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CTCSENTINEL

OBJECTIVE · RELEVANT · RIGOROUS | OCTOBER 2020 · VOLUME 13, ISSUE 10



FEATURE ARTICLE

The Future of Kata'ib Hezbollah and Iran's Other Proxies in Iraq

MICHAEL KNIGHTS

A VIEW FROM THE CT FOXHOLE

Drew Endy

ASSOCIATE CHAIR, BIOENGINEERING,
STANFORD UNIVERSITY

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FROM THE EDITOR

In this month's feature article, Michael Knights assesses the future of Kata'ib Hezbollah (KH) and Iran's other proxies in Iraq. He notes that in the wake of the death of KH's founder and leader Abu Mahdi al-Muhandis in a U.S. airstrike on January 3, 2020, "KH is still the engine room of anti-U.S. attacks in Iraq but it is less politically agile and operates in a more hostile counterterrorism environment where deniability and secrecy have become more important again." He assesses that the "the Islamic Revolutionary Guard Corps Quds Force is also leaning on a more diversified model in Iraq, drawing on non-KH factions like Saraya al-Jihad and Saraya al-Ashura, and engaging more directly with Iraq's minorities, including Sunni communities and the Shi'a Kurdish Faylis and Turkmen. History may be repeating itself as Iran develops new smaller and more secure Iraqi cells that are reminiscent of the formation of Kata'ib Hezbollah itself."

Our interview is with Drew Endy, Associate Chair, Bioengineering, Stanford University, who has served on the U.S. National Science Advisory Board for Biosecurity. He argues the United States urgently needs a bio strategy to take advantage of rapid advances in biotechnology, protect against the growing danger posed by its potential malevolent use, and prevent the United States from permanently falling behind as a biopower. "First, we need to demonstrate operational mastery of cells by learning to build them. Second and third, we need to build and secure the bio net. And we have to do this now, within the decade, so that we can translate these advances as infrastructure undergirding a uniquely American bio economy that projects power while advancing life, liberty, pursuit of happiness. If we do this, then we have a chance of taking infectious disease off the table. If we don't develop and implement a coherent bio strategy, it's game over, not to be dramatic."

In early August 2020, fighters loyal to the Islamic State captured the town and port of Mocimboa da Praia in Mozambique's northernmost province of Cabo Delgado. They have yet to be dislodged from the town. Tim Lister examines a jihadi insurgency in Mozambique that has grown in sophistication and reach.

This month marks 20 years since al-Qa`ida's attack on the USS Cole, which killed 17 American sailors. Lieutenant Colonel Pete Erickson, Seth Loertscher, First Lieutenant David C. Lane, and Captain Paul Erickson assess the search for justice.

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Cover: Supporters of Iraqi Hezbollah brigades march in military uniforms during a Quds Day march in Baghdad, Iraq, on June 23, 2017. (Hadi Mizban/AP Photo)

Back into the Shadows? The Future of Kata'ib Hezbollah and Iran's Other Proxies in Iraq

By Michael Knights

Kata'ib Hezbollah was Iran's most favored militant group in Iraq from its formation in the mid-2000s until the death of its founder Abu Mahdi al-Muhandis on January 3, 2020. Yet, the activities and influence of al-Muhandis and KH were not synonymous, as has been shown since his death. KH is still the engine room of anti-U.S. attacks in Iraq, but it is less politically agile and operates in a more hostile counterterrorism environment where deniability and secrecy have become more important again. The Islamic Revolutionary Guard Corps Quds Force is also leaning on a more diversified model in Iraq, drawing on non-KH factions like Saraya al-Jihad and Saraya al-Ashura, and engaging more directly with Iraq's minorities, including Sunni communities and the Shi'a Kurdish Faylis and Turkmen. History may be repeating itself as Iran develops new smaller and more secure Iraqi cells that are reminiscent of the formation of Kata'ib Hezbollah itself.

Kata'ib Hezbollah (KH) is at the forefront of U.S. threat assessments due to an increasing drumbeat of militia attacks on U.S. interests in Iraq and the approaching anniversary of both the December 31, 2019, assault on the U.S. embassy in Baghdad and the January 3, 2020, killing of Islamic Revolutionary Guard Corps Quds Force (IRGC-QF) commander Qassem Soleimani and Popular Mobilization Forces (PMF) vice chairman Abu Mahdi al-Muhandis.¹ If militias continue to strike U.S. targets, Washington has threatened

to close the embassy and retaliate against tens of militia targets in Iraq, of which a significant proportion would likely be KH leaders and sites. On October 10, 2020, general spokesman of KH Muhammad Mohyee announced a "conditional truce" with U.S. forces in Iraq in an effort to reduce political pressure on the movement to cease its attacks, which Mohyee admitted had been brought to a head by the U.S. threat.²

Two days later, a senior KH leader Abu Ali al-Askari encouraged Iraqi militias to continue reconnaissance and preparations to strike American targets in Iraq and "Zion-American" aircraft over Iraq if the United States does not withdraw from the country.³ The untidy stream of messages originating from different centers within KH these days is one indication that the group is becoming less cohesive and more erratic.

At this point, it is especially valuable to look closer at KH, separating myth from reality to the greatest extent possible in the case of such a secretive organization. In August 2019, this author concluded that "the central nervous system of IRGC-QF influence in Iraq is Abu Mahdi al-Muhandis and Kata'ib Hezbollah," suggesting a synonymous capability, which arguably oversimplified the relationship.⁴ Now, nearly a year after al-Muhandis's death, there has been an opportunity to observe KH operating without the benefit of al-Muhandis's political top-cover. In the author's experience, since al-Muhandis died, there has also been a slight opening-up of Iraqis's willingness to talk privately on the issue of al-Muhandis, KH, and the other *fasa'il* (Arabic for armed groups, used in Iraq to describe the militias that have existed prior to the formation of the PMF). Some KH leaders have become more visible due to their involvement in the PMF, in assaults on the government, or in the suppression of protestors. This has allowed investigation of al-Muhandis's real relationship to KH, the parsing of al-Muhandis's influence versus KH's, and the assessment of KH's future role and relations with the IRGC-QF.

In an intensive multi-year research effort, building on increasingly detailed previous *CTC Sentinel* articles,⁵ the author undertook two interlinked research processes in the 2018-2020 period.

First, the author visited Iraq on six occasions and interviewed over 30 security officials and politicians. The conversations were substantive, usually over an hour of focused discussion on militia issues and particularly KH. The interviewees included very senior politicians, many of which were Shi'a leaders with strong ties to IRGC-QF. Many were interviewed multiple times, with very detailed notes taken. All the interviews were undertaken on deep background due to the severe physical security threat posed by militias, and great care was taken, and is needed in future, to ensure that such individuals are not exposed to intimidation for cooperat-

Dr. Michael Knights is the Jill and Jay Bernstein Fellow with the Military and Security Program at The Washington Institute for Near East Policy. He has traveled extensively in Iraq since 2003, including periods embedded with a variety of security forces in militia-dominated environments. He has written for CTC Sentinel since 2008. Follow @mikeknightsiraq

The author wishes to express special thanks to Hamdi Malik, Inna Rudolf, Phillip Smyth, Aymenn Al-Tamimi, and Henry Mihn for their help in preparing and researching this piece. The author thanks any other confidential co-researchers for their necessarily un-referenced but appreciated contribution. The author also wants to recognize Hisham al-Hashemi, killed by militiamen in Baghdad on July 6, 2020, as the foremost expert on KH and other Iraqi militias, and who remains more than capable of striking important blows from his current location. Salut.

ing with research.^a

Alongside face-to-face interviews, the author also undertook a dense web of communications with Iraqi interviewees using secure messaging applications, amounting to hundreds of specific information requests to verify data and multi-source points of detail, as well as secure transfer of large tranches of data and imagery. The author used his 16-year track record of interviewing Iraqis to assess information. The below analysis is the product of a synthesized intelligence process.

This article has been broken into eight sections. In Part 1, the article will review how KH was formed, what niche it filled, and what role al-Muhandis played in forming the movement. Part 2 looks at the visible impact of al-Muhandis's death on KH, and Part 3 looks at the internal power balance within KH at the time of writing. Part 4 looks at the significant non-military aspects of the KH family of institutions that survive al-Muhandis, and Part 5 describes the geographic focus of KH military forces. Part 6 looks at the role that KH Special Operations plays in Iranian power projection through missiles and terrorism. Part 7 looks at the narrow but important part that KH plays in the suppression of protests and other human rights violations. Part 8 draws together the study's key findings and suggests the most likely ways that KH, other *fasa'il*, and the IRGC-QF and Lebanese Hezbollah networks will adapt in the near future.

Part 1: Reassessing the Timeline: al-Muhandis, the Fasa'il, and KH

Due to the importance of personal and factional history and relations, it is important to start any exploration of the nature of KH and its relationship with al-Muhandis by going back to the very beginning and taking a fresh look at the history of the movement and its founder. The origins of KH are the Iraqi-formed Islamic Da'awa Party (Hizb al-Da'awa al-Islamiya in Arabic) and the Iran-formed Supreme Council for Islamic Revolution in Iraq or SCIRI^b (Al-Majlis al-A'ala li-Thawra al-Islamiyya fi al-Iraq). During the years of opposition to the Baathist regime in Iraq (between 1968 and 2003), Da'awa developed its own "mujahideen" covert operations arm.^c Working in concert with Iranian intelligence, the "mujahideen" force undertook a number of terrorist attacks in Kuwait in

1983.^d One of the Iraqis accused of involvement, and later sentenced to death in absentia by Kuwait,^e was Abu Mahdi al-Muhandis (real name Jamal Ja'far Muhammad Ali Al-Ibrahim).⁷

In parallel to covert operations, the Islamic Revolutionary Guard Corps (IRGC) developed a conventional military wing for SCIRI, the Badr Brigade (Failaq Badr),⁸ that fought against Saddam-led Iraq as part of the IRGC order of battle in the Iran-Iraq War. Abu Mahdi al-Muhandis was the assistant commander of Badr by 2002, meaning that he ran day-to-day operations.^f Today's head of Badr, Hadi al-Ameri, was al-Muhandis's chief of staff at the time.⁸ Mustafa Abd'al Hamid Hussein al-Otabi (also known as Abu Mustafa al-Sheibani or Hamid Thajeel Wareij Al-Attabi)⁹ commanded the Baghdad "axis" of Badr,¹⁰ and Badr's fourth "division" was commanded¹¹ by Abu Muntadher al-Husseini (real name: Tahseen Abid Mutar al-Abboudi, today's PMF operations director).¹² Al-Muhandis's experience leading Badr—in the war, and in guerrilla operations against Saddam's regime afterward—created networks that would later feed recruits to KH and support its operations.

The 'Incubators' for Special Groups in Iraq

In late 2002, al-Muhandis took leave from Badr, seemingly due to his unwillingness to openly work in Iraq alongside the United States in a post-invasion scenario.¹³ Whether ideologically motivated or due to the risk of arrest for prior terrorist activities, al-Muhandis and al-Sheibani did not enter Iraq with their Badr contemporaries in 2003 but instead worked on immediate post-war priorities such as retribution operations against the Mujaheddin-e Khalq (MeK) (a Saddam-backed Iranian opposition group that was sent into Iran to kill Badr members)¹⁴ and against Iraqi pilots accused of bombing Badr and Shi'a rebels.^g

Al-Muhandis became an independent MP in the January 2005 elections, avoiding U.S. notice until the spring of 2007, by which time he was a second-term MP, having been re-elected in the December 2005 elections. Al-Muhandis was the liaison with IRGC-QF and a security advisor to prime minister Ibrahim al-Ja'afari

a Iran-backed militias pay close attention to what is written about them and who says it and who interviewers meet. This is especially evident after the July 6, 2020, murder by militiamen of Iraq's premier militia-watcher, Hisham al-Hashemi. Militia monitoring extends to foreign analysts. Answering a question about Western think-tanks, Abu Mahdi al-Muhandis noted on January 13, 2019, "They have a writer, Michael Knights, who is an expert who has seen some of my friends but that I have not seen yet. He has great expertise and is truly very specific. He has very specific and exceptional information." See "The Strategic Experts Union Hosting Abu Mahdi al-Muhandis to Discuss Security Challenges," posted to YouTube by "War Media Team – The Popular Mobilization," January 15, 2019, accessed January 18, 2020.

b SCIRI changed its name to the Islamic Supreme Council of Iraq (Al-Majlis Al-A'ala Al-Islami Al-Iraqi) in 2009.

c Walter Posch has also referred to the Da'awa "mujahideen" as an obscure militant fringe of Da'awa and a component of Badr. See Walter Posch, "Iraq and Iraq: Revolutionary Guards and PMUs (translated by Christopher Schonberger)," National Defense Academy (Vienna, Austria), Institute for Peace Support and Conflict Management, 2020, p. 7.

d On December 12, 1983, U.S. and French embassies in Kuwait were struck by suicide car bombs, part of a seven-car bomb attack sequence that was launched by Iran, Lebanese Hezbollah, and Iraqi Shi'a militants. Magnus Ranstorp, *Hizb'allah in Lebanon: The Politics of the Western Hostage Crisis* (London: Palgrave MacMillan, 1997), p. 63. See also Robin Wright, *Sacred Rage: The Wrath of Militant Islam* (New York: Simon and Schuster, 2001), p. 112.

e Badr changed its name to the Badr Organization of Reconstruction and Development (Munathemaat badr li al-l'mar wa al-Bina'a) in 2012 during its split from its parent organization, the aforementioned Islamic Supreme Council of Iraq, formerly known as the Supreme Council for Islamic Revolution in Iraq.

f Mohammed Baqir al-Hakim, the head of SCIRI, was dual-hatted as the commander of Badr, but he was not involved in military and paramilitary operations in practice. See the detailed 2002 Iraqi intelligence profile of Badr, Harmony document ISGQ-2005-00038283, "Full Translation, Intelligence Services: Study of Badr Corps 9," Combating Terrorism Center at West Point, pp. 6, 32, 73.

g Very soon after the 2003 U.S. invasion, al-Muhandis and al-Sheibani appear to have played a hand in early covert Shi'a assassination cells like Jaish al-Mukhtar (named after the man who created an armed group to avenge the killing of Imam Hussein) and Saraya al-Qasar (Punishment Battalions), which killed Iraqi pilots. Author interviews, multiple Iraqi political and security figures, 2018-2020 (exact dates, names, and places withheld at request of the interviewees).

during his term from May 2005 to May 2006, the main point of contact between the Iraqi fighters and IRGC senior commanders like Qassem Soleimani.¹⁵ Alongside the older soldier-statesman al-Muhandis, the aforementioned Abu Mustafa al-Sheibani was the younger^h logistical commander, leading what the Americans would call “the Sheibani network.”¹⁶

According to multiple well-informed observers, al-Muhandis should be considered a founding father of most of the anti-coalition Shi’a militant groups, credited with implementing IRGC-QF’s up-arming of the Jaish al-Mahdi (JAM) in the 2004 twin uprisings and later the splintering-off of Asa’ib Ahl al-Haq (AAH) from the ranks of JAM’s hardliners. As one interviewee with a closeness to KH suggested: “Badr was the first incubator ... then the Mahdi Army” [i.e., JAM]. As the quote suggests, both Badr and JAM were used as a recruitment pool for anti-coalition networks directed and administered by IRGC-QF, as Badr had been since the 1980s.

Formation of Kata’ib Hezbollah

The formal establishment of KH, with its prestigious nameⁱ and iconography¹⁷ modeled on Lebanese Hezbollah,^j was driven by a number of developments. As Hamdi Malik has noted, IRGC-QF sought a more disciplined and operationally secure network than JAM or AAH. Between December 2006 and September 2007, a new U.S. special operations task force captured a range of IRGC-QF and Special Group commanders in Iraq.¹⁸ In the same period, al-Muhandis fled Iraq when his identity was publicly revealed and Kuwait prosecuted him (in absentia) for terrorist charges from 1983.¹⁹ Al-Sheibani’s brother was captured by coalition forces in April 2007,²⁰ and Abu Mustapha al-Sheibani was himself designated by the United States as a terrorist in September 2007.²¹

The inner circle of the new KH movement were handpicked

fighters from five groups: Abu al-Fadl al-Abbas Brigade,^k Kata’ib Karbala, Kata’ib Zaid ibn Ali, Kata’ib Ali al-Akbar, and Kata’ib al-Sajjad.²² Prior to 2007, these were sometimes referred to in coalition intelligence as “the House of Five.” (Other smaller Shi’a militias included but were not limited to Saraya al-Mukhtar, Saraya al-Qasar, 15th Sha’aban, Harakat Hezbollah fi al-Iraq, and Harakat Sayyid al-Shuhada.) In Iran, at an IRGC-QF camp in Kermanshah, al-Muhandis built the initial cadre, aided by IRGC-QF and Lebanese Hezbollah trainers.²³

KH set a new standard for operational security. Prior to U.S. withdrawal in 2011, KH never became larger than around 400 members.²⁴ Most of the members were Badr veterans with property and family in Iran, but Sadrist hardliners joined as well.²⁵ Entrants were accepted only by the personal recommendation and guarantee of another member, a form of vetting through family and tribal networks.²⁶

In 2007–2011, the remaining years of the U.S. presence, Kata’ib Hezbollah attack cells undertook many of the most advanced and effective attacks against coalition forces: deadly Improvised Rocket-Assisted Mortar (IRAM) attacks on U.S. bases using disguised launch vehicles;²⁷ the hacking of a U.S. Predator control signal;²⁸ and even an Explosively-Formed Penetrator (EFP) attack on a U.K. Hercules aircraft on a runway in Maysan.²⁹ In recognition of this status, KH and al-Muhandis were designated for terrorism by the United States in December 2009, which reinforced the sense that the two were synonymous.³⁰ Until the last U.S. soldier left, KH kept up active “resistance” operations. In June 2011, Kata’ib Hezbollah surged attacks against U.S. forces and killed 15 U.S. personnel in an apparent effort to ensure U.S. departure from Iraq.³¹

Syria and the Islamic State: KH Evolution in 2012–2014

The withdrawal of U.S. forces from Iraq at the end of 2011 might have left KH without a mission and posed an existential quandary, were it not for the movement’s transnational alignment with the so-called “Axis of Resistance”—Iran, Lebanese Hezbollah, the Bashar al-Assad regime in Syria, and related Iran-backed militias and militants. In addition to training and equipping Bahraini and Saudi Shi’a militants³² to fight their respective Sunni-led governments, KH also joined other pro-Iranian factions in its non-state intervention in Syria’s Civil War. In Syria, al-Muhandis and KH would have the opportunity to repay the debt of the Iraqi *fasa’il*

h In Middle Eastern society, and thus in the region’s militant networks, age is often an important indicator of seniority in personal relations. Al-Muhandis was born in 1954, a significant amount older than al-Sheibani, who was born in 1959 or 1960. Within Badr, even a five-year head-start differentiated those who were there as the movement formed versus those of a later generation, or between those who did fight in the Iran-Iraq War, and those who did not. See U.S. Treasury Department designations for birthdates.

i One Iraqi group had previously used the moniker Hezbollah: this was Harakat Hezbollah fi al-Iraq (Hezbollah Movement in Iraq), a tribal militia based in Maysan. It was tied to Abdel-Karim al-Mohammadawi, the so-called “Prince of the Marshes,” but operationally led by Hassan al-Sari, who is discussed later in this study. See Phillip Smyth, “Should Iraq’s ISCI Forces Really Be Considered ‘Good Militias’?” Washington Institute for Near East Policy, August 17, 2016. See also Michael Knights and Ed Williams, “The Calm before the Storm: The British Experience in Southern Iraq,” *Policy Focus* 66, February 2007, p. 15; Colin Freeman, “Iraqi Lord of the Marshes Ordered Killing of Police Chief,” *Telegraph*, June 6, 2004; and Rory Stewart, *Occupational Hazards: My Time Governing in Iraq* (London: Picador, 2006), p. 422.

j KH’s formation bears some strong resemblances to the building of Lebanese Hezbollah. It was an effort by Iran to bring resistance factions under one roof, it built on preexisting groups and clans, it focused on operational security and secrecy, and it required graduation through IRGC-run camps. Matthew Levitt, *Hezbollah: The Global Footprint of Lebanon’s Party of God* (Washington, D.C.: Georgetown University Press, 2015), pp. 9–15.

k In 2014, Muhanad al-Ghazi described Abu al-Fadl al-Abbas as “the nucleus” of KH, being a Special Group formed with special input from Imad Mughniyeh. Muhanad al-Ghazi, “Special Report on KH-Iraq,” Ahewar, October 2, 2014. This is not the same as the Abu Fadl Al-Abbas brigade that served as a centerpiece for Iraqi fighters in Syria. See Phillip Smyth, “The Shiite Jihad in Syria and Its Regional Effects,” *Policy Focus* 138, Washington Institute for Near East Policy, February 2015. See also Michael Knights, “Iran’s Foreign Legion: The Role of Iraqi Shiite Militias in Syria,” *PolicyWatch* 2096, Washington Institute for Near East Policy, June 28, 2013.

(armed groups) to Iran and Lebanese Hezbollah,^l both of which were severely pressured by the near-collapse of Assad's authority.

As Aymenn Al-Tamimi has chronicled, the fighters transferred from Iraq initially operated under "an entity known as al-Quwwa al-Haydariya (The Haydari Force), composed of imported contingents of Iraqi fighters from Kata'ib Hezbollah, Asa'ib Ahl al-Haq and Kata'ib Sayyid al-Shuhada'. The Haydari Force had a direct relationship with Iran's Islamic Revolutionary Guard Corps and apparently had a wider scale of operations inside Syria beyond the Damascus area (e.g. Aleppo), in contrast with Liwa Abu al-Fadl al-Abbas."³³

In Syria, the best-performing Iraqi units in the Haydari Force were Kata'ib Hezbollah, Harakat Hezbollah al-Nujaba,³⁴ and the new Abu Mustafa al-Sheibani project,^m Kata'ib Sayyid al-Shuhada (KSS), while some Badr and AAH units sent to Syria were reputedly less effective in this expeditionary role.³⁵ Effective service in Syria propelled KH, Nujaba, and KSS into pole position among the *fasa'il*.³⁶

The need for a larger combat force in Syria was one driver for the expansion of KH from 400 in 2011 to around 2,500 in Syria alone in 2013, albeit with the latter recruiting heavily from Syrian Shi'a from threatened localities such as al-Fu'a and Kafariya in Idlib province.³⁷ According to an Aymenn Al-Tamimi interview with a Syrian KH fighter, the KH formation in Syria was titled "Kata'ib Hezbollah – Syrian Front."ⁿ In later years, KH fighters would move fluidly between allocation to KH units to Syria, and detachment to the Iranian *Ruhollah* (meaning in Farsi spirit of God) division of the IRGC in Syria.³⁸ KH would suffer unprecedented numbers of casualties in Syria compared to the prior losses inflicted on its

covert cells by U.S. forces in Iraq.^p

Al-Muhandis's Elevation During the War Against the Islamic State

Back in Iraq, al-Muhandis had domestic ambitions for KH's next stage. When U.S. leverage began to wane in 2010, al-Muhandis returned to Iraq and ensconced himself in the Green Zone, cultivating a very close relationship with then Prime Minister Nouri al-Maliki.³⁹ As the deterioration of security unfolded in 2012 and 2013, al-Maliki began to rely on the *fasa'il* (KH, AAH, KSS, Harakat Hezbollah al-Nujaba (HaN), Kataib al-Imam Ali, and Kataib Jund al-Imam) for auxiliary forces.⁴⁰ Al-Muhandis began to lobby al-Maliki to raise a new state-funded force called the Popular Defense Brigades (Saraya al-Dif'a al-Sha'abi) to operate under the prime minister's command, alongside the conventional armed forces.⁴¹ In this period, KH fighters in Iraq rose in number to around 750 (from 400 in 2011).⁴²

Al-Muhandis jumped quickly on the opportunity of Ayatollah Ali al-Sistani's June 13, 2014, *fatwa* (religious edict) for mass mobilization against the Islamic State⁴³ to secure state funding for the 160,000-strong Popular Mobilization Forces (PMF).^q A consummate political actor with strong support from IRGC-QF commander Qassem Soleimani, al-Muhandis immediately took control of the PMF as its chief executive and vice chairman, somewhat similar to his aforementioned role as the deputy—but actually the day-to-day leader—of Badr. As this author has detailed in *CTC Sentinel* and later in a major co-authored monograph,⁴⁴ within the PMF al-Muhandis controlled the largest single slice of staff roles, operational commands, combat units, and enablers (missiles, anti-tank, engineering, and intelligence). As later sections will note, KH was at the center of al-Muhandis's network of control and was trusted with the most sensitive roles inside the PMF.

Kata'ib Hezbollah's combat forces enlarged hugely with the formation of PMF brigades 45, 46, and 47 (a total force of around 7,500 fighters), plus the aforementioned KH-Syrian Front force of 2,500 fighters, for a total of 10,000.⁴⁵ This huge and sudden expansion made KH a truly well-known and popular force for the first time, though many of its initial burst of new recruits were still

l As a Badr commander prior to 2002, al-Muhandis had a strong professional relationship with Imad Mughniyeh and other Lebanese Hezbollah operatives, notably Specially Designated Global Terrorists Mohammed al-Kawtharani and Adnan Hussein Kawtharani. On Mughniyeh, see Hamdi Malik, "The Still-Growing Threat of Iran's Chosen Proxy in Iraq," *War on the Rocks*, October 5, 2020. On the Kawtharanis, see "Action Targets Hizballah's Leadership Responsible for Operations Outside of Lebanon," U.S. Department of the Treasury, October 22, 2013, and "Treasury Sanctions Key Hizballah, IRGC-QF Networks in Iraq," U.S. Department of the Treasury, November 13, 2018.

m Al-Sheibani had become sick around 2010 and struggled to return to his top position in KH due to rivalries with younger commanders. Qassem Soleimani encouraged him to start a new project focused on Syria, which became Kata'ib Sayyid al-Shuhada, which to this day has fraternal relations with KH and shares a common religious reference, a Karbala-based cleric Mohammed al-Safi. Later, around 2014, al-Sheibani handed off command of Kata'ib Sayyid al-Shuhada to Abu Alaa al-Walid and moved on to a role advising Iraq's Minister of Interior Mohammed Ghabban. Author interviews, multiple Iraqi political and security figures, 2016-2020 (exact dates, names, and places withheld at request of the interviewees).

n Al-Tamimi's interviewee listed KH's Syrian battlefields as Aleppo, Deir al-Zor, Albukamal, Idlib, Zabadani, and al-Ghouta. Also, the interviewee names his formation as the "fifth regiment," which may be an allusion to being the fifth regiment of one of KH's PMF brigades (which each have four regiments in Iraq). See Aymenn Al-Tamimi, "Kata'ib Hezbollah's Syrian Wing: Interview," *aymennjawad.org*, November 17, 2018.

o Interestingly, the fighter interviewed by Al-Tamimi said he was from PMF brigade 46, one of the new KH brigades raised since 2014, underlining that Syrian cadres can come from any KH unit, not just the praetorian eponymously-named PMF brigade 45 – Kata'ib Hezbollah, the original military cadre. *Ibid*.

p Ali Alfoneh, a meticulous recorder of militia deaths in Iraq and Syria, concludes that between August 2012 and July 2018, KSS suffered 88 killed in Syria. Harakat Hezbollah al-Nujaba lost 192 killed in Syria according to Alfoneh. Kata'ib Hezbollah fatalities are not known, but must constitute a significant chunk of the 2,129 Iraqi Shi'a militia deaths in Syria that could not be allocated by Alfoneh to other groups, as KH is the only major contributing Iraqi Shi'a militia force not explicitly itemized by Alfoneh by group. The author has been tracking Kata'ib Hezbollah operations since 2008. The U.S. and Iraqi governments never managed to inflict more than a handful of Kata'ib Hezbollah casualties each year from 2007-2011, making the Syrian losses of a different magnitude entirely. See Alfoneh's metrics in Ali Alfoneh, "Iran's Support for Iraqi Shia Militias Ensures Dependency and Loyalty," Arab Gulf States Institute in Washington, September 12, 2018, pp. 9-10.

q The PMF are the volunteer forces adopted into government service in June 2014, some of which were pre-PMF *fasa'il* and others who were new volunteers in the war against the Islamic State. For the definitive review of the PMF, its legal basis, organization, strengths, and weaknesses, see Michael Knights, Hamdi Malik, and Aymenn Al-Tamimi, "Honored, Not Contained: The Future of Iraq's Popular Mobilization Forces," *Policy Focus* 163, Washington Institute for Near East Policy, 2020.



