to a sudden drop in GDP—from $2.66 trillion (confirmed by the CIA) in 1989 to less than $1.4 trillion in 1994, rising back to $4 trillion in 2017.[21] Britain and France in the 1940s are comparable cases to the Soviet Union in the 1990s, with both losing power in World War II and, in their limited resurgence, failing to reassert their colonial power in Asia. France's GDP fell from $199 billion in 1939 to $101 billion in 1945, while Britain's GDP rose from $287 billion in 1939 to $331 billion in 1945, thanks in part to US aid during the war.[22] While Russia inherited much of the Soviet Union's aging military hardware, France and Britain slowly rearmed in the 1940s, relying on substantial amounts of American equipment through Lend-Lease (1941–45). In fighting a losing battle to regain control of Indochina (1945–54), France relied heavily on US military support to fight the Vietminh, who the Soviet Union and China backed in the early 1950s. A weakened Britain no longer had the power to hold onto its large Indian colony and was able to work with local forces in waging an anticommunist counterinsurgency in Malaya in the 1950s.[23] Instead of Britain and France resuming their dominant roles, the United States, the People's Republic of China, and the Soviet Union became the major powers in the region. In sum, the weakening of all three powers limited their

resurgence and prevented them from resuming their previously hegemonic roles in distant regions.

In conclusion, the Soviet partnership with India enabled the USSR to wield more power and influence than the United States in South Asia during the 1970s and 1980s. However, the ambitious Soviet strategy led to the excessive use of hard power, overreach, and decline. The United States recovered from the Vietnam War, and Washington's strategy of backing Afghan surrogates helped to exhaust Soviet resources. All told, Russia in the 1990s was much weaker than the USSR and much less able to project military power, as demonstrated by its inability to subdue Chechen rebels between 1994 and 1996 and the rapid decline of the Russian Navy. Just as important, the independence of the Central Asian Republics geopolitically cut off the Russian Federation from South Asia.

In the 1990s, India and China grew economically at a rapid pace and gradually began to fill the power vacuum in South Asia that the Soviet and American withdrawals created**.** China was the fastest-growing economy in Asia, had become the major supporter of Pakistan, and began to concern US hawks. India underwent economic reforms in 1991 that led to high rates of growth and attracted US attention as a possible balancer against China. China's GDP rose from $1 trillion in 1980 to $2 trillion in 1990, to $4 trillion in 2001, and $13.6 trillion in 2018. India's rose from less than $1 trillion in 1990 to more than $2 trillion in 2000 and to $9.5 trillion in 2017.[24] India and Pakistan also tested nuclear weapons in 1998 and almost went to war with each other in 1999. Therefore, by the 2000s, China and India were more powerful, making Russia's resumption of its role in Asia and particularly South Asia that much more difficult.

## Russia Resurges and Tries to Get Back in the Game in South Asia: 2000 Onward

With the commodities boom of the 2000s and surge in oil and gas prices—plus the strategic leadership of Pres. Vladimir Putin—Russia began to play a more prominent role on the world stage.[25] In that regard, Putin worked to revive Russia's relations with India. In 2000, the Declaration on the Strategic Partnership between India and Russia marked a revival of relations, and the India-Russia Intergovernmental Commission became one of the only bilateral bodies involving India besides one with Japan. In addition, Russia supported India's bid to become a permanent member of the UN Security Council.

Putin worked with China's president Jiang Zemin in formalizing the "Shanghai Five" into the SCO. The charter of the SCO stood for global multipolarity as opposed to US dominance, noninterference in the internal affairs of member

states, and counterterrorism. The SCO also implied the exclusion of the United States from Central Asia and strove for the inclusion of India as a member state. In 2005, India and Pakistan were invited as observer states, but they only became member states in 2015. The SCO has not become a Central Asian NATO that can militarily challenge US dominance in South and East Asia and has merely remained a diplomatic organization, limited to soft balancing against the United States. The reasons for the underperformance of the SCO include Russia's lack of ability to project force and fundamental differences in interests with China. Russia wishes to continue to exercise hegemony in Central Asia, while China has worked hard to open up the region with a free-trade area and the Belt and Road Initiative (BRI). The expansion of the SCO to include India and Pakistan has diluted the organization and made it even more of a diplomatic body than before 2015. For India, the SCO served its foreign-policy stance of strategic autonomy and the cultivation of diverse and sometimes competing partnerships.[26]

The 2008 financial crisis and the US printing of dollars to stop economic collapse led to depreciation of its currency, angering China and Russia. This prompted Russia to hold the first BRICS summit in 2009 in which India was a prominent member. At a time of US weakness, there was talk of putting forward an alternative currency to the US dollar. However, Russia failed to become the driving force behind the BRICS, because China had become the most-powerful economy in the bloc. China became the financial force behind the BRICS and created the BRICS bank, and China's *Renminbi* became the logical alternative currency to the dollar.

The fact that the USSR was India's number one trading partner in the 1980s but Russia is today a distant fourth place exemplifies Moscow's relative economic insignificance. In the 2000s, an increase in trade, rising from $3 billion in 2000 to $10 billion in 2010 accompanied the revival of Indo-Russian relations and the global commodities boom. To some extent, this increase represented Putin's use of "petro-power" and sales of oil and gas to win over potential partners. However, by 2018, trade levels remained relatively flat, though with plans to boost it to $50 billion by 2050. In contrast, US–India trade was valued at $126 billion, Indo-European Union trade at $90 billion, and Sino-India trade at $87 billion; these figures indicate the relative weakness of the Russian economy and the limits of Putin's "petro-diplomacy" in South Asia.[27]

Russia has become subordinate in its strategic partnership with China, which is exemplified by the oil and gas deals that have been struck in recent years and the trade imbalance between the two countries.[28] Furthermore, Moscow has sold more advanced weapons to China than to India and has enabled China to become a major arms manufacturer and exporter to Pakistan. For example, from

2002–2006, China purchased 145 combat aircraft (including the SU-35) from Russia; however, by 2007 China was able to reverse engineer those aircraft and manufacture much of them domestically. From 2007 to 2016, China only needed to purchase 626 Russian jet engines to complete the manufacturing process. China now supplies more arms to Pakistan than the United States or any other country does, including the 2018 sale of sophisticated optical tracking systems for nuclear missiles with multiple nuclear warheads.[29] These facts signal to many leaders and experts in New Delhi that Moscow has been aiding and abetting Beijing, that Russia places its partnership with India in a distant second place, and that Putin is engaging in diplomatic hedging and transactional relations.[30]

*Courtesy Russian Presidential Press and Information Office, http://en.kremlin.ru/events/president/news/57508*

**Figure 1. Russian President Vladimir Putin and Indian Prime Minister Narendra Modi on a boat tour in Sochi, Russia, 21 May 2018**.

India still purchases substantial military hardware from Russia, and New Delhi's acquisition of the S-400 air defense missile system and Russian submarines

and frigates are major examples.[31] In addition, the Russian Navy regularly holds joint exercises with the Indian Navy. However, US arms sales are now outcompeting Russian ones,[32] and Russian arms sales to India have declined.[33] For example, Moscow had shown off the SU-57 stealth fighter to New Delhi and promised to coproduce one with India, but Sukhoi struggled to meet production deadlines and an economic recession led to drastic cuts in SU-57 production, causing the project to fail.[34] Furthermore, in March 2019, US-provided Pakistan Air Force F-16 fighters shot down upgraded Indian Air Force MiG-21s, an incident that has again raised concerns in India about reliance on aging Russian equipment[35] and renewed India's interest in US combat aircraft.[36]

In November 2018, Russia hosted a conference in Moscow for talks involving the Taliban and other Afghan opposition parties on the future of the country, which excluded Afghan government representatives. Russia has also reached out to Pakistan. Russia's diplomatic moves represented the filling of the vacuum that the United States had left by the reduction of aid to Pakistan and the announcement of its intention to withdraw from Afghanistan.[37] Washington was also holding separate talks with the Taliban but with the expectation the group would become part of an Afghan coalition government. New Delhi shared this expectation, and Indian officials were upset that Russia would take Pakistan's side in excluding the Afghan government from Moscow's talks.[38]

In conclusion, Russia's resurgence led to Moscow regaining limited power and influence in South Asia. However, Russia's lingering weakness and dramatic changes in the power structure of the subcontinent confined Moscow's role to a transactional one and soft balancing with some contradictions, given Russia's role as China's junior partner. The following section deals with the second major reason why Russian efforts fell short—the US reentry in the region in 2001.

## 2001: The United States Reenters South Asia and Preempts Russian Resurgence

Aside from Russian weakness, the other major reason why Moscow's resurgence has only brought limited results in South Asia is explained by America's reentry into the region, which led to regional political, military, and economic dominance and preempted Russian efforts to resume Moscow's major regional role. In 2001, the Bush administration initiated a dualist approach of economic engagement with China as well as balancing against Beijing's rise. Washington de-hyphenated its India-Pakistan policy, began to treat New Delhi as a potential partner to balance against a rising China, and lifted military and residual economic sanctions. US overtures and India's growing self-assurance led New Delhi

to join the coalition against terrorism after the 9/11 attacks and to offer US forces overflight and port and basing rights in the struggle against the Taliban and al-Qaeda in Afghanistan.

In October 2001, Pakistan president Pervez Musharraf preempted the Indian overture by offering the US overflight, transit, and basing rights in his country. This led the US to declare Pakistan a "non-NATO major ally" in 2004. US entry into the region led to the end of a Taliban regime that was hostile to India and put pressure on Pakistan to diminish support for anti-Indian terrorism in Kashmir. Most importantly, the United States stationed tens of thousands of troops in Afghanistan—a South Asian country—in an effort to stabilize the country and prevent the Taliban and al-Qaeda from returning to power.

In November 2001, Indian prime minister Atal Bihari Vajpayee spoke of the US and India as "natural allies" and reiterated his support for Bush's global war on terrorism (GWOT). In deference to the United States and its dependence on Pakistan for access to Afghanistan, India refrained from providing substantial military assistance to the Afghan government of Pres. Hamid Karzai that was established in 2002. After the Pakistan-sponsored terrorist attack on the Indian Parliament in December 2001 and India's mobilization and posting of 700,000 troops on the Line of Control and Pakistan border,[39] Washington exerted considerable pressure to forestall an Indian attack against Pakistani forces and terrorist camps that could have spiraled into nuclear war.[40] US efforts to resolve the 2002 crisis and support of India's position against terrorism in Kashmir helped pave the way for increased US–India cooperation. In 2002, India began to engage in a regional security dialogue with the United States, fostering greater understanding of New Delhi's concerns, including Pakistan's state sponsorship of terrorism and destabilization of Kashmir as well as India's policy toward the ongoing conflict in Sri Lanka in which India favored devolution of some powers to the Tamil minority.[41]

US–India cooperation in the GWOT and on regional issues helped pave the way for the 2004 "Next Steps in the Strategic Partnership" and cooperation in the areas of nuclear energy, high technology, and space, as well as missile defense and other military matters.[42] Indian and US interests were converging in South Asia, while Washington remained focused on fighting the GWOT in Afghanistan and cajoling Pakistan to counter the Afghan Taliban and Haqqani Network in North Waziristan.[43] The United States recognized the significance of the partnership, India's regional leadership and hegemony in South Asia, and New Delhi's democracy and increasingly dynamic economy as positive forces.[44] In March 2005, *US* Secretary of State Condoleezza Rice announced the Bush administration's intention to assist India in becoming "a global power."[45] New Delhi and Washington

negotiated the New Framework in the India–US Defense Relationship, which charted a more ambitious course in joint exercises, transfer of technology, counterterrorism, and other areas.[46] One result was that the Indian military began to hold more joint exercises with the US military than with any other country, holding several exercises every year. In addition, by 2008, the United States became the biggest exporter of defense equipment to India, surpassing Russia, and New Delhi has subsequently bought billions of dollars' worth of US military hardware.

The efforts of the Bush administration and Indian government to negotiate and enact a civilian nuclear agreement, in which Washington recognized India as a de facto nuclear weapons state that did not proliferate, constituted a major step in striving to help India become a norm-observing global power. After three years of negotiation and an arduous political process, the Bush administration and the newly powerful US "India lobby" were able to secure congressional ratification of the "nuclear deal" in 2008.[47] The nuclear deal ended 30 years of nuclear sanctions against India, opened India's nuclear market to US and other nuclear exporters, and heralded a new stage in India's foreign policy. The deal elevated India to the level of the other five declared nuclear-weapons states, which had led the nonproliferation regime. Washington lifted sanctions against trade with India in nuclear equipment and materials, with the justification that New Delhi had established a good nonproliferation record that would not imperil the NPT.

The nuclear deal and the US–India strategic partnership helped India to move toward becoming a major power that would be more strategically assertive in Asia.[48] The United States had taken major steps toward enlisting India in countering the rapid rise of China as a strategic competitor and eventually forming an alliance.[49] However, New Delhi remained committed to its traditional positions of strategic autonomy and nonalignment and working with Russia, China, and other powers. In reaction, some US observers found that Indian leaders lacked "strategic vision" and assertiveness to develop the capabilities to be a major partner, much less a potential ally. The US–India partnership raised questions as to how India would take advantage of US diplomacy and partnership to expand its presence on the world stage.

Pres. Barack Obama continued the partnership with New Delhi and in November 2009 declared the US and India "natural allies" because of their shared free-market, democratic values and "core goal of achieving peace and security for all peoples in the Asian region."[50] India participated in the Obama administration's "nuclear security initiative" to prevent violent extremists from obtaining nuclear materials.[51] Additionally, New Delhi responded to the nuclear deal by continuing its unilateral nuclear testing moratorium that began after its nuclear tests in May 1998.[52] As part of proving that it would be a good nonproliferation

partner, India voted in International Atomic Energy Agency meetings in 2005 and 2009 against Iran's lack of transparency in its nuclear program.[53] New Delhi worked with Washington in efforts to start negotiations on a Fissile Material Cutoff Treaty and a nuclear weapons convention.[54] The two cooperated to further India's intention of joining the Nuclear Suppliers Group (NSG), the Missile Technology Control Regime (MTCR), the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, and the Australia Group on chemical and biological export controls. While India finally was able to join the MTCR and the Wassenaar Arrangement in 2017 and the Australia Group in 2018, China has continued to block the country's NSG membership to prevent India from rising in power and prestige.

The May 2014 general election landslide for the Bharatiya Janata Party and Prime Minister Narendra Modi led to a reassertion of Indian nationalism and reinvigoration of the strategic partnership with the United States. Modi and his government focused on industrializing India and creating jobs with the "Make in India" campaign [55] and boosting the country's military power. The new government intended to stand up to a growing strategic challenge from China and its partners and sought increased US assistance. New Delhi and Washington established a contact group, which helped break a logjam in a range of programs. India and the United States also created more than 50 bilateral mechanisms, particularly the India–US Commercial and Strategic Dialogue, to deal with issues in relations. The Modi government established an insurance arrangement that overcame liability issues in civilian nuclear energy cooperation with the United States and began preparatory work to pave the way for the purchase of US nuclear power plants.[56] Despite the progress, significant barriers remained for the partnership, especially differences over Iran and India's stance of strategic autonomy.[57]

In June 2015, the United States and India signed a renewal of the Defense Framework Agreement for 10 years, which represented an upgrade in defense relations. The framework agreement recognized the significance of the Defense Technology and Trade Initiative and mentioned codevelopment and coproduction of defense articles and services. Specifically, the agreement mentioned joint development of mobile electric hybrid power sources and next-generation protective ensembles for soldiers operating in biohazard environments.[58] The agreement also opened the way for cooperation in jet engine technology; aircraft carriers; and intelligence, surveillance, and reconnaissance (ISR) platforms. In 2016, the Obama administration further upgraded India to the status of a Major Defense Partner, which opened the way for additional codevelopment and coproduction as well as the transfer of sensitive defense technology. In addition, the United States and India signed the Logistics Exchange Memorandum of Agreement (LEMOA).

The LEMOA held out the possibility of the India Navy using US bases in Diego Garcia and elsewhere on a case-by-case basis and the United States using Indian bases in the Andaman and Nicobar Islands for humanitarian assistance and disaster relief.[59] In 2017, the two countries began to operationalize the LEMOA when a US Navy tanker refueled an Indian Navy ship in the Pacific Ocean. Washington and New Delhi have also been cooperating on strengthening cybersecurity, but they still need to sign the Communications Compatibility and Security Agreement and the Basic Exchange and Cooperation Agreement for Geospatial Intelligence.

The US presence in Afghanistan served India's interests by removing the country from the control of the pro-Pakistan Taliban. However, in 2011, President Obama announced that the United States would be handing over security responsibility to the Afghan government. The concern in India was how much US presence would remain after 2014 and how long the Afghan regime would stay in power. However, the rise of the Islamic State and its smashing victories in Iraq and Syria in 2014 and appearance in Afghanistan caused the administration to stop short of total withdrawal and to keep a residual force of 10,000 troops and air force assets in Afghanistan to prevent collapse. This caused a sense of relief in India, which had provided a substantial amount of aid and road-building projects to Afghanistan. In June 2016, Prime Minister Modi signed an agreement with Iran for $500 million to upgrade the port of Chabahar, which would enable India to establish a land corridor with Afghanistan and take over some of the burden that the United States and its allies have carried in trying to stabilize and develop the country.

In 2017, Pres. Donald Trump showed an interest in making economic deals with India and sustaining the defense relationship, and Prime Minister Modi responded by quickly engaging with Trump.[60] In June 2017, China provoked a military standoff in the Himalayas that brought India and the United States closer together. Chinese People's Liberation Army (PLA) troops moved onto the Doklam Plateau in the Himalayas to build a road that infringed upon the territory of the Kingdom of Bhutan, which had long been under Indian protection. The Indian Army responded by sending troops into the area to block road construction, leading to a 73-day standoff between the Indian Army and PLA. While India demonstrated resolve during the standoff despite China's protests, some officials in New Delhi were careful to keep the confrontation from escalating into a border war and were concerned about US rhetoric that was casting the issue in the broader context of China's territorial violations in the South China Sea (SCS) and East China Sea (ECS).[61] Other officials perceived that Washington had not been specific enough in its support for India and Bhutan.[62] However, some US

and Indian officials asserted that Doklam was a "game changer" and would bring India ever closer to cooperating with the United States and its allies.[63]

In August 2017, President Trump announced a new US strategy toward South Asia in which Washington would increase the number of troops in Afghanistan to more than 10,000 and keep its presence open-ended.[64] The strategy included pressuring Pakistan to do more to stop terrorists from using safe havens within its borders and India providing more economic and development support to Afghanistan. US officials stated an interest in sustaining and improving defense relations to counter a rising China in the Indian Ocean and Asia. Then Secretary of Defense James Mattis said that the "world's two greatest democracies should have the two greatest militaries."[65] Trump and Modi repeated this statement in November 2017 on the sidelines of the Association of Southeast Asian Nations (ASEAN) summit in Manila, when the two leaders pledged to elevate India's status as a major US defense partner. As part of the December 2017 *National Security Strategy*, Washington pledged to "deepen the strategic partnership with India and support its leadership in Indian Ocean security and throughout the broader region."[66] At the same time, the United States criticized Pakistan for its military's unwillingness to counter the Afghan Taliban and Haqqani Network operating from on its soil.

Despite all this, some of the Trump administration's policies have created the conditions for Russia to gain greater influence in South Asia. In May 2018, Trump pulled out of the Joint Comprehensive Plan of Action (JCPOA) that curbed Iran's nuclear program. The US renewal of sanctions poses a threat to India's energy supply and has led to new tensions in relations; Russia continues to be a major supporter of the JCPOA.[67] In addition, India's agreement to purchase the Russian S-400 air defense missile system has placed an obstacle in the way of purchasing US combat aircraft and could eventually lead to US sanctions against New Delhi; this improves the prospects for India purchasing the SU-57 and other Russian fighter aircraft. The Countering America's Adversaries through Sanctions Act (CAATSA), designed to divert military resources from Iran, Russia, and North Korea could prohibit Washington from selling advanced fighter aircraft to India if New Delhi proceeds with the acquisition of the S-400 system. In March 2019, the Trump administration announced that India was the "tariff king" and that preferential trade preferences would end, which could worsen relations.[68]

*US Air Force photo by SSgt Hailey Haux*

**Figure 2. US–India cooperation.** Gen CQ Brown Jr., Pacific Air Forces commander, discusses his orientation flight in an Indian Air Force Mirage 2000 at Cope India 19 at Kalaikunda Air Force Station, India, 14 December 2018. Total participation in the exercise included more than 200 US Airmen, F-15 Eagles from the 18th Wing, Kadena Air Base, Japan, and C-130J Super Hercules from 182nd Airlift Wing, Illinois Air National Guard, alongside IAF airmen operating Sukhoi 30s, Jaguars, Mirage 2000s, C-130Js, as well as Airborne Early Warning and Control System and refueling aircraft.

In conclusion, the US reentry into South Asia in 2001 led to strategic partnerships with India, Afghanistan, and Pakistan. The US–India strategic partnership has transformed the power dynamics of South Asia and enabled balancing against China—Russia's senior partner. The next section deals with India's grand strategy and reinforces the conclusion that the United States will remain the country's primary strategic partner, while Russia will stay a secondary partner.

## India's Grand Strategy and Relations with Russia

India proclaims a position of "strategic autonomy," but the country has in practice worked with the United States to counter the rise of China, defending the Asian status quo and fending off the growing challenge from Beijing and its territorial expansion and partnership with Islamabad. This means that Indian

relations with Russia play largely a symbolic role in demonstrating that India has some autonomy from the United States. New Delhi sees rising Chinese nationalism and the assertiveness of Pres. Xi Jinping as obstacles to resolution of growing differences with China. In 2013, Xi came to power in China and initiated the BRI, with infrastructure plans, projects, and funding that work to counter Indian cooperative activities with Asian countries. India has not welcomed the BRI, partly because it sees China's initiatives as aimed against India's influence. In New Delhi, many observers perceive China's outreach to Sri Lanka, Bangladesh, Pakistan, the Maldives, and Myanmar as part of a strategy of encirclement.[69] China has been selling submarines to Pakistan and Bangladesh, another perceived instance of encirclement. By building infrastructure through Pakistan to the Arabian Sea and Myanmar to the Bay of Bengal as part of the BRI, China is lessening the possible impact of an Indian "distant blockade" of energy flows through the Strait of Malacca and to Chinese ports.

India increasingly is concerned about the growing presence of the People's Liberation Army Navy (PLAN) in the Indian Ocean and in the SCS and ECS and is developing responses. Indian analysts regard PLAN efforts to improve sustainment, tactical air cover, and basing in these waters as critical indicators of Beijing's intentions.[70] India is strengthening its strategic partnership with Japan in balancing against China, and the Japanese government has been pushing hard for a stronger partnership with India and the United States. While the United States and Japan can work together in guaranteeing freedom of navigation and territorial integrity in the ECS and SCS, India can help secure Japan's energy supplies that pass through the Indian Ocean.

India would like the Washington to avoid any dialogue with China that moves toward bilateral cooperation in "solving Asian security problems." In particular, New Delhi rejects any outside meddling in the Kashmir dispute and asserts that it is well on the way to resolving the issue despite interference from Pakistan. Regarding Tibet, both India and the United States have quietly supported the rights of the people to some form of autonomy and self-determination since China's forceful takeover in 1959. Tibet remains restive, and unrest by supporters of self-determination based in India could contribute to rising tensions in the Himalayas. China's installation of a new Dalai Lama in Tibet would also increase tensions with India and the United States but would not spark a military conflict. The perception in New Delhi is that Beijing remains hypersensitive about Tibet.

India fears long-term erosion of its strategic position because of China's buildup of border deployments, conventional capabilities, and strategic forces. New Delhi's greatest concern is over China's military–logistical buildup along the Sino–Indian border. Much more likely is a conflict in the Himalayas, especially with ongoing

border issues. In addition, China has projects under way to dam the Brahmaputra River and other streams that could deprive parts of India of vital water sources.[71] The 2017 Doklam confrontation raised the prospect of a new phase in Sino–Indian confrontation. However, since then, the two sides have remained cautious and not escalated beyond skirmishes.

In Southeast Asia and the SCS, India shares interests with the United States in cooperating to maintain security and the status quo, since more than half India's trade passes through those waters—as does much of the trade of the US and its allies and partners. New Delhi has been involved in ASEAN Plus defense ministers meetings and has conducted Indian Navy port calls and exercises with ASEAN countries. India implemented a "Look East" policy, which achieved success especially in engagement with Burma, opening the country to a wide range of countries and enabling India to compete for influence with China.[72] The successor to Look East, Prime Minister Modi's "Act East" policy, has focused on expanding activities into Southeast Asia via infrastructure development, foreign direct investment, and a free-trade area with ASEAN, which complement US policies in the region. Russia and India (and the United States) share close relations with Vietnam, including security cooperation.

To its west, India is concerned with Afghanistan and Pakistan as well as the Persian Gulf and its close relations with and energy supplies from Iran. Afghanistan remains a major source of concern in New Delhi. There is the danger that—as in the 1990s—the dominoes will fall, with Afghanistan succumbing to the Taliban, large parts of Pakistan falling to the Taliban, and a rise in violent extremist activity in Kashmir and by Pakistan-backed violent extremists within the rest of India. In attempting to secure Afghanistan, inserting thousands of Indian forces there would cause a major crisis with Pakistan. India has to be careful to place no more than a couple hundred Indian military advisors in Afghanistan for fear of escalation. However, the Trump administration's open-ended Afghanistan strategy has brought strategic convergence with India but no "light at the end of the tunnel."

India is concerned about China's growing alliance with Pakistan, Beijing's development of an overland route from Xinjiang, and China's access to the Indian Ocean through the port that Beijing is developing at Gwadar in Baluchistan as part of its BRI strategic program. New Delhi has welcomed America's move away from Pakistan and continued warm relations with India. However, the United States is compelled to maintain relations with Pakistan to continue to have access to Afghanistan and press Islamabad to fight the Taliban, Haqqani Network, and remnants of al-Qaeda.[73] Therefore, the best that Washington and New Delhi can

do is to manage relations with Pakistan and prevent radical Islamists from taking control of the country and its nuclear weapons.

In sum, India's grand strategy is one in which the United States plays a more prominent role than Russia. However, India continues to keep open the door to Russia. New Delhi has not joined the West in sanctioning Moscow for the seizure of Crimea and has not denounced Moscow's hybrid warfare against Ukraine and Western democracies. India is still interested in buying Russian military hardware and joint weapons production,[74] but the United States has supplanted Russia as India's closest partner and major arms supplier. When India decided to become a full member of the SCO in November 2015, leaders viewed it as a way of preventing encirclement by China and believed that Moscow had paved the way for New Delhi's admission as a way of soft balancing against China's expansionist activities in Central Asia.[75] In conclusion, India's grand strategy shows the relatively minor role that Russia plays as opposed to the strategic partnership with the United States.

## Conclusion

This article has demonstrated how structural realism explains a resurgent Russia's inability to resume its previously dominant role in South Asia. The collapse of the USSR, independence of the Central Asian republics, and rapid growth of China and India proved to be formidable obstacles. Russia's acceptance of a junior role in its strategic partnership with China has created another obstacle, preventing Moscow from resuming the close partnership that it once had with New Delhi. The reentry of the US superpower into South Asia in 2001 and its forging of strategic partnerships with India, Pakistan, and Afghanistan has been the most important factor. The US–India strategic partnership has been of particular importance and has grown from the United States making India a respected nuclear weapons state in the 2000s to a multifaceted security relationship, including countering violent extremists and equipping, training, and exercising with Indian forces to defend the country from Pakistan and China. In addition, given the superiority of US weapons systems, Russia has been losing its advantage as a major arms supplier to India. The partnership has also led New Delhi to develop its grand strategy toward countering the Sino–Pakistan partnership, widening India's strategic vision beyond the subcontinent and removing US military and residual economic sanctions against India.

Constructivism plays an explanatory role in Russia's inability to get back in the game. Principally, one cannot discount the role that democratic affinity and the Indian–American lobby have played in US–India relations. The breadth and depth of the strategic partnership has made it that much harder for Russia to compete.

Russia could play a more prominent role in the South Asian game as the United States withdraws from Afghanistan and cuts its ties with Pakistan. Russia's gambit with the Taliban and Pakistan demonstrates that Moscow has the ability to take advantage of US vulnerabilities. As China continues to grow in power and tightens its partnership with Pakistan, India could fail to keep up, despite US security cooperation efforts. India's military weakness could provide an opportunity for Moscow to revive its strategic partnership with New Delhi, as evidenced by the S-400 sale. However, Russia has to modernize its defense industries to compete with the United States and China—a daunting task.

On the other hand, it is clear that Russian interests and reach have shrunk and could deteriorate further, as President Obama observed. As Russia becomes increasingly involved in destabilizing Europe, playing a more active role in the Middle East with its Syrian ally and others, and fending off China's challenge in Central Asia, Moscow's interest and ability in great power competition in East and South Asia could decline further. China and India will continue to rise in the 2000s, while the US future role maintaining the Asian status quo seems uncertain. Therefore, Russia appears to be playing a losing game. The lesson for the United States is to stay in the Asian game and not to withdraw; once it leaves, it may not be able to return. JIPA

**Notes**

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Buzan observed that "In relation to East Asia, there are more signs of interaction between the South and East Asian regional security complexes, mainly hinging on the rise of China. This is not yet sufficient to talk of the two having merged, but a wider Asian supercomplex is clearly emergent and becoming stronger. In terms of South Asia's position in the global system, India's claim for great power status is now plausible, though the role of the United States in both East and South Asia remains similar. But, the global level itself is probably moving towards a scenario in which a system, containing several great powers and no superpowers, becomes more regionalized. This trend has deep roots, and the key question for India is what balance it wants to establish through its engagement with its own region, the wider East Asian region, and at the global level."

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common interest; c) Strengthen capabilities of militaries to promote security and defeat terrorism; d) Promote regional and global peace and stability; e) Enhance capabilities to combat the proliferation of weapons of mass destruction; f) Increase opportunities for technology transfer, collaboration, co-production, and research and development; g) Expand collaboration relating to missile defense; h) Strengthen abilities of the Armed Forces to respond quickly to disasters, including in combined operations; i) Conduct successful peacekeeping operations; and j) Conduct and increase exchanges of intelligence.

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FEATURE

# Airmen and Unmanned Aerial Vehicles

## The Danger of Generalization

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Military operations involving unmanned aerial vehicles (UAV), also known as "drones,"[1] represent a complex sociotechnical system with the human element at its core.[2] UAVs are "valuable assets in achieving a variety of strategic, operational, and tactical objectives, including ISR [intelligence, surveillance, and reconnaissance] missions and kinetic-strike operations."[3] Because of their numerous battlefield advantages over manned systems, UAVs continue to proliferate on a global scale at an accelerated speed. The estimated market[4] is expected to grow from around $6 billion in 2015 to about $12 billion in 2025.[5] In 2018, the RAND Corporation, tasked to produce a report on how the proliferation of UAVs will impact US national security interests, concluded that these systems pose an incremental but growing threat to US and allied military operations, predicting that, in future conflicts, US forces will have to cope with adversaries equipped with different types and sizes of UAVs, with and without ordinance on board.[6] More than 90 states operated military UAVs as of 2017, and almost 30 possessed or were capable of using armed UAVs.[7]

The past decade has witnessed a steadily growing popular and academic interest in these systems, the legal and ethical questions surrounding their use, and their impact on armed conflict and society more generally. Much ink has been spent to present independent analysis on different facets of these developments. To date, however, only a handful of protagonists (pilots and sensor operators) have spoken about their experience openly. As a rule, their daily labor is systematically protected from public scrutiny. Official security policies prohibit aircrews from discussing the details of their work with anyone who does not hold a security clearance and a need to know.[8] Information sharing has been further dis-incentivized with aircrews having been publicly criticized for showing disloyalty to the services.[9] Those few, however, who braved an opportunity to tell their story in detail, lament that the exhausting US government censorship processes take longer to complete than an aircrew member may require to successfully

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publish a book-length monograph.[10] The challenges of gaining insight into the work of UAV operators notwithstanding, a number of narratives have been fashioned and maintained early on in the popular and scholarly discourse presenting operators in a particular light. For example, the aircrew members are portrayed either as courageously restrained heroes who, due to the nature of their profession, suffer under heavy psychological trauma or as gung-ho joystick warriors responsible for fashioning and sustaining the culture of "convenient killing."[11]

While occasionally supported by reference to first-person accounts, the narratives are fashioned in nearly absolute terms implying the invalidity of any possible counter-representations. In social critic Laurie Calhoun's view, as a non-psychologist, operators are trained "to kill in the manner of sociopaths with no feelings whatsoever for their victims [who] are but icons on computer screens."[12] Given that little insight on the topic has been offered by the operators themselves, the assertiveness and even boldness of some of the suggested narratives is indeed striking. That said, a few commentators who acknowledge the dearth of available testimonies, disagree on the implications. Alex Edney-Browne, for example, contends that such testimonies nevertheless offer rich empirical information that may be generalizable to a wider group of active-duty and retired personnel.[13] Conversely, Joseph "Joe" Chapa, pointing out that references in the literature to the available data have become circular, advises to exercise caution in selecting evidentiary data points, "not because they are without value, but because they are so few."[14] While accuracy of both contentions arguably depends on what aspects of UAV operations form the focus of a particular investigation, this paper asserts that limited data on operators' personal experiences obstructs the attempts of the research community to gain adequate knowledge and develop and share an informed opinion on the subject.[15] As the firsthand testimonies examined for the purposes of this paper show, creating a black-and-white narrative of the operators' experiences undermines the informative value of already limited data and artificially reinforces images that this data frequently seeks to reverse.

The present inquiry is motivated foremost by continuous developments in technology. As military systems incorporate ever more elements of autonomy, it is essential to assess their potential to become successfully integrated in existing force structures. Given that a human operator is projected to remain a central element of such systems, the success of the integration process is squarely dependent on how humans will adapt to increasing automation. While current UAVs have only limited autonomous functionality, they nonetheless offer the only example of some of the most technologically advanced systems that have tested human capacity to adapt and where the experience of adaptation has been described by the users of such systems.

## Methodology

Before proceeding to analysis, some words on the applied methodology are necessary. Researchers have recurrently relied upon personal accounts of military personnel as a valid and valuable source of data for academic inquiry.[16] This approach has its limitations, however. Personal testimony is necessarily subjective. It cannot be treated as an immediately quantifiable set of data but must be contextualized to ensure that interpretation is not distorted.[17] While none of the firsthand accounts would be sufficiently informative on their own, combined they inform our understanding of operators' experiences in a more balanced fashion. The current analysis focuses on the experiences of pilots tasked with controlling the aircraft and sensor operators responsible for handling the payload: cameras, missiles, and remote sensors.

The data set draws from the material available in the public domain and includes firsthand accounts by former UAV operators in the form of monographs, book chapters, opinion editorials, and interviews given to newspaper outlets; we also draw our findings from interviews prepared for radio and television broadcast and first-person opinions presented in a number of documentaries, such as *5000 Feet Is the Best* (2011), *Drone* (2014), *Eye in the Sky* (2015), and *National Bird* (2016). The analysis follows American- and British-centric perspectives. Many operators who shared their experiences did so under the condition of anonymity.

A general observation is that almost two decades after the MQ-1 Predator flew its first armed mission,[18] Airmen who have told their stories can be counted with one hand.[19] Only three personal book-length perspectives have been offered on what it means to be a Predator pilot. To begin with, *Predator: The Remote-Control Air War over Iraq and Afghanistan: A Pilot's Story* (2010) is retired US Air Force lieutenant colonel Matt Martin's first-person account on fighting the Global War on Terror over Iraq and Afghanistan from the controls of an UAV.[20] Then, in *Hunter Killer: Inside America's Unmanned Air War* (2015),[21] retired US Air Force lieutenant colonel T. Mark McCurley, a veteran Predator pilot, recounts his career progression from a trainee to a commander of the Predator squadron that executed the Anwar al-Awlaki mission. Finally, in *Drone Warrior: An Elite Soldier's Inside Account of the Hunt for America's Most Dangerous Enemies*, Brett Velicovich offers an account of the complex nature of UAV operations from the perspective of a former member of Special Forces Operational Detachment-Delta.[22]

*US Air Force photo by SSgt Carolyn Herrick*

**Figure 1. Local and international media outlets film a US Air Force sensor operator inside the 16th Training Squadron MQ-1/MQ-9 simulator at Holloman AFB, which served as a training base for crews of the MQ-1 Predator and the MQ-9 Reaper.**

Notably, these important, comprehensive contributions on the subject appear to have gone largely unnoticed, enjoying only occasional reference in the research field and public discourse. Likewise, the only study to date focusing specifically on characterizing the psychological responses to killing from UAV operators and understanding their level of mental engagement with combat, conducted by US Air Force colonel Joseph Campo, has hardly received attention it deserves.[23] In contrast, the media's focus on the issue of psycho-emotional responses to remote killing has allowed some voices to become exceedingly vocal in the discourse on what it means to be a UAV operator. Brandon Bryant, a former UAV sensor operator diagnosed with Post-Traumatic Stress Disorder (PTSD) as a consequence of his duties in the UAV program, is a case in point.

## Road Map

This paper analyses the dominant narratives created around UAV operators and the technology itself. It shows that the images created in public perception can be supported by reference to the firsthand testimonies as much as they can be opposed

by reference to the same testimonies. The firsthand testimonies shed light on many challenges in the human dimension of remote air operations that require adjustments on different levels, depending either on the inherent characteristics of technology or the operator's personal and professional background. Considering the rudimentary autonomous functions that UAVs are capable of, the success of human-machine teaming is largely dependent on the operator's engagement and his or her skills.

## PlayStation Mentality

One of the narratives strongly rooted in popular and academic perception is that the remote fighting is more akin to playing a video game than real warfare. Philip Alston, UN special rapporteur on extrajudicial executions, infamously labeled the psychological act of distant killing as a "PlayStation mentality" suggesting that drone warfare stimulates the mental and emotional responses of playing a computer game:[24] "Young military personnel raised on a diet of video games now kill real people remotely using joysticks."[25] John Yoo, the Emanuel Heller Professor of Law at the University of California, Berkley, concurs, stating, "It is like a video game; it's like Call of Duty."[26] The concept of PlayStation mentality is used to promote the image of operators as detached from the battlefield and the deaths that their UAVs administer thereupon. In popular perception particularly, Airmen are regarded as "the unfeeling videogame warriors."[27]

Admittedly, computer games deserve a place in the discussion. As UAV operations have outpaced current training regimes, a shortage of qualified UAV pilots emerged. As a result, military organizations have turned to targeting gamers in their recruiting strategies, the reason being the skill set that video-game players can bring to the field—better hand-eye coordination, the ability to multitask, and others.[28] Moreover, the material easily accessible on the internet heavily influences the way Western societies tend to regard UAV technology. Numerous short video clips displaying UAV strikes (occasionally set to music) invite the viewer to think of killing via drones as less-than-serious and almost game-like to the operators.[29] Such clips also omit crucial details—they neither explain the background and context of the mission nor the extent of preparation required before the decision to lethally engage the target is relayed to the aircrew; they also generally fail to show the additional sensory inputs of voice, data, and cockpit displays that connect the aircrew to the troops they support on the ground. It is therefore, perhaps, not surprising that such media provide writers an easy avenue to declare that war has become a video game. Finally, modern-day society devotes a significant amount of personal time to playing video games, and aircrew members are not an exception. They too turn to video games as a form of relaxation, a way of decompressing from

their work.[30] For example, interviews with 111 MQ1/9 aircrew members from 13 different squadrons across the United States reveal that study participants averaged 2.4 hours of video gaming per week in their personal time.[31]

Notably, in the academic sphere, the relationship between the psychology of video gaming and operating an UAV is quietly but steadily growing as an area of inquiry. In a number of related studies, the scientific community has demonstrated that video-game players outperform traditional pilots in certain skill sets, such as being able to track more targets,[32] possessing improved psychomotor skills,[33] having faster reaction times,[34] and exhibiting enhanced spatial skills.[35] The comparison between the UAV ground control stations (GCS) and the traditional video-game environments has been justified on the basis that the player is trying to achieve certain goals (the aircraft mission) and interacts with the game via screens and inceptors that provide sufficient but limited information to allow this to happen (the aircraft sensor feed, displays, and controllers).[36] Research in the area of cognitive science and neuroscience has recently found that video-game players possess skills that make them capable of successfully navigating an UAV.[37] In comparison to general aviation pilots and professional pilots from airlines and the military, video gamers show the best awareness of the accuracy or inaccuracy of their decisions in relation to the increased levels of danger and risk and, overall, are less likely to exhibit overconfidence in decision judgments.[38]

Firsthand accounts show that for a number of operators the prospect of playing video games for living "all day" served as one of the leading motivators for joining the UAV program.[39] Some liken their time as trainees to "playing Dungeons & Dragons."[40] Looking at the next generation of warriors, "Taylor," an experienced UAV pilot charged with training the 19-year-old recruits, openly voices her concerns that, being extremely native to the world of first-person gaming, the younger generation of operators could be less sensitized to the gravity—the life and death nature—of this work.[41]

Still, the operators' objections to the popular image of a video-game warrior appear not less vocal, suggesting that a few visual similarities notwithstanding, the analogy between the UAV operators and video-game players has been extended beyond its legitimate reach. To begin with, the most-recent research emphasizes the discrepancy between video games and the sense of reality experienced when watching enemies die on the screen of the GCS. For example, while observing the MQ-9 Reaper crew shooting down enemy fighters from inside the GCS, Peter Lee reports to have suddenly experienced a strong, "putrid smell"—hints of "burnt flesh mixed with surgical disinfectant"—that nobody else was acknowledging but which Lee had experienced previously when caring for the wounded in Cyprus during the 2003 invasion of Iraq. Specialists in memory function explain such

occurrences as instances of olfactory memory, the capability of the human brain to recall odors in response to powerful events. In other words, the brain connected the visual image from the screen with a smell embedded in memory.[42]

Further, in the largest study available on the level of mental engagement among UAV operators in their daily combat activities, Joseph Campo concludes that none of 111 MQ-1/9 aircrew members consider operating an RPA (remotely piloted aircraft, a synonym for UAV) comparable to playing a computer game.[43] Every single interview participant, regardless of whether they were an 18Xer (i.e., aircrew with no prior manned-aircraft or combat deployment experience),[44] previously flew a fighter or bomber aircraft that launched from within the combat theater (A-10), or experienced a positive or negative psychological reaction to killing, was united in asserting that UAV combat operations do not resemble video gaming.[45] Other voices join in support of these findings:[46] "Well, people do not die in videogames. And you're not able to save people's lives in videogames. I cannot cause an aircraft to have a collision with another aircraft in a videogame. Flying RPAs is simply not a videogame."[47]

In agreement, a former F-16 pilot, US Air Force major Bryan Callahan, adds, "We're well aware that if you push that button somebody can go away. It's not a video game. You take it very seriously. It's by far nowhere near a video game."[48]

Other firsthand testimonies, however, are less radical in their reflection. For example, the protagonist in a short documentary titled *5000 Feet is the Best* accepts the comparison to video games in principle, yet adds a qualifier: "I guess Predator is similar to playing a video game, but playing the same video game four years straight every single day on the same level. One time I just watched the same house for a month straight—for at least eleven hours, every day, for a month."[49]

Matt Martin offers yet another qualifier, suggesting that part of the operator's experience rather resembles watching an infinite reality TV show: "With the Predator, as well as the media, I followed the mosque siege as it unfolded day by day, as captivated by the situation . . . as the rest of the world. It was almost like watching some reality TV program that went on endlessly. . .. I watched the entire drama play itself out in real time."[50]

Taken quantitatively, the available firsthand testimony suggests that those supporting the concept of PlayStation mentality are likely to be outnumbered by the opponents of the video-game analogy.[51] However, the ultimate relation of video gaming to UAV operations is yet to be fully understood and defined. The first and foremost step to better understanding the aircrew members and their relationship to the UAV technology requires at the minimum acknowledging the complex nature of their experiences to which the firsthand testimonies clearly point. Above all, the foregoing discussion demonstrates the danger of generalizing personal

experiences of operators, as some of them do not categorically exclude comparison with computer games. It is also striking that the discussion has been dominated by the gamer-versus-nongamer dichotomy, while other comparative samples, such as a radar-approach controller at an airport or the combined force air component commander have been mostly excluded from the debate on the subjective experiences of UAV operators.[52] Yet, in both these other professions, duties are performed in a dark room with numerous monitors, no exposure to the physiological pressures of flight, and an even greater potential for destructive capability than RPA pilots have: in the first case, the controller may be in charge of multiple airliners, each carrying hundreds of people; in the second, the officer is responsible for numerous missions, objectives, and air assets.[53] Last, but not least, some have also suggested that comparison to artists is more apposite to explain the essence of experience: being professionally trained to observe situations, record environments, and analyze images, artists are believed to be ideal recruits for flying UAV missions.[54]

## Distance

Another narrative that has pervaded the popular and academic literature since early on focuses on the distance between the operators and the combat zones where the effects of their actions take place. Engaged in "the labor of surveillance and bureaucratized killing,"[55] Airmen are said to "administer" life and death with the push of a button from a GCS located thousands of miles away from the physical warzone.[56] By enabling emotional detachment and psychological disassociation from the consequences of targeting decisions, physical distance is believed to desensitize operators to the very act of killing.[57] Political activist Medea Benjamin captures this opinion quite succinctly: "When military operations are conducted through the filter of a far-away video camera, there is no possibility of making eye contact with the enemy and fully realizing the human cost of an attack."[58]