A supporter of an Iran-backed militia holds a poster of Iranian General Qassem Soleimani and deputy commander Abu Mahdi al-Muhandis during a protest by pro-Iranian militiamen and their supporters in Baghdad, Iraq, on October 17, 2020. (Khalid Mohammed/AP Photo)

unaware of the nature of the movement^r at the time in the chaos of the 2014 mobilization, when recruits were randomly assigned to PMF units at mobilization hubs like Taji and Samarra.⁴⁶

As Hamdi Malik recently uncovered, the expansion resulted in the refinement of a tiered membership of KH. High-level commanders were referred to as a maternal uncle (*al-Khaal*).^s (Malik states that al-Muhandis had a unique title, “the senior” (*al-Shayeb*)).⁴⁷ The trusted inner circle of KH operators is a layer of mentors called “teachers” (*muallim*).⁴⁸ Reporting to these mentors are “the bodies” (*ajsam*), who are vetted fighters with track record and some knowledge of how KH functions.⁴⁹ The vast majority of today’s KH members are “the numbers” (*arqam*), who are not trusted with information, even the real names of their direct com-

manders.⁵⁰ This new outer layer of members comprises what might be thought of as “big KH,” which is rather different from the tiny, highly-secure pre-2014 movement.

Al-Muhandis’s Changing Relations with KH

The war against the Islamic State brought other important changes for al-Muhandis that created distance between him and KH. Coordinating and managing the vast number of militias through the PMF became a constant drain on al-Muhandis’s time and attention. For the first time, he built strong relationships with key army commanders such as Lieutenant General Abdalamin Yarallah, then Iraqi deputy chief of staff for operations from 2014-2019.^t Al-Muhandis invested a lot of time in personally tightening relations with northern Iraqi Shi’a Turkmen^u and Shi’a Kurds (Fayli),^v plus the

^r As discussed by the author in a prior article in *CTC Sentinel*, “opinion polling from pre-2011 Iraq shows that Iraqis frequently found it hard to differentiate or remember differences between groups like Promised Day Brigades, Kata’ib Hezbollah, or Asa’ib Ahl al-Haq. Respondents were often unaware of the tight connections between Special Groups and the Iranian government.” Drawn from “A Survey of Public Perceptions of the Sadr Trend,” Human Terrain Team System, May 18, 2011, pp. 5-11. This set of surveys asked Iraqi respondents about a range of Shi’a extremist groups, their ties to Iran, and other reputational issues. See also Michael Knights, “Iran’s Expanding Militia Army in Iraq: The New Special Groups,” *CTC Sentinel* 12:7 (2019).

^s When *fasa’il* fighters assaulted the outer defenses of the U.S. Embassy in Baghdad on December 31, 2019, the phrase “the uncle passed here” was graffitied on the wall, sparking speculation that it referred to al-Muhandis or other KH leaders such as Abu Fadak, who will be discussed further below. In fact, it might have referred to any senior KH leader.

^t Yarallah frequently worked with al-Muhandis during the counter-Islamic State battles and found him refreshingly efficient and easy to work with, and (like Yarallah) hard-working. Author interviews, multiple Iraqi political and security figures, 2018-2020 (exact dates, names, and places withheld at request of the interviewees).

^u As the author noted previously in *CTC Sentinel*, al-Muhandis came to dominate relations with the PMF Northern Axis, which is led by Abu Ridha Yilmaz al-Najjar and Mohammed Mahdi al-Bayati, both Shi’a Turkmen. See Knights, “Iran’s Expanding Militia Army in Iraq: The New Special Groups.” For background on the Turkmen, see “World Directory of Minorities and Indigenous Peoples: Turkmen,” Minority Rights Group International.

^v The Fayli Kurds are Shi’a Kurds, mainly present along the Iranian border, from Khanaqin to Badra. “World Directory of Minorities and Indigenous Peoples: Fali Kurds,” Minority Rights Group International.

Yazidi,^w Shabak,^x and Kaka'i^y communities, who were among the most threatened by the Islamic State. He also invested significant effort in cultivating new relationships with Sunni tribes across northern and western Iraq, notably major power brokers such as former Salah al-Din governor Ahmed al-Jabbouri (also known as Abu Mazen), Mishan al-Jabbouri, Khamis Khanjar, and the Karbouli family in Anbar.⁵¹

Of note, al-Muhandis *built such relationships for IRGC-QF, not for Kata'ib Hezbollah*. Relationships with Sunnis and other minority groups in northern Iraq were co-managed by al-Muhandis and a range of IRGC-QF officers, most notably Iranian ambassador to Baghdad Iraj Masjedi^{52 z} and the IRGC-QF northern Iraq controller Colonel Haj Ali Iqbalpour.⁵³ Al-Muhandis trustees including Shi'a Turkmen commanders Abu Ridha Yilmaz al-Najjar and Mohammed Mahdi al-Bayati were likewise drawn closer to al-Muhandis than to their nominal Badr leaders but not for KH's specific benefit.⁵⁴ These cases underline the way in which al-Muhandis had transcended his primary alignment with KH by the time the war against the Islamic State began to wind down. One Iraqi official with direct experience of KH told the author:

*Muhandis was not part of the KH leadership structure, but he oversaw it and continued to do so until his death. Though he directly supervised KH in Iraq, Muhandis was effectively the leader of all Iranian-affiliated militias in Iraq. His decisions governed all of them, not just KH-Iraq.*⁵⁵

Turning rapidly away from military affairs at the end of 2017, al-Muhandis was in the thick of Iraqi government formation following the June 2018 elections, quite literally vetting the candidates for president and prime minister and acting as a midwife to the process of birthing the new cabinet. Al-Muhandis was one of two major figures influencing Iraq's weak Prime Minister Adel Abd'al-Mahdi on a day-to-day basis, the other being Abu Jihad (real name Mohammed al-Hashemi), the prime minister's chief of staff.⁵⁶ Abd'al-Mahdi was strongly influenced by al-Muhandis and liked him, viewing him an unfairly penalized by the United States for Saddam-era actions in Kuwait.⁵⁷

As the war against the Islamic State tailed off, al-Muhandis began to develop a coercive instrument to force a consolidation process on the fractious militias—the Central Security Directorate of the PMF, under KH official Abu Zainab al-Lami (real name: Hus-

sein Falah Aziz al-Lami).⁵⁸ Al-Muhandis's vision for the PMF was one of consolidation into smaller, stronger units,⁵⁹ with some *fasa'il* detached to free themselves up for international activities in support of the so-called Axis of Resistance.

The IRGC-QF and al-Muhandis continued to trust KH operatives with key tasks—for instance, intelligence support for the October 2019 suppression of protests in Iraq,⁵⁹ and the May 2019 drone attacks on Saudi Arabia, which were facilitated by Kata'ib Hezbollah from within Iraq.⁶⁰ Likewise, Kata'ib Hezbollah secured the Tal Ashtah dispersal airfield—just west of Jawwalah (Rashad), 35 kilometers southwest of Kirkuk city—which the IRGC used to launch and recover surveillance drones⁶¹ “to designate targets for the September 8, 2018, precision rocket strike [by Iran] on the Kurdistan Democratic Party of Iran (KDPI) headquarters in Koya, in Iraqi Kurdistan, which killed 14 and wounded 42 oppositionists.”⁶² When a U.S. M-1 Abrams tank was partially deconstructed and pieces sent to Iran in November 2017, Kata'ib Hezbollah protected the Iranian technicians undertaking the process at Camp Sa'ad in Baqubah, Diyala.⁶³

KH's Return to Resistance after 2017

From the outset of the return of U.S. ‘boots on the ground’ in Iraq in 2014, KH ensured it was present to ‘shadow’ and observe such forces at every point of presence (except the Kurdistan Region of Iraq).⁶⁴ This staring match gave way to an active effort to expel U.S. forces from late 2017 onwards, as the physical Islamic State caliphate collapsed in Iraq and U.S. forces were no longer needed to support major combat operations.⁶⁵ Israel conducted strikes on KH in Syria in 2018, 2019, and 2020. At least one Israeli strike targeted KH missile transportation units inside Iraq in 2019.⁶⁴ Thus, by the middle of 2019, both the United States and Israel were focused on KH as their main adversary in Iraq, while KH viewed the U.S. Em-

w The Yazidis are a syncretic religion, mainly present in Sinjar, Mosul, and the northern edge of the Nineveh Plains. “World Directory of Minorities and Indigenous Peoples: Yazidis,” Minority Rights Group International.

x The Shabak are an ethnic group, almost exclusively present in eastern Mosul and the Nineveh Plains. “World Directory of Minorities and Indigenous Peoples: Shabak,” Minority Rights Group International. Al-Muhandis famously aided the 30th and 50th PMF brigades to refuse prime ministerial orders to leave the Nineveh Plains in 2018, even reinforcing them with tanks to bolster their position. See Knights, Malik, and Al-Tamimi, p. 106.

y The Kaka'i are a secretive religion similar in some ways to the Druze, living south of Kirkuk and in the Nineveh Plains. “World Directory of Minorities and Indigenous Peoples: The Kaka'i,” Minority Rights Group International.

z Masjedi has handled a lot of stakeholder engagement with provincial governors and Sunni groups, but (like al-Muhandis) he always previously had the figure of Soleimani standing behind him, bringing added authority, Iraq knowledge, and senior leader relationships. For an example of Masjedi's meetings, see Ahmad Majidyar, “Tehran's envoy to Baghdad meets Iraqi leaders in run-up to parliamentary vote,” Middle East Institute, April 6, 2018.

aa Al-Muhandis aimed initially to consolidate the 50-plus PMF brigades into around half that number, with standardized unit sizes. Of the 160,000 personnel in the PMF, he eventually expected to create a more disciplined and well-trained standing force of around 36,000, organized in 12 brigades and three divisions. He envisioned overseeing this core force (the brigades or *katibat*). Other *fowj* (smaller units, literally regiments) within the PMF might exist as reserve elements or part-time forces, and he envisioned that some groups would be absorbed by other services, disestablished or outlawed. He envisioned that a final subset—the “Mujahideen” groups or *fasa'il* al-Jihadiya—would exist outside the state and be tolerated as they undertook their transnational resistance to the United States, Israel, and Sunni Gulf States. The author interviewed many observers with direct access to al-Muhandis to piece together his vision for the PMF. Author interviews, multiple Iraqi political and security figures, plus Western analysts and diplomats, 2019-2020 (exact dates, names, and places withheld at request of the interviewees).

ab KH had cells at U.S. points of presence, including Baghdad airport, Taqqudum, Taji, Al-Asad, and Besmaya, specifically to count U.S. forces and profile their movements. Author interview, Iraqi and U.S. officials, 2016-2019 (exact dates, names, and places withheld at request of the interviewees).

ac Many interviewees from the Iraqi and coalition sides view the collapse of the ‘caliphate’ in Iraq in the late months of 2017 as the beginning of the end of the unofficial “truce” between KH and the United States. Of note, and perhaps connected, a U.S. army vehicle was destroyed by an EFP munition on October 1, 2017, killing one U.S. soldier, close to Camp Speicher, one of KH's main training hubs. The United States identified an Iranian-backed group—most likely KH—as the attacker. See Michael Knights, “Responding to Iranian Harassment of U.S. Facilities in Iraq,” *PolicyWatch* 3125, Washington Institute for Near East Policy, May 21, 2019.



Muhammed Mohyee, the spokesman of Iraq's Iranian-backed Kata'ib Hezbollah, gives an interview at his office, in Baghdad, Iraq, on December 30, 2019. (Nasser Nasser/AP Photo)

bassy in Baghdad as the controlling force behind the October 2019 protests and behind what was claimed to be an “electronic army of the U.S.”^{ad}

There are strong indicators that KH was gearing up for an escalation with the United States inside Iraq from October 2019 onwards, including the delivery from Iran, through the Iran-Iraq border, of at least four truck containers of unguided rockets of 107mm-, 122mm-, and 240mm-caliber, Manportable Air Defense Systems (MANPADS) and 70 anti-materiel rifles.⁶⁵ The United States attributed a heavy November 7, 2019, rocket attack on U.S. forces⁶⁶ and then the December 27, 2019, killing of an American to KH;^{ae} it retaliated on December 29, 2019, against KH in Syria and Iraq, killing 25 and wounding over 50 KH personnel, including four mid-level leaders.⁶⁷ The United States interpreted the December 31, 2019, assault on the U.S. Embassy in Baghdad as al-Muhandis- and KH-directed retaliation for the strike, which was a contributing factor to the U.S. decision to kill al-Muhandis and Soleimani on January 3, 2020.⁶⁸

Part 2: KH in the Aftermath of al-Muhandis's Death

Until recently, it was difficult to disaggregate the power of al-Muhandis from the power of KH. The death of al-Muhandis on January 3, 2020, alongside his superior Soleimani, gave the first look

at KH operating without the benefit of al-Muhandis's considerable political skills. KH did not show itself openly among the gaggle of *fasa'il* commanders^{af} that ran straight to Iran to meet Soleimani's successor IRGC-QF commander, Brigadier General Esmail Qaani, and to shelter and recover.⁶⁹ Of all the *fasa'il*, KH was immediately the most defiant in its tone and public communications, refusing to ‘go to ground’ like most of the other militias. KH has consistently pushed two objectives since the U.S. struck its forces on December 29, 2019, and particularly since al-Muhandis's death—to evict the United States and to prevent a strong pro-Western politician from becoming prime minister of Iraq.

Expelling U.S. Forces

KH has been the most public and persistent advocate of the eviction of U.S. military forces from Iraq, both prior to 2011 and since 2017. Even before al-Muhandis's death, KH undertook a widespread campaign of public and text message threats toward Iraqi MPs to pressure them to vote in favor of expelling U.S. forces from Iraq.⁷⁰ Intense intimidation preceded the January 5, 2020, vote to remove U.S. forces (which had no legal effect because of the lack of a quorum).⁷¹ ^{ag} (A KH commander Adnan al-Mohammadawi (inaccurately referred to as “Shaykh Adnan al-Hamidawi” in the U.S. identifying information^{ah}) was designated by the United States in connection to this effort.⁷²) KH mounted rallies against the U.S. presence and repeatedly chided other groups over their cautious approach toward the eviction of U.S. forces.⁷³ In early March 2020, KH warned all Iraqis to stay more than 1,500 meters away from coalition facilities by March 15 that year, or risk attack by KH.⁷⁴

KH has been much coy about what attacks it actually undertakes;^{ai} it has not claimed a single attack on the United States, and has actively denied at least one⁷⁵ (a March 11, 2020, rocket attack on Camp Taji, which killed two American troops and one British soldier^{aj}). Clearly some of the 57 known rocket attacks on U.S. and

af These included Abu Ala al-Walal of Kata'ib Sayyid al-Shuhada; Akram Kaabi of Harakat Hezbollah al-Nujaba; Laith al-Khazali of AAH; and Sheikh Sami Massoudi (deputy Hajj and Umrah commissioner and Iraqi aide to Qassem Soleimani). See Will Fulton, “Leaders of ‘Iraqi resistance groups’ met in Qom yesterday to discuss events in Iraq and their path forward ...,” Twitter, January 14, 2020.

ag One observer stated that MPs received threatening SMS and WhatsApp messages to attend, yet still did not do so. This is credible from this author's point of view. A Kurdish and Sunni boycott denied the session from reaching quorum but a symbolic motion to evict forces was registered by a large majority of Shi'a MPs. Bilal Wahab, “Here, Photo analysis of #Iraq parliament session on Sunday: 167 MPs needed for quorum; 130 were present ...,” Twitter, January 7, 2020.

ah Also, not to be confused with Ahmad Zalata al-Hamidawi (Abu Hussein, Abu Zeid) that this article describes later on.

ai For what it is worth, the author undertook a straw poll of a handful of intelligence professionals with detailed insights into contemporary attacks in Iraq. The poll suggested that these observers thought around 85 percent of attacks on international sites were undertaken by KH and around 80 percent of convoy attacks, versus only 10 percent of assassinations. If accurate, this indicates a very deliberate and energetic effort to hide KH involvement.

aj The operation appears to have been called “Revenge of the Fallen” and constituted KH's main prompt retaliation for the loss of al-Muhandis. The intent was to launch a 32-rocket salvo from eight four-tube 107mm “quad” launchers emplaced in concealed rising launchers with overhead cover. Author interviews, multiple Iraqi political and security figures, 2020 (exact dates, names, and places withheld at request of the interviewees).

ad An anti-U.S. politician refers to the “electronic army of the U.S. embassy” here: Suadad al-Salhy, “Third person dies as protests continue in Baghdad,” Arab News, October 4, 2019. The KH newspaper (al-Muraqib al-Iraqi) refers to “Kadhimi's Electronic Army, which is an integrated program sponsored by experts who work at the U.S. Embassy as advisers while they are officially working for the US Central Intelligence Agency.” See “The government wastes millions of dollars on electronic armies,” al-Muraqib al-Iraqi, July 12, 2020.

ae The U.S. State Department noted: “Most recently, on December 27, 2019, KH launched a rocket attack against an Iraqi military base near Kirkuk, killing Nawres Hamid, an American civilian contractor, and injuring four U.S. service members and two members of the Iraqi Security Forces.” “State Department Terrorist Designation of Ahmad al-Hamidawi,” Office of the Spokesperson, February 26, 2020. U.S. Chairman of the Joint Chiefs of Staff General Mark Milley said: “We know that the intent of this last attack was in fact to kill.” See Wesley Morgan, “‘The game has changed’: Defense secretary warns of preemptive strikes on Iranian group,” Politico, January 2, 2020.

coalition forces in the first nine months of 2020⁷⁶ have been undertaken by KH, though what proportion is unclear. (On June 25, 2020, the Iraqi government raided a site in Albu Aitha, just south of Baghdad, and arrested 14 KH members, one of whom was linked by biometric evidence to an unspecified earlier rocket attack.⁷⁷) The extent of KH involvement in the 66 roadside bombings of U.S. or coalition supply convoys in the first nine months of 2020, or three attacks on diplomatic vehicles in the same timeframe, is also not known.⁷⁸

It appears that KH is using a proliferation of new group names to claim the attacks. The method is to create fake groups, claim attacks using these group identities, and thus mask KH's role in the attacks, both to enable KH to remain part of the PMF and avoid political criticism for disturbing the stability of Iraq. Though reflagging with multiple new brands is a technique of causing confusion that has worked well in Bahrain,⁷⁹ the recent trend in Iraq arguably began in May 2019, when a video emerged claiming the establishment of an anti-U.S. Free Revolutionaries Front, that seemed to comprise hardline "splinters" of Asa'ib Ahl al-Haq, Saraya al-Ashura, Saraya Talia al-Khurasani, Kata'ib Sayyid al-Shuhada, Liwa al-Tafuf, Kata'ib Jund al-Imam, Badr, Kata'ib Hezbollah, Kata'ib al-Imam Ali, and Saraya al-Salam.⁸⁰ Next came the establishment of Usbat al-Thaereen (League of the Revolutionaries) on March 15, 2020, and then the Islamic Resistance Army, another purported mix of existing militias (Badr, KH, AAH, Nujaba, KSS, and Kata'ib al-Imam Ali) announced on April 26, 2020, the 100th day since Soleimani and al-Muhandis died.⁸¹ Since then, the numbers of groups has sky-rocketed, including Saraya al-Muntaqim (Avenger Companies); Ashab al-Kahf (People of the Cave); Thar Muhandis (Revenge for Muhandis); Saraya Thawra Al-Ashreen Al-Thaniya (The Second 1920 Revolution Companies); Saraya Awfiya al-Dam (Battalion of the Guards of Blood); Rab'a Allah (God's Fellows); and Qasim al-Jabbarin (Defeaters of the Global Arrogance, the latter referring to the United States).^{ak}

Intimidating the Iraqi Government

KH has been more open in threatening Iraqi government figures and processes. On March 2, 2020, for instance, KH official Abu Ali al-Askari warned Iraqi politicians against choosing Mustafa al-Kadhimi as Iraq's next premier, noting:

*He is one of those accused of helping the American enemy to carry out the crime of assassinating the leaders of victory al-Hajj Suleimani the commander and his companion al-Hajj al-Mohandis. And we only consider his nomination as a declaration of war on the Iraqi people which will burn what remains of the security of Iraq.*⁸²

KH had been extraordinarily hostile toward al-Kadhimi in his capacity as the pro-Western head of the Iraqi National Intelligence Service (INIS).⁸³ In April 2020, around 100 KH fighters (some armed with Rocket-Propelled Grenades, or RPGs) swarmed al-Kadhimi in the International Zone, holding him for an hour and seizing members of his security detail.⁸⁴ KH also used online chan-

nels to leak the names of al-Kadhimi's INIS senior staffers.^{al} Ultimately, however, KH failed to convince other factions to block al-Kadhimi in the face of strong support for his nomination from al-Sistani, Moqtada al-Sadr, and the international community, and he was appointed prime minister on May 6, 2020. KH suffered a signal defeat, being forced to accept the parliamentary appointment of a man it believed was complicit in the targeting of Soleimani and al-Muhandis.^{am}

Unsurprisingly, becoming prime minister did not put al-Kadhimi off-limits to KH intimidation. When KH members were detained by the government on June 25, 2020, KH commander Abu Fadak (Abd'al-Aziz al-Mohammadawi) led a column of around 150 fighters in nearly 30 pickup trucks, with at least one carrying a 23-millimeter twin anti-aircraft cannon and many others bearing armored machine-gun mounts, to the prime minister's residence⁸⁵ and demanded the suspects be released to their custody.^{an}

Power Games Within and Between the Fasa'il

No one in the KH leadership could come close to al-Muhandis in terms of tightness of connection to the IRGC (via Soleimani), sharpness of political instincts, and coalition-building capacity. Other factions sought to exploit this, making a dash for Iran to shelter from potential U.S. follow-on strikes and to meet Soleimani's successor, IRGC-QF commander, Brigadier General Esmail Qaani.⁸⁶ Like the mass mobilization of June 2014, the deaths of the two heavyweights opened an opportunity for individual leaders and *fasa'il* to strengthen their direct ties to the IRGC-QF. The biggest winners were Abu Ala al-Walai of Kataib Sayyid al-Shuhada and Akram Kaabi of Harakat Hezbollah al-Nujaba, the two main non-KH 'Haydari' factions with extensive Syrian war service, who were the only leaders photographed with Qaani.⁸⁷

Causes for resentment toward KH were already present prior to al-Muhandis's death, related to its domination of prime PMF offices,⁸⁸ its preferential allocation of paid billets,⁸⁹ its prominent abduction and illegal detention of large numbers of Sunni civilians,⁹⁰ and its tendency for brash stunts that drew negative attention to the PMF, such as fighting Iraqi police in downtown Baghdad⁹⁰ or abducting and ransoming kidnapped Qatari hunters.⁹¹ Since al-Mu-

al After analyst Hisham al-Hashemi was murdered by militias on July 6, 2020, KH Telegram channels and Twitter began disseminating threats bearing surveillance images of National Operations Command director Thiya al-Musawi with the text "Thiya's next." Author interview, Iraqi official, 2020 (exact date, name, and place withheld at request of the interviewee).

am Abu Ali al-Askari regularly accuses the Kadhimi government of complicity. For instance, see "Iraq's intelligence service intriguing Kata'ib Hezbollah," ISWNews, March 5, 2020.

an The 13 KH members who were not specifically mentioned in the arrest warrant were released on June 26, 2020, in an apparent propaganda victory for KH. The remaining fighter was transferred to the Popular Mobilization Forces (PMF) Central Security Division, which is run by KH member Abu Zainab al-Lami (real name: Hussein Falah al-Lami) and quietly released in September 2020, according to U.S. government contacts. Based on author interviews, multiple U.S. government contacts, 2020 (exact dates, names, and places withheld at request of the interviewees). See also Michael Knights, "Punishing Iran's Triggers in Iraq: Opening Moves in a Long Campaign," Washington Institute for Near East Policy, December 6, 2019.

ao In July 2018, KH fighters engaged in a firefight with police in central Baghdad, then escaped with five stolen cars, and subsequently refused to surrender, even to Iraq's interior minister, who was a senior Badr officer. Knights, Malik, and Al-Tamimi, p. 92.

ak The author would like to thank Crispin Smith and Hamdi Malik for their help with this list, which is drawn from scores of attack claims from rocket and roadside bomb attacks in 2020.

handis died, such stunts have increased in frequency and profile, including blatant (and unsuccessful) efforts to guide the selection of a prime minister, physical intimidation of a sitting prime minister, and KH troops publicly trampling on pictures of al-Kadhimi.⁹²

An early setback came in February 2020 after a committee of Iran-backed *fasa'il*^{ap} was formed to elect a new vice chairman (and operational commander) of the PMF to fill the vacancy left with al-Muhandis's death. Whereas al-Muhandis had the diplomatic skills and the broad acceptance across factions to hold the executive vice chairmanship of the whole PMF, the man they elected, Abu Fadak (who would later lead the convoy of pickup trucks to the prime minister's residence), was subsequently opposed on February 20, 2020, by four shrine foundation Hashd units (the so-called *atabat*) who were excluded from the committee.^{aq} Less publicly, there was division within KH itself over Abu Fadak's promotion.⁹³ Though long-identified as al-Muhandis's designated successor at the PMF,⁹⁴ he was opposed by the new KH leader, Abu Hussein⁹⁵ (who will be profiled in the next section), and briefly faced an unsuccessful challenge from Abu Mustafa al-Sheibani, now the elder of the *fasa'il* leadership since al-Muhandis's death.⁹⁶

Part 3: The Post-Muhandis Power Struggle Inside KH

Having reviewed the organizational and political history of KH and al-Muhandis's changing relationship with KH, this article will now catalogue the institutional assets of KH, versus the portfolios that the IRGC-QF and other Iran-leaning *fasa'il* control. This further elucidates the large asset base that can be considered institutionally part of KH.

The KH Shura Council

KH has, from its outset, employed a collective leadership system, which it terms the Shura Council (Majlis al-Shura).^{ar} Perhaps reflecting some architecting from Imad Mughniyeh and other Lebanese Hezbollah advisors, the council has some similarities to the Shura Council of Lebanese Hezbollah.⁹⁷ Like the Jihad sub-council in Lebanese Hezbollah, the KH council has two military wings—a KH Special Operations arm (akin to the Islamic Jihad Organization or External Security Organization) and a KH-Iraq Military Office (akin to the Lebanese Hezbollah's Islamic Resistance conventional military wing).⁹⁸ Like the Jihad sub-council in Lebanese Hezbol-

lah,⁹⁹ as the KH Shura Council has always had an external “general supervisor”—usually al-Muhandis until his death, but for stretches an Iraqi-Lebanese cleric called Ayatollah Muhammad al-Sanad (based in Beirut).¹⁰⁰ (KH-Syrian Front is under direct IRGC-QF/Lebanese Hezbollah control and is not administered by the KH Shura Council.¹⁰¹)

The KH Shura Council normally has five members, all of whom are chosen by the IRGC-QF commander.¹⁰² Unlike in Lebanese Hezbollah,¹⁰³ the KH Shura Council is not composed of clerics but instead veteran fighters.¹⁰⁴ The council rarely meets in full, for operational security reasons, and then usually only in Iran.¹⁰⁵ Under Soleimani and al-Muhandis, the Shura Council received firm guidance from above,¹⁰⁶ one close observer noted, with al-Muhandis “supervising the Shura Council members and their decisions, with direct support from Qassem Soleimani.”¹⁰⁷ Today, the general supervisors are unknown, but may include an unnamed Lebanon-based cleric and the less charismatic and knowledgeable IRGC-QF commander, Qaani, who does not speak Arabic.¹⁰⁸

The author's in-depth research^{at} suggests that the current Shura Council is currently composed of the following KH members:

Ahmad Mohsen Faraj al-Hamidawi (also known as Abu Hussein, Abu Zalata, Abu Zeid) is the Secretary General and the Commander of KH Special Operations, one of two military forces in KH.^{au} Abu Hussein is 46 years old at the time of writing. This means he would have reached military age in the early 1990s. His Special Operations branch undertakes operations against U.S. targets and support to foreign Shi'a militants. According to two of the author's contacts with good insight into KH inner politics, Abu Hussein is developing a reputation for being reckless, unpredictable and focused on avenging al-Muhandis.¹⁰⁹ Abu Hussein is the main point of contact with both former Prime Minister Nouri al-Maliki and with Russian diplomats.¹¹⁰

Abd'al-Aziz al-Mohammadawi (also known as Abu Fadak, Abu Hamid) is the Commander of KH-Iraq Military Office, one of two military forces in KH, and also is the acting vice chairman/chief of staff of the PMF. Abu Fadak's career is relatively well known. He is slightly older than Abu Hussein and joined Badr in the late 1980s. He was seconded from Badr by Hadi al-Ameri to work in the Special Groups in 2004-2007 and was one of the first KH members. He served in al-Muhandis's office in Iran and knew both Qassem Soleimani and Imad Mughniyeh personally. Abu Fadak was on course to lead KH but is reported by multiple of the author's contacts to have lost seniority in KH due to his personal involvement in the publi-

ap The committee of *fasa'il* leaders was comprised of Abu Ali al-Basri (of Badr), Abu Muntadher al-Husseini (of Badr), Abu Fadak (of Kata'ib Hezbollah), Abu Iman al-Bahali (of Kata'ib Hezbollah), Abu Ala al-Walai (of Kata'ib Sayyid al-Shuhada), Laith al-Khazali (of Asa'ib Ahl al-Haq), and Ahmed al-Asadi (of Kata'ib Jund al-Imam). Knights, Malik, and Al-Tamimi, p. 23.

aq The four *atabat* units were Liwa Ansar al-Marjaiya [Brigade 44], Liwa Ali al-Akbar [Brigade 11], Firqat al-Abbas al-Qitaliyah, aka al-Abbas Combat Division [Brigade 26], and Firqat al-Imam Ali al-Qitaliyah [Brigade 2]). Though Abu Fadak was appointed by the committee, and functions in the role on a day-to-day basis at the time of writing, he was not confirmed by the Iraqi prime minister, cabinet, or parliament. Knights, Malik, and Al-Tamimi, p. 23.

ar Some of the author's contacts alternately use the phrase Majlis al-Amna (council or board of trustees). Author interviews, multiple Iraqi political and security figures, 2020 (exact dates, names, and places withheld at request of the interviewees).

as Imam Mughniyeh was the first supervisor, followed by Hassan Nasrallah after the former's death.

at The author has spent the last two years acting as a central node in an investigative analysis effort that includes confidential reporters in Iraq and elsewhere, building an incremental picture on multi-sourced information relevant to the KH leaders. The heart of the effort is linking real names to *kunya*, the Arabic *nom de guerre* used by terrorists and militiamen to conceal their identity.

au The United States has designated Ahmad al-Hamidawi as a Specially Designated Global Terrorist (SDGT) pursuant to Executive Order 13224. “State Department Terrorist Designation of Ahmad al-Hamidawi.”

cized 2015 affair of the kidnapped Qatari hunters.^{av} Abu Fadak and Abu Hussein are reported by multiple of the author's contacts to have bad personal relations with each other.¹¹¹ Abu Fadak's elevation to PMF chief of staff is a return to the fold, albeit in a more public role that is suited to an operative whose identity is well known, who will be frequently photographed, and thus may be considered 'blown' as a covert operator with involvement in more sensitive Special Operations missions.

Sheikh Jassim al-Sudani (also known as Abu Ahmad) is in charge of funding and logistics for KH. He is described as a "founder" of KH, suggesting involvement from the very outset, and was previously in Badr.¹¹² Some online sources describe him as a soldier who was captured in the Iran-Iraq War, suggesting he is in his 50s at the time of writing.¹¹³ He served for a period as a military commander in KH-Iraq.¹¹⁴

Jaafar al-Ghanimi (also known as Abu Islam) is responsible for civil affairs at KH-Iraq and is a former KH secretary general.¹¹⁵ Some online sources describe him as a soldier who was captured in the Iran-Iraq War, and then became a Badr member,¹¹⁶ suggesting he is in his 50s at the time of writing. He is described in other online sources as being from Basra and a graduate in electricity engineering.¹¹⁷

Sheikh Jassim (family name unconfirmed, also known as Abu Kadhim) is the final identified member of the Shura Council. He covers administration, including KH offices of veteran affairs, martyrs and families, and healthcare.¹¹⁸

Other KH Commanders

There are a number of senior KH commanders who are not presently on the Shura Council, though some seem to have rotated through the council in the past. Like the Shura Council members, the below figures would merit the honorific "al-Khaal" (uncle) in the hierarchy discovered by Hamdi Malik.¹¹⁹

Sheikh Adnan al-Mohammadawi (Adnan Yousif Jassim, Abu Ammar)¹²⁰ is a former Shura Council member who now runs KH-Iraq's economic authority.¹²¹ He was a member of the KH Special Operations wing and is 42 years old at the time of writing,¹²² suggesting another fighter who would have come to military age in the 1990s. He was captured by the United States in 2009 but released by the government of Prime Minister Nouri al-Maliki in 2010.¹²³ As already noted, he was identified by the United States as a key figure in the 2018-2019 effort by KH to intimidate Iraqi MPs into voting to evict U.S. forces.¹²⁴ He is reported by one of the author's contacts to be in charge of the Jurf as-Sakr base complex (see below).¹²⁵

Hussein Falah Aziz al-Lami (also known as Abu Zainab) is the head of the Central Security Division (CSD)^{aw} of the PMF.¹²⁶ He is 51 years old at the time of writing, suggesting he came into military age in the late 1980s. Multiple observers describe him as especially close to KH Secretary General Abu Hussein. Like Abu Fadak, his

involvement with the PMF has "surfaced" him into public and international scrutiny. He appears to maintain very tight relations with two *fasa'il*¹²⁷ that he cooperated with closely to suppress the October 2019 protests in Baghdad,^{av} namely Saraya Talia al-Khurasani and Kata'ib Sayyid al-Shuhada. Abu Zainab is also reputed to control significant financial reserves and economic projects on behalf of Abu Hussein's network within KH, including oil smuggling operations.¹²⁸

Another KH member who was surfaced through his work with the PMF and its role in suppressing protestors is Adhab Kaytan al-Bahali^{ay} (also known as Sattar Jabbar al-Ta'aban or Abu Iman al-Bahali),^{az} who is the director of intelligence at the PMF.¹²⁹ Compared to other KH senior leaders he is slightly younger, a Shi'a Kurdish (Fayli) transplant from Badr, recruited in Iraqi Kurdistan in the 1990s.¹³⁰ He served in the Badr special operations and intelligence unit from the late 1990s, then in a Ministry of Interior intelligence function, and then PMF brigade 27 after 2014 until being named head of PMF intelligence in 2016.¹³¹ Abu Iman developed the KH technical intelligence branch, and holds a range of sensitive files.¹³² In domestic politics, he gathers compromising material on politicians, ministry directors, and security personnel.¹³³ When protests erupted in October 2019, he collated hit lists of civil society activists and journalists in partnership with IRGC-QF cyber-intelligence officials and a 19-person, Baghdad-based cell of Lebanese Hezbollah media operatives.¹³⁴ His responsibilities include target development against U.S., coalition, and Iraqi Kurdish persons and sites.¹³⁵

Hussein Moanes Jabbar al-Hijami (also known as Abu Ali al-Askari, Abu Musa) is an enigmatic member of KH who is one of the initial cadre of fighters and who was held by the United States from 2009-2010, being released at the same time as Abu Ala al-Walai of Kata'ib Sayyid al-Shuhada.¹³⁶ Moanes is a former Shura Council member who lived in Iran for an extended period and has an Iranian wife.¹³⁷ He is a Special Operations veteran¹³⁸ and is described on KH Telegram channels as the head of security for KH.¹³⁹ Unusually for such a figure, he became very vocal in the aftermath of al-Muhandis's death and was identified by name by the late Hisham al-Hashemi and even photographed.¹⁴⁰ Since then, Hussein Moanes has tried to muddy the picture by denying he was Abu Ali al-Askari, but without success.¹⁴¹

KH's other visible personalities are mostly spokesmen. Mohammed Mohyee is the general spokesman for KH, and Jaafar al-Husseini is the military spokesman for KH-Iraq. Seyyed Dr Jassim al-Jazairi is also used as a spokesman and likely heads the

av Kataib Hezbollah tried to ransom Qatari royals seized by militiamen, but a transfer of \$283 million was stopped by Iraq's intelligence services in the VIP lounge of Baghdad International Airport. Knights, Malik, and Al-Tamimi, p. 109.

aw The first detailed work on the listing of PMF Commission staff directorates was by Jessa Rose Dury-Agri, Omer Kassim, and Patrick Martin in "Iraqi Security Forces and Popular Mobilization Forces – Order of Battle," Institute for the Study of War, December 2017, pp. 29-36. More recently, see Knights, "Iran's Expanding Militia Army in Iraq: The New Special Groups," and Knights, Malik, and Al-Tamimi, pp. 28-29.

ax The United States designated Abu Zainab for human rights abuses due to the October 2019 crackdown. "Treasury Sanctions Iran-Backed Militia Leaders Who Killed Innocent Demonstrators in Iraq," U.S. Department of the Treasury, December 6, 2019. See also Knights, "Punishing Iran's Triggers in Iraq."

ay Note that Bahali is correct; the other commonly encountered name, Bahadli, is a different name.

az Like many Fayli Kurds (i.e., Shi'a Kurds), Bahali has two legal names due to the Saddam-era forced Arabization of Kurdish persons on their national identity cards. He is commonly known as Abu Iman. Author interviews, multiple Iraqi political and security figures, 2020 (exact dates, names, and places withheld at request of the interviewees).

media department of KH.^{ba} Other KH members carefully hide their identities.

For instance, KH keeps the identities of its three PMF brigade commanders (PMF brigades 45, 46, and 47) carefully hidden.¹⁴² The odd KH commander has surfaced to a minimal extent due to their service as PMF directorate commanders^{bb} (which almost guarantees their faces are publicized). The involvement of KH in the crackdown against Iraqi protestors resulted in the surfacing of a few KH regional security commanders.^{bc} Very occasionally one is identified in the course of their duties with formal Iraqi security forces.^{bd} At least one important religious and legal authority for KH has been identified, namely Mohammed al-Safi, a Karbala-based cleric who is also the religious guide for Kata'ib Sayyid al-Shuhada, underlining the shared heritage and worldview of the two movements.¹⁴³ Generally, however, KH hides its leaders very effectively and gives public profile only to officials who no longer play sensitive roles.¹⁴⁴

Part 4: Non-military Aspects of KH

Similar to forerunner movements such as Lebanese Hezbollah^{145be} and the Supreme Council for Islamic Revolution in Iraq,¹⁴⁶ KH has developed significant non-military activities instead of being a purely military actor. The following sections outline the non-military infrastructure and institutions that survived al-Muhandis's death.

Khomeinist Civil Society Activities

The civil side of KH administered by Jaafar al-Ghanimi (Abu Islam) represents an alternative to the dominant Iraqi model of political blocs with associated militias such as Badr, Moqtada al-Sadr's Ahrar bloc, and Asa'ib Ahl al-Haq's Sadiqun bloc. This is because KH does not have a parliamentary bloc, unlike all the other major Iran-backed *fasa'il*. Instead, KH has a full range of institutions that recruit Shi'a intellectuals, women, and youth using Khomeinist

ideology.^{bf} The most important are listed here, but there are many more smaller institutions and media platforms besides these:

Al-Zainabiyat Foundation presents itself as an Islamic cultural foundation for women and girls that has been operational since at least 2012 and probably as far back as 2008.¹⁴⁷ It is a Khomeinist institution that encourages women to guide their families toward what it presents as the traditions of Iraqi and Islamic society, and encourages women to have children and play a traditional role within the family. It has a mass mobilization function that can organize female participation in protests.¹⁴⁸

Imam Hussein Scout Association (Khashaf al-Imam al-Hussein) is a Khomeinist feeder organization for the armed wing of KH, preparing children and young men for military service with KH. The organization appears to have been formed in 2011 and mirrors the practices of other Shi'a paramilitary organizations (Iran's Basij, Lebanese Hezbollah, Yemen's Ansar Allah) by basing major activities around summer youth camps in Baghdad, Basra, Najaf, Lebanon,^{bg} and Iran.¹⁴⁹ The KH scouts have been associated for many years with a very vocal KH military commander known as Abu Talib al-Saidi.¹⁵⁰ Of interest, youth are also encouraged on KH Telegram platforms to report the movement of foreign military forces as part of a KH "shadow cell."^{bh}

Academic Elites (Al-Nukhbah) is a Khomeinist university campus-based organization that seeks to groom a new generation of well-educated KH members and KH-leaning professionals. It arranges exchange visits and longer fellowships at universities in Lebanon and Iran, and teaches Farsi courses. The Nukhbah also provides paramilitary and multimedia training.¹⁵¹

Mosques and Husseiniyat Authority and KH Department of Doctrine are Khomeinist institutions that debate religious doctrine in conferences, publish studies pertaining to Islam, and commemorate martyrs.¹⁵²

Target Research Center (Markaz Al-Hadaf) and Guiding Light (Al-Misbah) are clusters of Khomeinist think-tanks and libraries that focus on political theory, in particular the *velayat-e faqih* doc-

ba Jazairi is neither the political nor military spokesman, yet plays a prominent role. He is referenced by KH as a member of its political leadership and was honored by being interviewed by the media arm of office of Iran's Supreme Leader Ali Khamenei. For the former, see "Mr. Jassim Al-Jazaery: Imam Khomeini united the Islamic ranks by declaring International Jerusalem Day," Kata'ib Hezbollah website, July 27, 2014, and for the latter, see "Mr. Jassem Al-Jazaery: Our experiences in Iraq have taught us that America is a greater demon that cannot be trusted," Office of the Supreme Leader website, December 13, 2017.

bb For instance, Abd'Nuama al-Safir, an al-Muhandis associate but not found in the course of the author's studies to be a KH member, is the director of the PMF Military Engineering Directorate. Knights, Malik, and Al-Tamimi, p. 46.

bc For instance, retired Major General Jaafar Abd'al-Hussein, who earned his promotion to general officer level in the National Security Advisory without attending staff college and who ran KH southern Iraq in 2014, and Ahmad al-Saadi, a mufti from Kadhimiyah who controlled KH in Karkh or western Baghdad. See al-Ghazi.

bd An example is Brigadier General Ali al-Meshari, known also as the "butcher of Basra," a KH commander who leads an auxiliary police force in Basra known as the Shock Force (Quwwat Al-Sadma). See "Brigadier General Ali al-Meshari," originally available at Alhurra's website, but since taken down.

be Lebanese Hezbollah developed five main sub-councils: Political, Military, Parliamentary, Executive, and Judicial.

bf Khomeinist ideology propagates the idea of the *velayat-e faqih* (religious jurisprudence) system that it maintains should be spread to other societies through preaching and armed revolutions. See the original Central Intelligence Agency study of Khomeinism called "Khomeinism: The Impact of Theology on Politics," 1983, via CIA Library, Freedom of Information Act Electronic Reading Room. When asked directly by an interviewer if KH desired the *velayat-e faqih* system in Iraq, KH spokesman Jassim al-Jazairi hedged, saying: "Look, Wilayat al Faqih is only one of many of Islamic theories being proposed ... If the system of Wilayat al Faqih and its values worked properly in Iraq then what is wrong with that. The problem is you cannot force these values on others ... We are advocates of Islam and we defend our religion and its teachings. We believe that Islam is capable of governing and can be successful in this ... If this is successful, it has to come through popular will; if it does not then we support the political process and the political choices of Iraqis. This matter depends on the level of knowledge and awareness of the Iraqi people." "Interview with Dr. Jassim al-Jazairi of Kata'ib Hezbollah," Beladi Satellite Channel, available on YouTube, June 28, 2018.

bg Hezbollah's Imam al-Mahdi Scouts allows KH scouts to use their Khomeini Scout City in Zawtar, Lebanon. Covering all the points of detail in this paragraph, see "Kataeb Hezbollah: Profile of a Shiite-Iraqi militia handled by the Qods Force to promote Iranian interests in Iraq (Full Version)," Meir Amit Intelligence and Terrorism Information Center, July 9, 2020, p. 23.

bh Hamid Malik reports that in late August 2020, Sabreen News, a KH Telegram channel, encouraged youth to "be a resistance [fighter] from where you are and join the shadow cell by sending images, videos or information of every move of the American enemy." See Malik.

trine of theological governance that is practiced in Iran.¹⁵³ These institutes have a network of libraries, galleries, and exhibits that eulogize KH and PMF martyrs and commemorate anniversaries such as the annual Quds Day.¹⁵⁴

KH also has a veritable media empire,¹⁵⁵ which has been built with advice and technical support from Lebanese Hezbollah.¹⁵⁶ This empire includes a Beirut-based satellite TV channel (Al-Etejah, meaning “the direction”), radio (Al-Etejah, Radio Al-Kawthar), a newspaper (al-Muraqib al-Iraqi), plus a large network of websites, Telegram channels, other social media platforms, and affiliates within the broader “Axis of Resistance” (such as the Resistance Media Network and Central Combat Information platform).¹⁵⁷ The profusion of media activity by KH and the subsequent demand for material is probably one reason why KH has so many high-profile spokesmen—the aforementioned Muhammed Mohyee, Sheikh Jaafar al-Husseini, Sheikh Jassim al-Jazairi—and also Abu Ali al-Askari, who is not a spokesman but nonetheless has a high media profile.

KH Economic Activities

Though KH has long been the IRGC-QF’s primary partner force in Iraq, it does not necessarily follow that KH has pole position in the vast money-making schemes of the *fasa’il*.¹⁵⁸ Al-Muhandis was sometimes accused of being especially partial to KH and its recruits were prioritized for inclusion in the registered numbers of the PMF (versus other factions who had significant numbers of unregistered, and thus unpaid, volunteers).¹⁵⁹ Overall, however there has been a careful division of economic spoils between Iraq’s militias, initially overseen and balanced by al-Muhandis and Soleimani.¹⁶⁰ ^{bi} The division of spoils is implemented through the *wakala* system (referring to the representatives of each militia in ministries, government branches, and local government).^{bj} Most of the militia rackets in Iraq are linked closely to the control of terrain and infrastructure,^{bk} and this is one reason for the enduring geographic spheres of influence^{bl} assigned to militias in “liberated” Sunni areas of western and northern Iraq, and even within Baghdad city.¹⁶¹

Institutions are also key terrain: for instance, Kata’ib Al-Imam

Ali’s leader, U.S.-designated terrorist Shibl al-Zaydi,¹⁶² had a special interest in the Ministry of Communications and its contracts,¹⁶³ and most recently, QiCard, the main e-payment vendor for social security,^{bm} is suspected^{bn} of being tapped by militias in schemes where false beneficiaries were created en masse.^{bo}

In contrast to more conventional patronage-based militias,^{bp} it is much harder to paint a picture of KH economic activities. Numerous KH leaders seem to play an economic role, suggesting significant resources but also multiple power bases with their own funding streams.¹⁶⁴ As noted, Adnan al-Mohammadawi manages KH’s “economic authority,” with main activities in Baghdad and Basra.¹⁶⁵ At the same time, KH Secretary General Abu Hussein and his close associate Abu Zainab al-Lami seem to have a separate economic office as well, possibly relating to stipends transferred from the IRGC-QF.¹⁶⁶ Sheikh Jassim al-Sudani (Abu Ahmad) acts as a treasurer for KH and disperses funds to KH members and institutions.¹⁶⁷ Less solidly, three other figures in KH are reported to play a finance role: Ahmed al-Eithawi (Abu Hassanein), Sheikh Adnan al-Maliki, and Khaleel Ismail (Abu Mustapha), who are responsible for fundraising within the membership.¹⁶⁸

A rare *known* case of KH involvement in a commercial matter is the long-running saga of ground services at Baghdad International Airport.¹⁶⁹ In 2018-2019, KH forced its way into the running of ground handling services, fee collection, the VIP lounge, and an airport hotel.¹⁷⁰ In addition to using the contracts to gain control over sensitive sites—such as the air traffic control tower and, ironically, “Kilometer One,” the private VIP road on which Soleimani and al-Muhandis were killed—the KH negotiators sought a 20 percent share of revenues.¹⁷¹ KH tried to hide its involvement throughout, switching from one commercial partner to another; employing a cabinet-level official to unknowingly lobby on KH’s behalf; and mounting an intimidation bombing attack on a rival bidder in one of Najaf’s most exclusive and well-protected elite neighborhoods.¹⁷² Underlining KH’s vulnerability to exposure, KH was forced by the government in late September 2020 to close its known offices in the airport and its partners were removed from various functions at the airport, being replaced by Sadrist-linked companies.¹⁷³ ^{bq}

bi For instance, in 2019, al-Muhandis arranged for 5,000 more Sadrist members of Saraya al-Salam to be registered. See Table 3.1 on page 62 of Knights, Malik, and Al-Tamimi.

bj *Wakala*, meaning representative in Arabic, is widely used in Islamic Finance, where a representative is appointed to undertake transactions on another person’s behalf. In the Iraqi governance context, *wakala* is used to describe the representative agents for parties and militias. Author interviews, multiple Iraqi political and security figures, 2019-2020 (exact dates, names, and places withheld at request of the interviewees).

bk In no particular order, militias make money in Iraq at local level through the following rackets, and others not listed: control of ports and border crossings; payment for non-existent services to local governments and ministry branches; illegal taxation of trucking, religious tourism and markets; theft of government property such as cars and engineering vehicles; diversion of oil and oil products for sale inside and outside Iraq; skimming life support and fuel allocated to fictional PMF “ghost soldiers;” and confiscation and auctioning of real estate, especially in areas with displaced populations. Author interviews, multiple Iraqi political and security figures, 2018-2020 (exact dates, names, and places withheld at request of the interviewees).

bl The areas of control of different Iraqi militias were described in depth in Knights, “Iran’s Expanding Militia Army in Iraq: The New Special Groups,” and Knights, Malik, and Al-Tamimi, pp. 40-43.

bm QiCard is a popular debit card in Iraq that many government departments now use to directly deposit electronic payments to pensioners, as opposed to the cash payment systems used until 2019. Beneficiaries must show government ID to cash out.

bn The CEO of QiCard, Baha Abd’al-Hussein, was arrested on September 17, 2020, in Baghdad for suspected fraud. See “First arrests in Iraq PM’s anti-corruption drive: sources,” AFP, September 19, 2020.

bo Fictional pensioners are created and loaded into the payroll system, which is exactly what has occurred across multiple militia-influenced government branches. The cards are taken to banks where militia members use fake ID linked to the card to withdraw the cash. The author is aware of one \$32 million per month scheme at a single Iraqi ministry. Other ministries and security forces are also using QiCard and are likely to also be under pressure to allow militias to abuse the system, and the author has been told by contacts that this is the case. Author interviews, multiple Iraqi political and business figures, 2019 and 2020 (exact dates, names, and places withheld at request of the interviewees).

bp For instance, Asa’ib Ahl al-Haq (dominating the highways north of Baghdad and some border crossings to Iran) or Badr (working with AAH to dominate Basra’s ports and land border posts, and dominating the economic life of Diyala province). Knights, “Iran’s Expanding Militia Army in Iraq: The New Special Groups.”

bq It is quite likely that KH will try to re-infiltrate under new commercial fronts.

Another case that sheds interesting light on KH's political-economic *modus operandi* is that of Falah al-Jazairy, one-time mayor of Baghdad's city council, a major potential source of civil contracts. According to multiple well-placed contacts with direct experience of Iraqi investigations, when al-Jazairy faced ousting^{br} due to opposition within the council, KH warned his opponents: "Falah belongs to us. Leave him alone. If you touch Falah, you are touching us."¹⁷⁴ What this case suggests, and which a range of interviewees flagged with the author, is that KH operates a hidden influence network based on covert sponsorship, partnership, blackmail, and intimidation¹⁷⁵—an important hidden layer of the movement that does not correspond to the levels of membership identified by Hamdi Malik such as *al-Khaal*, *muallim*, *ajsam*, and *arqam*.