The arguments about the implications of distance and its potential to dehumanize one's enemy often draw upon US Army lieutenant colonel David Grossman's seminal work, *On Killing*, which examines the relationship created between soldiers when they confront one another on the battlefield and the emotional consequences of that encounter. Drawing on historical studies and the personal accounts of ex-combatants Grossman argues that "there is a direct relationship between the emphatic and physical proximity of the victim, and the resultant difficulty and trauma of the kill."[59] Fighting "eyeball to eyeball with the sweat and the emotions of combat"[60] renders the act of killing exceedingly more difficult when compared to the experience of a bomber pilot who, operating at a range where he is unable to perceive his enemy without using some form of mechanical

assistance, i.e., binoculars, radar, or remote TV camera,[61] may be "fascinated and satisfied with his work."[62] While intellectually the pilots undeniably grasp the horror of what they are doing, emotionally, the distance involved permitted them to deny it.[63] Most interestingly, Grossman concludes that in the years of research on the subject of killing in combat he could not identify "one single instance of individuals who have refused to kill the enemy under these circumstances, nor [has he] found a single instance of psychiatric trauma associated with this type of killing."[64]

With Grossman's study concluded before the development of armed UAVs it is questionable, however, to what extent it meaningfully applies to the experiences of the aircrew. Above all, several operators with prior manned-aircraft experience and prior combat deployments deny Grossman's findings. They point out that the manned-aircraft pilots are not psychologically disengaged when attacking the enemy and, importantly, insist that distance from their targets does little to desensitize them to the real-life consequences of their actions.[65] Ryan, who used to fly a B-52 bomber, explains: "Oh yeah, you still get buck fever; you know you're about to do some damage. The heart rate goes up."[66] Former F-16 pilot, US Air Force colonel D. Scott Brenton concurs, relating that, when the call comes for him to fire a missile and kill a militant, the hair on the back of his neck stands up just as it did when he used to line up targets in his F-16 fighter jet.[67] Another US F-16 pilot recalls, "Even though we were sitting in a box on the ground miles away from the action, I could feel my heart rate rising and my adrenaline start flowing when those friendlies took fire. It felt real and I did not think it was going to be like this."[68] With or without prior manned-aircraft experience in active warzones, UAV operators repeatedly describe undergoing combat sensations that are remarkably like those experienced by fighters operating on the frontlines: elevated heart rate, rising adrenaline, shaking hands, and increased respiration, leading to a heightened level of awareness and vigilance.[69]

It is therefore increasingly challenged in literature that distance involved in the UAV missions helps pilots to emotionally detach themselves from the act of killing.[70] The views expressed in support are unambiguous: "Distance does nothing to numb the emotional impact of taking a life."[71] "They are human beings, right? That is the bottom line, so it affects you to watch the impact of a kinetic strike. . .. Just because you are separated by technology does not mean you are separated emotionally."[72]

The account of the death of two children stricken down by a Predator missile is also far from a sense of carefree detachment: "Pilots and sensors congregated in solemn denial around the GCS screens, still in shock over what we have just witnessed another of the dirty little horrors of war that lost none of its impact

whether you were actually there or you viewed it all remote. Death observed was still *death*."[73]

Many other firsthand narratives provide examples demonstrating that distance hardly desensitizes pilots when it comes to engaging in remote combat.[74] They also emphasize the experience of closeness to the battlefield: "One of the biggest misconceptions surrounding the RPA community is that the aircraft allows us some distance from the killing, since we are thousands of miles away. The opposite is true. We are too close. We know too much, and when it is time to shoot, we can zoom in until our target fills the screen."[75]

Philosophers ascribe the phenomenon of simultaneously experiencing distance from and proximity to the battlefield to the unique features of UAVs. Even though designed to provide near complete physical isolation between combatants, the nature of technology is such that it ultimately "bring[s] war straight into a pilot's face."[76] Sophisticated electro-optical/infrared sensors and synthetic-aperture radar modes that enable the aircrew to locate and identify targets and to complete battle damage assessment after a strike, bridge geographical distance to an unprecedented extent.[77] Significantly, due to the lion's share of remote piloting consisting of aerial surveillance operations, i.e., an endless loop of scanning roads, circling compounds, tracking suspicious activity and similar, UAV operators have come to be regarded as and perceive of themselves as "ultimate voyeurs"[78] by means of technology that paradoxically magnifies a sense of closeness to the target.[79] One of the drone operators termed this phenomenon "cognitive combat intimacy,"[80] a relational attachment forged through close observation of combat events in high resolution.[81] Another operator, expressing similar sentiments,[82] explains:

> Flying an RPA, you start to understand people in other countries based on their day-to-day patterns of life. A person wakes up, they do this, they greet their friends this way, etc. You become immersed in their life. You feel like you're a part of what they're doing every single day. So, even if you're not emotionally engaged with those individuals, you become a little bit attached. I've learned about Afghan culture this way. You see their interactions. You're studying them. You see everything.[83]

Thus, in bridging geographical distance between the GCS and the area of hostilities, UAVs also enable "emphatic bridging" between the operator and the enemy. The long hours of aerial surveillance, watching targets go about their daily lives, getting dressed, doing household work, playing with their kids, are accompanied by active interpretation of what is seen on screen and heard in the headset. As a result, the opponent on the ground becomes re-humanized, refaced, and re-embodied,

making killing more difficult.[84] Cian Westmoreland, a former US Air Force technician who helped build a station in Afghanistan for relaying RPA data, illustrates how it becomes possible to form emotional bonds with targets: "You watch people day in, day out—you might even start to realize they're not bad people."[85] Similarly, Brandon Bryant reports that he found it particularly challenging to direct a shot at the target after seeing it engage with family. He felt that he was depriving children of their father.[86] "They were good daddies," he adds.[87]

Emphatic responses to remote killing prompts some commentators to portray aircrew members as "victims of drone warfare" who face psychological harm with physiological consequences.[88] Such claims find perhaps their most vividly illustrated support in *The Guardian* opinion editorial by the former US sensor operator Heather Linebaugh:

> I may not have been on the ground in Afghanistan, but I watched parts of the conflict in great detail on a screen for days on end. I know the feeling you experience when you see someone die. Horrifying barely covers it. And when you are exposed to it over and over again it becomes like a small video, embedded in your head, forever on repeat, causing psychological pain and suffering that many people will hopefully never experience.[89]

Conversely, in his seminal theoretical work on drone warfare, *Drone Theory*, French philosopher Grégoire Chamayou, expresses his skepticism toward the "media picture of empathetic drone operators suffering psychic trauma." In his view, "the attention drawn to soldiers' psychic wounds was in the past aimed at contesting their conscription by state violence, [while] nowadays it serves to bestow upon this unilateral form of violence and ethico-heroic aura that could otherwise not be produced."[90]

Notably, both claims find support in firsthand testimonies. Thus, cognitive combat intimacy[91] experienced by some is countered by the inclination of others to "compartmentalize" and focus on excelling in performing professional duties. Strong sentiments of excitement about the first opportunity to use live ordnance against the enemy are recalled to be followed by the determination to execute mission to the best of one's abilities: "I wanted the shot, my first, to be a good one."[92] A missile that has successfully engaged not only the initial target—a truck with a .50-caliber machine gun mounted in its bed—but also its driver, is presented in a style of television advertisement: "Poor bastard. . . . Call him a bonus. Truck and driver. Blue light special, Kmart shoppers. Two for the price of one."[93]

Operators' responses to the voyeuristic nature of UAV operations range from getting "immersed" in the adversary's life to preserving mental and cognitive separation from the target. Thus, Matt Martin confesses, "I was almost ashamed

to admit . . . the thrill I felt at the moment I prepared to squeeze the trigger."[94] When asked about feeling any sense of attachment to his opponent after extended hours of surveillance, another operator (using a pseudonym "Mike") replied, "Whether it gives me empathy or sympathy or just familiarity I'm not sure. We compartmentalize the job like anyone else."[95] Colonel Brenton, a Reaper pilot, emphasizes professional duty: "I feel no emotional attachment to the enemy. I have a duty, and I execute the duty."[96] Similarly, US Air Force major Vanessa Meyer's[97] account of targeting procedures shows the extent to which the awareness of professional obligation influences operators' cognitive and emotive responses to engaging the adversary: "When the decision had been made, and they saw that this was an enemy, a hostile person, a legal target that was worthy of being destroyed, I had no problem with taking the shot."[98]

The reference to the target as "worthy of being destroyed" deserves extra consideration. While the media and scholarly attention has largely focused on operators' emotional responses to incidentally engaging civilians (as part of collateral damage), what seems to have mostly escaped analysis is the "image of enemy" and its role in shaping emotional responses of pilots to pulling the trigger. Matt Martin's account in *Predator* demonstrates vividly the extent to which the image of the enemy—Abu Musab al-Zarqawi, an al-Qaeda ally—which follows as a red thread through the narrative, influences Martin's perception of his duties as an UAV pilot. Witnessing on his Predator's screen brutal atrocities committed by al-Zarqawi and his cohort against civilians, Martin's response is straightforward: "Nothing would have satisfied me more in my Air Force career than to be involved in taking down the mad butcher of Fallujah."[99] In other words, despite the determination to maintain professional distance between Airmen and their mission, once a target is an agent of malice perpetrating unspeakable atrocities against civilians while using the latter as reality TV props, the act of killing is likely to be conveyed in a language suggesting emotional disengagement.[100]

The selected sets of firsthand testimonies reveal a wide array of cognitive and psychological responses to remote warfighting. Some of the accounts presented challenge persuasively the assertion that distance protects pilots from emotional pressures associated with carrying out lethal military strikes.[101] Conversely, visual proximity to the area of active military operations enabled by UAV technology appears to play either little or no difference at all for military personnel inclined to compartmentalize and determined to focus on the fulfillment of their combat duties. Considering the wide diversity of experiences, it is striking that not only popular accounts but also academic work has insisted upon certain, rather black-and-white narratives. Even though the amount of firsthand testimonies remains limited, it demonstrates with sufficient clarity that generalization of personal

perceptions and experiences is fallacious. Those few in the academic community who investigated the issue carefully, suggest that the emotional impact of engaging in remote warfare remains both unclear and under-investigated.[102]

Campo, for example, has identified that aircrew with nearly identical backgrounds experienced different emotions to very similar events (263):

> I had pride and felt an accomplishment in preventing terrorists from harming American soldiers. After I killed somebody, I thought about it. But I see them as terrorists; so I'm ok with it.[103]

> I felt bad for him and his family. It's different now that I've taken human life.[104]

Moreover, the study showed that the same person may experience conflicting emotive responses to remote killing,[105] often, yet not always, displaying happiness for the mission success but remorse for the taking of human life:[106]

> I felt like a complete failure because we didn't kill all those enemy. JTAC [ground controller] called us later [via phone] and said our weapon helped them break contact [with enemy]. I felt much better.[107]

> On my first strike I was numb with adrenalin afterward . . . elated for a job well done. But the next day I became sad. I never doubted they needed to die, but it took me a couple days to recover.[108]

> A pilot was nearly in tears after his first strike, claiming the mission and errors made during the engagement placed a harsh reality of operations into his mind. But on his second strike, the pilot experienced a completely different set of positive emotions after successfully supporting a group of Marines engaged in a firefight with enemy personnel.[109]

The current stage of findings suggests that to better understand the relationship between the surveillance and fighting practices of UAV operators and the resultant psychological responses, more qualitative and quantitative empirical work should be conducted.[110] Most importantly, "without a comprehensive data set from which to compare MQ-1/9 aircrew to other combatants, we cannot state for certain that RPA aircrew are more or less mentally engaged and psychologically impacted than their manned-aircraft counterparts or the sniper who kills from distances that were considered blasphemous several centuries ago."[111]

## Cowardly Button Pushers[112]

There is a widespread support for the view that UAV missions bear no risks for the operators.[113] While akin to long-range artillery or high-altitude bombing, UAVs enable distancing between the operators and warzone; however, the difference is that there remains an element of risk in each of the former activities: artillery gunners may themselves be shelled or killed (for example, in case of weapon's malfunctioning), and bombers remain vulnerable to air-defense systems. UAVs, on the contrary, have succeeded in removing the operators from the theater of operations entirely.[114] As New America Foundation strategist and senior fellow Peter Singer observes, "If you are fighting from a computer far from the front line, there is no real threat other than carpal tunnel syndrome."[115] There is also a criticism that by failing to take any risk in combat, this form of military pravctice exhibits cowardice and lacks the honor inherent to combat in which the soldiers on both sides can kill and be killed.[116] Most importantly, it has been argued that unlike more traditional forms of soldiering, the operators of UAVs have neither need for courage nor opportunity to develop or exercise it.[117]

Courage is commonly conceived of as the ability to face fear and overcome it. In the context of UAV missions, speaking of physical courage—for example, the "willingness to face fear of bodily discomfort, injury, and death"[118]—is argued to be out of place until such time that UAV operators become part of a conflict against technologically advanced adversary. By reference to the asymmetric nature of modern-day conflicts, the likelihood of facing opportunity to show physical courage is argued to be extremely low.[119] One must note, however, that such claims are based on an erroneous assumption that aircrew operate exclusively "in garrison," i.e., from the bases located in their home territory or the territory of their coalition partners. Yet, operators' testimonies offer several examples of deployment in the area of hostilities.[120] The claim that aircrew would have near to nil chances of showing physical courage would thus be yet another hasty generalization.

It has also been argued, however, that the definition of physical courage is built upon "an unreasonably truncated conceptualization of risk that fails adequately to capture the real and serious nonphysical risks" that aircrew members face.[121] As psychological trauma suffered by UAV operators can, in some cases, be as debilitating as physical injury, it is moral courage to face psychological injury that comes to the fore in the context of UAV missions. In other words, aircrew who realize that the risk of psychological trauma exists and nonetheless undertake the action required by the mission are argued to exhibit moral courage.[122]

With steadily growing research on UAV operators suffering from PTSD and experiencing other adverse mental health outcomes, claims that UAV technology desensitizes operators to the act of killing become increasingly more ungrounded.[123] It remains questionable, however, whether these findings allow us to conclude that, in principle, operating drones "requires significant courage."[124] Where operators suffer severe forms of psychological distress in reaction to the traumatic battlefield experience, it may serve as an indicator that they may have found themselves in situations where moral courage was required. Yet, an ultimate characterization of any combat action as morally courageous is impossible without considering circumstances of each individual scenario. Moreover, the gravity of psychological response required for such combat actions remains open to debate. With *psychological injury* being inherently open to extensive interpretation, it is unclear whether response as severe as PTSD diagnosis is the only acceptable criterion. Given that PTSD represents only the narrow end of a much broader spectrum of psychological effects that aircrew members risk to face when on mission, other adverse mental health responses should not be disqualified from consideration either. While a comprehensive analysis of this issue is not possible within the confines of the present article, more rigorous academic debate on the issue is certainly welcome.

It has also been argued that because UAV missions are recorded, commanders are likely to be exceedingly cautious about the nature of the commands they issue. As a result, aircrew are likely to have less need for moral courage to disobey illegal or immoral orders.[125] However, one does not need to investigate the nature of a particular command to see the room for aircrew to exercise moral courage. Campo, for example, has identified 22 remarkably similar case studies where aircrew reported that their personal intervention in a mission likely prevented unintended casualties. In each account, the aircrew were directed to strike a target, but something just "did not feel right" to them regarding the target identification, the surrounding area, or other aspects of the situation. In each scenario, the aircrew took active steps to understand the situation, develop their own mental model of the battlespace, and thereafter advise on a different course of action besides immediate weapons engagement via UAV.[126]

Peter Lee describes similar instances in his research. Thus, one of Lee's subjects, Josh, recalls an instance where an armed adult male emerged from a compound occupied by Taliban cadres as friendly forces approached. The Taliban fighters had been successfully engaging friendly forces from within the compound over the preceding several days, thus meeting the criteria needed for a strike. All the approvals and required authorizations were given. And yet, the Reaper pilot had some misgivings and insisted that the armed man under the crosshairs was not an

enemy fighter but most likely a farmer in the wrong place at the wrong time. The social and institutional pressure was immense. The joint terminal attack controller (JTAC) scolded the pilot over the radio for carelessly exposing troops on the ground to the risk of death. Nonetheless, the pilot refused to strike the man. "Trying to reassure the ground troops is not so easy, especially when you had just withheld a seemingly valid request for a shot. From the perspective of those on the ground waiting for a Taliban fighter to open fire at them was not a good tactic—but this was not a Taliban fighter."[127] Joe Chapa's commentary in the instance is unequivocal: "If this is not moral courage, then I do not know what is."[128]

These examples demonstrate that moral courage certainly has its place in remote warfare. It would therefore be wrong to argue that UAV operations cannot be courageous by design.

## Robotic (Autonomous) Precision Weapons

The narrative to have perhaps acquired the most widespread allegiance in the literature on the subject is that UAVs constitute *robotic* or *autonomous* precision weapons that lower an operators' task load to the point where boredom negatively affects vigilance.[129] However, these claims are grounded on an erroneous understanding of both the technology and the nature of aircrew involvement in the overall operation of the system.

### *Autonomy*

Even though a wide range of automated functions have been enabled, such as take-off and landing or loitering over a geographical area for many hours at a time, personnel monitoring UAV activity play a crucial role in the overall functioning of the system. Simply put, technology depends on aircrew's tactical and technical competence.[130] In contrast, it is generally believed that in a case of autonomous UAV the role of the human would be reduced to the preprogramming of the system, which then, once activated, can select and engage targets without further human intervention.[131] Notably, those who have operated MQ-1 and MQ-9 UAVs for many years put it unequivocally, "The technology controlling the Predator and Reaper is anything but robotic or autonomous"[132] but instead subject to "[t]he requirement for human guidance at every step of its operations."[133] By means of illustration, an overview of some of the challenges that aircrews had to grapple with at different points in time to get the aircraft under control demonstrates the vital role of the human operator in the UAV human-machine teaming.

1. **Adjustment to control settings** is the first of many challenges to be overcome. Pilots with prior manned-aircraft experience blamed engineers for not caring about human factors when designing the aircraft. A case in point would be the trigger located differently to the aircraft that a pilot used to fly previously: "[Y]ou're getting ready to fire a missile and then hit one of two buttons . . . but if you hit the wrong one, it was on the wrong side of the stick, you shut the engine down. So we put Velcro on that switch to avoid the problem."[134] Another example offered was a danger of committing a mistake as simple as typing an incorrect sequence on the keyboard (for example, M0-M1-M2 instead of M1-M2-M3) when initiating the process of shutting down the engine—a classic error that causes an aircraft crash, courtesy of the poorly designed off-the-shelf interface of the Predator cockpit.[135] Aircrew also had to work around new bugs in the systems that occasionally emerged after a manufacturer had run software updates or responded to "improvement" requests. For example, a space bar on the keyboard would act as a hot key, repeating the previous command. If a sensor operator armed the laser as his last command, then hitting the space bar would arm it again whether the operator intended this action or not.[136]
2. **Learning to land the aircraft** was identified as "the single most challenging aspect of learning to fly."[137] Being susceptible to adverse atmospheric conditions, such as storms and inclement weather, UAVs heavily depend on human to stay aloft.[138] Landing the aircraft, retired US Air Force lieutenant colonel T. Mark McCurley recounts feeling drops of sweat running down his back despite the arctic cold temperatures inside the GCS, because even the lowest level of carelessness when operating in adverse weather conditions, especially fighting turbulence, could make the aircraft soar or crash almost instantaneously.[139]
3. **Sustaining the data link** has been identified as another battle to be fought out on a daily basis.[140] The ability of aircrew to perform their job is squarely dependent on the surveillance imagery from synthetic-aperture radar and video cameras, distributed in real time via satellite communication links.[141] Learning to become caretakers for the datalinks that connected them to the aircraft they operated, continually required operators to mobilize both technical and environmental knowledge to compensate for the link's fragility.[142]
4. **Firing weapons** at moving targets presented, in the opinion of some, "an almost unsurmountable challenge" from a technical point of view, because of the two-second control delay inherent in the satellite link.[143] Others

maintain that, at the minimum, this task required advanced operating skills. For instance, the AGM-114 Hellfire missile, designed for helicopters, was not intended to be shot from an aircraft in motion. Firing this missile from the Predator, a light plane bouncing in air currents while in motion at all times, "was a huge challenge": "Release too early and the missile would fall short. Shoot too close and the missile might not see the target when armed. If I overshot, the errant missile could hit [a wrong object]. Precision was key."[144] The task of sensor operator to guide the missile to its target has been pictured as equally challenging; if the operator's hand twitched at the last instant, if he or she breathed wrong, the missile might go astray and take out the object nearby, "a house full of people next door or the group of old men smoking and joking down the block."[145]

5. **Communication** is no longer subordinate to the real work of flying due to the incessant participation in the media infrastructure underpinning UAV operations, in comparison to manned aircraft.[146] Requesting blocks of airspace from controllers, providing instructions to ground units for which they are providing air support, communicating with the rest of the aircrew, and receiving instructions from their own chain of command is a process that starts at the moment when pilots sit down at the aircraft controls and lasts till the end of their shift when they stand up and disconnect their headsets. Studies have found that one of the most difficult aspects of an UAV operator's job was the coordination of precise hand-eye tasks along with complex verbal tasks.[147] Indeed, Lieutenant Colonel McCurley recounts the difficulty of communicating with the JTAC through secure chat room during mission support. As messages came in streams, they had to be followed closely or vital information would be missed, being pushed off the screen too soon. Typing while flying effectively meant texting while behind the wheel of a vehicle.[148]
6. **Other challenges** are present as well. The nature and level of adjustment may depend on the pilot's professional background. For example, to a former Boeing E-3 Sentry (AWACS) pilot, flying a Predator was "harder than flying a traditional aircraft."[149] Without the usual feel of an airplane in flight, with no sound to indicate the speed and engine performance, with no feeling of the wings that could point to an impeding stall or malfunction, and devoid of the traditional sense beyond sight, he "had to abandon three thousand hours of experience in handling aircraft with traditional controls and relearn how to fly Predator." Other pilots too were "battling [their] years of flying experience to learn how to pilot" a

> UAV, with many pilots being under protest and possessing no intention of making a career in the UAV community.[150]

As first-person testimonies reveal, ensuring appropriate level of aircraft management is a challenging and, at times, daunting task. Nonetheless, the eagerness to perform well in one's job that shines through most of the testimonies proves that humans have been and remain involved and invested participants in the Predator and Reaper operations.