Part 5: KH Military Infrastructure and Roles

As the above section suggests, KH has historically appeared less focused on venal money-making schemes than is typical for *fasa'il*, with KH more focused on strategic portfolios and terrain. This strategic focus may be apparent in KH's geographic focus, which is mostly limited to a triangular zone between the KH base at Jurf as-Sakr (in southern Baghdad) and the Iraq-Syrian border crossing points of Akashat (bypassing the U.S.-backed garrison at Al-Tanf)¹⁷⁶ and Al-Qaim (adjacent to Albu Kamal in Syria). This so-called "land bridge"¹⁷⁷ between Iran and Assad-controlled Syria is not the commercially richest real estate in Iraq—far from it—but it is of vital interest to Iran, the "axis of Resistance," the United States, and Israel.

The Jurf as-Sakr Redoubt

The Jurf as-Sakr site, 40 kilometers southwest of Baghdad, is the principal military hub for KH and has been discussed in detail in a prior *CTC Sentinel* study by the author.¹⁷⁸ Built on villages from which the Sunni population was expelled and not readmitted,¹⁷⁹ Jurf has become an exclusive KH principality in which government forces cannot enter and where KH formally acquired land use rights from the government.¹⁸⁰ It is the site of KH's extensive private prisons (holding well over 1,000 illegal detainees)¹⁸¹ plus medical rehabilitation housing for fighters. Both PMF brigades 46 and 47 are headquartered in Jurf.¹⁸²

Jurf is the hub of munitions manufacturing, storage, and testing facilities that KH operates in the rural southern arc of Baghdad, in some cases reusing Saddam-era military industrial sites.^{bs} KH worked hard to ban U.S. drone overflights of Jurf as-Sakr from March 2019 onwards,¹⁸³ months before the site was used to launch two explosive drones toward Saudi Arabian oil pipeline pumping stations on May 14, 2019.¹⁸⁴ The March 13, 2020, U.S. airstrikes on the Jurf area struck materials described by the United States as the "Jurf as-Sakr propellant production and advanced conventional weapons storage site," the "Al-Yowm al-Azran rocket motor

test facility," the "Musayyib terrorist weapons storage site," the "Arab Hawar terrorist rocket storage site," and the "Jurf Improvised Rocket-Assisted Mortar (IRAM) storage site."¹⁸⁵

Also on March 13, 2020, the United States struck a site further west that it termed the "Karbala Kata'ib Hezbollah advanced conventional weapons storage site," which was collocated with the uncompleted Karbala airport and where non-KH PMF troops from an Atabat brigade were reportedly struck and three civilians wounded.¹⁸⁶ KH also claims to operate a "medium range rocket facility" at Ain al-Tamur (70 kilometers west of Karbala, southwest of Lake Re-zazah) and a munitions factory at Zaafaraniyah (just outside urban Baghdad, 10 kilometers to the southeast).¹⁸⁷ The Iraqi government arrested one suspected KH rocketeer and 13 other KH members on June 25, 2020, at a rocket storage site in Albu Aitha, 20 kilometers south of Baghdad.¹⁸⁸

Western Anbar and Albu Kamal Bases for KH

KH has worked hard to develop its presence in Anbar, an area to which it is entirely alien as there is virtually no Shi'a population there. KH has been deploying to western Anbar since 2013, and has used the area to reach Syrian battlefields.¹⁸⁹ Though Anbar is theoretically under the command of both a three-star military headquarters (Anbar Operations Command) and the PMF (West Anbar Operations Command or axis), there is also an underlying KH-dominated zone (which the group calls the KH Jazeera Operations Command) that spans the Jurf-Akashat-Qaim area.¹⁹⁰ In this area, KH has invested great effort in removing adversaries (for instance, ousting the Anbar Operations Command leader, and both customs posts at the Akashat and Qaim end) and building up covert influence networks.¹⁹¹ KH has developed a large informant and influence network in Anbar that spans the Anbar Operations Command, Anbar Police, National Security Service, provincial and district officials, and the 8th and 14th Iraq army divisions.¹⁹²

The western Anbar bases of KH and closely allied militias were detailed in an August 2019 study for *CTC Sentinel* by this author.¹⁹³ It consists of two sub-sectors: the eastern Al-Qaim border crossing on the Euphrates, facing the Albu Kamal areas in Syria,¹⁹⁴ and the western Akashat sub-sector (headquartered in Rutbah).¹⁹⁵ The main KH headquarters in Al-Qaim is the base for PMF brigade 45, the praetorian KH fighting force, and was struck by U.S. forces on December 29, 2019, killing the PMF brigade 45 commander, Kadhim Alwan (Abu Ali al-Dibi).¹⁹⁶ KH forces (mainly from PMF brigade 46) control Highway 20 (which parallels the Iraq-Syria border between the two sub-sectors,¹⁹⁷ and ranches between the highway and the border).¹⁹⁸ These rural areas, close to the Iraq-Syria oil pipeline corridor (and its coaxial road), are used to move missile or rocket forces to Syria.¹⁹⁹ (Of note, an earlier August 25, 2019, airstrike (apparently Israeli) struck moving vehicles that were positioned about halfway between two of the sites hit later by the United States on December 29, 2019, underlining Israel's intense focus on the chain of bases.²⁰⁰)

Immediately over the border, a few kilometers west of the Husaybah customs point and linked by dedicated tracks, is KH's Imam

br The KH threat saved Jazairy from being ousted by rival factions in the summer of 2019 but could not save Jazairy from eventually being removed during the October 2019 riots. See "Iraqi provincial council sacks Baghdad governor," Xinhua, October 6, 2019.

bs The Musayyib, Latifiyah, and Iskandariyah areas—adjacent to Jurf—were the heart of Saddam's large military industries, including rocket testing and munitions and fuel production. For a comprehensive list of facilities, see Central Intelligence Agency, Addendums of the Special Advisor to the DCI on Iraq's WMD, "Annex D Iraq's Military Industrialization Facilities" and "Annex E Iraq's Military Industrialization Facilities," March 2005, pp. 43-53.

bt During the pre-2011 period, the author spent time on the ground in the exact area of the strikes. The ranches in this area are traditional smuggler staging bases that appear to have been taken over by Kata'ib Hezbollah and Liwa al-Tafuf (brigade 13). For detail on their operations in Anbar, see Knights, "Iran's Expanding Militia Army in Iraq," pp. 5-6.

Ali base, just outside the Syrian town of Albu Kamal.^{bu} After the Aleppo campaign at the end of 2016, KH-Syrian Front concentrated its military efforts in Syria on the Deir ez-Zor area and the town of Albu Kamal, which was captured from the Islamic State in September 2017.²⁰¹ On June 18, 2018, Israel struck KH in Albu Kamal for the first time, hitting the original KH headquarters close to the border,²⁰² and then struck the Imam Ali base on September 8, 2019,²⁰³ January 5, 2020,²⁰⁴ and March 11, 2020.²⁰⁵ The latter strike hit 15 structures in the broader Albu Kamal area, including warehouses at the Imam Ali base, another KH site in the industrial quarter, two Fatimiyoun sites, and Hezbollah Harakat al-Nujaba base in Albu Kamal town, and two Kata'ib Sayyid al-Shuhada base just southeast of Albu Kamal town.²⁰⁶ According to press reporting based on satellite imagery, the Imam Ali base may have significant underground facilities, including perhaps a tunnel to the Iraqi side of the border.²⁰⁷ In Mayadin, 50 miles north of Albu Kamal, KH is reported to have other warehouses at a site called al-Haydaria.²⁰⁸

There may also be a southern Anbar aspect to KH operations. Though nominally within the Atabat zone of responsibility (the Anbar-Karbala/Najaf border),²⁰⁹ the town of Nukhayb, dominating the trade highway to Saudi Arabia and an important bypass around Baghdad toward Syria, has had a KH presence since 2011.^{bv} Nukhayb was reportedly given over to KH as its exclusive operational zone in 2016, whereupon it took over all six major military sites in the town.²¹⁰ In addition to strong rumors about possible use of Nukhayb as a training site for Iran-backed Shi'a Saudi terrorists,²¹¹ it may have been a launch pad for drone attacks on Saudi oil facilities.^{212 bw}

Despite its major investment in Anbar, KH has arguably failed to dominate the environment as completely as it might have hoped. Both the U.S. sites at Al-Asad and Tanf remain; Iraq Counter-Terrorism Service and customs personnel are returning to Al-Qaim;²¹³ local Iraqi forces have been restaffed with capable commanders;^{bx} and local communities in populated parts of Anbar are beginning to

protest the extent of militia presence and control of territory.^{by} Most significantly, Israeli and U.S. attacks have shown that Anbar is very exposed to aerial attacks, resulting in Iran and its militias pulling back some key assets to southern Iraq in 2019-2020.²¹⁴

Part 6: Power Projection and Missiles

During al-Muhandis's tenure at the head of the Iraqi *fasa'il*, IRGC-QF began to project power against its enemies from Iraq. In addition to attacking U.S. and other Western targets in Iraq and reinforcing other Axis of Resistance forces in Syria, Iraq was used as launch pad for attacks into the Sunni-led Gulf States. Terrorist training facilities and long-range strike systems became operational on Iraqi territory. KH has been associated with key attacks such as the May 14, 2019, drone attacks on Saudi Arabia^{215 bz} and support to militant groups in Bahrain,²¹⁶ but there are signs that other Iraqi *fasa'il* (such as Saraya al-Jihad, see below) are also now working on these portfolios.

Iranian Missiles and Drones

The main hub for Iranian missiles inside Iraq is now the May-san-Dhi Qar-Wasit triangle, not western Anbar. The missile caching system is built around a longstanding relationship²¹⁷ between Saraya al-Jihad (PMF brigade 17) leader Hassan al-Sari (real name Hassan Radi Kazim Kat'e al-Sari²¹⁸) and IRGC-QF Brigadier General Ahmad Forouzandeh,²¹⁹ who has commanded the southern Iraq axis of IRGC-QF operations in Iraq since 2002.²²⁰ While not a member of KH, Hassan al-Sari has functioned since the early 2000s as the key southern Iraq logistician for the Special Groups and then KH, playing an important role in the Special Groups and Sheibani Network.²²¹ The day-to-day custodian of the IRGC-QF missile force in Iraq is Hamad Mohsen Mujabir (Abu Iman al-Darraji), who also has a nominal role as the PMF director of intelligence in Basra.²²²

Missiles and larger rockets are now moved from Iran into Iraq in parts, where possible broken down into warhead, fuel, and body, which allows smaller and less conspicuous vehicles (like water or oil tankers) and smaller shipping containers to be used.²²³ Advanced types inside Iraq are believed to include Kheiber-1 (302mm, 65 miles); Badr-1 and Badr-1P (210mm rocket, 90-mile range); and possibly Raad-500 (1,100lb high explosive, 350 miles).^{224 ca} Warheads and rocket bodies are often kept separated in sites in Kumayt (near Amarah), Batha (near Nasiriyah), and Numaniyah (near

bu KH spokesman Jassim al-Jazairi stated that the Imam Ali base was just 1,500 meters over the border and counted as an Iraq-based border force, not a force inside Syria per se. "Interview with Dr. Jassim al-Jazairi of Kata'ib Hezbollah."

bv KH was moving fighters into Syria via Nukhayb since the start of the Syrian Civil War in 2011. Author interviews, multiple Iraqi and U.S. contacts, 2012-2014 (exact dates, names, and places withheld at request of the interviewees).

bw Of note, Iraq's government (unsuccessfully) ordered KH to withdraw from Nukhayb just weeks after the Saudi oil pipelines were struck from Iraq in May 2019. Baraa Al-Shammari and Muhammad Ali, "The Iraqi 'Hezbollah Brigades' holds its headquarters close to the Saudi border," Al-Araby al-Jadeed, July 15, 2019.

bx The Anbar Operations Command (AOC) is (at the time of writing) led by Maj. Gen. Hamid al-Nams al-Jabbouri, former police chief in Salah al-Din and Nineveh who is widely seen as capable. The Jazira and Bayda Operations Command is (at the time of writing) Maj. Gen. Ahmed Salem Bahjat. These, and other subordinate division and police commanders, are experienced Iraqi army officers appointed from within the Anbar units (such as 7th Iraqi army division, AOC, and Anbar Police Command). Author interviews, multiple Iraqi and U.S. contacts, 2019-2020 (exact dates, names, and places withheld at request of the interviewees).

by Al-Karabila tribesmen and related political figures in Al-Qaim called for the withdrawal of KH and Liwa al-Tafuf (PMF brigade 13) in late April 2020 over long-standing claims of land confiscation and unauthorized land and housing use by the militias. See "Sunni party calls for the withdrawal of Shiite brigades from Anbar 'immediately,'" Shafaq News, April 22, 2020.

bz The author has also received firm indications from multiple contacts with insight into the September 14, 2019, Abqaiq attack that Iraq (Nukhayb or Muthanna) may also have been a launching point for some of the delta-wing Iranian drones used in that later attack. Author interviews, multiple Iraqi and U.S. contacts, 2019-2020 (exact dates, names, and places withheld at request of the interviewees). For a view on the delta-wing drones, see Rory Jones and Sune Engel Rasmussen, "What We Know About the Saudi Oil Attacks," *Wall Street Journal*, September 20, 2019.

ca One contact of the author also reported anti-shipping missiles being brought into southern Iraq, and multiple interviewees talked about unnamed Iranian drone types. Author interviews, multiple Iraqi contacts in 2020 (exact dates, names, and places withheld at request of the interviewees).

Kut), with each site having a network of satellite-dispersal points and workshops to assemble missiles or rockets.²²⁵ A cadre of technically proficient weapons assemblers are retained full time in Abu Iman al-Darraj's network, and their skills and loyalty are retained by being given a house, a fulltime salary, and frequent changes of phone.^{cb} The cases of al-Sari and al-Darraj underline how personal relationships often trump ephemeral organizational labels. Iran is quite capable of combining two adjacent networks—al-Sari/al-Darraj and KH—to handle its missile forces in Iraq.

Support to Foreign Terrorists

A second mechanism for power projection from Iraq is the training and arming of terrorists and militants outside the country. As Matt Levitt wrote in *CTC Sentinel* in February 2020, a shift to “non-Iranian and non-Lebanese Shi’a militants” is a likely evolution of tradecraft in Iran-backed foreign operations.²²⁶ Once again, KH shares this portfolio with a pantheon of trusted IRGC-QF partners. KH has reportedly been involved in the media training, military training and arming of Bahraini militants, and likely Saudis also, as the author and Matt Levitt detailed in *CTC Sentinel* in January 2018.^{cc} Abu Iman al-Darraj also appears to be a major player in hosting and training foreign volunteers from the Gulf States and Yemen,^{cd} operating what the author believes is the largest Iran-backed foreign fighter training site, located in Kumayt, Maysan.^{ce}

Hassan al-Sari and Abu Iman al-Darraj also appear to play a role in the routing of IRGC-QF materiel from Iran to Umm Qasr^{cf} in Basra, Iraq, and thereafter to Oman, for onward carriage to Ye-

men.^{cg} The author was told that IRGC-QF operations focused on Jordan uses U.S.-designated terrorist Shibl al-Zaydi's car import and export operations as a cover to reconnoiter Israeli tourist targets in Jordan and to scout border crossing points for explosive shipments via Wadi Assad, a valley linking Jordan and Iraq.²²⁷

Abu Mustafa al-Sheibani also continues to play a role in external operations from an Iraqi base, working with the Ministry of Intelligence and Security (MOIS or Ettela'at) as opposed to the IRGC-QF, and focused on developing intelligence and logistical penetration of the Gulf States.²²⁸

Part 7: The KH Role in Domestic Politics

Under Soleimani and al-Muhandis, KH became the vanguard of a militia network that came very close to complete domination of Iraq's government in the late summer of 2019.²²⁹ Since then, popular protests, the killing of Soleimani and al-Muhandis, and the appointment of Prime Minister Mustafa al-Kadhimi have begun to roll back these militia gains.²³⁰ As KH showed in the early months of 2020, it is not afraid to influence national politics and dictate its preferences on issues as consequential as the selection of Iraq's prime minister, and it did not hesitate to physically threaten the Iraqi premier. Thus far, its political intimidation has achieved little, but with Iraqi elections due in 2021 or 2022—and with mounting domestic and international pressure to rein in militias^{ch}—KH and its partners may still choose to fight reforms head-on. What role might KH be expected to play in domestic political violence?

KH's Threat to the Iraqi Government

As seen in its show of force immediately outside the Iraqi prime minister's residence on June 25, 2020, KH can quickly muster and deploy “flying columns” of fighters mounted in “technical” pickup trucks (often with heavy machine guns and even 23mm cannons) and drive them to the heart of the International Zone (IZ). When the Iraqi government arrested 14 KH members nominally serving within the PMF earlier that day, Abu Fadak's response had been tribal: for the show of force he had gathered other unit members from the detainee's base at Albu Aitha to get their people back.^{ci} KH can draw fighters from its headquarters inside the IZ, though it is noteworthy that Abu Fadak brought most of his column on June 25, 2020, from outside the zone, suggesting that perhaps the raw numbers of fighters inside the IZ are lower than apocryphally

cb The author learned from two contacts that the engineers are retained by the al-Sari and al-Darraj network with this financial support. Author interviews, two Iraqi contacts, 2020 (exact dates, names, and places withheld at request of the interviewees). Being given a house also makes these men more eligible for marriage, which is difficult for many poorer Iraqis who live with their families and cannot afford to save up for a house. “Settling down” young men is viewed as a way to make them more dedicated, predictable, and careful.

cc Kata'ib Hezbollah is judged by Bahraini authorities to have been responsible for developing Bahrain's first Explosively-Formed Penetrator (EFP) fabrication cell, which managed to forward some EFPs to Saudi Arabian Shi'a militants in the Eastern Province of Saudi Arabia in 2017. See Michael Knights and Matthew Levitt, “The Evolution of Shi'a Insurgency in Bahrain,” *CTC Sentinel* 11:1 (2018). See also “The IED Threat in Bahrain: A comparative analysis of components documented in the Gulf region,” Conflict Armament Research, December 2019.

cd Abu Iman al-Darraj is reported to have been close to Bahraini and Saudi Shi'a clerics, including Nimr al-Nimr, the very prominent Saudi Shi'a cleric executed by the Saudi Arabian authorities in 2016. “Sheikh Nimr al-Nimr: Saudi Arabia executes top Shia cleric,” BBC, January 2, 2016.

ce The location is a disguised farm at which Bahraini, Saudi and Yemeni personnel are trained in intakes that number in the tens (i.e., 20-30), often separated into classes by nationality. Author interviews, multiple Iraqi political and security figures, 2020 (exact dates, names, and places withheld at request of the interviewees).

cf The U.S. Treasury recently identified two IRGC-QF front companies that use Iraq's port to ship Iranian materiel to Yemen: the Kosar Company and Al-Khamael Maritime Services. See “Treasury Designates Vast Network of IRGC-QF Officials and Front Companies in Iraq, Iran,” U.S. Department of the Treasury, March 26, 2020.

cg Abu Iman al-Darraj's affiliates, moving between Iraq, Lebanon, and Dubai, are reported to own three cargo ships. Author interviews, multiple Iraqi political and security figures, 2019-2020 (exact dates, names, and places withheld at request of the interviewees).

ch For instance, on September 13, 2020, Grand Ayatollah Ali al-Sistani gave a message to Jeanine Hennis-Plasschaert, the Special Representative for Iraq and head of the United Nations Assistance Mission for Iraq (UNAMI), calling for reforms to limit militia influence. The message was endorsed by Iraq's prime minister, president, and parliamentary speaker. See Mustafa Habib, “The New ‘Gertrude Bell’: It's been years since a diplomat attracted so many headlines in Iraq,” Iraq media Platform, October 13, 2020.

ci Abu Fadak's mustering of the detainee's unit members south of Baghdad and his storming of the International Zone on a direct line of advance between Albu Aitha, southern Baghdad, and then the prime minister's residence reminds the author of many tribal mobilizations to recover arrested tribal members from government detention. Author interviews, multiple Iraqi political and security figures, 2019-2020 (exact dates, names, and places withheld at request of the interviewees).

reported.^{cj}

In greater Baghdad, KH can draw on supporters in its many sites in the Palestine Street area (east of the Tigris River, near Tahrir Square), including the main KH mosque, the Baqiyatalah mosque.²³¹ (Note that Palestine Street was where KH fighters fled for protection with five stolen cars after they engaged in a shootout with police in 2018.²³²) Farther out, KH could draw on reinforcements and heavy weapons from around two dozen outposts and checkpoints on the Baghdad outskirts and from the Jurf as-Sakr base complex, which is an hour's drive away. Yet, in any confrontation with the Iraqi government, the most potent weapon KH enjoys is still the "fear factor" it projects onto Iraqi military commanders standing in its way—that if KH does not get you today, it will assuredly kill you one day if you oppose it.²³³ This reputation is the center of gravity of KH's power and influence and must be reversed.

The KH Role in Suppressing Protests

Though KH did play an important role in coordinating and targeting the crackdown on protests in October 2019, the group left the sniping and beating of civilians largely to Badr^{ck} and other *fasa'il*.^{cl} KH operatives such as Abu Iman al-Bahali focused on targeting protest leaders, and leveraging unique relationships with Iranian and Lebanese Hezbollah technical intelligence and cyber units.²³⁴ In the future, KH is likely to stay focused on the higher-end aspects of repression, such as identifying ringleaders and compromising their electronic communications. To give one example, in October 2019, KH covertly assisted with the donation of protest placards that contained RFID tags [passive tracking devices similar to anti-theft tags in merchandise or library books] to track protestors.²³⁵

In another example of the important role of trusted but less visible IRGC-QF partners, additional attention should be focused on Kadhimi al-Jabiri, the commander of Saraya al-Ashura (PMF brigade 8) and also nominally the director of training for the PMF.²³⁶ Operating between three houses in Baghdad and a former Saddam

family ranch in Doura, south Baghdad,^{cm} al-Jabiri has taken the leading role in identifying civil society and political figures for assassination or incarceration in Baghdad.^{cn} (In Basra, Abu Mustafa al-Sheibani plays the same role in targeting activists,²³⁷ and in other southern Iraq areas, the targeting of activists is led by Jassim al-Maliki, an aide to Abu Iman al-Darraj.²³⁸) Al-Jabiri operates a secret prison on the south side of the Karrada Peninsula in Baghdad that belongs to Hassan al-Sari and Saraya al-Jihad.²³⁹

New Deniable Networks

Whereas *fasa'il* like Saraya Talia al-Khurasani and Kata'ib Sayyid al-Shuhada openly murdered Iraqis in the streets a year ago,²⁴⁰ today the killers of protest leaders are increasingly faceless. This is because the impunity enjoyed by militias is no longer assured and therefore deniability is important once again. Kadhimi al-Jabiri's network perhaps foreshadows the next evolution of Iraqi militias in the IRGC-QF stable. Al-Jabiri's key subordinate, Sarhan Toman al-Shibli, appears to be focusing on recruiting young individuals with no track record and no prior prison terms (i.e., no biometrics in U.S. or Iraqi databases).²⁴¹ These operators undertake a targeted killing for a cash bounty and lay low in a different city or abroad for a few months with a monthly payment of around \$1,500.²⁴² According to the author's interviews, a similar type of arrangement seems to be used in Basra (for instance, by al-Sheibani's contract killers, Thar Allah (God's Revenge))^{243co} and in southern Iraq by Abu Iman al-Darraj's group.²⁴⁴

There are also signs that KH is developing "arms-length" relations with a pantheon of street vigilante groups that Hamdi Maikl described as "pro-Iran thuggish youth groups."²⁴⁵ Malik lists these as "Rab'a Allah (God's Fellows), Jabhat Abu Jeddah (people of lighters front), al-Zelm al-Khashnah (tough guys), Fariq Fatemiyoun al-Maydani (Fatemiyoun field group), Jond Soleimani (Soleimani's soldiers), Shabeebat al-Safwa (youth of purity)."²⁴⁶ These

cj Iraqi and U.S. government persons have suggested to the author figures of between 2,000 and 6,000 militiamen based inside the one-by-two-mile International Zone. To the author, this seems far too high considering the housing requirement for such a force and the absence of evidence that such a force is in place on a daily basis. (In the author's view, the number is more likely in the high hundreds but less than 1,000). KH is mainly present in four locations: a headquarters behind the Prime Minister's Office; some compounds in "Little Venice" on the east side of the zone; some improvised barracks west of the Republican Palace, near the arch on Haifa Street; and outposts in the apartment blocks across Kindi Street from the U.S. Embassy. KH has villas in the old ISCI complex under the 14th July bridge. Abu Iman al-Darraj has around 200 fighters in the zone as does Kadhimi al-Jabiri. Author interviews, multiple U.S. officials and multiple Iraqi political and security figures, 2018-2020 (exact dates, names, and places withheld at request of the interviewees).

ck Badr generally supplied counter-protest forces through the formal security forces it controlled, including through a new unit raised in October 2019 called the Law Enforcement Forces (LEF). For a detailed exposé on the LEF, see "Watch: The naked boy that toppled a significant officer and ignited the Iraqi street," Al Jazeera, August 2, 2020.

cl Sayyid al-Shuhada provided many snipers, while Saraya Talia al-Khurasani held down larger areas in southern Baghdad. Asa'ib Ahl al-Haq controlled Iraqi protests in Maysan. See Knights, "Punishing Iran's Triggers in Iraq."

cm This ranch is used to launch drones that overfly the U.S. embassy, protest sites, and Iraqi government facilities. Author interviews, multiple Iraqi political and security figures, 2019 and 2020 (exact dates, names, and places withheld at request of the interviewees).

cn Al-Jabiri's activities include misdirection, splintering opponents (such as the Kadhimi government and Moqtada al-Sadr's movement), and the infiltration of protest movements. Author interviews, multiple Iraqi contacts, 2020 (exact dates, names, and places withheld at request of the interviewees).

co With regard to Basra assassinations, journalist Suad al-Salhy was told "the real instigator of these assassinations is using a new tactic by hiring killers who have criminal records." See Suad al-Salhy, "Power and protest: Who ordered the killing of Basra's activists?" Middle East Eye, September 10, 2020.

groups attack TV stations^{cp} and even political party offices^{cq} that criticize KH and other militias. As Hamdi Malik has noted, KH social organizations like self-identified members of the Zaynabiyat woman's foundation take part in such arson attacks,²⁴⁷ suggesting other KH youth and student groups could also be used to mobilize vigilantism.