### *Precision Weapons*

Regarding their performance on the battlefield, UAVs are frequently described as precise instruments of warfare, carrying out surgical strikes while minimizing risks to armed forces.[151] In vocal disagreement, opponents insist on the indiscriminate nature of UAVs due to the excessive civilian casualties associated with them.[152] There is neither scope within this paper to address the often highly contentious statistics of casualties suffered in conflicts where armed versions of Predator and Reaper have been deployed nor the need for such a conversation. What cannot be emphasized often enough is that no weapons system, including UAVs equipped with lethal payloads, is inherently precise or discriminate. Rather, any system can be used in a discriminate, or conversely, indiscriminate manner. Importantly, in comparison to most traditional manned aircraft, the use of UAVs permits for greater precision in targeting,[153] offering higher opportunities for compliance with such law of war requirements as distinction and proportionality.[154] This also holds true of more autonomous weapons. The employment of high-precision ordinance certainly plays an important role in this.

To an even greater part though, the enhanced precision ascribed to UAVs depends on the combined efforts of many people involved. Establishing, for example, situational awareness in preparation for an attack is the result of deliberate efforts of operators, mission intelligences coordinator, intelligence analysts, force structures on the ground, and the command authorities. Having access to high-resolution imagery of the same situation is only a starting point. Building and maintaining situational awareness is impossible without first interpreting and analyzing the visual content of the camera feed and subsequently negotiating the results of the analysis between the stakeholders involved.[155]

## Bored Senseless for Hours

Some have argued that UAVs handle what humans cannot—G forces, speed, tedium, and even boredom.[156] The latter aspect is particularly contentions, however, with an argument made that UAVs lower aircrews' task load to the point where

boredom governs the operating activity.[157] Even though an essential skill in any military organization is the ability to hurry up and wait, reference to boredom resultant from constant drudgery of repetitive sorties factors prominently in UAV missions.[158] "I'm overpaid, underworked, and bored," comments one operator on his experience.[159] "[F]lying Operation Enduring Freedom could be almost as exciting as watching paint dry. Tonight was going to be a caffeine overload night."[160]

Some missions are likely to exert a stronger emotional response, particularly those missions that may require reliving the same day repeatedly, so that the tedium of following the same actions becomes mind numbing. McCurley describes

> an awful sixty days of trailing [the target] across the countryside. . .. For a total of sixty days, we watched the same thing over and over again … the mission wore on our nerves. There was no variety, no new targets, and no disruption of his [target's] routine. For the first time, I started to dread flying. I was becoming a zombie. It was like stamping and endless line of widgets at a factory. I knew before the chill of the GCS hit me what I'd see or do.[161]

Simultaneously, however, operators also report on how they learned to adjust: "Our missions were often boring, so we'd all become skilled at staying engaged."[162] Plaining hangman on the white boards mounted to the GCS walls or just talking about upbringing helped.[163] Others came up with little subterfuges to pass the long hours at the controls, including sneaking water and snacks into the GCS, despite regulations banning both; mending uniforms; and swapping off 20-minute naps with the pilot or sensor operator.[164] Brandon Bryant even admits to having mastered reading novels while simultaneously monitoring the seven screens of his station, glancing up every minute or two before returning to the page.[165] Finally, statements suggesting that boredom has no place in UAV missions are not infrequent either: "we had unlimited patience. We were always present over the war front, watching, waiting."[166]

## Transition

Fighting war from the comfort of a GCS in familiar home environment is believed to significantly reduce, if not eliminate the stresses associated with deployment to war zones. Yet, every single firsthand testimony emphasizes, perhaps, one of the major challenges that UAV operators face—the constant transitioning between the home and combat-zone environments. Although the challenge of reconciling work and personal life is also manifest within troops returning from longer-term deployments,[167] experiences of UAV operators are more significantly compressed in time, and the readjustment recurs daily:[168]

> Each day was the same. Wake up, complete the morning routine, and start the long, forty-five-minute drive to work. En route, I changed my mental state to that of someone capable of killing another human being without thought, hesitation, or remorse. The return trip home was worse. I had to remove myself from the war. The easiest days were the ones when nothing happened.[169]

> Having our folks make that mental shift every day, driving into the gate and thinking, "All right, I've got my war face on, and I'm going to the fight."[170]

Thus, what had seemed to be a benefit of the job—fighting war from the safety of one's home state—has led to a new type of stress, including that of "perpetual deployment."[171] At times, juxtaposition with the banalities of day-to-day family life could not be greater:

> I am a parent governor for my local school and every year I volunteer to go away with the teaching staff and help the kids enjoy the great outdoors. It's only 3 days away but the kids get to abseil, canoe, pot-hole and do many other fun things. One year, I had a great time and thoroughly enjoyed the company of the children and the staff. Eighteen hours after I got back I was in work, watching a prisoner having his head cut off and being powerless to do anything about it. Oh how my life had changed—and not for the better—in such a short period of time![172]

The day-to-day disjuncture between home and work is, however, only one aspect of the multifaceted experience of transition. Lee, for example, concludes in his most-recent research that the mental transition between war and peace happens at the beginning and end of *every stint* in the GCS during the course of single shift.[173] Finally, there is also a constant transition between "hours and days of boredom" and "moments of stark terror," particularly when an order is issued to locate and engage a target:[174]

> Other times you might be supporting a convoy and the speed at which things can go from deadly boring to hair on fire is the blink of an eye. You can spend six or seven hours bored out of your mind sometimes, just flying round in circles looking at stuff: "Nothing to see here. Nothing to see here. Nothing to see here." And then something goes down and you have to react very quickly. And no I don't mean dive in start firing stuff off.[175]

While one should not underestimate the difficulties associated with waging war in shifts, reactions to the nature of perpetual deployment differ. For some, it

is a source of stress. In contrast, Major Callahan asserts that operators are sufficiently "good at compartmentalizing," being taught this skill early on and often. "You need to tuck those things away and put them where they belong. We're pretty good at it."[176]

## Making Sense of Conflicting Claims

UAV technology has developed significantly since 7 October 2001, when the first-ever MQ-1 Predator combat sortie resulted in a successful strike on a vehicle belonging to personal guards of Mullah Omar—the Taliban leader in Afghanistan.[177] That sortie stands in marked contrast to the MQ-9 Reaper sorties of today. Unlike the Predator of 2001, which spent its operative years supporting land and special operations forces in pursuit of mission objectives, its successor, the MQ-9 Reaper, has now demonstrated its ability to achieve mission objectives as a true theater asset, executing strikes, close air support, and surveillance in a single mission.[178]

As argued by one of the present authors elsewhere, military personnel are likely to rely on and tolerate increasingly more sophisticated weapons systems only for so long as, and up to such point that, said technology allows it to exert influence on the concrete operating environment.[179] This finding is strongly supported by the firsthand testimonies of aircrew members. One can hardly find a first-person account that would not have emphasized or at least indicated the fact that it has been important for the UAV operators to evidence that their work makes impact on the battlefield.[180] Many of the accounts reveal a distinct sense of pride experienced by the operators and coming from the realization of contributing to the overall war effort.[181]

## Conclusion

This article has sought to demonstrate that many of the frequently expressed criticisms about UAVs and their operators do not hold up well under more detailed scrutiny. While the caricature of video-game-minded operators void of emotion or understanding of their work certainly does not accurately portray UAV aircrew, the discussion above shows how widely perceptions of their role as UAV operators and the nature of engagement in professional duties may vary among aircrew members.

The first-person testimonies also suggest that the extent to which technology is likely to stimulate engagement with professional duties is open to question and much is likely to depend on the personality of each individual operator. Peter Lee, having spent an extended time with Reaper personnel, whose responses to

conducting remote operations ranged from apparently unaffected to significantly affected—with the majority somewhere in between—raises the question as to why some operators are able to fly missions for more than five years consecutively, compartmentalize, and focus on performing their duties, while others seem exhausted and experience mental health issues after two years or less on the job.[182] To summarize, while some of the prevailing narratives appear easier to challenge (PlayStation mentality and cowardly button pushers, for example), other aspects of the debate on the human dimension of remote warfare require further rigorous investigation and analysis.

It has been noted that UAVs are commonly perceived of as the beginning of a slippery slope to a machine takeover of warfare; as autonomous aircraft and (un) manned aircraft are likely to remain tools of air warfare for decades to come, it is important to focus the debate on how the machines will interact with and affect their operators.[183] Developing a better understanding of the nature and implications of interaction between currently used systems and their operators is essential to ensure that technology is developed in ways that will serve rather than negatively impact society.

While, at present, cognitive computing is not sufficiently robust to field truly autonomous weapons systems, militaries of the future will have even more sophisticated technology at their disposal. Success in the robotics revolution will not necessarily be won by the state that has the best technology or succeeds in developing such technology first. The true opportunity afforded by robotics and automation is how it can be best partnered with service members.[184] Now the core issues are known, the challenge will be designing the right human-machine balance to maximize the relative advantages of both service member and machine in a future fighting system.[185] JIPA

**Notes**

1. What in popular language is known as 'drones' has various designations throughout State governments, industry and academia, including remotely-piloted aircraft (RPA) or systems (RPS), unmanned aerial systems (UAS), unmanned aerial vehicles (UAVs), unmanned combat aerial vehicles (UCAVs), Intelligence, Surveillance and Reconnaissance (ISR) systems or simply unmanned aircraft. The preferred term in this paper is 'UAV'. However, where the context so requires, it is used interchangeably with other terms.

2. A UAV is not a 'weapon' in the technical sense, but a platform that carries weapons (e.g., AGM-114 Hellfire missiles).

3. George Nacouzi et al, *Assessment of the Proliferation of Certain Remotely Piloted Aircraft Systems: Response to Section 1276 of the National Defense Authorization Act for the Fiscal Year 2017* (Santa Monica: RAND Corporation, 2018) xiv.

4. Comprising both military and commercial UAV systems.

5. Nacouzi, *Assessment of the Proliferation*, 12.

6. Ibid., xii and 1.

7. By the end of 2017, a total of nine states had been documented as using armed UAVs for kinetic strike operations. *See* UN, Office for Disarmament Affairs, *The United Nations Disarmament Yearbook*, Volume 42 (Part II): 2017, 177; *see also* Peter Bergen, David Sterman, et al, "Who Has What: Countries with Armed Drones," *NewAmerica*, https://www.newamerica.org/in-depth/world-of-drones/3-who-has-what-countries-armed-drones/; and Austin Wyatt and Jai Galliott, "Closing the Capability Gap: ASEAN Military Modernization during the Dawn of Autonomous Weapon Systems," *Asian Security*, 2018, https://www.tandfonline.com/doi/full/10.1080/14799855.2018.1516639.

8. *See also* Peter Asaro, "The Labor of Surveillance and Bureaucratized Killing," in *Life in the Age of Drone Warfare,* ed. Lisa Parks and Caren Kaplan (Durham, NC: Duke University Press, 2017), 282, 288–89.

9. Matthew Power, "Confessions of a Drone Warrior," *GQ*, 23 October 2013, https://www.gq.com/story/drone-uav-pilot-assassination.

10. Brett Velicovich and Christopher S. Stewart, *Drone Warrior: An Elite Soldier's Inside Account of the Hunt for America's Most Dangerous Enemies* (New York: Harper Collins Publishers, 2017), ix.

11. *See*, for example, Chris Cole, Mary Dobbing, and Amy Hailwood, *Convenient Killing: Armed Drones and the "Playstation" Mentality* (Fellowship of Reconciliation: Oxford, 2010), https://dronewarsuk.files.wordpress.com/2010/10/conv-killing-final.pdf.

12. Laurie Calhoun, "The End of Military Virtue," *Peace Review: A Journal of Social Justice* 23, no. 3 (2013): 377, 382.

13. Alex Edney-Browne, "Embodiment and Affect in a Digital Age: Understanding Mental Illness among Military Drone Personnel," *Krisis: Journal for Contemporary Philosophy* 1 (2017): 18, 23.

14. Joe Chapa, "'Drone Ethics' and the Civil-Military Gap,'" *War on the Rocks*, 28 June 2017, https://warontherocks.com/2017/06/drone-ethics-and-the-civil-military-gap/.

15. Joe Chapa, "Remotely Piloted Aircraft and War in the Public Relations Domain," *Air & Space Power Journal* 31, no. 5 (September–October 2014): 29, 41.

16. Michelle Bentley, "Fetishised Data: Counterterrorism, Drone Warfare and Pilot Testimony," *Critical Studies on Terrorism* 11, no. 1 (2018): 88, 90.

17. Ibid.

18. October 2001, see Joe Chapa, "The Sunset of the Predator: Reflections on the End of an Era," *War on the Rocks,* 9 March 2018, https://warontherocks.com/2018/03/the-sunset-of-the-predator-reflections-on-the-end-of-an-era/.

19. Notably, the UAV community in the US Air Force has more pilot billets than any other aircraft in the service, see Oriana Pawlyk, "Drone Milestone: More RPA Jobs Than Any Other Pilot Position," *Military.com*, 8 March 2017, https://www.military.com/daily-news/2017/03/08/drone-milestone-more-rpa-jobs-any-other-pilot-position.html. The world's largest UAV training facility run by the U.S. Army at Fort Huachuca, has about 700 soldiers and marines training at a time, and some 3,000 drone operators and technicians graduate every year, *see* Hillary Mushkin,

"The Disposition of Drones," *Places Journal*, February 2018, https://placesjournal.org/article/the-disposition-of-drones/.

20. Matt J. Martin and Charles W. Sasser, *Predator: The Remote-Control Air War over Iraq and Afghanistan: A Pilot's Story* (Minneapolis: Zenith Press: 2010).

21. T. Mark McCurley and Kevin Maurer, *Hunter Killer: Inside America's Unmanned Air War* (New York: Dutton, 2015).

22. Velicovich and Stewart, *Drone Warrior*.

23. Joseph L. Campo, *From a Distance: The Psychology of Killing with Remotely Piloted Aircraft* (dissertation, Air University, 2015), https://apps.dtic.mil/dtic/tr/fulltext/u2/1031892.pdf.

24. United Nations General Assembly, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Philip Alston," UN Doc. A/HRC/14/24/Add.6 (28 May 2010), para. 84.

25. Philip Alston and Hina Shamsi, "A Killer Above the Law," *The Guardian*, 8 February 2010, https://www.theguardian.com/commentisfree/2010/feb/08/afghanistan-drones-defence-killing.

26. John Yoo, quoted in Mark Bowden, "The Killing Machines: How to Think about Drones," *Atlantic*, September 2013, https://www.theatlantic.com/magazine/archive/2013/09/the-killing-machines-how-to-think-about-drones/309434. *See also* Michael Brooks, "Eyes in the Sky: Can You Play a Video Game? Then You Can Fly a Drone," *New Statesman* 141, no. 5110 (18 June 2012): 27–29.

27. See Edney-Browne, "Embodiment and Affect in a Digital Age," 18, 20.

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30. Asaro, "The Labor of Surveillance", 282, 308.

31. Campo, *From a Distance*, vi.

32. Alan D. Castel, Jay Pratt, and Emily Drummond, "The Effects of Action Video Game Experience on the Time Course of Inhibition of Return and the Efficiency of Visual Search," *Acta Psychologica* 119 (2015): 217–230.

33. Jerry Griffith, Patricia Voloschin, et al, "Differences in Eye-Hand Motor Coordination of Video-Game Users and Non-Users", *Perceptual and Motor Skills* 57, no.1 (1983): 155-158.

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35. Michel Dorval and Michel Pepin, "Effect of Playing a Video Game on a Measure of Spatial Visualization," *Perceptual and Motor Skills* 62, no. 1 (1986): 159-162.

36. Jacqueline M Wheatcroft, et al., "Unmanned Aerial Systems (UAS) Operators' Accuracy and Confidence of Decisions: Professional Pilots or Video Game Players?" *Cogent Psychology* 4 (2017): 1, 6.

37. Ibid., 19.

38. Ibid.

39. Michael Haas, in "*Drone Wars: The Gamers Recruited to Kill*," *Guardian,* 2 February 2015, https://www.theguardian.com/news/video/2015/feb/02/drone-wars-gamers-recruited-kill-pakistan-video: "I thought it was the coolest damn thing in the world… play video games all day. . . . You never know who you are killing, because you never actually see a face."

40. Brandon Bryant, as reported by Power, "Confessions of a Drone Warrior".

41. "Taylor" is a 10-year veteran drone sensor operator and trainer interviewed under condition of anonymity, *see* David Somerstein, "Drone Operator Made Long-Distance War from Close to Home," *North Country Public Radio*, 9 December 2014, https://www.northcountrypublicradio.org/news/story/26852/20141209/drone-operator-made-long-distance-war-from-close-to-home-for-10-years.

42. Peter Lee, *Reaper Force: Inside Britain's Drone Wars* (London: John Blake, 2018), 65–66.

43. Campo, *From a Distance*, vi.

44. Campo, "Distance in War," 4, 6.

45. Ibid., 7. Campo's study offers a sample of responses:

"Watching this through a video is not equal to a video game. I'm not a child, this is not fiction.";

"Somebody is dead due to our actions. It's not a video game. People's lives are on the line.";

"It's nothing like a video game. Nobody gets hurt in video games. I hate that comparison.";

"It's not a video game. It's stressful, serious, complicated. Calling it a video game detracts from what we are doing.";

"People outside our community are not even worth my time in having this discussion.";

"I know it's not a video game. Civilians just don't understand. If I was playing a video game I could hit reset.";

"It's not a **** video game. Nothing in a video game is like this. There are real people on the ground."

46. Rob Blackhurst, "The Air Force Men Who Fly Drones in Afghanistan by Remote Control," *Telegraph*, 24 September 2012, https://www.telegraph.co.uk/news/uknews/defence/9552547/The-air-force-men-who-fly-drones-in-Afghanistan-by-remote-control.html.

47. Drone Pilot, "It Is War at a Very Intimate Level," interview by Daniel Rothenberg, Nellis Air Force Base, Nevada, in *Drone Wars: Transforming Conflict, Law, and Policy*, ed. Peter L. Bergen and Daniel Rothenberg (Cambridge, UK: Cambridge University Press, 2014), 114.

48. Marc Pitzke, "Interview with a Drone Pilot: 'It Is Not a Video Game'," *SpiegelOnline*, 12 March 2010, https://www.spiegel.de/international/world/interview-with-a-drone-pilot-it-is-not-a-video-game-a-682842.html.

49. Omer Fast, 4 June 2011, *5000 Feet is the Best* (Commonwealth Projects).

50. Martin and Sasser, *Predator,* 78 and 84.

51. Campo, "Distance in War," 10, also notes that "RPA aircrew . . . are so astounded by the absurdity of the topic that most choose to avoid it altogether."

52. *See* Chapa, "Remotely Piloted Aircraft and War in the Public Relations Domain," 37.

53. Ibid., 37–38.

54. Hillary Mushkin, "The Disposition of Drones".

55. See Asaro, "The Labor of Surveillance," 282, 284.

56. Ibid.

57. Lamber Royakkers and Rinie van Est, "The Cubicle Warrior: The Marionette of Digitalised Warfare," *Ethics and Information Technology* 12, n. 3 (2010): 289–96; Christian Enemark, "Drones, Risk, and Perpetual Force," *Ethics and International Affairs* 28, n. 3 (2014): 365, 375; Roger Clarke, "Understanding the Drone Epidemic," *Computer Law and Security Review* 30 no. 3 (2014): 230, 242; Kathleen E. Powers, *Killing at A Distance: A Construal Level Approach to the Psychology of Drone Operation* (San Francisco: American Political Science Association, 2015); and Medea Benjamin, *Drone Warfare: Killing by Remote Control* (New York: OR Books, 2012). Peter Singer, similarly, argued that drone crews are "disconnected" from the wars in which they conduct air operations, Peter W. Singer, *Wired for War* (New York: Penguin, 2009), 332.

58. Benjamin, *Drone Warfare*, 160.

59. Dave Grossman, *On Killing: The Psychological Cost of Learning to Kill in War and Society* (Boston: Back Bay Books, 1995), 97.

60. Ibid., 108.

61. Ibid., 108.

62. Ibid., 101.

63. Ibid., 102–03.

64. Ibid., 108.

65. *See also* Campo, *From a Distance,* v. Campo interviewed 111 MQ1/9 aircrew members from thirteen different squadrons across the United States who have employed weapons and killed via remote-combat operations. It concludes that MQ-1/9 aircrew are mentally engaged in combat despite the distances involved and are psychologically impacted by killing.

66. Elijah Solomon Hurwitz, "Drone Pilots: 'Overpaid, Underworked, and Bored'," *Mother Jones*, 13 June 2018, https://www.motherjones.com/politics/2013/06/drone-pilots-reaper-photo-essay/.

67. Elisabeth Bumiller, "A Day Job Waiting for a Kill Shot a World Away," *New York Times*, 29 July 2012, https://www.nytimes.com/2012/07/30/us/drone-pilots-waiting-for-a-kill-shot-7000-miles-away.html.

68. See Campo, "Distance in War," 9.

69. Denise Chow, "Drone Wars: Pilots Reveal Debilitating Stress Beyond Virtual Battlefield," *Live Science*, 5 November 2013, https://www.livescience.com/40959-military-drone-war-psychology.html; see also Campo, *From a Distance*, 117.

70. Edney-Browne, "Embodiment and Affect in a Digital Age," 18, 20; and Lee, *Reaper Force*.

71. Slim (operator), see Chow, "Drone Wars".

72. Drone Pilot, "It Is War at a Very Intimate Level," 114–16.

73. Martin and Sasser, *Predator*, 213.

74. For example, Steven, an UAV operator, comments:

"'[i]t's still weird taking another life … [d]istance [does] not lessen this feeling. 'Distance brings it through a screen'," *see* Eyal Press, "The Wounds of the Drone Warrior," *New York Times Magazine*, 13 June 2018, https://www.nytimes.com/2018/06/13/magazine/veterans-ptsd-drone-warrior-wounds.html. *See also* interview of former RAF Reaper pilot "Justin Thompson" (a pseudonym) by Chris Cole, *Drone Wars UK*, May 2017, https://dronewarsuk.files.wordpress.com/2017/05/justin-thompson-interview-transcript.pdf:

I don't recognise the notion of detachment that some people claim about UAV pilots. The idea that 'you are not there so you are not in the action'. I just don't recognise that from my experience. My mind-set was very much one of being there, and I was able to see so much of what I was

looking at, in so much detail that you develop an intimate and in-depth knowledge of what is going on around you'.

75. McCurley and Maurer, *Hunter Killer*, 135.

76. Bumiller, "A Day Job Waiting for a Kill Shot a World Away."

77. Nacouzi, *Assessment of the Proliferation*, 25.

78. Brandon Bryant, in in "*Drone Wars: The Gamers Recruited to Kill*," *Guardian,* 2 February 2015, https://www.theguardian.com/news/video/2015/feb/02/drone-wars-gamers-recruited-kill-pakistan-video.

79. Press, "The Wounds of the Drone Warrior."

80. A pilot interviewed by Daniel Rothenberg concurs: "Targeting with RPAs is more intimate. It is war at a very intimate level," see Drone Pilot, "It Is War at a Very Intimate Level," 115. *See also* Dave Blair and Karen House, "Avengers in Wrath: Moral Agency and Trauma Prevention for Remote Warriors," *Lawfare*, 12 November 2017, https://www.lawfareblog.com/avengers-wrath-moral-agency-and-trauma-prevention-remote-warriors.