A very similar model of forming multiple deniable front organizations seems to be emerging for attacks on U.S. and other Western targets. In the author's view, backed by the views of his own network of close observers,^{cr} KH remains the mobilizing force behind rocket attacks on coalition sites and attacks on coalition-linked trucking, but it cannot claim attacks and must distance itself from them due to the growing domestic stigma around such actions, which kill more Iraqis than foreigners and which are complicating Iraq's efforts to recover from the COVID-19 pandemic and the oil price crash and normalize its relations with the international community.

It appears that Qassem Soleimani foresaw this need months before his death. As the major protests began in October 2019 and escalation with the United States loomed, he recommended a shift to deniable attacks.²⁴⁸ Based on investigative reporting with Iraqi sources, Reuters reported the following meeting taking place in October 2019:

At the Baghdad villa [in October 2019], Soleimani told the assembled commanders to form a new militia group of low-profile paramilitaries - unknown to the United States - who could carry out rocket attacks on Americans housed at Iraqi military bases. He ordered Kata'ib Hezbollah - a force founded by Muhandis and trained in Iran - to direct the new plan, said the militia sources briefed on the meetings. Soleimani told them such a group "would be difficult to detect by the Americans," one of the militia sources told Reuters.²⁴⁹

This may go some way to explaining the aforementioned profusion of new groups claiming attacks on foreign targets. This effort is led today by one of Soleimani's close aides, known as Hajj

Hamid,^{cs} who instituted a new intake of Iraqi recruits under the name of Al-Warithuun (The Inheritors) for training at an IRGC-QF camp in Dezful in northwestern Iran.²⁵⁰ Following the post-2011 wars in Syria and Iraq, there are now a significant crop of experienced young fighters to choose from. If, as some reports suggest, groups like al-Jabiri's have recently been reinforced with shipments of silencers, anti-materiel rifles, and even MANPADS,²⁵¹ the outline of a more covert terrorist-type threat may be coming into view in Iraq.

Part 8 (Conclusion): Kata'ib Hezbollah and the Fasa'il in a Post-Muhandis World

Ever since Abu Mahdi al-Muhandis and Kata'ib Hezbollah were designated on the same day in 2009 by the U.S. government, they have been viewed synonymously by many analysts, including this author.^{ct} Yet, while al-Muhandis did help create KH and did oversee its activities, the two became increasingly distinct after the withdrawal of U.S. forces from Iraq in 2011. Al-Muhandis exercised his political role as the coordinator of all the Iraqi Shi'a militias and eventually all the PMF components. This means that his death struck not just KH but them all, loosening their ties, removing an important conflict resolution mechanism, and leaving them harder to control. Abu Fadak is a completely different type of player: less capable, not broadly accepted, more narrowly associated with KH and not even dominant *within* KH, and backed by a less powerful IRGC-QF leader.

As one U.S. intelligence official noted to the author: "Muhandis knew how to herd the cats of KH. They knew better than to argue with him. KH is not a cat to be herded since he died."²⁵² An Iraqi government official with excellent access to *fasa'il* actors went further:

Kata'ib [Hezbollah] are wild. They are doing their own thing. Like cowboys. They are reckless, and always looking for new things to do in Iraq and Syria. Uncoordinated things. And this is pissing off the others [political factions] who think they have a political future, but who are afraid to lose their hardline voter base.²⁵³

The loss of KH's overseer—al-Muhandis, the soldier-statesman—is evident in the setbacks that are now mounting up: the collapse of the Adel Abd'al-Mahdi premiership, the failure to replace him with another pro-Iran politician, the ascension of al-Kadhimi as premier, and now a firm pattern of appointments and government steps to rein in militias.²⁵⁴ Though KH remains the premier

cp Hamdi Malik writes about Rab'a Allah's threats against Al-Hurra television channel when they criticized KH's Abu Fadak. He notes that another group, Jabhat Abu Jeddah (people of lighter's front), threatened to set fire to another TV station. See Hamdi Malik, "Kata'ib Hezbollah-affiliated Rab'a Allah (God's Fellows) threatens @alhurrahiraq," Twitter, September 25, 2020.

cq KH threatened the Kurdistan Democratic Party offices in Baghdad, which were then burned down on October 17, 2020, by a mob from the vigilante groups referenced by Hamdi Malik in this paragraph. See Seth Frantzman, "Pro-Iranian militias accused of attack on Kurdish party, civilians in Iraq," *Jerusalem Post*, October 18, 2020. After the attack, Kata'ib Hezbollah's Telegram channels noted: "Any attempts by Kadhimi's intelligence service to arrest protesters will result in torching the rest of party offices belonging to the Zionist-affiliated separatists." Quoted in Hamdi Malik, "Kata'ib Hezbollah affiliated platforms threaten to attack more Kurdish offices," Twitter, October 17, 2020.

cr As noted before, the author's straw poll of a handful of intelligence professionals suggested that around 85 percent of attacks on international sites were undertaken by KH and around 80 percent of convoy attacks, versus only 10 percent of assassinations.

cs According to the author's contacts, this may be Hamid Abd'al-Lahi, described as the commander of IRGC-QF's Unit 400, which is responsible for overseas assassinations. Hamid Abd'al-Lahi is reputed to be close to Abu Hussein, the current secretary general of KH. It may be that IRGC-QF is establishing a "school for assassins" to support an elimination campaign in Iraq. Hamid Abd'al-Lahi is referenced in Dilshad Al-Dalawi, "After being included in the lists of terrorism 'Al-Hamidawi' has a long record of crimes in Iraq," *Al-Ain*, February 28, 2020. See also author interviews, multiple Iraqi and Western officials and security experts, 2020 (exact dates, names, and places withheld at request of the interviewees).

ct To give just one example, if a reader peruses Stanford University's profile of KH, they will find a firm statement of fact that "Muhandis was the founder of KH and served as its leader until he was killed in a drone strike in January 2020." Perhaps this is true in some sense, but the reality is much more complex. "Kata'ib Hezbollah," Center for International Security and Cooperation (CISAC), Stanford University.

counter-U.S. force in Iraq, probably linked to a high proportion of recent anti-U.S. rocket and roadside bomb attacks, it has lost its political edge. The dominant militant wing within KH—Abu Hussein and Abu Zainab al-Lami—has little ongoing connection to the political process now that al-Muhandis is dead. They are highly committed *muqawamists*^{cu} (i.e., committed to the transnational anti-U.S./Israel/Saudi “resistance” camp) and specifically to evicting U.S. forces from the Middle East and avenging Soleimani, al-Muhandis, and KH casualties. There are early signs that KH is becoming isolated and unresponsive to signals from partners, including Iran.^{cv}

One option for the IRGC-QF, MOIS, and Lebanese Hezbollah is to “go it alone” in some of their activities in the weak state environment of Iraq. In re-treading the history of al-Muhandis, KH, and other Iran-backed *fasa’il*, it becomes clear that Iranian and Lebanese leaders did not just work indirectly, channeling their influence through al-Muhandis or another central point. From the outset, they have also worked directly with an array of Iraqi militia leaders and they are increasingly doing so. Powerful Lebanese Hezbollah operatives such as the Kawtharani brothers (see footnote l) are today capable of directly influencing many militias in Iraq, even Sadrist elements,^{cw} and Lebanese Hezbollah increasingly uses Iraq as a cash cow.²⁵⁵ Building on al-Muhandis’s efforts described in *CTC Sentinel* in August 2019,²⁵⁶ the IRGC-QF can directly influence northern Iraqi militias from a range of minorities—Shi’a Kurds (Fayli) and Shi’a Turkmen, Yazidi, Shabak, and (most no-

tably) Sunni Arabs and Turkmen. IRGC-QF front companies have learned how to navigate Iraq’s ports as if they were extensions of Iran, partnering with individual Iraqis as opposed to major factions or militias.²⁵⁷ Iran and Lebanese Hezbollah do not necessarily have to work through Iraqi factions to use Iraq as a power projection hub and can use Iraqis of any sect or ethnicity as agents or terrorists.

IRGC-QF clearly has more irons in the fire than just KH, and it could choose to blend some familiar and some novel elements to create a new kind of resistance front in Iraq. This study has drawn attention to two non-KH leaders who may emerge as more important players in the future: Abu Iman al-Darraj of Saraya al-Jihad and Kadhim al-Jabiri of Saraya al-Ashura. Both are entrusted by the IRGC-QF with key duties that span counter-protest, counter-U.S., and regional force projection portfolios. Like al-Muhandis and al-Sheibani, they are both products of the continual splintering of the root organization, Badr, which is rapidly disintegrating into more and more factions.^{cx} Likewise, if KH advanced conventional weapon sites become too closely observed, the IRGC-QF might be able to “plug-in” to facilities maintained by other *fasa’il*, such as Kata’ib Sayyid al-Shuhada’s section of Camp Saqr in southern Baghdad,²⁵⁸ or Kata’ib Al-Imam Ali’s large compound of buried ammunition storage “igloos” in Suwayrah airport.²⁵⁹

As one well-informed Iraqi noted:

*Iran doesn’t have a favorite group at the moment and the Supreme Leader is displeased with all Iraqi militias and only trusts and will depend on Lebanese Hezbollah. Iran continues to support the various militias and has not cut any of them off, however they are selecting talented and willing individuals and organizing small groups and supporting these, who go by various names. They don’t have much hope for the current militias.*²⁶⁰

Having emerged out of anonymity around 15 years ago, KH and other top-tier IRGC-QF proxies in Iraq may once again be ordered to atomize, reconfigure, and sink back into the shadows. It should not be surprising if today’s greatly enlarged KH itself begins to fall victim to factionalism and defections, especially due to the absence of either Soleimani or al-Muhandis as a peacemaker. The aforementioned formation of Al-Warithuun (The Inheritors) could be a signpost of a shaving-off of younger, talented, and anonymous operators that is highly reminiscent of the formation of KH itself. **CTC**

cu *Muqawama* means resistance (to the United States, Israel, and other enemies of the Axis of Resistance).

cv To give some examples, immediately after meeting with IRGC-QF commander Qaani on April 2, 2020, KH signaled that it would cease attacks on U.S. forces as it was retreating and it was a violation of Islamic custom to attack a retreating enemy. Quoted in David M. Witty, “Iraqi Kata’ib Hezbollah militia to US President: we will not attack US forces in Iraq if ...,” Twitter, April 2, 2020. Then on June 26, 2020, Iran did not condemn the Iraqi government raid on Kata’ib Hezbollah facilities and described it as an internal Iraqi matter. See “Kataeb Hezbollah: Profile of a Shiite-Iraqi militia handled by the Qods Force to promote Iranian interests in Iraq (Full Version),” Meir Amit Intelligence and Terrorism Information Center, July 9, 2020, p. 54. Most interestingly, Iran condemned the September 2020 advanced roadside bomb (EFP) attack on a U.K. diplomatic convoy in Baghdad, which is the closest Iran gets to publicly rebuking KH. See “Iran condemns the targeting of delegations and diplomatic missions in Iraq and addresses a request to Baghdad,” Shafaq News, September 17, 2020.

cw For instance, Adnan Hussein al-Kawtharani runs a private prison in the Saraya al-Salam (PMF brigade 313) base at the cigarette factory on the northeastern edge of Sadr City in Baghdad. Author interviews, multiple Iraqi contacts, 2019-2020 (exact dates, names, and places withheld at request of the interviewees).

cx The main camps visible in Badr are Hadi al-Ameri; National Security Advisor Qassim al-Araji; Mohammed al-Ghabban; Abu Muntadher al-Husseini; and Abu Ali al-Basri. Author interviews, multiple Iraqi contacts, 2019-2020 (exact dates, names, and places withheld at request of the interviewees).

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A View from the CT Foxhole: Drew Endy, Associate Chair, Bioengineering, Stanford University

By Stephen Hummel, Paul Cruickshank, and Don Rassler

Drew Endy is a member of the bioengineering faculty at Stanford University and BioBricks Foundation president. His research teams pioneered amplifying genetic logic, rewritable DNA data storage, reliably-reuseable standard biological parts, and genome refactoring. Endy helped launch the new undergraduate majors in bioengineering at both MIT and Stanford; he also co-founded the iGEM competition, a global genetic engineering “olympics” engaging thousands of students annually. In 2013, the White House recognized him for his work on open-source biotechnology. Endy has served on the U.S. National Science Advisory Board for Biosecurity and the Committee on Science, Technology, & Law; he currently serves on the World Health Organization’s Smallpox Advisory Committee and is a member of the Defense Innovation Board.

CTC: The COVID-19 pandemic has shown how vulnerable we are as a society and economy, both the United States and the rest of the world, and in turn, there’s been a lot of discussion on whether the bioterror threat of a nefarious actor deploying a deadly pathogen needs to be revisited. In a recent *CTC Sentinel* roundtable discussion, Lieutenant General (Ret) Michael Nagata said that “the likelihood of a future terrorist using a highly potent, clandestinely produced, difficult to detect/identify/track, easily transportable and dispersible, and quite lethal biological weapon is rising significantly.”^a From your perspective, how easy or difficult would it be for a state or non-state actor to employ a pathogen or biological weapon?

Endy: It sort of depends on what their objectives are. If their objective is to create fear and uncertainty and doubt and the doing of that requires a small integer number of casualties in one or a few locations, launching a biological attack looks pretty straightforward. If their goal is to cause mass casualties at the scale of a coordinated WMD attack where they’ve weaponized both the payload and the delivery systems in a biological context, then suddenly that’s not only a bioweapon; that’s an integrated system. So it depends on the objectives and the scale related to the objectives. There’s plenty of examples of natural pathogens that have been weaponized in a conventional sense through history, and there’s also reports of the modulation of pathogenicity of natural agents, and some of the easiest to find literature is the analysis and assessment of the Soviet bioweapons program and the work there, for example, to increase the consequences of being infected with a pox virus to try and push casualty rates or lethality rates up into the 90th-plus percentile.

That was all pursued, at least as I read the literature, using the tools of genetic engineering that were state-of-the-art in the 1980s. And thankfully, we didn’t experience any of those in a deployed sense.

But now if you fast forward 30-plus years to the tools we have today, I think it’d be foolish to claim you couldn’t make worse the properties of a bio threat agent with the knowledge and capacities that now exist. Still, it’s much more plausible to cause a disruption in a culture, in a body politic, in supply chains and operational capacities with a very limited scope attack versus deploying something that would directly incapacitate half the population of the continent. Those are the bookends.

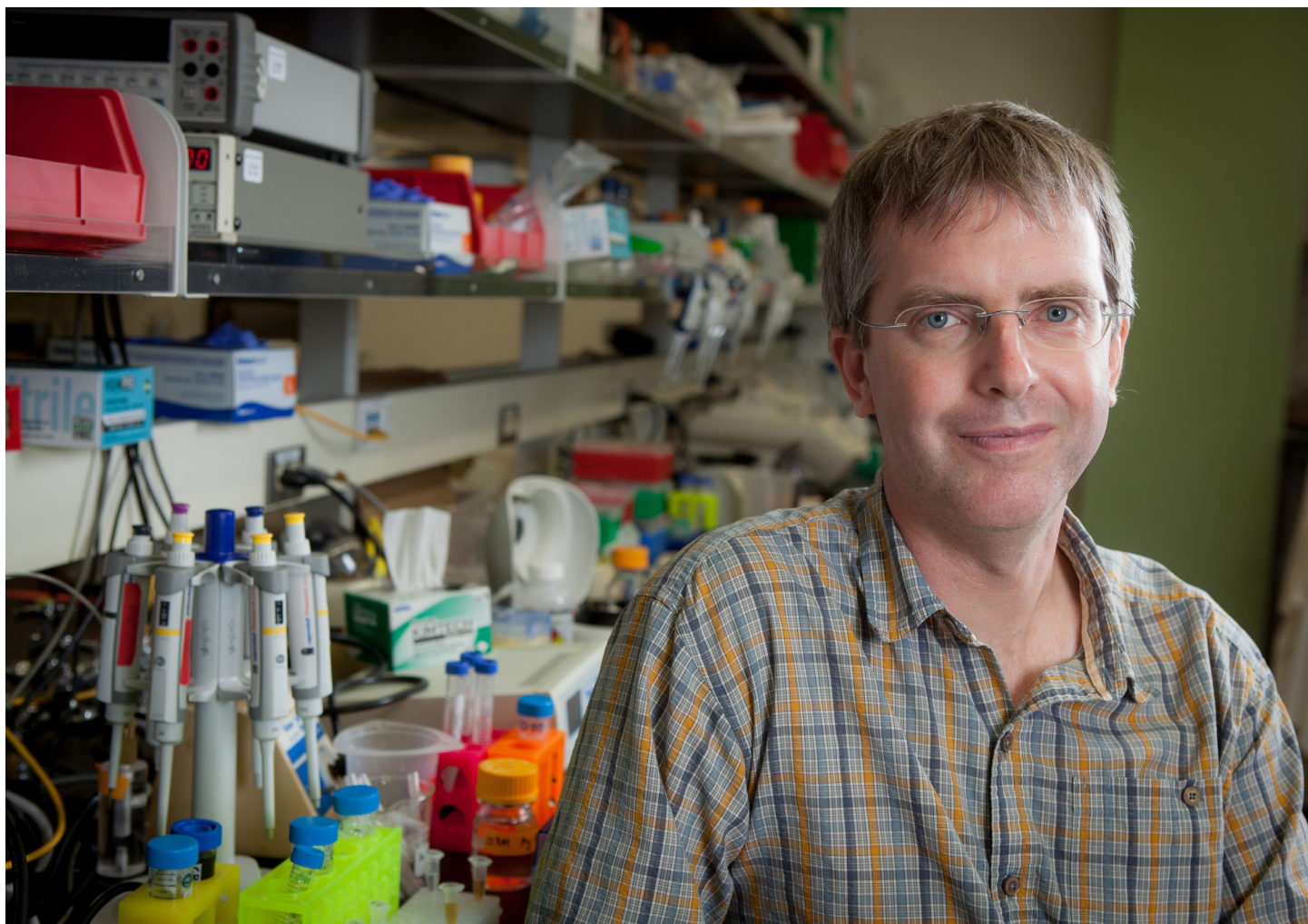
CTC: With those bookends in mind, in recent years there have been several cases involving ricin, including a jihadi terrorist plot in Germany disrupted in 2018.¹ There’s also the famous Amerithrax anthrax letters attack in the United States in 2001. But apart from these cases and a small number of other exceptions, biological weapons have not emerged as a viable threat from non-state actors, even on those bookends with respect to a limited scale. From a scientific perspective, can you explain why this is so, given some of the devastation caused by viral pathogens, such as Ebola and more recently the COVID-19-producing virus SARS-CoV-2?

Endy: Good question, but I want to reflect the question back and question the question. Is it a scientific question to explain what you’re reporting and observing? Meaning if one were to attempt, if I understand your question correctly, to explain ‘why have we not seen more bio attacks,’ whether it’s bioterror or otherwise, but especially at the level of sub-state actors, ‘why aren’t we seeing more given that we’re almost two decades post Amerithrax?’ Is the answer to that question based in science? Or is the answer to that question based in culture and politics and other things, or what’s the balance or ratio in responding to that question? I just want to pause and ask, is that a fair reflection, at least as I’m setting up to answer your question a little bit more?

CTC: It’s a fair reflection, and it would actually be helpful if in your responses, you could unpack some of those different dynamics that would impact, one way or the other, an organization or state’s ability to conduct a limited biological attack.

Endy: So one thing to acknowledge is, and this is a soft claim but I’ll frame it as a question: to what extent is there a sort of moral demarcation that keeps most people from purposely causing harm with biology? If we’re all biology to begin with, which we are, then maybe we’re each inheriting a little bit of prohibition regarding the use of bioterror or bioweapons. To what extent might this be helping to mitigate the potential and actual acts of misapplying biology to cause harm? It’s hard to know that, but I suspect it’s there and

a Paul Cruickshank and Don Rassler, “A View from the CT Foxhole: A Virtual Roundtable on COVID-19 and Counterterrorism with Audrey Kurth Cronin, Lieutenant General (Ret) Michael Nagata, Magnus Ranstorp, Ali Soufan, and Juan Zarate,” *CTC Sentinel* 13:6 (2020).



Drew Endy (Saul Bromberger and Sandra Hoover/Stanford Engineering)

very real.

Of course, a 'soft' frame of reference for avoiding harm via biology could be eroded in the blink of an eye, it seems to me, if anybody, especially at the level of a state, came out and said, 'No, this is on the table again. Biology is on the table again as a platform for inflicting harm or projecting political power.'

But, critically, we're not operating in such a "bioweaponizing" regime right now. Thus, to jump to your question—'what's the scientific side of it?'—on the one hand, there's a pretty big international scientific research community in biology. On the other hand, a lot of the people who would be interested in causing harm to other people start by not knowing very much about bio, which is good for the moment.

There's also, as has been well documented in the bioterror preparedness literature, a lot of discussion about what's called tacit knowledge—it's one thing to read something in a paper that's published in the peer-reviewed literature: 'This is how you build a virus from scratch using a DNA synthesizer.' But even though you might have that entire recipe published in the public literature, the recipe doesn't really enable you to go into a laboratory and repeat the work directly because the operation of the physical processes in a biological lab is much more akin to a trade that has the accumulated inherited skill of practice that, historically, can only be gained almost through an apprenticeship, if you will. And so that's called

tacit knowledge.

So, to recap, one obstacle to the weaponization of biology is the cultural prohibition that we inherit. The second is the 'bio-beginner' bonus that creates a significant moat for people who might choose to cause harm via biology. Then the third is when you try and cross that moat, you're encountering the barrier of tacit knowledge—just because you have the recipe doesn't mean you [can] 'bake a soufflé.'

The impact of a biological attack would depend on scope of the bad actor's objectives. How many casualties were there with Amerithrax? Dozens. What was the consequence of that? Massive orders of magnitude bigger. So that was a terror attack; it worked in that regard. If you're trying to use natural biology in that way, I don't think there's a lot of scientific limits. If you were trying to use and adapt natural biology to get to something that poses a more widespread threat to the population, that's trickier. It's just at the frontier of the science.

CTC: In recent years, we've seen the norms for chemical weapons erode, with chemical attacks by regime and terrorist forces in Syria² and the use of nerve agents against Russian dissidents.³ Do you see that potentially happening in the bio realm?

Endy: It's a great question, and it highlights a big gap for me in our strategic portfolio, which is basically sustained thinking and

scholarship that leads to bio-strategy. Let me give you an example. Most might be well familiar with the concept of mutual assured destruction, or MAD, through nuclear weapons. Well, what about the possibility that a non-nuclear power could be incentivized to develop as a bio power to create heterogeneous mutual assured destruction, where you would attempt to counter the power projection of a nuclear power by reciprocating with bio power. Suddenly, you don't need the isotope centrifuges. Rather becoming a 'bio power' is relatively affordable as a state-level program and it's hard to detect or thwart. And, if you're operating in the strategic regime of MAD, you don't need to deal with the targeting issue. You're willing to—because you're up against the nuclear power [that's] threatening to wipe you out—take everybody out with your bioweapon “dead hand.”

So we may be stumbling into a near future where suddenly geopolitics plays out in new ways and the nuclear powers, which have entrenched themselves in a geopolitical position of privilege, suddenly find themselves being outmaneuvered from underneath by emerging bio powers, who due to non-proliferation of nuclear, can never get access to that power projection, but attempt to counter it with the dead-hand bioweapon. It's absolutely horrifying to think about this and talk it out, but the meta point I want to make clear is, where's our strategic thinking on this? Where do we have the sustained conversations and scholarship that enables us to develop a coherent bio strategy?

One of the consequences when we wind the clock back to 2001 and the post-anthrax reaction [is] what did we do as a nation? One of the things we did was we increased the civilian budget for biodefense. It went up to about \$10 billion a year, matching at the time the Missile Defense Agency budget, and some of that money got allocated to build semi-classified BL3s, BL4s—Biosafety Level Three, Four labs. Imagine you're another nation, and you're looking at the United States at that time and you're trying to make sense of what the United States is doing in response to anthrax. The first thing you'd observe is the U.S. has freaked out about bio and bioterror, plenty of evidence of that. The second thing you'd observe is “They're spending public treasure on capacities, including semi-secure/secure BL3, BL4 facilities.” Now, if you're a generous nation state looking at the U.S., you're going to go, “Wow. They're really taking this seriously, and they're really building the capacities to be responsible with respect to future risks in the bio space.” But if you don't trust the United States, you might be concluding, “Wow. Looks to me like the U.S. is taking steps towards re-weaponizing biology. I'm not sure I can trust what they're doing.” And so there's the potential in the absence of holistic coherent strategy for bio security broadly to create this ‘autoimmune’ geopolitics that recapitulates the dynamics that led to the weapons programs in the early 20th century in the first place, which was basically ‘Japan's doing it, the U.K. is doing it, the United States better do it, everybody's doing it.’ I suspect and am concerned that it's a lot easier to trip back into such geopolitics than we might understand. Regardless, I absolutely want to highlight: where's our sustained scholarship and work on bio strategy? It just feels like a gap we need to be resourcing to address.

CTC: To pull on that thread a little bit, regarding bio strategy and need for more research in that area, as you know well, when we talk about nuclear strategy, there's the need for a credible deterrent. And so this is where it sort of intersects with potentially our space, looking at political violence and terrorism:

would a state try to utilize a proxy to establish some form of credibility as potentially an emerging bio power?

Endy: That's a really interesting question. I hope not, but it's a plausible scenario. It would violate various norms, and it's horrifying to think about.

Looking at it from the opposite direction, would a state demonstrate a functioning public health system as a way of projecting a capacity to make pathogens obsolete within their civil society, as a type of deterrent? The positive demonstration of a capacity to make a pathogen obsolete is a form of power projection.

Conversely, a weak public health system may invite attacks. If you wind the clock back to the rationalization of the standing down of the U.S. [Offensive Biological] weapons program under Nixon,⁴ there are three planks in that argument. One was we already have plenty of weapons systems so we don't need more. Second, because we have the leading economy, in the grand scheme of things, we prefer expensive weapons, and biology is cheap [so don't do bioweapons]. And third, we don't know how to target, so you'd risk tactical blowback if you go to deploy a bioweapon.

I used to think—and this returns to the science aspect of your earlier question—“we need to be very mindful of the potential for scientific advances to enable targeting because if targeting becomes possible through CRISPR^b or genomics or any bit of science or engineering capacity in the bio space, then suddenly one of the three pillars of the argument against nation-state bioweapons goes away.” However, what COVID-19 is revealing is you can target a nation-state (or even specific communities) not on the basis of science but on the basis of politics and behavior. The targeting question becomes, “does that group have a functioning public health system or capacity to lead their citizenry to effectively limit the impact of a pathogen or make it obsolete?” What COVID-19 reveals, as a natural pandemic, is that the United States is projecting bio-vulnerability. And I have been surprised by this. I thought that the way we would see the possibility of targeting would be based on scientific advances, not via the civics or the culture aspects of things.