81. See Press, "The Wounds of the Drone Warrior."

82. See, for example, Lee, *Reaper Force*, 170:

[W]e may watch 'Target A' for weeks, building up a pattern of life for the individual: know exactly what time he eats his meals; drives to the Mosque; or uses the ablutions – outdoors of course! This is all-important for the guys on the ground. However, what we also see is the individual interacting with his family – playing with his kids and helping his wife around the compound. When a strike goes in, we stay on station and see the reactions of the wife and kids when the body is brought to them. You see someone fall to the floor and sob so hard their body is convulsing. A conventional aircraft often doesn't have the endurance [in the air] to witness this.

Colonel William Tart: "We watch people for months. We see them playing with their dogs or doing their laundry. We know their patterns like we know our neighbors' patterns. We even go to their funerals," *see* Nicola Abe, "'Dreams in Infrared'," *Spiegel Online*, 14 December 2012, (Translated from the German by Christopher Sultan), https://www.spiegel.de/international/world/pain-continues-after-war-for-american-drone-pilot-a-872726-2.html.

McCurley and Maurer, *Hunter Killer*, 116: "There was an intimacy about following someone for months. We spent so much time with the family that I knew what the Captain's [target's] kids looked like and what roads they took to school."

Likewise, Elisabeth Bumillier reported in 2012 that a dozen pilots, sensor operators, and supporting intelligence analysts interviewed from three American military bases and flying missions in Afghanistan spoke of experiencing a certain level of intimacy they felt with Afghan family life that neither conventional pilots nor ground troops experience, *see* Bumiller, "A Day Job Waiting for a Kill Shot a World Away," *New York Time*, 29 July 2012.

83. Peter L. Bergen and Daniel Rothenberg, eds., *Drone Wars: Transforming Conflict, Law, and Policy* (New York: Cambridge University Press, 2015), 115; *see also* Lee, *Reaper Force*, 170.

84. Mark Coeckelberg, "Drones, Information Technology, and Distance: Mapping the Moral Epistemology of Remote Killing," *Ethics and Information Technology* 15 (2013): 87–98. *See also* Tyler Wall and Torin Monahan, "Surveillance and Violence from Afar: The Politics of Drones and Liminal Security-Scapes," *Theoretical Criminology* 15, no. 3 (2011): 239–54.

85. Cian Westmoreland, *see* Norma Costello, "Confessions of a Former US Air Force Drone Technician," *AlJazeera*, 13 April 2016, https://www.aljazeera.com/indepth/features/2016/04/confessions-air-force-drone-technician-afghanistan-160406114636155.html.

86. Abe, "Dreams in Infrared."
87. Ibid.
88. Edney-Browne, "Embodiment and Affect in a Digital Age," 18, 29.
89. Heather Linebaugh, "I Worked on the US Drone Program. The Public Should Know What Really Goes On," *Guardian*, 29 December 2013, https://www.theguardian.com/commentisfree/2013/dec/29/drones-us-military. *See also* Heather sharing her experience in the documentary *National Bird*; and Ed Pilkington, "Life as a Drone Operator: 'Ever Step on
Ants and Never Give It Another Thought?'," *Guardian*, 19 November 2015, https://www.theguardian.com/world/2015/nov/18/life-as-a-drone-pilot-creech-air-force-base-nevada.
90. *See* Gregoire Chamayou, *Drone Theory* (London: Penguin Books, 2015), at 109.
91. McCurley also speaks of "intimacy" in killing, *see* McCurley and Maurer, *Hunter Killer*, 134.
92. Martin and Sasser, *Predator*, 42.
93. Ibid., 43.
94. Ibid., 46.
95. Hurwitz, "Drone Pilots."
96. Bumiller, "A Day Job Waiting for a Kill Shot a World Away".
97. Using a pseudonym.
98. Abe, "Dreams in Infrared." *See also* Martin, *Predator*, 43–44: "The man was not *really* a human being. He was so far away and only a high-tech image on a computer screen. The moral aspects of it—that I was about to assassinate a fellow human being from ambush—didn't factor in. Not at the moment. Not yet."
99. Martin and Sasser, *Predator*, 299–300.
100. *See also* Blair and House, "Avengers in Wrath."
101. Quantitative and qualitative data collected by Campo show that 96 percent of the more than 100 RPA operators interviewed for the purposes of the study report psychological response in the emotional, cognitive or social domain, Campo, *From a Distance*, 295.
102. Chapa, "Drone Ethics"; and Campo, "Distance in War," 4.
103. Campo, *From a Distance*, 131.
104. Ibid.
105. Ibid., 132.
106. Ibid., 266.
107. Ibid., 131.
108. Ibid., 132.
109. Ibid., 133.
110. Coeckelberg, "Drones, Information Technology, and Distance," 97; and Campo, "Distance in War," 9–10.
111. Campo, "Distance in War," 8.
112. Abe, "Dreams in Infrared."
113. Paul W. Kahn, for example, an early proponent of this view, argues that remote warfare is "riskless", *see* Paul Kahn, "The Paradox of Riskless Warfare" *Yale Law School Legal Scholarship Repository* 1 no. 1 (2002): 1–8.
114. Robert J Sparrow, "War Without Virtue?," in *Killing by Remote Control: The Ethics of Unmanned Military,* ed. Bradley Strawser (New York: Oxford University Press, 2013), 88.

115. Peter W. Singer, "A Military Medal for Drone Strikes? Makes Sense," *Washington Post*, 15 February 2013, https://www.washingtonpost.com/opinions/a-military-medal-for-drone-strikes-makes-sense/2013/02/15/e90c0638-76e4-11e2-8f84-3e4b513b1a13_story.html?utm_term=.6f9c1b9d063b.

116. See Asaro, "The Labor of Surveillance," 282, 286.

117. *See*, for example, Sparrow, "War Without Virtue?," 88–89.

118. Ibid.

119. Robert Sparrow, "Martial and Moral Courage in Teleoperated Warfare: A Commentary on Kirkpatrick," *Journal of Military Ethics* 14 no. 3–4 (2015), 221.

120. *See* McCurley and Maurer, *Hunter Killer*, 186: "This was my first trip to Iraq. For most of the war, I watched from a GCS thousands of miles away. But now, I was actually in harm's way. I was on the ground and vulnerable to attack. It thrilled me." *See also* Jesse Kirkpatrick, "Reply to Sparrow: Martial Courage—or Merely Courage?," *Journal of Military Ethics* 14, no. 3–4 (2015), 228.

121. Jesse Kirkpatrick, "Drones and the Martial Virtue Courage," *Journal of Military Ethics* 14, no. 3–4 (2015), 209.

122. Ibid., 213.

123. *See*, for example, Wayne Chappellea, et al., "Combat and Operational Risk Factors for Post-Traumatic Stress Disorder Symptom Criteria among United States Air Force Remotely Piloted Aircraft 'Drone' Warfighters," *Journal of Anxiety Disorders* 62 (2019): 86–93; Wayne Chappelle, et al., "An Analysis of Post-Traumatic Stress Symptoms in United States Air Force Drone Operators," *Journal of Anxiety Disorders* 28, no. 5 (2014): 480–87; Cherie Armour and Jana Ross, "The Health and Well-Being of Military Drone Operators and Intelligence Analysts: A Systematic Review," *Military Psychology* 29, n. 2 (2017): 83–98; and Craig Bryan, et al., "Occupational Stressors, Burnout, and Predictors of Suicide Ideation among U.S. Air Force Remote Warriors," *Military Behavioral Health* 6, no.1 (2018): 3–12.

124. *See* Sparrow, "Martial and Moral Courage," 222, concluding that "now that these risks [of psychological trauma] are known, operating drones arguably requires significant courage."

125. Sparrow, "War Without Virtue?," 223.

126. Campo, "Distance in War," 6.

127. Lee, *Reaper Force*, 282–83.

128. Chapa, "The Sunset of the Predator."

129. *See* David Whetham, "Killer Drones: The Moral Ups and Downs," *RUSI Journal* 158, n. 3: (2013), 23: "drones are cold, calculating emotionless machines dispatched to eliminate all identified threats."

130. For example, Martin and Sasser, *Predator*, 218–19.

131. *See*, for example, Human Rights Watch, *Loosing Humanity: The Case Against Killer Robots* (The International Human Rights Clinic (IHRC), Harvard Law School, November 2012). *See also* summary of the study solicited by the US Army, "Automatic Target Recognition of Personnel and Vehicles from an Unmanned Aerial System Using Learning Algorithms," https://www.sbir.gov/sbirsearch/detail/1413823.

132. McCurley and Maurer, *Hunter Killer*, 340; and Martin and Sasser, *Predator*, 218–19.

133. Martin and Sasser, *Predator*, 218–19.

134. Lt Col Bruce H. Black in: James Fenton, "Retired Military Drone Operator Shares Experience of Remote Piloting," *Daily Times*, 25 September 2015, https://www.daily-times.com/

story/archives/2013/11/25/retired-military-drone-operator-shares-experience-remote-piloting/75984370/.

135. McCurley and Maurer, *Hunter Killer*, 213. *See also* study that found that one of the most commonly cited sources of stress for pilots stemmed from their frustration with human-machine interfaces of equipment and the design of the GCS, Joseph Ouma, Wayne Chappelle, and Amber Salinas "Facets of Occupational Burnout among U.S. Air Force Active Duty and National Guard/Reserve Mq-1 Predator and Mq-9 Reaper Operators," AFRL-SA-WP-TR-2011-0003, June 2011, file:///E:/Airmen%20and%20Autonomy_Sources/74.%20Ouma_2011_Operational%20Burnout.pdf, at 11. See also Asaro, "The Labor of Surveillance", 282, 295.

136. McCurley and Maurer, *Hunter Killer*, 213.

137. Ibid., 30.

138. *See* Martin and Sasser, *Predator*, 62–64 describing the risk of losing an aircraft to a cloud bank at high altitudes.

139. McCurley and Maurer, *Hunter Killer*, 30.

140. See Martin and Sasser, *Predator*, 43–44, 106–07, 209.

141. "Predator RQ-1/MQ-1/MQ-9 Reaper UAV," *Air Force Technology*, https://www.airforce-technology.com/projects/predator-uav/.

142. Martin and Sasser, *Predator*, 209. *See also* Marcel LaFlamme, "A Sky Full of Signal: Aviation Media in the Age of the Drone," *Media, Culture & Society* 40, n. 5 (2017), 697–99.

143. Martin and Sasser, *Predator*, 51.

144. McCurley and Maurer, *Hunter Killer*, 88.

145. Martin and Sasser, *Predator*, 53.

146. La Flamme, "A Sky Full of Signal," 692.

147. Asaro, "The Labor of Surveillance," 282, 303.

148. McCurley and Maurer, *Hunter Killer*, 95.

149. Ibid., 26–27.

150. Ibid., 27.

151. *See* Loren DeJonge Schulman, "Precision and Civilian Casualties: Policymakers Believe Drones Can Be Precise. That May Not Be Enough," *Just Security*, 2 August 2018, https://www.justsecurity.org/59909/precision-civilian-casualties-policymakers-drones-precise-enough/. *See also* Richard A. Muller, "Weapons of Precise Destruction," *MIT Technology Review*, 10 May 2002, https://www.technologyreview.com/s/401448/weapons-of-precise-destruction./

152. The most common anti-UAV argument is that UAVs kill a disproportionate number of innocent civilians. *See*, for example, Vivek Sehrawat, "Legal Status of Drones under LOAC and International Law," *Penn State Journal of Law & International Affairs* 5, no. 1 (2017), 164; and Rosa Brooks, "The Constitutional and Counterterrorism Implications of Targeted Killing. Testimony before the Senate Judiciary Subcommittee on the Constitution, Civil Rights, and Human Rights," 23 April 2013, https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1114&context=cong). Available evidence also suggests, however, that UAV operations conducted by US forces cause fewer civilian casualties than most other common means of warfare, *see*, for example, Kenneth Anderson and Benjamin Wittes, "Three Deep Flaws in Two New Human-Rights Reports on U.S. Drone Strikes," *New Republic*, 25 October 2013, https://newrepublic.com/article/115329/amnesty-international-human-rights-watch-drone-reports-are-flawed.

153. Since operators are not concerned for their own safety, the possibility that the combined effects of tension, an unexpected occurrence, and a concern for personal life would lead to munition being fired when it should not, is significantly eliminated.

154. Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), opened for signature 8 June 1977, 1125 UNTS 3 (entered into force 7 December 1978) ('AP I'), Arts 48, 51 (4)(b), 51(4)(c) and 51(5)(b).

155. Asaro, "The Labor of Surveillance," 282, 299. Elements of this process will also be automated in the future, as per Jai Galliott and Jason Scholz J, 2019, "Artificial Intelligence in Weapons: The Moral Imperative for Minimally-Just Autonomy," *Air Force Journal of Indo-Pacific Affairs* 1, no. 2 (Winter 2018): 57–67, https://www.airuniversity.af.edu/Portals/10/JIPA/journals/Volume-01_Issue-2/04-Galliott-Scholz.pdf.

156. Alan W. Dowd, "Drone Wars: Risks and Warning," *Parametres* 42, no. 4 / 43, no. 1 (Winter-Spring 2013), 7.

157. *See* David Szondy, "MIT Investigating Ways to Combat Boredom in Drone Pilots," *New Atlas*, 19 November 2012, https://newatlas.com/uav-pilot-boredom-mit/25014/.

158. McCurley and Maurer, *Hunter Killer*, 124.

159. Hurwitz, 'Drone Pilots."

160. Martin and Sasser, *Predator*, 33.

161. McCurley and Maurer, *Hunter Killer*, 112–15.

162. Ibid., 109.

163. Ibid.

164. Power, "Confessions of a Drone Warrior."

165. Ibid.

166. Martin and Sasser, *Predator*, 29.

167. C. S Milliken, J. L. Auchterloine, and C. W. Hoge, "Longitudinal Assessment of Mental Health Problems among Active and Reserve Component Soldiers Returning from the Iraq War," *Jama* 298, no. 18 (2007): 2141–48.

168. *See* also Bentley, ""Fetishised Data," 88, 95.

169. McCurley and Maurer, *Hunter Killer*, 133–34.

170. Interview with Col James Cluff, *see* Christopher Drew and Dave Philipps, "As Stress Drives Off Drone Operators, Air Force Must Cut Flights," *New York Times*, 16 June 2015, https://www.nytimes.com/2015/06/17/us/as-stress-drives-off-drone-operators-air-force-must-cut-flights.html.

171. Ibid.

172. Simmo (Sensor Operator), in Lee, *Reaper Force*, at 266–67. *See also* Martin and Sasser, *Predator*, at 85: "it is like living in two places at the same time. Parallel universes."

173. Lee, *Reaper Force,* 39.

174. Interview with Lt Col Bruce H. Black, *see* Drew and Philipps, "As Stress Drives Off Drone Operators, Air Force Must Cut Flights."

175. Justin Thomson, see Chris Cole, *Drone Wars UK*, May 2017.

176. Pitzke, "Interview with a Drone Pilot."

177. Chapa, "The Sunset of the Predator."

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180. For example, Francis, Air Surveillance Operator, Air Force, https://airforce.defencejobs.gov.au/jobs/air-surveillance-operator: "Knowing I'm making an impact on the safety of the country is very rewarding."

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FEATURE

# Japan and the Nuclear Challenge in a New Era of Rising Tensions

## Balancing Between Disarmament and Deterrence

Sayuri Romei

Following the rapid succession of diplomatic developments between North Korea, South Korea, and the United States, Japan's security position has become more delicate. Former Defense Minister Itsunori Onodera stated in May 2018 that Japan is facing its toughest security environment since World War II and pledged to resolutely protect the nation's territory. At the same time, China's aggressive posture in the East and South China Seas and its rapidly expanding military budget pose constant concerns for Japan. Along with challenges, however, opportunities have also emerged for rethinking Japan's nuclear security policy in this new era of post–Cold War uncertainty. In the wake of the Nuclear Weapon Ban Treaty (NWBT), passed in July 2017, nuclear disarmament movements have started to grow remarkably and are pressuring the Japanese government to join the treaty. Japan's status as a nuclear umbrella state highlights once again the country's postwar security dilemma between maintaining nuclear deterrence in the short term and seeking nuclear disarmament in the long run.

This article will first examine how Japanese officials and experts have perceived the US security guarantee to their country and the nuclear component of extended deterrence. Subsequently, it will discuss the obstacles that Japan faces to balance the two goals of its nuclear policy. Lastly, it will study how Japan can contribute to the creation of a more favorable regional environment for nuclear disarmament and ensure that the disarmament side of the country's policy does not remain neglected.

These challenges and opportunities, combined with the revision in December 2018 of Japan's National Defense Program Guidelines, constitute a crucial time to think of some steps Japan can take today and in the upcoming years to strike a better balance between deterrence and disarmament.

### Background

When I told a former high-ranking Ministry of Foreign Affairs (MOFA) official that I wanted to understand how Japan balances its deterrence needs with its disarmament goals, he responded that there was nothing to understand,

investigate, or discuss about it, as Japan is "simply stuck pursuing both aspects of its nuclear policy in the same way. End of story."[1] Albeit disappointing at first, his response highlights one of the core dilemmas encompassed in Japan's nuclear policy and urges us to question the way the country has been dealing with both of these goals. Is Japan indeed pursuing disarmament and deterrence in the same way?

Disentangling Japan's nuclear policy is no easy task. The Four Pillars of Nuclear Policy (*Kaku Yon Seisaku*), introduced by former Prime Minister Eisaku Satō in January 1968 as a wider framework for the Three Non-Nuclear Principles (*Hikaku San Gensoku*), perfectly reflects the various discrepancies embedded in Japanese nuclear policy. As the only country that has experienced nuclear attacks on its own soil, Japan officially positions itself as a nuclear victim (*hibakukoku*) and considers the Three Non-Nuclear Principles as the cornerstone of its nonnuclear policy (the first pillar). Japan's nuclear *kokuze* (national policy) assigns exclusively peaceful purposes to the country's atomic energy program (the second pillar), but the political rhetoric on the nuclear option and the government's past nuclear studies always introduce doubts regarding Japan's commitment to this *kokuze*. Moreover, Japan's role in promoting disarmament (the third pillar) is sometimes seen by neighboring countries and domestic peace activists as hypocritical, as the country also heavily relies on the extended nuclear deterrence (END) provided by the United States (the fourth pillar).

This article focuses on the dilemma that the last two pillars pose between maintaining the credibility of US extended deterrence while taking concrete steps toward nuclear disarmament. The first section will examine how Japanese government officials have perceived the US extended deterrence, and in particular its nuclear component. The subsequent section will tackle the rise and fall of the global nuclear disarmament movement around 2009 and the deterrence vs. disarmament dichotomy in Japanese thinking. The final section will attempt to provide recommendations on how Japan could regain the lost momentum while maintaining a strong security alliance with the United States.

## Japan's Perception of US Extended Deterrence and Its Nuclear Component

The role of the postwar US security guarantee to Japan, and in particular its nuclear component, has sometimes been compared to a lid that prevents the return of a militarist Japan—and Tokyo's acquisition of nuclear capabilities of its own. For the United States, the main objective of the postwar US-Japan alliance was a double containment: on the one hand, against the communist bloc, and on

the other hand, against the return of a militarist Japan.[2] This would in fact be the core meaning of the Security Treaty signed by the United States and Japan on 8 September 1951: by sealing a formal agreement, the United States sought to simultaneously defend themselves against a communist encroachment as well as controlling any straying in the future path of Japan.[3]

Because of the constant US engagement in the postwar era, Japan's Cold War foreign and security policies remained limited and reliant on the United States, allowing the emergence of Japan's pacifist identity in the aftermath of World War II.[4] Edwin O. Reischauer, one of the most renowned Western scholars of Japan and former US ambassador to Tokyo (1961–1966), stated in the late 1980s that "today no people surpass the Japanese in their devotion to pacifism. It is their great ideal, supported by both their emotions and their intellects."[5] While not so confident about it in his early postwar work, Reischauer seemed to have come to such a conclusion after seeing Japan's foreign and security policies so immobile for decades during the Cold War.[6]

Throughout the Cold War and the post–Cold War era, the Japanese government has indeed been careful to reflect the general public's widespread pacifist sentiment developed after the war and to maintain the country's official status as *hibakukoku*. However, that also meant that the Japanese government had to ensure the security needs of the country, i.e., testing the credibility of the US commitment to extend deterrence to Japan. Indeed, the statements suggesting a possible nuclear option for Japan appear to be linked to the Japanese government's need to periodically survey the degree of the US commitment.