CTC: You just mentioned CRISPR. With some of these emerging technologies, the democratization of information, and the reduced costs of gene synthesis lowering the entry into this bio realm, can you give us a broad sense of what capabilities are required to bio-engineer a virus or modify an existing virus to increase its potency?

Endy: When you put the qualifier in there of increased potency, that's a wild card, right? To really do that well, you'd want to have a functioning laboratory that was operating with reasonable bio-

b Editor's note: According to the U.S. National Library of Medicine, “Genome editing (also called gene editing) is a group of technologies that give scientists the ability to change an organism's DNA. These technologies allow genetic material to be added, removed, or altered at particular locations in the genome. Several approaches to genome editing have been developed. A recent one is known as CRISPR-Cas9, which is short for clustered regularly interspaced short palindromic repeats and CRISPR-associated protein 9. The CRISPR-Cas9 system has generated a lot of excitement in the scientific community because it is faster, cheaper, more accurate, and more efficient than other existing genome editing methods.” “What are genome editing and CRISPR-Cas9?” U.S. National Library of Medicine.

safety so [that] you weren't risking yourself or your workers. If you were just trying to recapitulate something without trying to make it worse, so to speak, as a pathogen, that seems much more straightforward. So let's start with those examples. We have the example of the virus which produces the disease COVID-19 being sequenced in China [after the onset of the outbreak], that information defining the genome's sequence going on to the internet out of Shanghai, and the next day in Switzerland, that sequence information is being reordered for synthesis such that within less than a month, the laboratory in Switzerland has made from scratch infectious COVID-19 particles without any physical transmission of the virus.⁵ So that's transmission via internet, and you're using DNA sequencing to read out the information in China and DNA synthesis to write or print out the genome in Switzerland or Europe. The cost of printing DNA, when I first started teaching in 2003 back at MIT, was \$4 every letter. So anytime you press an ATCG^c keypad, every letter press is four bucks. So back then, you were maybe looking at about \$100,000, \$120,000 to make a virus genome. Today, depending on how much you're buying, it's 10 cents to one penny a letterpress. So if it's a penny, what is that? 300 bucks? It's basically noise to print the genetic material for a virus encoding a pathogen.

When we say viruses, what are we talking about? There's of course the virus which produces COVID-19, but there's the hemorrhagic fevers like Ebola. There are the flus. In 2016, we had the example of a laboratory in Alberta, Canada, building from scratch the horse pox virus genome, and that was done with a team of three people.⁶ Now, to be fair, the people who did that work, David Evans and two postdocs, are best in world at the doing of that work. So the tacit knowledge there is off the charts, meaning they know how to do things that nobody else has really figured out. But just from a budgeting perspective, you're talking about a couple person months of labor and a couple thousand dollars' worth of DNA fab and that gets you access to a whole category of pathogenic agents that don't need to be made worse to trigger a lot of disruption.

Returning to your earlier comment—because this is important to think about—what was the reaction to the recent use of chemical weapons, and did we lose some moral high ground there by not calling it out more strongly? How would the world react to a nation-state that started to play around by not making anything worse, but just demonstrating that they could remake pathogens on demand? And maybe there'd be a 'laboratory accident' proving that these were pathogens that could cause disruption. And that nation-state would declare, 'Oh, yes, we're going to be better,' but suddenly everybody would know that that nation over there had state-of-the-art pathogen-on-demand capacity. Well, suddenly they'd be recognized as an emergent bio power. And they wouldn't have to do much more; they'd be toeing the line of what was acceptable internationally. In other words, I don't want to get too hung up on threats involving making things *worse* than what we find when we start with nature. I think that's a valid topic, but there's so much bad stuff out there to begin with.

CTC: To segue from that, given the increased number of do-it-yourself bio labs set up by amateur scientists and entrepreneurs,⁷ what is the risk of such a lab being set up and used by

technically proficient bad actors to create a bioweapon?

Endy: Can you tell me what the distribution of mal-intentioned actors are because I can't possibly answer your question unless you can give me the probability density function for people's intentions. I'm serious. I've gotten this question for 20 years now. If we were meeting in person, I'm just going to tell you what we would do at this point: we would get up and we would walk around the engineering quad at Stanford and we'd go into the Huang Engineering Center because, in the basement level of that building where there is a big open area for students to do their homework and stuff, there is also a 'temple.' It's a recapitulation of the Hewlett Packard garage. And it's much more expensive than the original one because it's made out of etched glass and it's got some vintage oscilloscopes that they made and stuff like that. So I work at a place where we build temples to garages. And we celebrate the garage-istas because they're building our capacity to have a functioning economy and a functioning technology base that allows us to have world-best tooling that allows us to do world-best discovery and world-best innovation, and from there world-best defense. Of course, we have to wonder to what extent, if these sort of capacities get deployed and everybody's got their garage biotech shop down the corner, could they be misapplied? But to answer this question, we really have to understand the distribution of mal-intentioned actors? Period. Full stop.

Meanwhile, I don't see how we maintain discovery in and tinkering with biology as a practice that only occurs at institutions. In fact, everything I've seen indicates things are going in the other direction; bioscience and technology are becoming even more accessible. And, there's ongoing erosion of the institutions that have attempted to contain bio technology, starting from the discussions in 1975 around safety and containment protocols for safety related to genetic engineering—biosafety not biosecurity. So we're inheriting a very lumbering institutional containment framework for biotech, and it's just eroding. Let me give you some projections. Right now, we have DNA synthesizers that are based on chemistry called the phosphoramidite chemistry that requires dissolving the ingredients in anhydrous acetonitrile, [that is] acetonitrile without water in it. So when I just start putting those words together, most people will go, 'I don't have any of that. I'm not even sure what that is.' So if the DNA printers today require an esoteric chemical just to operate, what that means is DNA printers aren't going to be in most places because I know I don't have anhydrous acetonitrile in my kitchen or in my pantry. And I wouldn't want it because [it's] just a pain to deal with and dispose. I mean, it's a mess. But that's first-gen DNA synthesis. Second-generation synthesis—which is showing up now—is using enzymes, biology itself, to make the DNA. So in all of us, in our bodies, we're making DNA all the time—DNA polymerase that copies DNA—and there's even terminal transferases that make DNA without a template, that make DNA from scratch in our body. Now, our body's operating in water. It's not operating in acetonitrile. So everybody's got water mostly, and everybody's got enzymes. So we can imagine a future where the DNA printers are personal. Everybody's got a pocket or desktop DNA printer, if they want it, and the input to that DNA printer is the internet. A little bit of electricity and we're done.

So one of the things that makes our discussion today timely from my perspective is I think we've got this window of opportunity to recognize what some of the trends are, and we have to figure out

c Editor's note: This refers to the "acronym for the four types of bases found in a DNA molecule: adenine (A), cytosine (C), guanine (G), and thymine (T)." National Human Genome Research Institute.

“We’ve got this window of opportunity to recognize what some of the trends are, and we have to figure out how to articulate victory with respect to bio defense, bio security, and bio overall. This window of time ... is our last chance to get to the first layer of victory conditions. If we don’t address what’s happening now ... then by the time we get to 2030, it will be too late.”

how to articulate victory with respect to bio defense, bio security, and bio overall. This window of time—it might [border on] a decade, but it’s not a lot more than that, I would say anymore—is our last chance to get to the first layer of victory conditions. If we don’t address what’s happening now—and I can just pick on the trends you’re identifying: things are getting easier, we’re understanding more about how natural systems work, more people are getting access to biology, the [COVID-]19 perturbation is revealing that we’re not prepared for natural things—then by the time we get to 2030, it will be too late.

When I think about the conversations I’ve been part of over the last two decades, a lot of leadership conversations, we came close to getting a bio strategy going, but we never really got to the starting line. And so the current situation is very professionally depressing, I’ll say—not personally depressing but professionally depressing—because it just represents a collective failure of leadership over two decades. Another way of saying it is—and you picked up on this in some of your notes—we’ve just been dallying about in the bio space, we’ve just been playing, we haven’t been taking biology seriously. That can’t be true anymore. We *have* to be incredibly serious about biology.

CTC: Microsoft founder Bill Gates in April said that a bioterror attack with a pathogen with a high death rate is potentially the next big threat facing the planet after this COVID-19 pandemic.⁸ Do you share that concern?

Endy: It’s up there. I think there’s another one that regrettably is appearing, and it’s just the functioning of a civil society as a liberal democracy. I think that’s superseded for the moment the bio threat, and I say that not to diminish at all the scope of the bio threat. It’s just very, very interesting to me in a horrifying way to see how fragile certain operational aspects of our society are [and] what might happen if that goes sideways. In other words, there’s cultural terrorism, there’s economic terrorism, there’s political terrorism, and there’s bioterrorism. I would say something at the intersection of those first three categories is more pressing and more concerning to me than bio is right now. Again, this is not to defer or diminish the bio threat because I think it’s off the charts. I would agree with Bill in that regard. But I think all of us have taken a little too much for granted what we’ve inherited as a functioning liberal democracy. So I would say the number-one priority is basically to renew our

democracy for the 21st century.

Critically, a vibrant economy provides the best conditions to renew American democracy. And the bioeconomy has the potential to be a huge jobs and growth driver. But it also can strengthen American democracy in other ways. Let me get to that by asking a question: what would make a bio economy a uniquely American bio economy? I think that’s a really important question because it sets up something both amazing, wonderful, and fun. Normally when we think about biotechnology, we start by thinking about life (i.e., medicines, health, food, fuel, shelter, all the things biology makes). And of course, an American bio economy would advance those things and mitigate the negative things. But, an American bio economy would be unique in the world and would lead the world if we also did two other things: an American bio economy should uniquely advance not only life but also liberty and the pursuit of happiness. And by liberty, we mean citizenship, the standing of an individual with respect to the capacities of biotechnology as it manifests in society so that we are not having bio technology imposed upon us but we have the option of understanding and participating in having the bio technology that allows us to be citizens, not merely consumers or subjects or objects. And then pursuit of happiness is that wonderful strange diverse mystery.

If we don’t have a functioning civil society where people feel that they’re citizens, we won’t be able to make COVID obsolete and we’ll be even more vulnerable to bio.

CTC: And, of course, a pandemic can put further strains, to put it mildly, on civil society. With regard to the threat posed by biological agents, post COVID, do you see contagious ones as being the most dangerous?

Endy: Infectious agents causing contagions would allow bad actors to target societies that don’t have a functioning public health system. So they’re useful against those types of targets because they can get everywhere. Places that have a functioning public health system can deal with it and get back to business, but places that don’t just go into this spiral—and I think you’re right, with respect to the coupling between biological attack or event and civil society disconnects and deterioration. But let’s say a bad actor was trying to target a place that *did* have a functioning public health system that could deal with a contagious outbreak, then that bad actor might look at a different type of threat agent where the harm being caused did not require transmissibility but was a one-time shot. It would burn out super fast, but if dispersed in an appropriate way, there would be a significant impact. And so, assessing the danger posed by a hypothetical contagious pathogen A versus a hypothetical non-contagious pathogen B depends on what the bad actor’s target is and what their target’s vulnerabilities are.

CTC: On the one hand, COVID-19 may result in biosecurity being taken more seriously by the citizenry in the future. But on the other hand, there is the possibility that many see it as an every-hundred-year event and may feel, ‘Okay, we get through COVID-19, we’re good. We’re not going to have to deal with this again.’ How do you see this playing out?

Endy: Great question. You would have to be an ignoramus to take that position, right? You have got to document the frequency of bio events. For example, how long ago was it that we had a nurse quar-

antined in New Jersey by order of the governor because of Ebola?^d How long ago was there great concern over MERS?^e It's just a generation ago that there was acute concern over HIV. We've also seen seasonal flu flaring up. Anybody who's taking that position is really ignorant and needs to be educated about the frequency of bio events in nature. But you're totally correct that people take that position. And that's one of the reasons why there's been a lack of sustained critical thinking and scholarship about bio strategy that looks at the whole picture, bioterror but also bio flourishing.

CTC: Are there other things that, in your view, prevent policy-makers from taking this more seriously?

Endy: Look, there's something really fundamental I'd like to mention here. We tend to operate with a posture that biology happens *to* us. It's nature's will; it's God's will. And so that's why, for example, the entire strategic posture with respect to epidemiology is 'wait for something to happen and then react and then when we make investments; the best we can do is get better at reacting.' But I challenge you to teach me of another domain, another theater of potential conflict or risk, where the correct strategic posture is 'wait for the bad thing to happen.'

CTC: We definitely don't do that in counterterrorism.

Endy: Yet uniquely, to your question, in biology, 'wait then react' is our posture. We're just letting biology happen to us. Some of our leaders say, 'Eventually, the [COVID-]19 will go away.' Well, until recently, this was indeed correct because for most of human history until one generation ago, biology did happen to us, and you just had to react. But starting a generation ago, we human beings got the capacity to express human intention directly into living matter. Genetic engineering got going in the 1970s. And now with DNA printers, we can directly code into biology, into the genetic material. So what this means is there's a complementary way of thinking about biology, which is 'we're happening to biology.' So as soon as you start talking about bioterror or bio war, we're driving the biology to cause things to happen. But if most of our society is operating in a frame of reference [that] biology just happens *to* us, then the best we can do as a strategy is 'let's get better at reacting,' which is approximately what's happening. But if we can express intention in biology and we can take action by driving the biology, then we have to, at least in part, adopt a complementary strategic posture, which is we have to get ahead of this thing.

"I don't know how to secure biology when the fundamental unit has a quarter of its componentry that nobody understands; everything I don't understand is a potential vulnerability attack point. So I have no chance of reaching victory conditions if I don't have operational mastery of the cell."

CTC: What does that look like?

Endy: Well, first thing is we have to do is express victory conditions in qualitative natural language. Go read the National Biodefense Strategy document.⁹ I like that the United States of America has one and am grateful for all the hard work in preparing and advancing the document. Yet, I don't think anybody could recognize the document as presenting a strategy. Instead I can recognize it as a collection of tactics and an accounting of all the things that are happening. Critically, one of the things that's embedded within this document is very Orwellian: we will always be at war with biology; biology will always be a threat to us. Stated differently, there is currently no articulation of what victory would look like. Without a clear articulation of victory conditions we risk perpetual failure.

So let's start by articulating what victory could look like. For example, one goal should be to make infectious diseases obsolete. We're going to start with natural infectious disease, but we're going to cover the whole spectrum. Bioterror events, bio warfare agents, our goal must be that we'll make them all obsolete: we'll make bio-weapons obsolete; we'll make bioterror obsolete; we'll make infectious disease obsolete. That's our goal. That would be a clear victory. If we could do that, we would secure victory for a whole category of bio threats.

But how could we do that? We have no chance of victory today. Why? For many reasons—public health for one, as already mentioned. But also because we don't understand biology well enough. For example, the fundamental unit of life is the cell. It's the thing that builds all of us: every plant, animal, and whatnot. Yet there is no cell on Earth that we understand completely. Even for the best studied cells, nobody knows what about a quarter of the componentry essential for the cell to be alive does.¹⁰ Now the good thing is in the year 2020, we understand this mystery well enough to know what we don't know and likely why we don't know it. And so it's plausible, for the first time ever, to lay out a plan of attack for fundamental research that would get us better measurement tools and better modeling tools so we could operationally master the fundamental unit of life, the cell. I don't know how to secure biology when the fundamental unit has a quarter of its componentry that nobody understands; everything I don't understand is a potential vulnerability attack point. So I have no chance of reaching victory conditions if I don't have operational mastery of the cell.

However, it's plausible, for the first time ever, to get to this type of operational mastery. Evidence of such operational mastery would

d Editor's note: In 2014, a nurse was forcibly quarantined in New Jersey after she returned from West Africa where she had been treating Ebola patients. She was discharged several days later after testing negative for the Ebola virus. "New Jersey Releases Nurse Quarantined for Suspected Ebola," NBC News, October 27, 2014.

e Editor's note: According to the Centers for Disease Control and Prevention (CDC), "Middle East Respiratory Syndrome (MERS) is viral respiratory illness that is new to humans. It was first reported in Saudi Arabia in 2012 and has since spread to several other countries, including the United States. Most people infected with MERS-CoV developed severe respiratory illness, including fever, cough, and shortness of breath. Many of them have died." "Middle East Respiratory Syndrome (MERS)," Centers for Disease Control and Prevention, updated August 2, 2019, accessed September 2020.

be profound. We would demonstrate operational mastery of the cell by building cells from scratch. We would be able to take a lifeless ensemble of molecules in tubes and put them together and get a reproducing cell. Some nation on earth is going to do this for the first time. I would view this feat as akin to orbiting a satellite for the first time. The orbiting of a satellite is demonstrating that you can climb up out of the gravity well of the earth and begin to get out into space. Similarly, the making of a cell from scratch is demonstration of climbing up out of the 'life well of the earth.' A life well is the constraint on life in one position in spacetime, and life on Earth is currently constrained by the life that comes before us, the lineages, and the requirements of being able to reproduce and evolve. And so demonstrating operational mastery of the cell is enabled and realized by climbing up out of the life well, by constructing cells. What's interesting is when we get up there, it won't be like being in the deep void of space. Instead we'll have the capacity to construct the fundamental unit of life to do whatever we want. The good thing is we mostly want to do good things with biology, almost exclusively.

This brings me to one thing that I think the Pentagon has gotten really correct in bringing biotechnology into the portfolio of strategic technologies for defense. The Pentagon decided that Defense doesn't want to own biotechnology, because there's a flourishing civilian bio economy and that's where most of the leadership is. And so the U.S. defense strategy for biology should make sure that the United States has the world's leading bio economy so that everybody, including Defense, can get world-best biotechnology on demand.

At the risk of sounding like a broken record, I'm of the opinion that there needs to be a holistic strategy for biology, inclusive of biosecurity, bioterror, and bio flourishing. I think such a strategy also has to recognize that there are two key trends playing out. One of the things that's happening in biology is that DNA read [sequencing] and DNA write [synthesizing] technologies get biology onto the network. Together, they make genetic material convertible into sequence information and sequence information convertible into genetic material. Genetic material is the stuff that instructs how life behaves. The superpower of the internet is it disconnects information from location and it lets information be redistributed to other times and other places. So when biology goes on the network, what that means is biocapacity suddenly becomes decoupled from location; it becomes transmissible as information. So we're heading towards a networked bio economy—a bio net, if you will. Any security strategy, any bio economy strategy, in my opinion, has to ponder what a network strategy is for biology.

The reason why recognizing the need for network strategy is important, to give you an example, is usually when people think about competition in biotech, they think about keeping up with the Joneses. They think about Moore's law^f metaphor, exponential improvements in computing and DNA sequencing and synthesis. While valid, as soon as you're dealing with a network, there are different strategies that come into play for keeping ahead of others. One is the establishment of coordination solutions, meaning somebody develops network-based solutions first. Thereafter, everybody goes to the existing solution. For example, if we need to search the

“If a bio net shows up and we're not driving it and deploying it, and it's somebody else's bio net, then forget about our capacity to monitor it, to do intelligence gathering, to interdict threats as they're emerging.”

web, we're probably going to connect to Mountain View^g and use Google's platform, maybe some others, but it's very, very hard to displace an entrenched coordination solution. What this means is that there are winner-take-all, first-mover strategies that come into play. And so, just as the United States benefited, for example, by having a world-leading information networking technology that we projected globally that got us a lot of soft power and capacity, which we have still, if a bio net shows up and we're not driving it and deploying it, and it's somebody else's bio net, then forget about our capacity to monitor it, to do intelligence gathering, to interdict threats as they're emerging. So we need to recognize that biology is going on the network and we need to adopt network strategies for bio.

The second trend that is playing out is much more esoteric but equally important—we're leaving 'lineage land.' Right now, all of life on Earth derives from lineage, so we're on lineage land. There is a new world of biology that hasn't been reached yet, but it's out there, which is lineage-agnostic biology. It's leaving the life well, as mentioned earlier; it's demonstrating operational mastery of the cell. Why does that matter? Well, right now if I want to download bio code and do something with it locally, I'm downloading a research project. It's not like downloading *Mandalorian* from Disney Plus, where I just get to watch it with my kids, right? I'm downloading a research project; I'd need a laboratory. But let's imagine I want to download bio code and it lets me brew a medicine where I'm field-deployed right now and I'm not going to want a research project, I just need that medicine made in 90 minutes. Well, that means I need to understand everything about a cell well enough to compile code and operate in the cell with 100-percent reliability. That means I have to get to operational mastery of the cell. That means I have to, from an engineering perspective, be able to build cells. Whoever does that first is going to have a huge advantage. If China builds cells first, then my students will want to go there because that's where world-best bioengineering will be. We just have to recognize that if somebody gets to that before us, our branded leadership in bio is totally gone. And that's up for grabs this decade: the building of a cell.

So now let's pull it together for U.S. policymakers. We need a bio strategy. As one example, here's my favorite working bio strategy. It has three parts. First, we need to demonstrate operational mastery of cells by learning to build them. Second and third, we need to build and secure the bio net. And we have to do this now, within the decade, so that we can translate these advances as infrastructure undergirding a uniquely American bio economy that projects power

^f Editor's note: Based on a principle articulated by Gordon Moore (later co-founder of Intel), Moore's law "states that the number of transistors on a microchip will double every year or so." M. Mitchell Waldrop, "The chips are down for Moore's law," *Nature News Feature*, February 9, 2016.

^g Editor's note: Google's global headquarters complex is based in Mountain View, California.

while advancing life, liberty, pursuit of happiness. If we do this, then we have a chance of taking infectious disease off the table. If we don't develop and implement a coherent bio strategy, it's game over, not to be dramatic.

CTC: The analogy here is the moonshot, the need to articulate getting out of the life well in terms of a bio defense or bio strategy. Let's pivot to something you thought was important with respect to the bio defense strategy, which is recognizing that there's a need for a strong civilian private sector bio economy space. If the United States is going to lead not just with respect to biology and biosecurity but in other spheres as well, it needs to get right the nexus between government, private industry, academia, and the research community.

Endy: I'm totally with you, and you're right in connecting it to other things. Biology does not stand alone. So let me give you the nerd framework. Civilizations run on joules, bits, and atoms: energy, information, and knowledge. So how do we provision joules, bits, and atoms, and how are we going to do that heading out to the rest of the 21st century? Whoever does that best is going to be world leading. Biology is really interesting because it operates at the intersection of energy, information, and atoms, literally. Photosynthesis on Earth harvests about 90 terawatts of energy from sunlight on average at any instant. Natural living systems use this energy to organize molecules into the things we eat and use and so on. Ninety terawatts is about four and a half times what civilization runs on. Human civilization [is] now powered by about 20 terawatts. So another reason to recognize biology as a strategic domain is that it's simply operating at a planetary scale at this intersection of joules, bits, and atoms, which is what people demand and civilization organizes.

Now let's bring biology and connect it to some other things—and this is literally one of the most exciting technical advances I've stumbled across in the last year—you can reengineer metabolism of microorganisms like yeast for brewing, which normally are fed sugar, to instead grow on another carbon molecule called formate. Now, why do you care about formate? You don't really need to, except if you go talk to the chemical engineers, they've demonstrated that you can take electricity, split water into its elements, and fix carbon from the atmosphere and make formate from atmospheric carbon dioxide. By doing this, you can use, say, a kilowatt hour of electricity, make formate, and grow biomass from that electricity originally. A kilowatt hour of electricity can get you a gram of biomass, and it looks like it'll probably get us about 30 grams of biomass. Ten cents of electricity, 30 grams of new biomass. That's amazing. That suddenly implies that I'm going to have an electro bio synthesizer. I'm going to have a machine that I can plug into the wall, and the internet, and feed with atmospheric carbon and water, and I get biology out. Well, that's like the personal computer, but it's the personal bio synthesizer.

The other thing is by 'feeding' biology with electricity, you can piggy-back on advances in energy generation systems. One of the most remarkable transformations in the last decade is what's happened with the return on energy for photovoltaic solar panels.¹¹ The key question here is, 'How much energy does it take to make the solar panel? And how much energy does the solar panel generate?' Do you ever get your energy back? What's the return on energy? And in the last decade, the return on energy for photovoltaic went greater than one, and it's now averaging about 20-fold. Meaning

over the lifetime of the panel, I get 20 times more energy than it took to make the panel. This means we're transitioning to an electricity generation abundant civilization. Never been true before. In the biosphere, why that matters is, if I can go from electricity to biomass, suddenly my capacity to wrangle molecules to manufacture materials is no longer capped by that 90 terawatts of natural photosynthesis. It's just a question of how much electricity can we make. And, for the first time ever, it doesn't look like there's a hard ceiling on electricity generation.

So if we take this more integrated framework and put [in place] a bio strategy and an overall strategy, for the first time in human civilization, it's looking to me like we can pull off the nerd rapture. We can provision energy, knowledge, and stuff sufficient to support 10 billion people without trashing the rest of the planet. That gives the United States the option of being awesome. This gets back to the citizenship topic. Suddenly, you start to take seriously the question about what fraction of the population, local or elsewhere, is incentivized to be a mal-intentioned actor. And if I want to take bioterror seriously, if I want to take bio war seriously, I have to drive that number to zero. One way to do that is to wait for mal-intentioned actors to show up and then put mass-on-target to interdict, but I'd much rather get ahead of that and just preempt people from being mal-intentioned in the first place by creating better conditions for life, liberty, and the pursuit of happiness. I'm not naïve. I recognize we've got to deal with some bad actors inevitably. But it's so interesting to me that we're literally sitting on capacities that for the first time in human civilization seem like they have the potential to enable flourishing. If only we embrace that possibility and make it true. And, just to be really clear, I do not mean this as some hippie academic out in California. I mean this as an operational protagonist wanting to see this deployed practically at a planetary scale.

CTC: But between now and the nerd rapture, we're in a danger period, right?

Endy: Totally. Totally vulnerable.

CTC: Back in 2007, you co-authored a report, "Synthetic Genomics: Options for Governance,"¹² which, in a very granular way, looked at some of the ways you can put steps in place to mitigate the threat. We'd love you to walk us through your thinking on that now. Given that technology in synthetic biology continues to advance and spread,¹³ what steps are key to lowering the risk that a mal-intentioned actor with some scientific knowledge is going to do something which could have a planetary consequence?

Endy: Frankly, all the effort that went into what became the federal guidelines in the United States for sequence screening upstream of DNA synthesis—and I mean this in a very profound way, not a cynical way—with hindsight, most of that work was securing a nascent technology and nascent economic activity from political attack. It did almost nothing to secure the nation from bio attack. It simply allowed a very fragile technology to emerge as an economic activity.

The context, which we've touched upon, is the post-anthrax attack. It's a bioterror regime. And I remember talking with the director of DARPA in October of 2003, briefing out on this synthetic biology study. One of our recommendations was to systematically and unapologetically advance DNA synthesis as a technology, because it

allows for the decoupling of design of biology from its construction, so that people could specialize as DNA designers or DNA builders. Well, the net impact of that briefing was to help cancel all public funding for improving DNA synthesis, because our recommendation was only received as potentially increasing political liability and public health risks.