According to a 1971 airgram from the US embassy in Tokyo to the Department of State, for instance, Shintarō Ishihara, then a promising young Liberal Democratic Party (LDP) politician, claimed "a Japanese nuclear system was necessary in order to trigger the American deterrent in case Japan was attacked or seriously threatened because the American nuclear umbrella, as presently constituted, was not, for Japan, a reliable deterrent."[7] Interestingly, the US embassy comments in the airgram that Ishihara has little political influence in his own party, and he is literally the only one who publicly advocates nuclear weapons for Japan. However, the missive continued, by stating it is possible that "Ishihara's popularity as a culture hero will enable him to convince his large following among Japanese youth that Japan should go nuclear. Should he be able to do so, others competing politicians might also find it politically profitable to advocate such a program or, failing that, to argue against closing Japan's options by ratifying the Non-Proliferation Treaty (NPT). . . . Ishihara's doubts about US credibility are another matter. They are considerably more widely held, even though few Japanese would articulate them as frankly as Ishihara did."[8] Many of these political comments questioning the US

security commitment and simultaneously alluding to Japan's nuclearization, in fact, are aimed at the United States and have been a subtle way to request stronger extended deterrence guarantees at a specific point in time. A more recent example came in the wake of the 2006 North Korean nuclear test. Even after Secretary of State Condoleezza Rice had visited Tokyo and publicly reassured Japan of the solidity of the END to Japan in October 2006, more Japanese politicians felt the need to test the US commitment. Shōichi Nakagawa, for instance, at the time policy chief of the LDP, stated in November 2006 that Japan should at least discuss the nuclear option because North Korean nuclear-tipped missiles could reach Japan before the United States could help their ally.[9] Foreign Minister Tarō Asō also sparked a controversy[10] as he offered his support to Nakagawa's statements and called for a more open debate on the nuclear option because of the threatening environment.[11] These statements are a sign that, despite coming to the conclusion that the only possible security option at the moment is strengthening the alliance with the United States, Japan could not fully and completely rely on its ally for protection. This lingering and underlying mistrust toward the American security guarantee, fomented since the late 1980s by the bitter feelings of Japan bashing then Japan passing,[12] is a leitmotiv in the US–Japan security alliance that can be found in more recent years as well. When Prime Minister Shinzō Abe and Adm Harry Harris, then commander of the US Pacific Command, met in Tokyo after North Korea's nuclear test in January 2016 and a ballistic missile launch in February, Abe stated, "The missile launch by North Korea was not only a direct threat to Japan but also a challenge to the United States."[13] Political scientist Shōgo Imoto writes that "it is clearly an exaggeration to state that Mr. Abe is thinking of nuclear weapons for Japan. However, I interpret [Mr. Abe's quote] as the following: "If the United States abandons Japan now and runs away from the North Korean threat, Japan will seriously consider a shift in its policy and acquire nuclear weapons. United States, I would like you to be fully aware of this as you tackle the North Korean issue."[14] The classic debate on the Japanese nuclear option and the relatively recent awareness for a public nuclear discussion by Japanese politicians[15] have, therefore, a twofold purpose. The most obvious one is deterring Japan's regional rivals and sending them the message that should a crisis occur, Japan's nuclear latency can be turned into nuclear weapons very quickly. The second purpose is to constantly gauge the level of security commitment from the United States. Japan's historical fear of abandonment is now complemented by a fear of a new potential "Japan passing" moment with the Trump administration. The idea that the United States will downgrade the security alliance with Japan in favor of other priorities is currently very alive. Journalist Takao Toshikawa even used the phrase *Japan dissing* to describe this rough patch with the United States.[16] A 2015 survey by the Pew

Research Center shows that when asked "if your country and China got into a serious military conflict, do you think the US would defend your country militarily?" 60 percent of the Japanese respondents answered "yes." While it might seem like a significant number, the participants from South Korea and the Philippines responded, respectively, 73 percent and 66 percent.[17]

This Japanese modus operandi of regularly requesting US reassurance about its extended deterrence is especially interesting if we examine its nuclear component. Since the horrors of Hiroshima, Nagasaki, then the *Lucky Dragon #5* incident in 1954,[18] there has been a sharp divide between the nuclear abolitionists, who reject all nuclear weapons, and the realists, whose main concern is to respond to Japan's security needs, for example, maintaining a strong and credible US deterrent to counter threats from China, North Korea, and Russia. The realist view, which sees extended deterrence as a necessity, has dominated in the LDP-run governments, and the issue of "no first use" (NFU)[19] has become fundamental for them. In 1994, Shunji Yanai, a senior government official, expressed his fears that the US–North Korea Agreed Framework would undermine nuclear deterrence against any type of attack from North Korea.[20] When US Amb. Robert Gallucci proposed that Washington drop all threats of first use once North Korea complied with the NPT, Yanai strongly opposed the idea because it would "punch a hole in the American nuclear umbrella."[21]

In 2003, prior to the first Six-Party Talks, the director-general of the MOFA's Asian and Oceanian Affairs Bureau, Mitoji Yabunaka, asked Assistant Secretary of State for East Asian and Pacific Affairs James Kelly "to make sure the United States does not again [as in 1994] promise not to use its nuclear weapons against North Korea if Pyongyang agrees to dismantle its nuclear development program."[22] Implicitly referring to China's unverifiable and unenforceable declaratory NFU policy, former Prime Minister Tarō Asō also commented, "Even if a nuclear power says it won't make a preemptive strike, there's no way to verify its intentions. I wonder if that's a realistic way to ensure Japan's safety."[23]

This security-centered approach, prevailing in the conservative LDP governments, persisted even in 2009, a few months before the elections brought to power the Democratic Party of Japan (DPJ) for the first time. Masakatsu Ōta of *Kyodo News* revealed in November 2009 that Japanese diplomats conducted aggressive lobbying activities on the US congressional nuclear task force and asserted that they believed the Tomahawk Land Attack Missile/Nuclear (TLAM/N) was an essential element to maintain the credibility of the US nuclear umbrella against China and North Korea.[24]

The tune changed dramatically when the newly elected progressive government led by Prime Minister Yukio Hatoyama attempted to reverse the Japanese

narrative on the retirement of the TLAM/N. In a December 2009 letter to Secretary of State Hillary Clinton, then Foreign Minister Katsuya Okada suggested opening discussions for the adoption of a US NFU, which, in his view, would move Japan one step closer to its goal of promoting a nuclear-free world.[25] This effort, however, was short-lived. As the DPJ was defeated in 2012, Shinzō Abe's government again showed a realist approach, speaking against the possibility of an NFU policy for the US.

After Pres. Barack Obama's historical visit to Hiroshima on 27 May 2016, his administration attempted to include the NFU policy into the US nuclear declaratory policy. However, the main reason why the adoption of such policy became difficult to implement was, again, Japan's concerns. The Japanese government's belief was that adopting an NFU policy would weaken the perception of American commitment to Japan's defense.[26]

This pattern clearly shows that the NFU policy is a key issue in Japan's strategic thinking and stems from the deep mistrust that the Japanese government feels toward China's 1964 declaratory NFU policy. However, even with an untrustworthy China, Japan's firm opposition to the adoption of an NFU policy by the US seems outdated at a time when Japan is gradually making efforts to strengthen its defense posture and become a more proactive player.

Japan's official goal of promoting disarmament or being the mediator (*hashi-watashi*) between nuclear states and nonnuclear ones is being chipped away at by the importance Japan still assigns to the nuclear component of the US deterrent, thus trapping Japan in a permanent dilemma between vanishing long-term disarmament goals and the fear of abandonment stemming from short-term security needs.

## The Lost Momentum and the Security vs. Disarmament Dichotomy

In September 2001, historian and author of an official Nobel Peace Prize history Oivind Stenersen told reporters that former Japanese Prime Minister Eisaku Satō was the Committee's "biggest mistake." The Three Non-Nuclear Principles policy had earned Eisaku Satō the Nobel Peace Prize on 11 December 1974, exactly seven years after his declaration of the country's nonnuclear policy. According to the Committee at the time, Satō represented the will for peace of the Japanese people, and his work was to be considered a great step toward nuclear disarmament and peace.[27] The prize was also awarded to him for his efforts in signing the NPT in 1970 and for establishing Japan's official nonnuclear policy. Stenersen criticized the Committee's choice, noting that awarding the prize to Satō was, in fact, not received warmly in Japan, either by the public or by the left-wing parties.[28] His opponents questioned how a strong supporter of US military actions in Asia and

of the US nuclear deterrent was deserving of such an honor.[29] The book states, "Some reacted with disbelief, others with laughter and anger," adding that Japanese women's organizations also contested the prize to Satō because he had supported the United States in the Vietnam War.[30]

The dilemma between pacifism and security is in fact also translated into the catch-22 that still finds the Japanese government constantly juggling between disarmament and deterrence. Former Hiroshima mayor Takashi Hiraoka's frustrated comment that "people from other countries point out that Japan preaches to others about abolishing nuclear weapons while, at the same time, it relies on US nuclear arms for its own security. . . . When I tell them that the citizens of Japan are doing their utmost for peace, they aren't convinced and dismiss this as double-talk" expresses the powerlessness felt by many disarmament activists in Japan.[31] The government, in fact, has created a conceptual division that does not see deterrence and disarmament as conflicting.

As shown earlier in this article, government officials and policy experts see them as two different and coexisting components of the country's nuclear policy. Disarmament and deterrence are thus seen as both equally indispensable for Japan, and not at all inconsistent.[32] In May 2018 at a conference in Washington, DC, Amb. Kazutoshi Aikawa, deputy chief of mission at the Japanese embassy to the United States, stated

> pursuing the goal of disarmament cannot and should not be conducted without taking into account the security considerations and implications. In the same vein, maintaining a robust and credible extended deterrence and pursuing the disarmament goal are not contradictory. . . . As Japan, a non-nuclear state under the NPT, faces such serious security challenges and threats . . . its disarmament policy cannot and should not be pursued without giving due consideration to its security concerns. To ensure its security against such regional security concerns, the extended deterrence is imperative for Japan. That, however, does not mean in any way that Japan is just reactive or takes the security situations as given. On the contrary, Japan proactively pursues its diplomatic undertakings to improve the security situation regionally and globally, in joint efforts toward creating the condition to build a world without nuclear weapons.[33]

This conceptual distinction echoes with Anthony DiFilippo's description of Japan's approach as "selective disarmament" that makes neighboring states call Japan out on its perceived hypocrisy or even wonder what Japan's real intentions are. Japan has always remained silent whenever the United States conducted nuclear experiments,[34] with the exception of the mayors of Hiroshima and Nagasaki,

who wrote letters of protest to the US president.[35] As Hiroshima governor Hidehiko Yuzaki (LDP) stated in 2016,

> There is definitely a gap in perception between Hiroshima and the rest of Japan on nuclear-weapon issues. Living in Hiroshima makes it feel like everyone in Japan is naturally thinking about nuclear issues, but when I get out of my city, I have to readjust to the general national lack of awareness of these important issues. This is also evident in the way the media reports about the annual Hiroshima Peace Memorial Ceremony, for example: Hiroshima is the only city that shows the entire ceremony on TV, while the NHK in Tokyo only dedicates twenty minutes to it. In other parts of Japan they don't even talk about it![36]

Additionally, even within Hiroshima, there are clashing positions regarding the question of disarmament. In fact, while Governor Yuzaki agrees with the ruling LDP's line that disarmament should follow a step-by-step cooperation process, others, including former mayor Hiraoka, believe the government should take a bolder stance and start declaring immediately that it will be striving toward the complete abolition of all nuclear weapons and propose a specific timeline for this goal.[37]

President Obama's 5 April 2009 speech in Prague represented an important symbolical moment for disarmament movements around the world. His speech was very well-received globally and in Japan and launched an international momentum by giving visibility and hope to existing disarmament movements such as Global Zero.[38] Nagasaki mayor Tomihisa Taue took the opportunity to publicly emphasize the importance of the message spread by the *hibakusha* (atomic bomb survivors). Taue stated, "The hopes of these citizens have been raised by the words of United States President Barack Obama, who proclaimed in Prague this April that the United States will take concrete steps toward a world without nuclear weapons."[39] Similarly, Hiroshima mayor Tadatoshi Akiba coined a new term, the "Obamajority," to refer to the increasing number of nuclear abolitionists around the world, explaining that President Obama "is the one who has given all of us new energy and hope that we can and must abolish all nuclear weapons from the surface of this earth."[40]

On the other hand, Tokyo remained cautious and very conservative in its security-centered posture. A 3 September 2009 secret cable sent to Secretary Clinton indicated that the LDP government, right before losing the election later that month, was effectively discouraging President Obama from visiting Hiroshima in November, where he might have reiterated his message in favor of a nuclear-free world.[41] As shown earlier, the global disarmament momentum launched by the

Prague speech coincided in Japan with the brief shift in the government in 2009–2012, which strived to increase transparency and attempted to emphasize the goal of disarmament within the *kokuze*.

With North Korea resuming its missile tests coinciding again with the LDP regaining power, Japan has predictably shifted its emphasis back to security needs, and disarmament seems to have taken many steps backward. The "step-by-step" approach to disarmament that the current Japanese government has been promoting, in fact, espouses this shift and prioritizes deterrence in the short term while maintaining a long-term vision for disarmament. An example of the challenge that this stance poses is Japan's 25 October 2016 vote at the United Nations Assembly General against the initiative to launch negotiations on a nuclear weapons ban. Japan, along with four of the nuclear states (United States, Great Britain, France, and Russia), decided to vote against the proposed resolution because the government would prefer a step-by-step approach to nuclear disarmament, which some have called not only disappointing, but also hypocritical. Tokyo's move was criticized as it only reflects the government's reliance on US END, while stripping the country of moral credibility in its disarmament efforts.[42] At the press conference held three days after the vote, Foreign Minister Fumio Kishida, who is originally from Hiroshima and has always highlighted this personal detail in his political career, stated, "Japan's actions and position have been consistent throughout. Our position is to emphasize cooperation between nuclear-weapon states and non-nuclear-weapon states."[43] Again, the issue of the NWBT, adopted in July 2017, has created a divide between the government and the public opinion and especially peace activists in Japan. The vocal Japanese branch of the Nobel Peace Prize laureate International Campaign to Abolish Nuclear Weapons (ICAN) has been leading a pressure campaign against the Japanese government to join the NWBT as soon as possible, because Japan's reputation as an atomic victim is at stake.[44] The disarmament vs. deterrence issue has also divided Japanese scholars and experts into two categories, those who study disarmament (*gunshuku*) and those who study deterrence (*yokushi*). As Takushoku University professor Heigo Satō comments, "there are two academic communities dealing with nuclear issues in Japan: the 'disarmament' camp, and the 'deterrence' one, and they do not talk to each other." The two communities have their own events and conferences and have not attempted to find a common platform to discuss the two issues together.[45] Furthermore, the two MOFA bureaus who work on the issues, the North American Affairs Bureau and the Disarmament, Non-Proliferation, and Science Department, neither interact nor feel the need to consult each other.[46]

Another setback for the recent disarmament movement is the discrepancy between the "Three Disarmament Reductions" (the three Rs) proposed by former

Foreign Minister Kishida in 2014, and the way MOFA reacted to the Trump administration's *Nuclear Posture Review* (*NPR*) in 2018. The three Rs suggest that to accomplish the goal of disarmament, there should be

1. a reduction of the number of nuclear weapons;
2. the reduction of the role of nuclear weapons; and
3. the reduction of the incentive for possession of nuclear weapons.[47]

*US Air Force photo by Airman 1st Class Juan Torres*

**Figure 1. Trump visits Yokota Air Base, Japan.** Pres. Donald J. Trump greets Lt Gen Jerry P. Martinez, US Forces Japan and 5th Air Force commander, during a Troop Talk, 5 November 2017, at Yokota Air Base, Japan. During his talk, Trump highlighted the importance of the US–Japan alliance in the Indo-Pacific region.

Current Foreign Minister Tarō Kōno, however, released an immediate statement the morning after the Trump administration's *NPR* was issued on 2 February 2018, stating, "Japan highly appreciates the latest *NPR* which clearly articulates the US resolve to ensure the effectiveness of its deterrence and its commitment to providing extended deterrence to its allies including Japan. . . . Japan will strengthen the deterrence of the Japan-US Alliance by closely consulting on the extended deterrence, including nuclear deterrence, through the Japan-US Extended Deterrence Dialogue and other consultations." The statement ends with "Japan, as a leading state towards the total elimination of nuclear weapons, will continue to closely cooperate with the US to promote realistic and tangible nuclear disarmament,

while appropriately addressing the actual security threats."[48] ICAN vice-chair Akira Kawasaki pointed out the "worrying discrepancy" between the second point of the Three Rs and the fact that the Trump *NPR* has virtually given a greater role to nuclear weapons.[49] Kawasaki also expressed concern that the government's continuous mixed signals are a sign that Japan's step-by-step process is in fact a one step forward, two step backward approach with regards to disarmament.[50]

This persisting conceptual distinction, therefore, created by the Japanese government to be able to pursue the two goals simultaneously, has had the effect of maintaining both a strong pacifist national identity and a solid alliance with the United States. The 2013 and the latest 2018 National Defense Program Guidelines state, "In dealing with the threat of nuclear weapons, US extended deterrence, *with nuclear deterrence at its core*, is essential: Japan will closely cooperate with the United States to maintain and enhance its credibility. To deal with the threat, Japan will also increase its own efforts including comprehensive air and missile defense as well as civil protection. At the same time, toward the long-term goal of bringing about a world free of nuclear weapons, Japan will play an active and positive role in nuclear disarmament and non-proliferation."[51] (emphasis added)

Indeed, as the most-recent developments with North Korea have shown, deterrence is certainly still an essential tool. Extended deterrence dialogues between the United States and Japan are crucial to maintain a credible deterrence mechanism understood by both allies and keep the dialogue open between them. However, as Japan is making efforts to undertake a more proactive role in defense matters, Tokyo also needs to take on greater responsibility to promote nuclear disarmament. Thus, Japan's dualistic approach seems inevitable, yet how can Japanese nuclear *kokuze* maintain a better balance between the two goals?

## How to Ensure That the Goal of Disarmament Does Not Remain Neglected?

Commenting on the role of mediator (*hashiwatashi*) that Japan aspires to play, Prof. Tatsujirō Suzuki of Nagasaki University said, "Being a bridge-builder does not mean that Japan just takes the middle ground between nuclear weapons states and non-nuclear weapons states."[52] Clarifying the meaning of the phrase *hashiwatashi* has been challenging. While the MOFA had used the expression "leader for non-proliferation and disarmament" to describe Japan's aspired role since the 1990s, in 2016 the MOFA changed it to "mediator." This new role may imply a more concrete and realistic perspective, which resonates not only with Japan's heightened regional threat perception but also with the deepening gap between

nuclear and nonnuclear states. However, the repeated emphasis solely on security has had the effect of pushing the goal of disarmament further in the background and driving a wedge between the government and the public.

Frictions rose in January 2018 when the MOFA declined the requests from ICAN to schedule a meeting between Prime Minister Abe and ICAN executive director Beatrice Fihn, who visited Hiroshima and Nagasaki for the first time.[53] Atomic bomb survivor and well-known antinuclear activist Setsuko Thurlow was also denied a meeting with the prime minister in December 2018. Thurlow later stated that she was disappointed that Abe was not able to meet her, and submitted a letter addressed to the prime minister, in which she wrote that she felt "betrayed as an atomic bomb survivor. . . . I request that Japan break from its dependence on the nuclear deterrent and deepen true conversation and consultation, not as a fake mediator, with atomic bomb survivors and civil society organizations."[54]

These missed opportunities for dialogue are indeed problematic. The government conveys its lack of confidence by showing that its only priority and concern is maintaining the US deterrent. Whether the reason why the prime minister declined these requests is scheduling conflicts or avoiding dialogue with antinuclear activists, the message that the domestic and international publics see is that the Japanese government is eclipsing the country's identity as an A-bomb survivor. The *hibakukoku* status of Japan has played a major role in the country's postwar identity. The bombings of Hiroshima and Nagasaki, which in Japanese are written in katakana as opposed to the kanji that simply indicate the cities, have been used by politicians as a symbol of Japanese uniqueness over the decades. "The only country that has been subjected to atomic bombing" ("唯一の被爆国"—*yuiitsu no hibakukoku*) is a very common phrase that many politicians have used in public statements. The phrase started being commonly used in the 1970s, after Japanese prime ministers began attending the Hiroshima Peace Memorial Ceremony. The first prime minister to attend the ceremony on 6 August 1971 was Eisaku Satō, who had declared the Three Non-Nuclear Principles four years prior. Since that year, in fact, the phrase has become popular in most Peace Memorial Speeches every year in August, and every prime minister since at least 1998 has included the phrase in his Peace Memorial Speech.

Therefore, one way the Japanese government could ensure that the proclaimed goal of disarmament is not neglected is to engage in public opportunities for dialogue with the *hibakusha* community and open a more transparent conversation about ways Japan can serve as mediator in NWBT discussions. In the official statement on the Nobel Peace Prize to ICAN, the MOFA's foreign press secretary declared, "Although ICAN's activities to date are different from the Japanese government's approach, we share the goal of eliminating nuclear weapons."[55] If the

government acknowledges this shared goal, then mitigating the gap with the antinuclear community through an increased mutual engagement would be beneficial to maintain an open dialogue on security and disarmament.

Another important element the Japanese government needs to discuss further is the nuclear component of the extended deterrent. As examined earlier, Japanese officials have often emphasized their opposition to a potential US NFU policy and their insistence on nuclear capabilities. As former Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy Elaine Bunn suggests, "I'd say to the Japanese, don't hang your hat on a specific capability; don't put too much emphasis on any one weapon or platform."[56] Although Japan has been under the American security umbrella since the outset of the Cold War, it was only in 2010 that the two allies, through the Extended Deterrence Dialogue, started an official dialogue specifically on deterrence. Because this dialogue is still relatively new and officials and experts in Tokyo have long been reticent to talk about nuclear deterrence issues, thoughts on the details of deterrence mechanisms need to be worked out in a more pragmatic manner.[57] How effective is the current END to Japan in containing or countering threats from North Korea, China, or Russia? How would the United States realistically use nuclear weapons in contingencies involving the Senkaku Islands, or other critical areas?[58] Posing specific questions would also encourage Japanese government officials to organize and engage in more domestic and multilateral tabletop exercises, which are currently lacking.[59] These simulations would help update and reevaluate the actual role of nuclear weapons in both American and Japanese thinking, thus bringing the two sides of the same coin, deterrence and disarmament, closer together.

Lastly, strengthening confidence-building measures and trust in the region is a necessary aspect that would also help Tokyo strike a better balance between the two sides of Japan's nuclear policy. Japanese officials mostly feel that their country is impotent in promoting disarmament, because it does not possess nuclear weapons.[60] However, Japan's history as a *hibakukoku* is a very powerful tool in building trust, especially in the Indo-Pacific region, and not only through an annual speech at the United Nations. Easing tensions and reestablishing constructive relations with South Korea is imperative for Japan and for the region's stability, as well as finally reopening an official dialogue with North Korea.

*DOD photo by Navy Petty Officer 1st Class Dominique A. Pineiro*

**Figure 2. Multilateral meeting.** Commander US Forces Korea, Gen Vincent K. Brooks; US Chairman of the Joint Chiefs of Staff, Gen Joseph F. Dunford Jr.; Japan Self-Defense Force Chief of Staff, Adm Katsutoshi Kawano; Republic of Korea (ROK) Chairman of the Joint Chiefs of Staff, Gen Jeong Kyeong-doo; Commander, US Pacific Command (USPACOM), Adm Harry Harris; and Commander US Forces Japan, Lt Gen Jerry P. Martinez gather for a trilateral meeting at USPACOM headquarters. The 30 October 2017 session was the fifth between the senior most US, ROK, and Japanese military officers since July 2014. The leaders discussed multilateral and bilateral initiatives designed to improve interoperability and readiness as well as North Korea's long-range ballistic missile and nuclear tests and agreed to firmly respond to the acts in full coordination with each other. Dunford reaffirmed the ironclad commitment of the United States to defend the ROK and Japan and provide extended deterrence guaranteed by the full spectrum of US military capabilities.

## Conclusion

Masakatsu Ōta has an expression for the dance the Japanese government has been performing under the US nuclear umbrella by finding a continuity between the past, the present, and the future of the "US-Japan nuclear alliance"—the "Nuclear Kabuki Play." He argues that this play has two distinct audiences: the United States and the antinuclear domestic public. This separation, according to the journalist, conveniently enables the Japanese government to simultaneously address the issue of national security on the one hand and appease the antinuclear

sentiment of the public on the other hand.[61] However, since the momentum in favor of disarmament started 10 years ago, this Nuclear Kabuki Play has been performing for only one audience; thus, neglecting the domestic audience. The usual speeches on disarmament with which the Japanese government has tried to appease the domestic public once or twice a year do not seem to be enough anymore, and the NWBT issue has exacerbated the tensions between the government and the public. Contrary to what the anonymous former MOFA official mentioned earlier in this article suggested, deterrence and disarmament are not being pursued in the same way.

Echoing former Defense Minister Itsunori Onodera's assessment, in August 2018 Prime Minister Abe stated that "the security environment of Japan is becoming more severe and increasingly uncertain."[62] A more challenging environment is certainly a valid reason to strengthen responses to security needs, but it is also a great opportunity to initiate efforts to ease tensions in the region, open a dialogue with the domestic public, and rethink deterrence mechanisms for specific scenarios in cooperation with the United States.

Becoming more proactive in global disarmament does not mean compromising the US–Japan alliance or the security umbrella. With Japan becoming increasingly ready to take on a more "normal" role in the alliance and on the global scene, Japan's confidence in promoting disarmament will also need to grow at the same pace. JIPA

**Notes**

1. Author's interview with former MOFA official who prefers to stay anonymous, 4 December 2018.

2. Timothy Temerson, *Double Containment and the Origins of the U.S.-Japan Security Alliance* (Cambridge, MA: MIT-Japan Program, 1991), 91–94, https://dspace.mit.edu/handle/1721.1/17094. Temerson attributes the phrase "double containment" to then–Secretary of State Dean Acheson.

3. Ibid. Richard Samuels also points out three scenarios that the United States feared at the time: firstly, the possibility of Japan's rapid remilitarization, which could eventually escalate into a revanchist military attack against the United States; secondly, a deeply unstable Japan that would have needed strong US attention for years to come; and finally, the possibility that Japan could secure a separate peace with the communist countries and allow them easy access for political and industrial influences. *See* Richard Samuels, *Securing Japan – Tokyo's Grand Strategy and the Future of East Asia* (Ithaca, NY: Cornell University Press, 2007), 39.

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FEATURE

# Cooperative Rivalry

## Understanding Indo-Pakistani Ties Using Treaty Networks

Michael O. Slobodchikoff
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## Introduction

The number of ceasefire violations (CFV) between India and Pakistan has risen dramatically over the past few years. While the increased number of CFVs are a result of the heightened tensions between the two rivals, none of these CFVs has escalated to a full-blown militarized conflict or war between the nuclear-armed neighbors. An analysis of CFVs provides an incomplete picture of Indo-Pakistani relations. The bilateral treaties between India and Pakistan are also important indicators of the status of their relationship. This article argues that the increased levels of cooperation through treaties and the use of treaty nesting in their relationship may be serving a conflict management function by preventing CFVs from escalating into militarized conflict. *Treaty nesting* is a technique that states use to tie treaties to previous treaties, thus institutionalizing efforts at cooperation between states. Using network analysis, we examine all (N=44) bilateral treaties between India and Pakistan and analyze the relationships between those treaties and the impact of treaty nesting on Indo-Pakistani bilateral ties. We also analyze and discuss the most important treaties to the relationship. A continued attempt by India and Pakistan to tie future cooperation to prior successful treaties may serve to avoid potential disputes from escalating into militarized conflict.

## Setting

Indo-Pakistani relations have been a hot topic in the media as well as in policy circles since the 14 February 2019 terror attack in Pulwama, Kashmir, which led to the death of 44 Indian paramilitary soldiers.[1] The Pakistan-based terrorist group Jaish-e-Mohammed claimed responsibility for the attack; India blamed

*The authors would like to thank Alicia Rodriguez Castillo and Billy Hines for their help in reading and coding all of the treaties between India and Pakistan.

Pakistan for providing funding, training, arms, and resources to Kashmiri rebels responsible for the attacks. India retaliated with airstrikes on a militant training camp in the Pakistani province of Khyber Pakhtunkhwa on 29 February.[2] Pakistan then responded to the Indian airstrikes by conducting its own airstrikes against Indian military installments in Kashmir. In addition, Pakistan downed an Indian fighter jet and captured the pilot.

This conflict in early 2019 was important since it was the first time that either side aerially crossed into the territory of the other since the 1971 war that resulted in the liberation of Bangladesh. While both sides continue to be involved in numerous militarized disputes near the Line of Control (LoC) in the disputed territory of Kashmir, the launch of airstrikes constituted major escalation between the nuclear-armed neighbors. Despite the escalation, the crisis did not devolve into war between the states as has often happened in the past.[3] In fact, in a surprising move, Pakistan returned the captured Indian pilot to India, leading to rapid de-escalation of tensions between the rivals. This was a completely unexpected action on Pakistan's part, largely returning the situation to the status quo between the two states.

The two states have provided contradicting narratives of the events leading to the February conflict. India claims that it downed a Pakistani F-16. However, Pakistan and the United States deny this. US officials stated that the United States' completed inventory of Pakistani F-16s found none to be missing.[4] India also claims that it raided the terrorist training camp in Balakot, resulting in the deaths of a "very large number" of militants. Pakistan not only denies the presence of a terrorist training camp in the Balakot region but also argues that India missed its intended targets and only caused damage to forest areas. Further, India has been unable to provide substantive proof of the successful raid on the terrorist training camp.[5]

India has endured several terrorist attacks in the Kashmir Valley, many of which are attributed to cross-border terrorism supported by the Pakistani military and intelligence agencies.[6] The United States has also accused Pakistan of supporting terrorist groups and failing to thwart cross-border terrorism aimed against India.[7] In 2016, India witnessed another major terrorist attack against a military base in Uri, Kashmir, leading to the death of 29 soldiers. India responded by launching "surgical strikes" against Pakistani militants in Pakistan-occupied-Kashmir (PoK), claiming to have destroyed safe houses used by guerilla militants. Pakistan denied the occurrence of the strikes and argued that there was only increased firing at the LoC.[8]

*Image courtesy of Tauseef Mustafa*

**Figure 1. Keeping a watchful eye**. Indian Army soldiers stationed near Uri, Baramulla district, Jammu and Kashmir look toward Pakistan-occupied Kashmir

The above episode confirms that the danger of an accidental war between nuclear-armed rivals in South Asia is ever-present and real. In addition to airstrikes and a ground battle, India and Pakistan are also fighting a media war, where each side is seeking to portray itself as rational, moderate, and a champion of mutual peace. To further signal its rationality, Pakistan announced another goodwill gesture toward India by offering to release 360 Indian prisoners in April 2019.[9] Most of these prisoners were fishermen caught in the Arabian Sea, which lacks a clearly demarcated maritime border between the two countries.

Some scholars of bilateral security ties find Pakistan's unilateral goodwill gestures to be puzzling. Pakistani prime minister Imran Khan's announcement that the captured Indian pilot would be swiftly returned to India provided the governments of both states with a face-saving measure and helped to de-escalate the rapidly rising tensions on the subcontinent. In this article, we first examine existing

arguments for why Pakistan actively pursued de-escalation vis-à-vis India: the deterrence effects of nuclear weapons, the rationality argument considering the cost-benefit analysis of the conflict, pressure from external actors, and the timing of domestic electoral politics. While these arguments are crucial in understanding the Indo-Pakistani rivalry, they do not discuss the impact of institutions on the onset as well as recurrence of conflict. As a result, we examine the effect of existing institutions on the Indo-Pakistani bilateral relationship and show how such institutions help states manage their conflict. This argument explains the current de-escalation pursued by India and Pakistan at different points in the rivalry, which has prevented the outbreak of war since 1999.

## Possible Causes of De-escalation

There are several plausible explanations for why India and Pakistan have not gone to war in two decades. In this section we examine nuclear deterrence, the high cost of war, external influence/pressure, and domestic electoral politics.

### *Nuclear Deterrence*

Both India and Pakistan became nuclear powers in 1998. The two countries fought three major wars prior to this; they were also involved in a limited war in Kargil, Kashmir, in 1999, after becoming nuclear powers. While the presence of nuclear weapons did not prevent the 1999 conflict, both states exercised restraint and avoided the nuclear option. The nuclear-armed rivals have not fought a major conflict since 1999. The concept of mutually assured destruction prevented a major war from breaking out even as the two neighbors continued to be involved in cross-border disputes and conflicts, many of which have resulted in civilian and military casualties. While the presence of nuclear weapons has deterred potential escalation of conflict between the rivals, the nature of nuclear stability on the continent is rapidly changing.

Ian Hall argues that nuclear stability in South Asia from 1998 onward was largely a result of India's (military) weakness, but he also pointed out that India is unlikely to remain weak for much longer.[10] In 2018, India was the world's largest arms importer, and New Delhi has successfully developed the nuclear triad, heavily investing to transform India's armed forces to meet the nation's domestic and international security challenges.[11] India is also dramatically altering is nuclear posture vis-à-vis Pakistan. India has maintained a doctrine of no first-use with respect to nuclear weapons, whereas Pakistan has never espoused the same. India has now called Pakistan's nuclear bluff and is retaliating against Pakistan's sponsorship of

cross-border terrorism with use of force in an unprecedented fashion. Thus, deterrence alone fails to explain the lack of escalation of current crisis.

### *Cost-Benefit Analysis*

All major conflicts between India and Pakistan have led to a decisive Indian victory and Pakistani defeat. Pakistan has usually attempted to deal with this power asymmetry by sponsoring cross-border terrorism in India as well as supporting the armed separatist struggle in Kashmir. At present, India has a clear military advantage over Pakistan, so it would be in Islamabad's best interest to avoid an all-out war. A war would be very costly for Pakistan, which is currently facing a severe economic crisis and is ill prepared to engage in conflict with India.[12] While a war would be costly for India, it is in a much better situation than Pakistan to withstand the economic costs of war.

### *External Influence / Pressure*

Bhumitra Chakma argues that the United States, as the global hegemon, has played a crucial role in assuring deterrence prevails in South Asia: "More than is commonly realized, the United States was integral in the crisis strategies of both countries. It played a pivotal role preventing crisis escalation and the outbreak of large-scale conflict between India and Pakistan in both confrontations. And the American role was instrumental in the termination of those confrontations, particularly the Kargil conflict. Without America's effective deterrence diplomacy, any of the past South Asian crises could have escalated to the nuclear level."[13]

The United States has played a much less significant role in ensuring the de-escalation of the current conflict. The Trump administration remains engulfed in domestic scandals and has vastly scaled back America's efforts to police the international system. Also, the United States no longer enjoys the position of dictating policy to Pakistan; China has replaced the United States as Pakistan's largest benefactor after America pulled back foreign aid to Pakistan due to Islamabad's failure to clamp down on terrorist networks operating from Pakistan.

The Financial Action Task Force (FATF), a global financial watchdog, has rebuked Pakistan for not doing enough to curb terrorism financing and money laundering. The group has threatened to blacklist Pakistan if it fails to make serious improvement by May 2019, which would have dire consequences for Pakistan's ability to borrow money from international markets, further jeopardizing its slowing economy. Being blacklisted by the FATF could also lead to sanctions by Western countries, including the United States.[14]

### *Domestic Electoral Politics*

Indian air strikes against Pakistan provide a rally-around-the-flag effect to the Modi government in New Delhi, which likely factored into his recent reelection in a competitive political environment. As a result, India, which typically demonstrates restraint vis-à-vis Pakistan, retaliated aggressively to the terrorist attack in Pulwama. The timing of the crisis just prior to the start of the national Lok Sabha (legislative) elections made it difficult for the Modi government to pursue de-escalation of the conflict. The civilian-led, democratically elected government in Pakistan has often found it impossible to pursue de-escalation and normalization of ties with India even if it so desires. This is because the government lacks control over the Pakistani military establishment and the Inter-Service Intelligence agency, which is allegedly responsible for sponsoring cross-border terrorism in India. As a result, it seems extremely puzzling as to why the Pakistani prime minister, Imran Khan, was able to demonstrate diplomatic statesmanship and return the captured pilot and Indian fishermen cum prisoners to India, dramatically lowering the probability of conflict escalation. In another recent display of diplomacy, Islamabad has taken steps toward allowing Indian Sikhs to make pilgrimage to a holy shrine located inside Pakistan.[15]

None of the above mentioned factors help explain this sudden turn in the Pakistani disposition toward India. We argue that institutional factors in the bilateral relationship between India and Pakistan are responsible for managing the conflict, de-escalating, and preventing war. We contend that India and Pakistan are on the cusp of "institutionalized cooperation," and this served a conflict-management function within this rivalry. We term their bilateral relationship a *cooperative rivalry*, since while they remain rivals, India and Pakistan have developed sufficient cooperation to be able to avoid war. Below, we explain the concept of *treaty nesting* as an institution and its impact on the bilateral relationship between India and Pakistan. Next, we provide a network map of all bilateral treaties in the relationship, followed by a discussion of the lodestone treaties. We end with a discussion of the consequences for the future of Indo-Pakistani ties and the prospects for peace and security on the subcontinent.

## Treaty Nesting

Scholars of treaty design contend that international actors design treaties to maximize their own preferences, and therefore, those treaties are a reflection of their interests.[16] While examining the rational design of individual treaties and focusing on treaties as institutions is important, the problem with such an approach is that it assumes that individual treaties are negotiated in a vacuum and

are not constrained by prior treaties. In reality, each new treaty is a product of previous treaties in some manner and often builds upon prior treaties. Further, treaties constrain states' behaviors. All the treaties that a state has signed constrains that state. Therefore, it is logical to examine individual treaties as institutions but also to understand that *groups of treaties* constitute an institution. A bilateral relationship between states is an institution in the same way that a bilateral treaty between states is an institution.

We now examine the ways in which treaties can be grouped to form an institutional relationship between states. Specifically, treaties actively build upon and constrain prior treaties, meaning that treaties are nested within prior treaties. However, it is difficult to determine which specific treaties are nested in other treaties and which treaties are merely stand-alone treaties. As one of our authors has argued before, treaties specify their own classification of nestedness. Specifically, treaties that explicitly refer to prior treaties within their text are nested within those referenced treaties.[17]

We use network analysis to further understand the relationships between treaties and to determine which treaties are the most central to a specific relationship. To do this, we must read and code each individual treaty to determine if and where it is nested. Using nestedness to show how treaties are related to one another, it is then possible to use network analysis to visualize the relationship between the treaties as well as determine the degree of centrality and relative importance of certain treaties.[18] Treaty network analysis allows scholars the opportunity to not only identify how the treaties interact to create a regional order, but also to identify specific treaties which are the most important treaties, further referred to as *lodestone treaties*. These lodestone treaties are significant because they serve as the foundation for all the other treaties within the relationship.

Treaty networks can also help illuminate the strength of a bilateral relationship and the likelihood that the relationship between two states would devolve into conflict. For example, the stronger the treaty network between two states, the less likely it is for them to engage in bilateral conflict against each other.[19] Thus, by examining the relationship between treaties, we can analyze the strength of the bilateral relations between states and their levels of cooperation. To determine the degree of nesting within the bilateral relationship, Michael Slobodchikoff divides the number of treaty ties in the relationship by the number of treaties. This allows a comparison between dyadic relationships. Specifically, he argues that there are three categories for determining the quality of a bilateral relationship. If the ties divided by treaties is greater than 1, then the relationship is a cooperative relationship. The reason for this is that each treaty is an attempt at cooperating. Tying a treaty to another treaty institutionalizes the cooperation. Thus, a higher

level of institutionalized cooperation than attempts at cooperation is considered to be a cooperative relationship. The second level of cooperation is where the number of ties is less than the number of treaties. This means that there have been attempts at cooperating over specific issues but no real attempts to institutionalize that cooperation, known as *ad hoc cooperation*. Finally, the third level of cooperation is where the number of ties and the number of treaties are equal. This is the breakeven point, where a relationship is neither cooperative nor ad hoc cooperation.[20]

We conduct a systematic analysis of the 44 bilateral treaties between India and Pakistan between 1947 and 2017.[21] To provide some context, in the same period, India signed 168 bilateral treaties with its close ally Russia, 163 treaties with China, and 58 with the United States. Thus, the total number of treaties between India and Pakistan is not an anomaly in either direction. States may become party to multilateral agreements for a multitude of reasons; unlike bilateral agreements, multilateral agreements do not necessarily represent cooperation within a dyad. India and Pakistan are a part of several multilateral frameworks, but they do not always interact or agree on issues under consideration. As a result, bilateral treaties are a better indicator of a state's intentionality toward another, and we limit our analysis to all bilateral treaties signed between India and Pakistan. Multilateral treaties are included in the network map (fig. 2) only when a bilateral agreement explicitly references them: i.e., when a bilateral treaty is nested within a multilateral one.[22]

As mentioned above, Treaty A is considered to be nested under Treaty B if it explicitly makes a reference to the earlier treaty. A tie between two treaties is considered to be present when one explicitly references the other: i.e., when a treaty is nested within the other. A relationship is considered to have institutionalized cooperation when the total number of ties in the relationship is equal to or greater than the total number of bilateral treaties between the two states. It is considered to have ad hoc cooperation when the total number of ties is less than the total number of bilateral treaties between the two states. Thus, by dividing the number of treaty ties by the number of treaties, one can determine the level of institutionalized cooperation between the dyads. Table 1 provides a comparison of the levels of cooperation based on treaties between India and Pakistan. As in any bilateral relationship, the Indo-Pakistani relationship starts with a score of 0, which suggests the absence of any cooperation. However, over the next few decades, the total ties/total treaties score quickly jumps, finally crossing the threshold of 1 in 2011. As explained above, states with a ties/treaty score of <1 are considered to demonstrate ad hoc cooperation and states with a ties/treaty score >1 are

considered to demonstrate institutionalized cooperation. Interestingly, India and Pakistan are currently in a transitory phase between ad hoc and institutionalized cooperation. They barely crossed the threshold of 1 in 2011, suggesting they are on the cusp of being able to become *cooperating rivals*.[23]

As suggested by table 1, since the 1980s, India and Pakistan have been attempting to link new treaties to existing bilateral or multilateral arrangements, thereby creating a dense network of ties. States that violate a nested treaty are not only violating a single treaty but also all other treaties that are linked to that treaty. By nesting treaties, states increase the costs of violating a single treaty, thereby reducing the probability of treaty violation. By enhancing the probability of cooperation, treaty nestedness is likely to build trust in a bilateral relationship. It is worth noting that while India and Pakistan are considered to be enduring rivals that regularly participate in militarized disputes against each other, they also continue to abide by many of the treaties they have signed.[24]

As noted in table 1, the Indo-Pakistani cooperation score was 0.4 in 1970 and jumped to 0.96 in 1980. The score hovered at the 0.88 level for a few years, before climbing again in 2010 and crossing the threshold of 1 in 2011.[25] Thus, we see a significant shift in the overall levels of treaty making and nesting between India and Pakistan in the 1970s. In 1971, India's support for East Pakistan's quest for independence led to India and Pakistan fighting a war. India's support for the successful Bangladeshi liberation movement soured diplomatic ties between New Delhi and Islamabad. After the end of the war, the India and Pakistan created a series of treaties to address bilateral relations, including the landmark Simla Agreement of 1972 (discussed below). The two countries also signed treaties for the resumption of trade, reset visa requirements, and resumed telegraph and postal exchanges. Many of these treaties made explicit references to each other as well as previous existing treaties. Thus, as India and Pakistan attempted to restore diplomatic and functional ties in the aftermath of the second war between them, they created a number of nested treaties.[26]

**Table 1. Cooperation Scores in the Indo-Pakistan dyad**

| Year | India-Pakistan Cooperation Score |
|---|---|
| 1950 | 0 |
| 1960 | 0.4 |
| 1970 | 0.4 |
| 1980 | 0.96 |
| 1990 | 0.87 |
| 2000 | 0.88 |

| | |
|---|---|
| 2010 | 0.94 |
| 2011 | 1.02 |
| 2017 | 1.02 |

While the network of treaties has not reduced or eliminated cross-border violence between India and Pakistan, it does demonstrate the ability of states to find pockets of cooperation that can eventually spill over into other issue areas, thereby enhancing cooperation. Table 2 provides information on the total number of CFVs between India and Pakistan that have taken place between 2002 and 2018, which rose sharply in 2017 and 2018.[27] This is attributed to the increased terrorist activity in the Kashmir Valley. The government of India informed the Indian parliament that 881 CFVs took place in Kashmir in 2017. At the same time, the Pakistani army reported 1,299 violations in 2017, which is the highest number of CFVs of any year since 2003, when the last ceasefire agreement was signed between India and Pakistan.[28]

**Table 2. Ceasefire Violations (CFVs) Between 2002 and 2018**[29]

| Year | Number of CFVs – India | Number of CFVs – Pakistan |
|---|---|---|
| 2002 | 4,134 | N/A |
| 2003 | 5,767 | N/A |
| 2004 | 4 | N/A |
| 2005 | 6 | N/A |
| 2006 | 3 | N/A |
| 2007 | 21 | 18 |
| 2008 | 86 | 30 |
| 2009 | 35 | 46 |
| 2010 | 70 | 113 |
| 2011 | 62 | 104 |
| 2012 | 114 | 252 |
| 2013 | 347 | 464 |
| 2014 | 583 | 315 |
| 2015 | 405 | 248 |
| 2016 | 449 | 382 |
| 2017 | 971 | 1970 |
| 2018 | 1,432* | 1,400** |

**As of 30 July 2018; ** as of 9 August 2018*

## Lodestone Treaties

Based on the treaty network map provided below (fig. 2), we find that India and Pakistan have been able to find clusters of issue areas in which they can cooperate and even institutionalize their cooperation. It is important to note that one issue area in which the two states have been able to institutionalize their cooperation is communications (see far right cluster on fig. 2). Further, certain treaties serve as

key building blocks in the Indo-Pakistani bilateral relationship; these treaties that are referenced by multiple future treaties are referred to as *lodestone treaties*, which are the most central treaties in the bilateral relationship. In figure 2, the individual treaty node size is set according to degree centrality—or its importance to the overall relationship. Thus, the larger the treaty node, the more central a treaty is to the bilateral relationship. Further, we can use network measures of degree centrality to determine how important each individual treaty is to the bilateral relationship. Table 3 shows each treaty and its relative importance to the relationship. Below we discuss some of these lodestone treaties and how they contribute toward building trust and institutionalizing cooperation in this fragile and tense bilateral relationship.