So, four years later, those 2007 guidelines were developed in a context where everything was getting shut down. Yet, we were genuine in our belief that DNA synthesis is a critically important technology for the nation's well-being, economic security, and physical security. But there wasn't executive leadership, there wasn't air cover, so to speak, within the culture or politics for that. You can go back and find a tape of me sitting before the Energy and Commerce Committee in the House next to Craig Venter^h and Jay Keaslingⁱ and Tony Fauci.^j And I remember Tony is holding up the federal guidelines for DNA sequence screening, and he's representing them as being sufficient to mitigate risk. And he's doing his job, but of course, the reason we were there is that Dan Gibson^k on Craig Venter's team had shown how to do assembly of genes and genomes inside yeast, without needing to use commercial gene synthesis. And so I'm going to myself, 'Yeah, Tony, I appreciate what you're doing. You're securing the biomedical research enterprise from political vulnerability in this context, but everything is not okay.' Meaning these guidelines don't prevent a mal-intentioned actor from doing something absolutely bad, and I think if you want a postcard evidence of the potential for this, the researchers up in Canada, as I touched on earlier, had no problem building a pox virus from scratch, running through these commercial providers.¹⁴

I'm not saying the commercial providers are irresponsible, but what I am saying is that it's very difficult to regulate this kind of activity. A DNA synthesizer is essentially a printing press for genetic material, and you're attempting to regulate the press by having the people operating the press check everything going through the press. It's just nuts. That's not how you do it for the written word. Instead, we should look at how we govern speech and the press. And the way we do that is we distribute the responsibility for governance to the places where the speech is being performed. We might have some central oversight and we'll have the courts, if you will, to adjudicate controversial experiences, but structurally, we've made a massive mistake if we continue forward with a centralization of screening-based approach. It just isn't matched to the problem. And by the way, a centralization approach is also probably incompatible with a liberal democracy. But nevertheless, sequence screening is an easy thing for people to latch on to because it feels like you're doing something. I get concerned when it becomes the only activity in the name of biosecurity.

Let's talk about the ultimate DNA synthesizer. It's an enzyme, which means it's a genetically-encoded object. It's going to be pro-

grammable with three wavelengths of light—two to set the base and one to say add a base or not. It's going to be operating inside cells. And so you're just building DNA from scratch inside cells, wherever you have cells, which is everywhere. And so what's your governance framework for that? It can't only be some centralized screening approach. While we might need centralized capacities for intelligence gathering and so on we better also have a culture that understands how to handle lawlessness and obscenity in speech—as it related to building DNA—and distributing the governance of that.

CTC: So is what you're saying that it should be self-policing? That it should be for the bio industry, bio sphere to be on the lookout, to be careful in what they do, to have certain procedures, in terms of knowing who they're selling stuff to and so on?

Endy: I would not say self-policing. I would say it's distributed governance with scaled connections into common governance, shared governance, and centralized governance. But it has to be a system in which there is a degree of bottom-up consensus on the rules of the road. When it comes to speech, we've grown up in a society where we've been educated about what's okay and what's not okay. If that doesn't exist, good luck. Good luck policing what people say. You can do it, but it's not a democracy anymore. If you want to police what everybody is saying through a central authority, I don't know how you do that and have democracy. Let me ask you a series of questions and maybe your readers can think about this too, so be patient. How many people should have the option of learning to read and write? Most would say everybody. Primary education is a basic human right. Next question, how many people should have the option of learning to read and write Python or C++, a computer language?

CTC: Many would argue as many as would want to or need to for society to flourish.

Endy: And so everybody can have the option, and we see programs like Code for America and Computer Science for All. You can predict my next question. How many people should have the option of learning to read and write DNA? The genetic material that instructs how living systems behave; the stuff that's at the intersection of joules, bits, and atoms; nature's nanotechnology operating at planetary scale; the organisms that define or impact everything we care about. How many people should have the option?

CTC: Many would argue everybody.

Endy: I'm with you, but then we have to immediately confront the window of vulnerability that we're exposed to. Now is our chance of establishing leadership in synthetic biology sufficient to guarantee our position as a nation, as the world's leading bio power of the 21st century, so we can project values. And we have to wrestle with the governance frameworks that recognize that it's not just an elite scientific enterprise that is strongly institutionalized and can be self-policed through command-and-control institutional authority. We have to also realize the democratic enabling of our citizens as citizens of a 21st biocentury.

CTC: Just to play devil's advocate, one could ask a different

^h Editor's note: Dr. J. Craig Venter is a leading scientist in the field of genome research. See "About," J. Craig Venter Institute.

ⁱ Editor's note: Dr. Jay Keasling is a Professor in the Department of Chemical & Biomolecular Engineering at UC Berkeley's College of Chemistry. See "Jay D. Keasling," UC Berkeley College of Chemistry.

^j Editor's note: Dr. Anthony Fauci has been the director of the U.S. National Institute of Allergy and Infectious Diseases (NIAID) since 1984.

^k Editor's note: Dr. Daniel Gibson is a Professor in the Synthetic Biology group at the J. Craig Venter Institute (JCVI). "About," J. Craig Venter Institute.

“China’s farther ahead of us with respect to industrialization in their bio economy, and Europe is farther ahead of us with respect to fundamental science and synthetic biology and cell building. That was not true five years ago. It’s definitely true now.”

question. Not everybody should have access to nuclear materials like plutonium, right? If biology, just like nuclear science, can be the source of us destroying ourselves as a planet, the human race, is there not an argument for hitting the brakes?

Endy: Yes, one option is hit the brakes. What’s the opposite option? Floor it. Okay, so let’s play those options out. We hit the brakes. But does that work out well for us? Well, we’re still dealing with natural events like the current pandemic, and we’re going to be watching from the sidelines what everybody else does in biology. In fact, we are already starting to do this. We were successful in installing a strategy for synthetic biology at the Ministry of Science and Technology in China in 2013. And they’re running with it. We were successful in doing the same in the United Kingdom. So I think we’re already behind practically in synthetic biology. China’s farther ahead of us with respect to industrialization in their bio economy, and Europe is farther ahead of us with respect to fundamental science and synthetic biology and cell building. That was not true five years ago. It’s definitely true now. I can give you the architectural fly-through of the Institute for Synthetic Biology at the Shenzhen Institute for Advanced Technology, and it’s a half-a-billion-dollar facility. We have nothing like that in the United States. And that’s just one of many. We’ve already seen what happens when we pump the brakes. The result is we’re already behind. For example, under the Obama administration, suddenly you couldn’t talk about synthetic biology in the United States government because it was perceived as being too close to genetic modification, and we never addressed that issue within the food supply culturally.

The other possibility is we floor it. We decide biology’s a strategic domain, there’s massive risk here, and we’re increasingly vulnerable until we have a chance of getting to some better foundational knowledge and better capacities. But we’re going to have to own the risks and associated responsibilities, and we’re going to have to declare we’re going for victory and there’s qualitative risk and increasing risk until we figure it out. I don’t like being in that position either, but given a choice, I would probably adopt the latter strategy rather than hitting the brake again. One key reason for this is that one crisis facing our planet is natural species going extinct. Let’s just float this observation as an orthogonal dimension for just a second: do we care about species in nature going extinct? Some people care quite a lot. Over my lifetime as the human population doubled, the natural biodiversity index dropped by a factor of two. If you want to talk to people who are very comfortable intervening in nature, talk to conservation biologists who are desperately worried about natural species going extinct, which is an irreversible loss. They are willing to intervene in ecosystems, they’re willing to field deploy

biology, they’re willing to consider releasing engineered biology like gene drives to cause invasive species to go extinct, to preserve the natural species. It’s a totally different culture, totally different psychology. So I wish I would say we have the option of pumping the brakes or slowing down. But, I don’t think we have that option practically, and I don’t like saying that because there are risks associated with flooring it. But I think if we are mindful about it and smart about it, there’s a way forward.

Let me just flip it around. The Combating Terrorism Center is naturally focused on biothreats. Is there an equivalent organization where I can have the equivalent conversation about our strategy for bio flourishing? I don’t think such a center exists, by the way. I haven’t found it. And so if we only have the conversations in reaction to the Hobbesian possibilities of mal-intentioned actors and the state of nature as a state of war, all we’re going to get is reactive strategy and maybe we should slow down, but the extrinsic crises and urgency created by natural phenomena and things at the intersection of civilization and nature, I think, are increasingly going to drive people to action. In other words, there’s a space that’s been created, it’s going to get filled with something; we should act to fill it with the most awesome thing possible.

CTC: We’ve spoken about how to try to prevent or at least make more difficult a future biological attack. But let’s assume a bad-intentioned actor with some tacit knowledge in some bio lab somewhere cooks up COVID-19 2.0, how can we prepare for that? It has been noted that there is a significant positive feedback loop between preparing for the next pandemic and preparing for the first global bioterrorist attack.¹⁵ What are the things that we can do to prepare for and mitigate the impact of a major bio-attack with an engineered pathogen?

Endy: We’ve got to start with culture and leadership. We have to get to a frame of reference, which is we’re not going to let biology happen *to* us. Number-one most important thing because with infectious disease, we actually have plenty of examples of dealing with it, whether it’s the eradication of smallpox or the nation-states that have dealt well with the COVID-19. We need to get out of a mindset of ‘biology is just happening to us,’ that’s [the] number-one thing. Because from that, you get the dream of victory, and from the dream of victory, you can get action and ownership, not just imposition and compliance. I mean, it’s irresponsible to ask people to comply and to give up things when it’s not coupled to, ‘here’s what victory is and why you’re sacrificing now to get to victory.’ It’s like, really, the best we could do is bend the curve? Like your prize is you bent the curve, good job. Come on. That’s pathetic. That’s a victory? We bent the curve? Gosh. There are many other things we can do as well. You know the example, if you want people to build a navy, you don’t order them to cut the trees down and weave the canvas, you teach them to love sailing and the endless ocean, right? Martin Luther King’s speech wasn’t ‘I have a plan for mitigating ...’ It’s ‘I have a dream.’ Where’s our bio dream? Where’s our infectious disease dream?

CTC: So you’re talking about getting the best and the brightest into this field in United States, into the scientific field, the need to convince them that this is an enterprise they want to be involved in. And getting better vaccines and better medical

countermeasures?¹

Endy: But I want to be really careful because we float those techno improvements as a patch that obviates the responsibility of leading. Like we'll solve this problem with some magical technology by being magical technologists, as opposed to this is actually something that we're in all together. There's a relationship between personal health and public health, and that we're all in this together in certain ways.

Yes, obviously, advances in biological science can play an important role. I gave you the example of the virology institute in Switzerland building COVID-19 from scratch so that they could do vaccine work. Despite all the concern two decades ago and the shutting down of public funding, the use of DNA synthesis has resulted in better pandemic response: for example, when it comes to the automated generation of attenuated vaccine candidate virus genomes.

What would be something that we could do better? It took a month for that genome to be built in Switzerland. So there was a month latency. I thought Craig Venter did a nice job in giving people the vision of a technology-enabled public health system in response to a pandemic, be it natural or intentional, which would detect where things were happening at the time they were happening, upload that information on the web, transmit that information at the speed of light, and people could be compiling prophylactics and vaccine candidates faster than the planes were landing with infected people.¹⁶ So you can have a speed of light public health bio defense system; it would require the equivalent of a hurricane satellite warning system. Imagine a bio weather map. This century we'll have enough sequencing capacity to sequence the DNA of every organism on the planet. Like literally every base on earth, we'll sequence. So now let's just imagine a bio surveillance system. We have a bio weather map. We can see when things are happening. We can transmit that information over the network. We can instantly develop, using computer algorithms, attenuated vaccine candidates. We have enough experience with trialing against scaffolds for vaccine vectors that we just integrate the new sequence specific to the novel pathogen such that we have a vaccine on demand.

A lot of what's playing out here reminds me of what I read about France coming out of World War I. They were facing some decision-making puzzles around how to invest the nation's treasure in defense. And having just experienced trench warfare, one of the ideas is to build a better trench. Two factions are arguing that case. There was a third faction, which is basically saying the threat landscape is changing due to mobile infantry and what that means is the threat landscape is going to become more agile, such that you could no longer predict exactly where the attacks are going to happen. Thus, the strategy should not be to make a better trench, rather to create an agile defense system that can react appropriately wherever the threats might arise. Apparently, the third faction lost these conversations and France made the Maginot Line, which almost worked. Who is one of the leaders of that third faction that lost the argument? Charles de Gaulle. Has an airport named for him now.

He was strategically correct, but politically didn't get it done. Some of our posture today reminds me a lot of that period of French history. We've got the national biodefense stockpile, and to a significant degree, we're just deploying fixed assets. But the threat landscape inclusive of bioterror is increasingly dynamic. All the advances in knowledge and tooling suggests that the threat landscape is becoming more agile, and so we need technology capacities that allow us to be better responsive in real time, but we also have to anticipate, we can't only react.

CTC: So the threat landscape is changing, the strategic environment is changing, the innovative landscape is obviously continuing to evolve related to synthetic biology and the biological arena. We discussed trade-offs in terms of do we pull the brake or do we hit the gas related to a field like synthetic biology or innovations in biology in general. You've noted that hitting the brakes may see the United States fall further behind countries like China in the biological domain and outlined why the winner in this race may be able to establish a position of supremacy in this arena. This is all set against the backdrop of a shift in the U.S. defense enterprise to greater focus on near-peer threats and strategic competition, with obviously an emphasis on China. Can you speak a little more to how you see the geopolitical competition over biology playing out?

Endy: I think there's been a lot of complacency that just because the U.S. has been leading in bio since the modern biotechnology era that this will always be true. But according to the indicators I see, we've lost our lead, not by a lot but a little, and it's not that we can't get the lead back.

As I already noted, with respect to industrialization and translation, we've lost our lead to China. With respect to fundamental science, I think we've lost our lead to Europe. And when I talk about losing the lead, I'm speaking not about biology overall but synthetic biology specifically, which is the tip of the tip of the spear of frontier biotech. The reason I care about that is because there's the Moore's Law thing playing out, which is basically tools beget tools. So if you fall behind on that exponential, it's increasingly difficult to catch up. But as we were discussing, network strategies lead to coordination solutions, and once coordination solutions get entrenched, you cannot displace them. So it's a one-time, winner-take-all scenario. But I don't think we should see it as a U.S. versus China strategy. It's who's going to lead the world with what set of values and then anybody who chooses to unsubscribe from that set of values is disconnected from everybody else. And so I think the U.S. position should be, let's just make sure we're leading the world with respect to an open and networked bio economy.

Let me make one more point here. We don't want to own biotech; we want best-in-class biotech available to us. And so that means the United States has to have the world-leading bio economy. And so we need a strategy to enable the awesomeness associated with that. When we're talking about pushing the go button increasingly—not the gas pedal, but the go button—the thing to focus on is the doing of the goodness, the doing of the good things, the making of things awesome through biology, and the mindfulness around that related to security and public health. We definitely don't want to become hyper consumed around only mitigating the things we can imagine.

CTC: To wrap things up, what is your message for the CT com-

¹ The FDA defines medical countermeasures, or MCMs, as "FDA-regulated products (biologics, drugs, devices) that may be used in the event of a potential public health emergency stemming from a terrorist attack with a biological, chemical, or radiological/nuclear material, or a naturally occurring emerging disease." "What are Medical Countermeasures?" Food and Drug Administration, accessed September 2020.

munity? What do they need to understand and what do they need to worry about when it comes to bioterror?

Endy: In answering this question, let me make a prediction. What's going to happen in the next 10 years is biology will be recognized as a domain of strategic importance in a holistic way around the world. It's going to be recognized as strategic for the economy, strategic for security, and in democratic countries like ours strategic for citizenship and values. So there's going to be some new terms we can anticipate. One of those is bio power—is your nation an established or emerging bio power? Can you project power, economic or otherwise, via biology? As soon as this type of rhetoric and framework shows up, the landscape within which anybody working on bioterror will change, and suddenly biology and biosecurity isn't the fringe thing that we have to worry about every now and then, with budgets that wax and wane, but recognized holistically as a strategic domain.

There will be and must be sustained interest in bio strategy that accounts for everything from bioterror to public health to bio economy, to bio leadership and so on. And when we think about bio lead-

ership, then we also have to think about the struggle to articulate victory, that the end game can't be perpetual war or perpetual failure. We have to set a dream that is better than that, that puts some stars in the sky that animates all of us to pull together. There's a prescription here without a doubt; this prescription is arriving because I think the options of not doing any of this simply gets us into a near future where all the vulnerabilities that we expect are increasing [and] are really going to accelerate in their 'increasingness.' If we get to 2030 like we've been playing around for last 20 years, it's just not going to be good. And that's an understatement. And so there's another prediction. And I'd like to escape this second prediction by filling it with something positive. It is our responsibility now in this decade to lead ourselves and others to a type of operational victory. And the community of people who are worried about mitigating mal-intentioned actors in biology are essential to victory, essential to flourishing. We can't have the bio economy without mitigation of mal-intentioned possibilities, and so really bringing it all together and making it coherent and holistic at a national and global scale, bio strategy and bio victory, is something to focus on and to work together on. **CTC**

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Jihadi Insurgency in Mozambique Grows in Sophistication and Reach

By Tim Lister

In early August 2020, fighters of Ahl al-Sunnah wa al-Jam-ma'ah (ASWJ) captured the town and port of Mocimboa da Praia in Mozambique's northernmost province of Cabo Delgado. The ASWJ's ability to drive out government forces and hold the town marked a step-change in the group's capabilities and ambitions. The expanding insurgency has attracted attention, support, and promotion from the Islamic State, which looks to Africa as promising territory. In June 2019, the ASWJ was formally adopted by the Islamic State as the Mozambican wing of its Central Africa Province. A unique combination of circumstances has enabled an exponential growth in the insurgency: a traditional Islamic leadership out of touch with younger, radicalized Muslims; widespread economic and social deprivation in northern Mozambique amid a wealth of natural resources, compounded by ethnic cleavages; corruption and ineffective governance; and security forces that are poorly equipped, trained, and led. With efforts to counter the jihadis by the Mozambique government and outside actors so far making little headway, the insurgency now directly threatens the development of Mozambique as a major exporter of liquefied natural gas and thereby its economic future.

For the first time, a jihadi group in Mozambique has seized and held a significant town, after an assault that demonstrated growing sophistication, tactical awareness, and firepower. Fighters of Ahl al-Sunnah wa al-Jam-ma'ah (ASWJ)^a captured Mocimboa da Praia in Mozambique's northernmost province of Cabo Delgado in early August 2020; by mid-October 2020, government forces had still not dislodged them.

The occupation of Mocimboa is a step-change in the ASWJ's

capabilities and ambitions since the group's first attack on the town three years ago. This article explores the origins and evolution of the insurgency and seeks to demonstrate that it has benefited from a unique combination of circumstances: a traditional Islamic leadership out of touch with younger, radicalized Muslims; widespread economic and social deprivation in northern Mozambique amid a wealth of natural resources, compounded by ethnic cleavages; corruption and ineffective governance; and security forces that are poorly equipped, trained, and led.

These factors have not only enabled the exponential growth of the insurgency but attracted attention, support, and promotion from the Islamic State over the last year as it looks to Africa as promising territory. The insurgency in Mozambique was officially co-opted as part of the Islamic State's Central Africa province (IS-CAP) in June 2019.

Critically, the expansion of the insurgency now directly threatens the development of Mozambique as a major exporter of liquefied natural gas and thereby its economic future.

The analysis draws from a range of sources, including regional experts who have followed the insurgency since its inception, academics who have studied the evolution of jihadism and different strands of Islamic thought in the region, and human rights organizations and analysts in Mozambique. Some have preferred to speak on background so as to be more candid. The article also draws on a range of research papers published in the last few years and the author's own experience analyzing jihadi groups and the environments in which they flourish, including reporting in Syria and Iraq.

Drawing on these sources, the article explores the ethnic, economic, and social cleavages that have fed the insurgency and examines the evidence about connections between ASWJ and the Islamic State, as well as the involvement of foreign jihadis in the conflict. It then examines the response of the Mozambican authorities, both military and civil. It also shows that the introduction of foreign military contractors to augment the government's counterterrorism effort has achieved little and assesses the prospects of further international and regional intervention.

The author argues that the factors driving the insurgency in Cabo Delgado are deep-seated but substantially the outgrowth of inadequate and misguided government strategy in terms of economic development, political engagement, and security policy. While there are some indications that the authorities may be rethinking what has been a blunt security-led approach in Cabo Delgado, the insurgency is well-entrenched. Without a broader initiative that offers civilians both protection and opportunity, there is little prospect of defeating an insurgency that benefits from thickly forested terrain, unpoliced borders, and the potential for revenues from precious minerals and smuggling.

A note on terminology: although the Islamic State adopted ASWJ in June 2019 as the Mozambican wing of its Central Africa Province (IS-CAP), the ties between Islamic State Central and the

a Sometimes translated as "Followers of the Prophet's path and the unity of the Ummah," though there are other variations.

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group remain nebulous. For this reason, for the most part, this article refers to the group as ASWJ rather than IS-CAP.¹

The Current Situation

In early August 2020, ASWJ fighters began their third attack of the year on the port of Mocimboa da Praia. The difference was that on this occasion, they not only drove out Marines of the Mozambican Armed Forces who were guarding the port but remained in control of the town for many weeks. At time of publication, government forces had still not regained control of Mocimboa.

ASWJ is now well entrenched in at least one-third of Cabo Delgado, which is the size of Austria, and the government seems bereft of a strategy—either military or socio-economic—to wrest back the lost territory.

The widening insurgency has created a humanitarian crisis in northern Mozambique. The World Food Programme estimates that at least 300,000 people in Cabo Delgado are now entirely reliant on humanitarian assistance after fleeing their homes.² At least 1,500 have been killed in the last three years, about two-thirds of them civilians. Much of the rural interior of Cabo Delgado has been depopulated.³

Cabo Delgado has a majority Muslim population (approximately 55 percent) in a largely Catholic country. It is some 2,700 kilometers from the capital, Maputo, in the south and is the poorest province in the country, with high rates of illiteracy and child poverty—only 0.3 percent of students receive post-secondary education.⁴ It has a history of neglect by the central government and was battered by a devastating cyclone in April 2019 as well as repeated flooding in recent years.

However, Cabo Delgado is much more than a rural backwater. It is at the heart of international exploration for extensive natural gas reserves that lie just off Mozambique's coast. French company Total SA and Italy's Eni SpA are building infrastructure on the Afungi Peninsula to exploit the reserves, most of which lie offshore. The exploitation of these reserves has the potential to transform Mozambique's stagnant economy, but it may yet be delayed or threatened by the widening reach of the insurgency.

Origins and Evolution of Insurgency

The insurgency began in October 2017 when local Muslim youth demanding the introduction of sharia law in the port town of Mocimboa da Praia attacked police stations. Known at the time as al-Shabaab (literally the youth and not to be confused with the Somali jihadi group of the same name), the insurgents only later began to refer to themselves as Ahl al-Sunnah wa al-Jamma'ah (ASWJ).^b For several years before the outbreak of violence, disaffected young Muslims in Mocimboa da Praia had been at loggerheads with the Islamic establishment in northern Mozambique, as represented by the Islamic Council of Mozambique. Disputes over dress, the availability of alcohol, and rejection of secular education were manifestations of this cleavage.⁵ In the town of Pangane, an al-Shabaab leader tried to impose a ban on alcohol in 2015; one policeman was killed in ensuing clashes.⁶ Fundamentally, the group resisted

any relationship between the 'Muslim community' and the state, stressing that only 'Islamic' law applied.⁷

Al-Shabaab exploited decades of neglect of northern Mozambique by the central government. Mozambique's liberation movement from Portuguese rule, FRELIMO, began its struggle in the north in the 1970s, but it became plagued by internal rivalries, frequently between its northern contingents and those known as the *sulistas*, the southerners who became prominent in the movement after independence.⁸

In 2005, according to one study, a veteran FRELIMO commander in Cabo Delgado warned that the movement "was born here and could end here" if the material benefits of independence were only enjoyed by "southerners."⁹ This regional neglect was overlaid by tensions between the Christian Makonde, a northern community that was prominent in FRELIMO's liberation struggle, and the Muslim Mwani people.

The Mwani, a coastal people, who dominate a 200-kilometer stretch of the coast in northern Mozambique and parts of the Tanzanian coast further north, tended to support FRELIMO's adversary RENAMO during the fight for independence.^c There have also been bitter internal divisions among the Makonde themselves,¹⁰ largely along economic lines, which has made the task of extending state authority in the north still more difficult.

The town of Mocimboa has long been divided into Makonde and Mwani enclaves.¹¹ In 2005, riots erupted in the town when RENAMO rejected the results of the national election; sectarian looting and killing ensued.¹² Professor Yussuf Adam, who has long studied Cabo Delgado, says that "factors such as corruption, nepotism, the lack of democracy, freedom of expression, and a lack of rigorous justice further marginalized groups in the northern regions."¹³

Wealth in Cabo Delgado, which boasts rich mineral and forestry resources, has been concentrated among a Makonde elite that is well connected to the central government. Local people have also been expropriated or suffered abuses at the hands of international mining companies exploiting the region for rubies and sapphires.^d

One historian of the conflict, Eric Morier-Genoud, says the al-Shabaab insurgents built on the emergence of a sect around 2007 that demanded sharia rule and rejected the quietist outlook of the Islamic Council of Mozambique, which cooperated with the government.¹⁴ It is also worth noting that the Council has historically been seen as a creature of Wahabis from southern Mozambique, unrepre-

b This article, for the sake of consistency, will refer to the group as ASWJ, although the moniker was only adopted more recently. See Eric Morier-Genoud, "The jihadi insurgency in Mozambique: origins, nature and beginning," *Journal of Eastern African Studies* 14:3 (2020): p. 3.

c RENAMO (The Mozambican National Resistance), supported by apartheid South Africa, was defeated by FRELIMO in the battle for Mozambican independence but continued to wage a brutal guerrilla war until the 1992 peace agreement. This eventually collapsed, before another deal for the cessation of hostilities was agreed in 2014 and involved the disarmament of most RENAMO fighters. But a small faction, thought to number some 500 rebels, has refused to lay down its arms, despite a further agreement in August 2019. See Manuel Mucari, Emma Rumney, and Alistair Smout, "Pact is reached in Mozambique but prospects for peace still uncertain," Reuters, August 6, 2019.

d The U.K. law firm Leigh Day represented 273 Mozambicans in a legal action against the U.K. company Gemfields, which held a majority stake in a local operation that was granted a 36,000-hectare concession in Cabo Delgado. Hundreds of artisanal miners were forced out of the area. The case was settled in 2019, with Gemfields paying GBP 5.8 million. "Gemfields Press Statement," January 29, 2019; "Statement by Leigh Day in relation to the settlement of the human rights claims against Gemfields Ltd.," Leigh Day, January 29, 2019. See also "Dans le nord du Mozambique, la face cachée de la fièvre du rubis," Agence France-Presse, October 7, 2018.

representative of the north.¹⁵ According to some accounts, some of the younger men drawn to the sect had been to Saudi Arabia and Sudan on scholarships and returned infused with fundamentalist thinking.^e Morier-Genoud notes that “the national Islamic conference that took place in the northern city of Nampula in 2016 concluded that the sect was then prevalent in four districts of Cabo Delgado province,” including Mocimboa da Praia.¹⁶ Al-Shabaab recruited young Mozambican men and teenagers from a mosque it controlled in Mocimboa da Praia and began demanding that the Muslim population use sharia rather than secular law.¹⁷

Morier-Genoud believes that al-Shabaab moved toward resisting the Islamic establishment and the government in 2016–2017 in response to “the state detaining many Al-Shabaab men in Quissanga and Macomia districts for calling on the population not to respect the secular state,”¹⁸ a far more dangerous demand than disputes over dress or alcohol. A review of local media in this period suggests growing agitation in areas where al-Shabaab subsequently became strong, and continuing waves of arrests.¹⁹ There were also instances of retaliation against al-Shabaab in some communities. Several of the group’s mosques were destroyed.²⁰

By the middle of 2017, there was growing unrest in Cabo Delgado pitting Al-Shabaab against local communities, the Islamic establishment and civil authorities. Morier-Genoud assesses that the group was by then tilting toward achieving “their goal of living in a sharia-based political order from withdrawing from society to attacking the state, in order to change the way society operated. They thus shifted from *Islamist sectarianism* to *armed jihadism*.”²¹

Representatives of the Islamic Council of Mozambique said they had warned authorities of this growing radicalization, which manifested itself in October 2017 with the first attacks on security forces in Mocimboa.²² But they also underestimated its potential.²³ Throughout 2018 and 2019, al-Shabaab’s operations became more brutal and numerous, often targeting undefended villages in the thickly forested province. In September 2018, for example, militants reportedly killed 12 people and destroyed 55 homes in the village of Piqueue,²⁴ their second attack on the village that year.