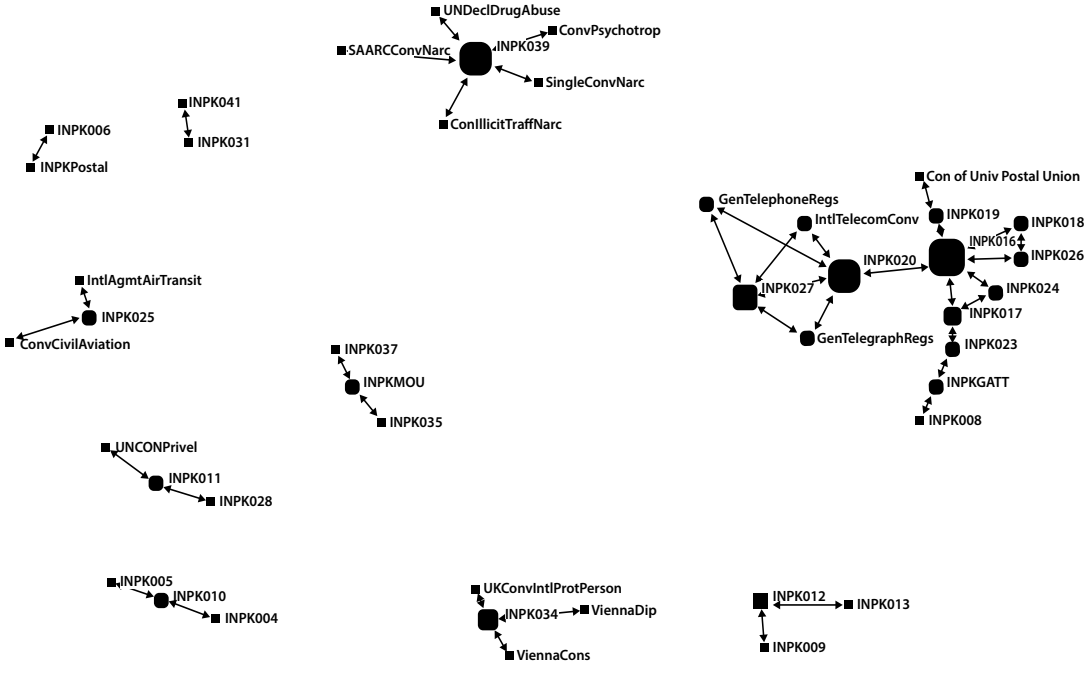


**Figure 2. Indo-Pakistani treaty network map, 1960–2017**. (Treaty node sizes are set to degree centrality measures. Thus, the larger the treaty node, the more central a treaty is to the bilateral relationship.)

**Table 3. Degree centrality scores for lodestone treaties in Indo-Pakistani relationship**. (Only the most central treaties are reported in this table. Other treaties are also central to the relationship, but are not the most central to the bilateral relationship.)

| Treaty Number | Official Name of Treaty | Degree Centrality Score |
|---|---|---|
| INPK016 | Simla Agreement (1972) | 6.00 |
| INPK020 | Agreement on Telecommunications (1974) | 5.00 |
| INPK039 | MOU On Drug Demand Reduction and Prevention of Illicit Trafficking in Narcotic Drugs, Psychotropic Substances and Precursor Chemicals and Related Matters (2011) | 5.00 |
| INPK027 | Treaty on Telecommunications (1977) | 4.00 |
| INPK017 | Protocol Between India and Pakistan on Resumption of Trade (1974) | 3.00 |
| INPK034 | Code of Conduct for the Treatment of Diplomatic/Consular Personnel in India and Pakistan (1992) | 3.00 |

The Agreement between India and Pakistan on Bilateral Relations (INPK016 in fig. 2, also commonly known as the Simla Agreement) was signed in 1972 in the aftermath of Bangladesh's independence. The agreement served as a peace treaty, ending the Bangladeshi Liberation War, which turned into the Indo-Pakistani War of 1971 when India entered the conflict to support Bangladesh (formerly known as East Pakistan) in its bid for independence from West Pakistan. It stated that India and Pakistan were resolved to settle their differences using peaceful means.[30] The language of the treaty qualifies it as a nonaggression pact between India and Pakistan, as per the criteria used in international security studies literature.[31] The treaty also included agreements regarding troop withdrawals and the repatriation of prisoners of war. It is worth noting that there have been cross-border aggression from both sides, leading to repeated violations of the peace agreement. While both parties have violated this particular treaty, it is the largest node within the relationship and is a crucial link in building trust and institutionalizing cooperation between India and Pakistan.

The second lodestone treaty is the 1974 Agreement between India and Pakistan on Telecommunications (INPK020 in fig. 2). This treaty is nested within the Simla Agreement and serves as the basis of many future treaties. The treaty specifies the types of telecommunication services that would be restored between the two rivals, including the charge rates and other details of operation. This treaty serves as evidence of the above argument that a substantial amount of

cooperation between these neighboring rivals is geared toward the provision and restoration of basic services. This cooperation has the potential to spill over into other issue areas such as trade and security, and in fact, based on the cooperation score, it can be argued that the two states are on their way toward institutionalizing their cooperation.

The third lodestone treaty is the Memorandum of Understanding between India and Pakistan on Drug Demand Reduction and Prevention of Illicit Trafficking in Narcotic Drugs, Psychotropic Substances and Precursor Chemicals and Related Matters (INPK039 in fig. 2). The agreement underscores the two nations' attempts to coordinate response to achieve the mutually desired goal of combating illegal drug trafficking. Two other large nodes within the network map include another treaty on telecommunications (INPK027 in fig. 2) and an agreement on the Code of Conduct for the Treatment of Diplomatic Personnel between India and Pakistan (INPK034 in fig. 2).

A final lodestone treaty that deserves mention is the 1992 Code of Conduct for the Treatment of Diplomatic/Consular Personnel in India and Pakistan (designated as INPK34 in fig. 2). This treaty is nested within several other multilateral agreements, including The Vienna Convention on Diplomatic Relations of 1961, The Vienna Convention on Consular Relations of 1963, and The UN Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, Including Diplomatic Agents, 1973. By connecting this agreement to several major multilateral frameworks, India and Pakistan raised the stakes of treaty violation and made a commitment to "the smooth and unhindered functioning of their diplomatic and consular officials in conformity with recognized norms of international law and practice."[32] By signing this treaty in 1992, India and Pakistan's cooperation score increased to 0.992 (as indicated in appendix 1).

## Conclusion

India and Pakistan are rivals and will continue to be rivals for the foreseeable future. The frequent CFVs could lead to an escalation of conflict between the two states. Since currently, India's conventional capabilities far exceed those of Pakistan, if a war breaks out, India would have an intense advantage over Pakistan. An even scarier scenario is that with both states possessing nuclear weapons, the specter of nuclear war is always a possibility. If Pakistan faced certain defeat in a conventional conflict, it could conceivably turn to nuclear weapons to protect itself. Even if a civilian government might be reluctant to use nuclear weapons, the Pakistani military has a long-established reputation for following its own agenda. It would be very difficult to predict the actions of a new military government in

Pakistan, which could turn to a combination of irregular warfare and the threat or use of nuclear weapons against India. In short, if war were to fully break out between the two states, it could spiral out of control very quickly.

Both states realize the gravity of the situation and have worked at various times to manage their rivalry. New Delhi and Islamabad have tried to find areas more opportunities in which to cooperate. In this article, we have argued that the use of treaties, and more specifically treaty nesting, is a way in which states can increase the cost of violating treaties that are part of the treaty network. The use of treaty nesting institutionalizes cooperation, thus making it more difficult to destroy the bilateral relationship through a conventional war. This helps to manage conflict and deescalate an impending conflict due to the violations of the CFVs. In other words, we do not argue that treaty nesting *eliminates* conflict, merely that it provides a successful method in *managing* the rivalry and *deescalating* conflict when it occurs.

We offer a unique approach to study Indo-Pakistani bilateral ties. We argue that the Indo-Pakistani bilateral treaty network provides key information on both states' intent to cooperate. The current levels of treaty nesting between India and Pakistan suggest that both states are attempting to build trust and enhance bilateral cooperation. Their current levels of treaty nesting may also provide an explanation for why the two sides have chosen to avoid war and actively pursue conflict de-escalation in the face of recent volatile events.

The bilateral relationship between India and Pakistan has only recently evolved to crossing the threshold of being a cooperative one. Further, it is just barely over that threshold. Thus, there is the danger that the relationship could regress into a noncooperative one, again raising the possibility of a disastrous war in South Asia. Policy makers in both India and Pakistan should look for simple issue areas in which cooperation can be fostered. Further, policy makers need to be cognizant of the fact that they need to tie future cooperation to successful preexisting treaties. This will strengthen the relationship and will help solidify an important conflict management tool for both states. JIPA

**Notes**

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2. India also withdrew the most-favored-nation trade status previously given to Pakistan, and the Indian finance minister, Arun Jaitley, announced that the government will take all possible diplomatic steps "to ensure the complete isolation from international community of Pakistan of which incontrovertible evidence is available of having a direct hand in this gruesome terrorist incident." *See* Aijaz Hussain, "India warns of 'crushing response' to Kashmir suicide attack," *Associated Press*, 15 February 2019, https://www.apnews.com/a7ede33c10d84d1f9a09b4ad1015db87.

3. *See* T. V. Paul, *The India-Pakistan Conflict: An Enduring Rivalry* (New York: Cambridge University Press, 2005), and "Why Has the India-Pakistan Rivalry Been So Enduring? Power Asymmetry and an Intractable Conflict," *Security Studies* 15, no. 4 (2006): 600–30.

4. Lara Seligman, "Did India Shoot Down a Pakistani Jet? U.S. Count Says No," *Foreign Policy*, 4 April 2019, https://foreignpolicy.com/2019/04/04/did-india-shoot-down-a-pakistani-jet-u-s-count-says-no/.

5. Abu Arqam Naqash and Sanjeev Miglani, "India Launches Air Strike in Pakistan; Islamabad Denies Militant Camp Hit," *Reuters*, 25 February 2019, https://www.reuters.com/article/us-india-kashmir-pakistan/india-launches-air-strike-in-pakistan-islamabad-denies-militant-camp-hit-idUSKCN1QF07B.

6. The Pakistani intelligence agency, Inter-Services Intelligence (ISI), is known to operate independently of and sometimes in direct contradiction to the country's civilian government. It is believed that the ISI provides training camps, resources, and safe havens to terrorist groups that target India.

7. Maria Abi-Habib, "Terrorism Watchdog Castigates Pakistan over Aid to Militants," *New York Times*, 22 February 2019, https://www.nytimes.com/2019/02/22/world/asia/pakistan-terrorism-funding.html.

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9. Press Trust of India, "Pakistan to Release 300 Indian Prisoners This Month as Goodwill Gesture," *India Today*, 5 April 2019, https://www.indiatoday.in/india/story/pakistan-release-360-indian-prisoners-april-goodwill-gesture-1495261-2019-04-05.

10. Ian Hall, "The Requirements of Nuclear Stability in South Asia," *Nonproliferation Review* 21, no. 3 – 4 (October 2014): 355–71.

11. Austin Bay, "To Deter China, India Joins the 'Nuclear Triad' Club," *Creators*, 14 November 2018, https://www.creators.com/read/austin-bay/11/18/to-deter-china-india-joins-the-nuclear-triad-club.

12. Bhumitra Chakma, "Escalation Control, Deterrence Diplomacy and America's Role in South Asia's Nuclear Crises," *Contemporary Security Policy* 33, no. 3 (December 2012): 554–76.

13. Ibid.

14. Abi-Habib, "Terrorism Watchdog Castigates Pakistan."

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16. Barbara Koremenos, Charles Lipson, and Duncan Snidal, "The Rational Design of International Institutions," *International Organization* 55, no. 4 (Autumn 2001): 761–99; Barbara Koremenos, "Can Cooperation Survive Changes in Bargaining Power?: The Case of Coffee," *Journal of Legal Studies* 31, no. 1 (2002): S259–83; Barbara Koremenos, "Contracting Around International Uncertainty," *American Political Science Review* 99, no. 4 (2005): 549–65; Barbara Koremenos, "International Institutions as Solutions to Underlying Games of Cooperation," IBEI Working Papers (Barcelona, Spain: IBEI Working Papers, 2009).

17. Michael O. Slobodchikoff, *Strategic Cooperation: Overcoming the Barriers of Global Anarchy* (Lanham, MD: Lexington Books, 2013).

18. A treaty with a high degree of centrality is one in which several subsequent treaties are nested. Such a treaty would have many ties or connections with other treaties. *See* M. G. Everett and S. P. Borgatti, "The Centrality of Groups and Classes," *Journal of Mathematical Sociology* 23, no. 3 (1999): 181–201; V. Latora and M. Marchiori, "A Measure of Centrality Based on Network Efficiency," *New Journal of Physics* 9, no. 6 (2007), 188; Tore Opsahl, Filip Agneessens, and John Skvoretz, "Node Centrality in Weighted Networks: Generalizing Degree and Shortest Paths," *Social Networks* 32, no. 3 (July 2010): 245–51; and Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications* (New York: Cambridge University Press, 1994).

19. Slobodchikoff, *Strategic Cooperation*.

20. Ibid.; and Michael O. Slobodchikoff, *Building Hegemonic Order Russia's Way: Order, Stability, and Predictability in the Post-Soviet Space* (Lanham, MD: Lexington Books, 2014).

21. Thus, our analysis includes all bilateral treaties signed between the two neighbors. The first and last treaty signed between India and Pakistan was in 1950 and 2012 respectively. However, the two countries became independent and began diplomatic ties in 1947, hence our analysis begins and ends in 1947 and 2017 respectively. Data on bilateral treaties between the two states is obtained from the Indian Ministry of External Affairs, accessible at https://www.mea.gov.in/. We find that the two neighbors are part of 59 agreements between 1947 and 2017, including 44 bilateral agreements.

22. The node sizes in figure 2 are set according to degree centrality. Thus, the larger the treaty node, the more central the treaty is to the bilateral relationship. These treaties are the lodestone treaties of the relationship.

23. We use the threshold of 1 as it is the point at which the total number of ties is equal to the total number of treaties formed in a bilateral relationship. For further explanation of this methodology, please *see* Slobodchikoff, *Strategic Cooperation*. This methodology is developed and used in other works exploring treaty networks: Slobodchikoff, *Building Hegemonic Order Russia's Way*; Michael O. Slobodchikoff and Aakriti Tandon, "Shifting Alliances and Balance of Power in Asia: Transitions in the Indo-Russian Security Ties," *Asian Journal of Political Science* 25, no. 2 (2017), 159–75; Michael O. Slobodchikoff and Aakriti Tandon, "Building Trust: Cooperation between Rivals India and Pakistan," *Round Table: The Commonwealth Journal of International Affairs* 108, no. 2 (2019): 189–201.

24. The ceasefires implemented in Kashmir, which have been repeatedly violated by both sides over time, are the exception.

25. The last bilateral treaty between India and Pakistan was signed in 2012, although we continue our analysis to 2017.

26. It is difficult to ascertain whether a thaw in ties provided a conducive environment for the two states to institutionalize their cooperation, but the thaw certainly preceded the treaty

formation frenzy in the 1970s. We do not claim that the bilateral treaties are a cause or a product of the improvement in bilateral ties. Although a vital and interesting question, it is beyond the scope of this article. We thank an anonymous reviewer for raising this point.

27. Data reported by the Indo-Pak Conflict Monitor, an independent research initiative that monitors CFVs, conflict patterns, and escalation dynamics between India and Pakistan.

28. Different data are reported by different governmental and non-governmental agencies. However, while the individual numbers may be different, there seems to be an agreement on the pattern of CFVs; they seem to be rising steadily since a relatively lull from 2002-2007 and have increased significantly in 2017 post the Uri terrorist attacks and the resultant surgical strikes by the Indian army. *See* Christophe Jaffrelot, "Ceasefire Violations in Kashmir: A War by Other Means?," Carnegie Endowment for International Peace, 24 October 2018, https://carnegieendowment.org/2018/10/24/ceasefire-violations-in-kashmir-war-by-other-means-pub-77573.

29. Data on CFVs on the Pakistani side is unavailable between 2002 and 2006.

30. Agreement between India and Pakistan on Bilateral Relations (Simla Agreement), 1972.

31. *See* Brett Leeds, Jeffrey Ritter, Sara Mitchell, and Andrew Long, "Alliance Treaty Obligations and Provisions, 1815–1944," *International Interactions* 28, no. 3 (2002): 237–60. Scholars of Indian foreign policy and South Asian studies may disagree with this characterization of the treaty, as, unlike defense pacts, nonaggression pacts do not promise aid or resources if and when an ally is under attack.

32. Code of Conduct for the Treatment of Diplomatic/Consular Personnel in India and Pakistan, 19 August 1992, https://mea.gov.in/Portal/LegalTreatiesDoc/PAB1225.pdf.

## Appendix

**Annual India-Pakistan cooperation scores based on treaty nesting**

| Year | Cooperation Score |
|---|---|
| 1950 | 0 |
| 1951 | 0 |
| 1952 | 0 |
| 1953 | 0 |
| 1954 | 0 |
| 1955 | 0.142 |
| 1956 | 0.142 |
| 1957 | 0.25 |
| 1958 | 0.25 |
| 1959 | 0.4 |
| 1960 | 0.416 |
| 1961 | 0.416 |
| 1962 | 0.416 |
| 1963 | 0.461 |
| 1964 | 0.461 |
| 1965 | 0.461 |

| | |
|---|---|
| 1966 | 0.4 |
| 1967 | 0.4 |
| 1968 | 0.4 |
| 1969 | 0.4 |
| 1970 | 0.4 |
| 1971 | 0.4 |
| 1972 | 0.375 |
| 1973 | 0.375 |
| 1974 | 0.636 |
| 1975 | 0.75 |
| 1976 | 0.84 |
| 1977 | 0.964 |
| 1978 | 0.964 |
| 1979 | 0.964 |
| 1980 | 0.964 |
| 1981 | 0.964 |
| 1982 | 0.964 |
| 1983 | 0.931 |
| 1984 | 0.931 |
| 1985 | 0.931 |
| 1986 | 0.931 |
| 1987 | 0.931 |
| 1988 | 0.870 |
| 1989 | 0.870 |
| 1990 | 0.870 |
| 1991 | 0.818 |
| 1992 | 0.909 |
| 1993 | 0.909 |
| 1994 | 0.909 |
| 1995 | 0.909 |
| 1996 | 0.909 |
| 1997 | 0.909 |
| 1998 | 0.909 |
| 1999 | 0.882 |
| 2000 | 0.882 |
| 2001 | 0.882 |
| 2002 | 0.882 |
| 2003 | 0.882 |
| 2004 | 0.882 |

| | |
|---|---|
| 2005 | 0.941 |
| 2006 | 0.941 |
| 2007 | 0.942 |
| 2008 | 0.942 |
| 2009 | 0.942 |
| 2010 | 0.942 |
| 2011 | 1.02 |
| 2012 | 1.0 |
| 2013 | 1.0 |
| 2014 | 1.0 |
| 2015 | 1.0 |
| 2016 | 1.0 |
| 2017 | 1.0 |

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## BOOK REVIEW

***Nomonhan 1939: The Red Army's Victory that Shaped World War II*** by Stuart D. Goldman. Annapolis, MD: Naval Institute Press, 2012, 226 pp.

The beginnings of *Nomonhan 1939* came about during Stuart Goldman's time as a graduate student, when he noticed a connection between the German–Soviet Nonaggression Pact of August 1939 and the Khalkhin Gol (Nomonhan) conflict. After graduate school, Goldman enjoyed a rewarding career in academia, culminating with his work as a research specialist at the Library of Congress. Goldman made profitable use of his spare time during those years to continue research on the Nomonhan campaign, and the end result is an excellent book that ties the military history of the undeclared Soviet–Japanese border war of 1939 to the broader military and diplomatic history of World War II.

In the introduction of the book, Goldman introduces his central thesis, the causal relationship between the Nomonhan campaign, the German–Soviet Nonaggression Pact of August 1939, and the German–Soviet invasion of Poland in September 1939. The majority of the book is devoted to interpreting the military actions in the Khalkhin Gol valley through a broad diplomatic and geopolitical perspective. Goldman's conclusions are well-supported, based on his extensive research using American, Soviet, Imperial Japanese, and Nazi German military and diplomatic archival sources, supplemented with details culled from memoirs and over 100 secondary works.

Of particular interest to military historians is Goldman's analysis of the unique Japanese tradition of *gekokujo*, or rule from below, and its impact on Imperial Japanese policy regarding the disputed Manchurian–Mongolian border (pp. 84–7). Goldman makes clear how ultranationalist staff officers within the Japanese Kwantung Army, unchecked by their political and military leaders in Tokyo, precipitated an undeclared border war with the Soviet Union. The Kwantung (Manchuria) Army quickly found their presumed superiority in fighting spirit negated by the better equipped and comparably determined Soviet Red Army. As Goldman notes in his conclusions, the Japanese proved culturally unwilling to profit from the lessons of Nomonhan. Most critically, the insubordinate officers of the Kwantung Army, particularly Major Tsuji Masanobu, were never disciplined for their part in the Nomonhan debacle. Instead, sympathetic superiors sheltered Tsuji and many like-minded officers, and in time these officers transferred to the Operations staff of the Imperial Japanese Army. As a consequence, Tsuji and his fellow Kwantung alumni exerted unchecked influence on the Japanese decision to expand into Southeast Asia—thus, putting Japan on the road to war in the Pacific basin under the same assumptions as before the Nomonhan debacle. As a consequence, Japan embarked on a ruinous war with the United States that ended with more than two million dead soldiers and the entire country in ruins. By contrast, the Red Army made more profitable use of lessons learned, particularly the need for careful logistics planning and the development of better-armed and protected tanks. The Red Army performance was not flawless, as Goldman points out, particularly with operational intelligence failures and the employment of uncoordinated but hard-hitting armor attacks—foreshadowing General Georgy Zhukov's later performance during the Great Patriotic War.

The central point of Goldman's book is the linkage between the Nomonhan operation and the signing of a nonaggression pact between the Soviet and Nazi regimes on 23 August 1939, which essentially gave Adolf Hitler the green light to invade Poland. After summarizing the diplomatic maneuvering among Germany, the Soviet Union, and the Anglo–French military mission during mid-1939, Goldman points out how the outbreak of the Nomonhan crisis deepened Josef Stalin's anxiety over the security of his eastern borders. In Stalin's view, a short-term pact of convenience to redirect the increasingly aggressive Nazi regime gave the Red Army time to mass enough combat power and decisively end the border war. Furthermore, a treaty with Germany would make the diplomatically isolated Japanese more willing to limit the scope of the conflict to the Khalkhin Gol region. Goldman highlights another item of particular interest in the linkage between the signing of a cease-fire between Japan and Soviet Union on 16 September 1939 and the otherwise inexplicable delay of the Red Army to take part in the attack on Poland. Goldman attributes the delay to Stalin's desire to avoid a two-front war until a cease-fire agreement was obtained from the chastened Japanese Kwantung Army (p. 164).

Overall, Goldman's book is well-written, and the author presents compelling evidence, supported with detailed analysis, that supports his thesis. The reviewer found *Nomonhan 1939* best suited for readers desiring a broad understanding of the operational and strategic context of the Nomonhan campaign in relation to World War II. In keeping with Goldman's operational/generalist level focus, the book includes eight pages of photographs and six maps, useful for general understanding of the campaign but lacking in tactical details desired by the military history specialist. For those readers desiring more tactical detail, the reviewer suggests reading Alvin D. Coox's *Nomonhan: Japan against Russia, 1939* or Edward J. Drea's *Nomonhan: Japanese–Soviet Tactical Combat 1939*.

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