According to one analysis, which is consistent with other studies, the number of attacks carried out by the insurgents rose from three in 2017 to 19 the following year and 34 in 2019.²⁵ Data accumulated by The Armed Conflict Location & Event Data Project (ACLED), which relies on a variety of sources, suggests that in the first quarter of 2020, ASWJ was involved in about 25 attacks or clashes per month in Cabo Delgado. That number rose to an average of about 45 in the second quarter.²⁶ The United Nations’ monitoring group on the Islamic State and al-Qa`ida reported that “in early 2020, ISCAP [Islamic State Central Africa Province] activities in Cabo Delgado, Mozambique, gained momentum as the group launched complex attacks on several locations.”²⁷

The insurgency also spread geographically in 2019 and 2020. Its earlier attacks were confined to the far northeastern coastal districts but operations gradually spread south toward the regional capital Pemba, a significant port.²⁸ By February 2020, the United Nations High Commissioner for Refugees (UNHCR) said the violence af-

fected nine of Cabo Delgado’s 16 districts.²⁹ Some analysts believe that this expansion, given the size of Cabo Delgado, suggests the group has three regional commands.³⁰

There are multiple accounts of horrendous brutality by the insurgents. UNHCR spokesman Andrej Mahecic said in February 2020: “Those fleeing speak of killings, maiming, and torture, burned homes, destroyed crops and shops. We have reports of beheadings, kidnappings and disappearances of women and children.”³¹

In March 2020, at least six members of the security forces and an unknown number of civilians were murdered at Quissanga.³² The following month, 52 young men were reported killed while resisting recruitment in the district of Muidumbe.³³ One military contractor hired by the Mozambique government, Lionel Dyck—a former officer in the Zimbabwean army—said that “the massacre that followed the attack on the Quissanga police post involved the mutilation of bodies [and] the cutting of limbs.”³⁴

In May 2020, staff of Médecins Sans Frontières fled the village of Macomia in the midst of an attack, along with hundreds of civilians who had already been displaced by the 2019 cyclone.³⁵ Insurgents killed at least 20 people in a raid on the village of Mungue on July 15, 2020, and nine in attacks in the districts of Macomia and Mocimboa da Praia at the end of the month.³⁶ A clinic and maternity ward that had been rebuilt after the cyclone was again destroyed.³⁷

In a tactic reminiscent of Boko Haram in Nigeria, the insurgents also began wholesale abductions of women and girls, including what local sources described as several truckloads in Mocimboa da Praia town at the end of June 2020.³⁸ There are also indications that Christian populations in some places were targeted, with a number of churches burned down.³⁹

Government forces appear to have reasserted control over part of the Quissanga district since April 2020; some displaced civilians have returned to their homes.⁴⁰ Whether that is because the insurgents withdrew of their own accord or were pushed out is unclear.⁴¹ But the area is certainly not at peace, with a number of attacks against civilians reported in September 2020.

Video and photographs released by the Islamic State on behalf of its Central Africa Province (IS-CAP) this year show the insurgents are now substantially better armed, having seized AK-47s, machine guns, and rocket propelled grenades from government troops. The French scholar Matteo Puxton has analyzed videos and photographs released by the Islamic State of ASWJ’s operations. As of mid-August 2020, he tallied the capture by the group of well over 100 assault rifles, as well as heavy machine guns, several mortars, and more than 20 RPG-7s.⁴²

Several analysts believe ASWJ has sourced many more weapons from outside Mozambique given the reach of its operations. This seems highly likely given the expanding reach of the insurgency, the complexity of some of its operations against the security forces, and its access to smuggling routes and a long stretch of north Mozambique’s coastline. Its fighters also appear better trained and capable of close coordination.⁴³ This was especially evident during the multi-stage operation to seize Mocimboa in August 2020.

Emilia Columbo, a senior associate in the Africa Program at the Center for Strategic and International Studies (CSIS), says ASWJ has stepped up attacks on district capitals, military compounds, and patrols.⁴⁴ The hauls of military equipment displayed in propaganda releases, the geographic expansion of the insurgency, and the government’s inability to reassert control over key roads and districts are all evidence that ASWJ’s capabilities have improved. Nor has it

e In 2017, an official of the Islamic Council of Mozambique spoke of students attending a university in Khartoum, Sudan. See Raquel Loureiro and António Cascais, “Ataque em Mocimboa da Praia terá sido ‘caso isolado,’” DW, October 16, 2017.

made the mistake of overreach by committing resources to unsustainable operations. Tactically, it has clearly become more astute.

ASWJ has considerable opportunities to sustain its operations financially. Thus far, its revenue streams have been difficult to discern. Banks have been targets in some of its raids.⁴⁵ There is anecdotal evidence that ASWJ is taking advantage of the coastline it now controls, which is dotted with islands, to derive revenues from smuggling or by taxing illicit activities.⁴⁶

Given the natural wealth of the region (gems, timber, wildlife) and Cabo Delgado's history as a heroin-trafficking route,⁴⁷ there may be plenty of opportunities. A report in 2018 concluded that "wildlife and human trafficking, illegal timber felling, and gemstone smuggling were flourishing, facilitated by corruption and an attitude of indifference."⁴⁸ Based on fieldwork in Cabo Delgado, it said vehicles crossing from Tanzania were rarely stopped and searched. It also suggested Mocimboa had become a hub for weapons smuggling.

Analysts believe that through whatever means, the insurgents now have a substantial cash flow to sustain their operations and have taken control of food supplies in some areas, giving them additional leverage over the civilian population.⁴⁹

ASWJ Focus on Mocimboa da Praia

One thrust of the insurgents' attacks has been against the port of Mocimboa da Praia, home to many of its members. Mocimboa is used to import supplies for offshore gas fields being developed and onshore logistics facilities.

On March 23, 2020, ASWJ targeted army barracks, municipal administration buildings, banks, and gas stations.⁵⁰ Three days before the attack, a sizable contingent of government troops had been withdrawn from Mocimboa da Praia to Mueda inland.⁵¹

The next attack came in June 2020 and forced many civilians to flee by sea to Pemba farther south.⁵² The local mayor said in a television interview: "Everything has stopped: no government infrastructure is working, everything has been vandalised."⁵³

The assault in August 2020 was the insurgents' most complex yet, forcing the withdrawal of Mozambican troops. It included the clearing of neighboring villages by the jihadis, an ambush of troops on their way to reinforce the port in which some 50 Mozambique army recruits were reported killed, and coordinated attacks on military positions in the port's vicinity. Several access roads to the port were cut off. By August 11, 2020, ASWJ fighters occupied the port area.⁵⁴

A witness told Human Rights Watch of "total destruction" and "bodies of ordinary people and soldiers on the streets."⁵⁵ Mozambique's Defense Minister Jaime Neto said the insurgents had "infiltrated several neighbourhoods, dressed as civilians and benefiting from complicity [inside the town], attacking the town from inside, causing destruction, looting and murdering defenceless citizens."⁵⁶ Neto also said that the insurgents had fired on naval vessels trying to reinforce Mocimboa.⁵⁷ Several accounts said the Marines defending the port ran out of ammunition and fled.⁵⁸ Photographs subsequently posted by the Islamic State on behalf of IS-CAP showed a large amount of light weaponry that had apparently been seized in the ambush that preceded the attack on Mocimboa.⁵⁹

ACLED said the attack displayed "rapid improvement in insurgent capabilities, in terms of both resources — the attack relied on the largest gathering of insurgent manpower yet seen in the conflict — and tactics."⁶⁰ This view is supported by Adriano Nuvunga,

executive director at the Center for Democracy and Development in Mozambique. "Insurgents have gained confidence, capacity, more coordination, and they have been bolder in their actions," he said.⁶¹

Part of that capacity is ASWJ's ability to deploy a number of small launches in coastal waters. After occupying Mocimboa, a group of insurgents launched an attack on a nearby island and is reported to have beheaded several people.⁶² The insurgents also occupied another island—Vamizi—that had been developed as a boutique resort, destroying much of the accommodation before leaving.⁶³

The occupation of Mocimboa was a crushing blow for the government, which had prioritized the defense of the port. According to some reports, ASWJ sank one of the Mozambique Navy's HS132 patrol vessels with RPGs.⁶⁴ Columbo, the CSIS analyst, describes the response of the government as stagnant and incoherent as it has struggled to define who the insurgents are.⁶⁵ It regularly announces the arrest of terrorist leaders but seems to have little intelligence on ASWJ's organization, and especially on the roles of any non-Mozambicans. The security forces—as discussed below—have often been slow to move reinforcements; the quality of recruits is poor. More than a month after the loss of Mocimboa, the government claimed that while it did not control the town, nor did the insurgents. "We are not physically in the port and town of Mocimboa da Praia [but they] are not in the hands of the terrorists because we exercise increased control," said Police Commander Bernardino Rafael.⁶⁶ But there was no evidence the insurgents had left Mocimboa as of mid-October 2020, and no sign of the security forces being in the town.

Even before the port's capture, the United States viewed the situation in northern Mozambique with growing alarm. In a State Department briefing a week before the assault, U.S. Major General Dagvin R.M. Anderson, commander of U.S. Special Operations Command Africa, said the United States had observed the insurgents "over the last 12 to 18 months develop in their capabilities, become more aggressive, and use techniques and procedures that are common in other parts of the world — in the Middle East — that are associated with Islamic State."⁶⁷

For now, energy projects are not affected. But the center of operations for the French company Total—the coastal town of Palma close to the border with Tanzania—is just 60 kilometers from Mocimboa da Praia, and the road between the two is deemed unsafe. So is the main coastal road between Mocimboa and the provincial capital, Pemba.⁶⁸

The anticipated revenues from natural gas, which is due to begin flowing in 2024, will be critical to a country that is deeply in debt.⁶⁹ The volume of LNG to be tapped could put Mozambique among the top 10 producers in the world.⁷⁰ The energy company Total alone is expected to spend \$23 billion on developing the Golfinho and Atum offshore fields.⁷¹ Eni SpA's consortium has a separate \$8 billion offshore project called Coral South.⁷² Exxon Mobil is also planning significant investment, but last year delayed work on its Rovuma LNG facility.⁷³

The extraction requires onshore facilities to liquify the gas; some are already being built on the Afungi Peninsula. Total has established secure facilities protected by private security contractors with armored vehicles. The facility has its own jetty and a runway capable of receiving small passenger jets.⁷⁴ But the company has not been immune from the violence. The insurgents have already killed a number of local employees and contractors. Eight people were killed in an attack on a vehicle belonging to a subcontractor, Fenix



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Construction Services, in June 2020.⁷⁵ In August 2020, Total signed a security agreement with the Mozambique government through which the company will provide logistical support to a newly established joint taskforce that will protect its Afungi facilities and surrounding areas.⁷⁶ This suggests the company is concerned about the reach of the insurgency. But the agreement also runs the risk of diverting better elements of the Mozambican army away from the rest of Cabo Delgado.

In a statement on July 3, 2020, IS-CAP threatened to attack the natural gas projects, declaring: “If the Crusaders reckon that they in their support for the disbelieving government in Mozambique will protect their investments and guarantee the continuation of their plunder of the resources of the region, they are delusional.”⁷⁷

Analyst Raymakers expects that in the coming months, ASWJ will launch occasional tactical assaults in Afungi to pin down defense forces in the area and give it breathing space elsewhere in Cabo Delgado.⁷⁸ But he believes the group realizes that an all-out assault on LNG facilities would be too costly. Raymakers believes that the region’s capital, the port of Pemba, may also become a target. Such an operation would demand much greater numbers than the attack on Mocimboa.⁷⁹

The past three years have shown that al-Shabaab/ASWJ has been tactically aware in selecting targets, gradually becoming more ambitious but being careful not to get trapped in a single location. Going forward, much depends on the group’s own calculations on what if any territory is worth fighting for. As it expands, it will also need to become more adept at resupply of everything from food to fuel, and this in turn will require a more coherent approach to

raising and spending money.

International Jihadism in Cabo Delgado

The most challenging aspect of studying the Cabo Delgado insurgency is the extent to which it may have been co-opted by the Islamic State and boosted by the arrival of foreign jihadis.

In April 2019, the Islamic State’s central leadership recognized a new Islamic State province called the Islamic State in Central Africa (IS-CAP). Its first component was based in the North Kivu region of the Democratic Republic of Congo.^f Not long after, in June 2019, and without much fanfare, IS-CAP adopted the insurgency in Cabo Delgado as its second component and from then onward Islamic State Central’s media apparatus began issuing reports of attacks carried out by IS-CAP’s wing in Mozambique.⁸⁰ Notwithstanding the Islamic State’s organizational chart for the region, the history of the Mozambican insurgency provides very little firm evidence of the extent of international involvement.

In 2017, a senior figure on the Islamic Council in Cabo Delgado, Said Bakar, told a Portuguese news network that the local al-Shabaab had been influenced by a radical Kenyan cleric, Sheikh Aboud Rogo Mohammed.⁸¹ Rogo had preached in Swahili—a language widely spoken in northern Mozambique—and his following

^f As other analysts have noted, in April 2019, Islamic State Central’s media apparatus “issued the first IS-CAP activity report, relating details about an attack in the DRC.” Tomasz Rolbiecki, Pieter Van Ostaeyen, and Charlie Winter, “The Islamic State’s Strategic Trajectory in Africa: Key Takeaways from its Attack Claims,” *CTC Sentinel* 13:8 (2020).

among jihadi circles in East Africa was not dimmed by his murder in 2012.⁸

Also in 2017, the authorities alleged that one of the leaders of ASWJ was Nuro Adremane, a Mozambican who had received training in Somalia.⁸² A Gambian cleric called Musa was also named as inciting the population in an area known for ruby mining.⁸³ Neither has been apprehended nor appeared in any of the group's media publications.

When a wave of arrests of anti-government Islamists in Mozambique took place in late 2017 and early 2018, local media reported that of nearly 400 detained, more than 50 were purportedly from Tanzania and a handful from Uganda.⁸⁴ The Tanzanian link is the most persuasive. There is a common ethnic and linguistic bond among the Mwani on either side of the porous border. Tanzanian migrant laborers cross the border to work in the artisanal mines.^h Historically, Islamic clerics in Mozambique have spent time in Tanzania. It also seems likely that some Islamist militants from southern Tanzania have resettled across the border in recent years. The Tanzanian government launched a campaign against their strongholds in the Kibiti area after an ambush killed eight policemen in April 2017.⁸⁵ In January 2018, a senior Tanzanian police official said some of the militants had escaped to Mozambique, whose government had agreed to pursue them.⁸⁶ At about the same time, the insurgency in Mozambique was finding its feet.

This year, some recently displaced civilians say they have seen Tanzanians among the ASWJ, identifiable by their dialect.⁸⁷ Regional sources contend that some ASWJ fighters have spent time at a training camp in the Democratic Republic of Congo run by the Allied Democratic Forces (ADF), a largely Ugandan group that embraces jihadism and was the first component of IS-CAP.⁸⁸

Another strand of a possible Ugandan link was the 2018 arrest in Cabo Delgado of Abdul Rahman Faisal Nsamba, wanted by Ugandan authorities on terrorism charges, along with several other Ugandans. Nsamba had been linked to a radical mosque in Kampala.⁸⁹

While these linkages cannot be confirmed, they suggest a swirling jihadi firmament in East Africa, one that percolated southwards to fertile territory in Cabo Delgado.⁹⁰ As noted above, halfway through 2019, the Islamic State began claiming the attacks in Mozambique as its own. A communique released in June 2019 through the Islamic State-affiliated Amaq News Agency said, "the soldiers of the Caliphate were able to repel an attack by the Crusader Mozambican army ... killing and wounding a number of them."⁹¹ IS-CAP had only emerged three months earlier as an active Islamic State province and its activities had, until then, been confined to the Beni region of the Democratic Republic of Congo.⁹² A short while later, "caliphate soldiers attacked Mozambican army barracks in the Nangade region of northern Mozambique," according to the translation of an Amaq claim by SITE.⁹³ The speed with which the Islamic State has claimed some attacks in Mozambique suggests

at least that it has communication with ASWJ. The relationship remains clouded in mystery. Puxton notes that in one video in mid-2019, a group of Mozambicans are seen pledging allegiance to then Islamic State leader Abu Bakr al-Baghdadi, but there has been no pledge from any purported ASWJ leader to the central leadership of the Islamic State.⁹⁴

A recent *CTC Sentinel* study by Tomasz Rolbiecki, Pieter van Ostaeyen, and Charlie Winter found that the pro-Islamic State Nashir News Agency claimed 14 attacks in Mozambique in 2019, a number dwarfed by Nashir's reporting of attacks in Egypt and Nigeria and less than one-third of the number reported in Somalia.⁹⁵

Data accumulated by ACLED indicates that IS-CAP has publicized just a fraction of the clashes and operations carried out by ASWJ in Cabo Delgado.⁹⁶ Jasmine Opperman, a security analyst in South Africa who compiled the data, says it appears to focus on publicizing high-profile operations but that does not diminish IS-CAP's involvement in and commitment to the insurgency in Mozambique.⁹⁷

In the final analysis, the leadership, structure, and aims of ASWJ remain opaque, and its relationship with the wider African and international jihadi movement is difficult to assess with any confidence.

However, it has become convenient for the Mozambique government to paint the insurgency as imported rather than native. In April 2020, after the attacks in Muidumbe (and 10 months after dismissing the IS-CAP claims in Mozambique), the Mozambique government began accentuating the link between the insurgency and the Islamic State, saying the revolt was being driven by foreign terrorist elements.⁹⁸ Mozambican Defense Minister Neto claimed in August 2020 that the "alleged Islamic state" in Cabo Delgado was receiving reinforcements from outside the country.⁹⁹ That has become the government line. After the loss of Mocimboa, President Nyusi said there were signs "of foreigners who are recruiting and training local youth, and who must also be equipping them, because we don't know how they get equipment."¹⁰⁰

The United States also sees efforts by Islamic State affiliates to expand in the region. In his briefing in August 2020, Major General Anderson said he was "seeing Islamic State move down the east coast of Africa ... We're seeing them establish affiliates or leverage local grievances and consolidate those into their larger movement in DRC and Central African Republic and down towards Mozambique."¹⁰¹ He added that local grievances in Mozambique were now being leveraged by the Islamic State and said media efforts to publicize the insurgents' operations had "the fingerprints and hallmarks of Islamic State."¹⁰²

Regional observers note improved techniques on the part of ASWJ that may benefit from outside help. There are unconfirmed reports, for example, that fighters are now using tunnels to avoid detection from the air.¹⁰³ There are other signs that are intriguing rather than conclusive. During the attack on Mocimboa in June 2020, slogans appeared on the streets in English, which is rarely used in northern Mozambique.¹⁰⁴

Major General Anderson and others acknowledge the difficulty

g Sheikh Rogo had been placed on U.S. and U.N. sanctions lists for allegedly supporting Somalia's al-Shabaab. In 2012, unknown assailants killed him in Mombasa. The UN designation can be found at "Aboud Rogo Mohammed," United Nations Security Council, October 29, 2014.

h For years, illegal migrants from Somalia, Kenya, and the Democratic Republic of Congo, among other countries, have entered northern Mozambique across the unpoliced Rovuma River. For example, "Mozambique/Tanzania: Horn migrants beaten, deported, imprisoned," Refworld, September 2011.

i A review of incidents in Cabo Delgado since June 2019 shows that the great majority of operations carried out by the insurgents, whether attacks on villages and civilian infrastructure or against military patrols and outposts, are never claimed. The Islamic State claims some high-profile attacks on behalf of IS-CAP, but they appear to amount to a small fraction of the total.

in assessing the links. “They are having influence. We don’t know to what extent,” he said of the Islamic State in Cabo Delgado. He added that the situation was being inflamed by the “Islamic State-Core, that now provides them training, it provides them education, and it provides them additional resources.”¹⁰⁵

There’s little public evidence for such extensive connections. As the Soufan Center has observed, the absence of any video release from the Islamic State when Mocimboa was seized “suggests the media connection between ISCAP and Islamic State may not be as strong as in the case of Islamic State in West Africa Province (ISWAP).”¹⁰⁶

The historian Morier-Genoud argues, “one may expect that there will be a strengthening of ties between the two actors over time and that ISIS will eventually influence the insurgents’ strategy, tactics and targeting. But one cannot assume that this has happened or will happen.”¹⁰⁷

On the basis of existing evidence, that is a fair assessment. The association is established, and the Islamic State endures even if it does not expand. Africa, with vast ungoverned spaces, remains fertile territory for both the Islamic State and al-Qa`ida. The Islamic State has in Mozambique an opportunity to target several adversaries: the country’s Shi’a community (though it is very small); the much larger Christian presence; as well as Western interests represented by the oil majors. There is also the prospect of expanding the insurgency to southern Tanzania and tapping into a reservoir of militant Islamism across East Africa.

Government Response

In 2017, the Mozambique government opted for a security response to the unrest in Cabo Delgado rather than any effort to address its root causes: poverty, marginalization, expropriation, and a lack of jobs. That approach has endured since.

One study based on fieldwork in 2019 concluded that the security forces “are widely seen to be unable to fulfil their mission to defend civilians from violent attacks by insurgents, on top of being unpopular with the population because of their heavy-handed approach in ‘controlling’ it, and well reported human rights violations.”¹⁰⁸ The analyst Raymakers says reports of human rights abuses by the military are rampant, and there is no strategy to win over the civilian population of Cabo Delgado.¹⁰⁹ Amnesty International obtained several videos in which soldiers and police are seen carrying out a variety of atrocities against prisoners in Cabo Delgado, including attempted beheading and torture as well as the dismemberment of alleged opposition fighters. The troops reference fighting in Mocimboa, and the videos appear to have been filmed this year.¹¹⁰

Still more troubling is a video that surfaced in September 2020 of men in uniform pursuing, beating, and then shooting dead a naked woman in Cabo Delgado.¹¹¹ The government said the incident would be investigated, but as the Soufan Center commented, it “made it less likely that Western countries will be willing to partner with the Mozambican security forces to combat ISCAP.”¹¹² Raymakers says the incident is an ideal recruitment tool for the insurgents and reinforces one of their key messages—that the government “is a predatory structure with no interest in guaranteeing the well-being of its people and especially northern Mozambicans.”¹¹³

The government’s handling of the insurgency has frequently been blunt and arbitrary. In December 2017, for example, government forces carried out a helicopter raid and a bombardment from naval vessels on the village of Mitumbate, which was believed to be

an ASWJ stronghold. Local media said women and children were among 50 killed in an indiscriminate bombardment.¹¹⁴

As jihadi insurgent attacks multiplied in 2020, the security forces were slow to mobilize. “There seemed to have been neither much of combination nor coordination in FDS [Defense and Security Forces] in immediately repelling the armed attacks,” concludes one study.¹¹⁵ Poor training, a lack of equipment (especially protected transport), interdicted supply lines, and difficult terrain have hampered the Mozambican armed forces and the various foreign military contractors who have arrived since mid-2019.¹¹⁶

There are also issues of command and control: the security forces are fragmented among the Polícia da República (PRM), which has its own militarized Rapid Intervention Unit (UIR) and units of the Forças Armadas e Defesa de Moçambique (FADM). Several observers also speak of distrust between foot soldiers in the army, many of them raw recruits, and their commanders. Newly minted troops are being asked to fight in a conflict they do not understand and for which they are poorly equipped. “Many soldiers apparently sell their uniforms and weapons to run away from a war which they do not see as theirs,” concludes one study.¹¹⁷ Many are from the south of the country, unfamiliar with the territory or population.

Both the government and security forces have also been preoccupied with a rebellion by dissident members of the RENAMO group in central Mozambique, which has diverted resources from Cabo Delgado. President Nyusi signed a peace deal with RENAMO in August 2019, but part of the group rejected the agreement and sporadic clashes continue.

The country’s indebtedness and chronic corruption have left the armed forces starved of investment. A source in Maputo told the author that the military is poorly structured for counterterrorism and needs “intelligence-led operations, small and well-equipped elite units, military drone technology and better regional and transnational coordination.”¹¹⁸

More recently, as the humanitarian situation deteriorated, President Nyusi began to talk more in terms of development for the north. The government has launched a new development agency—Agência de Desenvolvimento Integrado do Norte (ADIN)—to revitalize the north. But it will take months and even years before it bears fruit.

International Intervention

Several countries, including the United States, France, and Portugal, have offered the government of Mozambique support in dealing with the insurgency, though none has proposed putting its own forces into the country.^j Major General Anderson said, “We like to keep this away from the military as much as possible because there are multiple other means to engage with violent extremism to eliminate those underlying conditions.”¹¹⁹ In a change of policy in September 2020, and perhaps in recognition of the gravity of the situation, the Mozambique government appealed to the European Union “for help in training its armed forces to battle the insurgency,” as well as humanitarian aid for the growing tide of displaced.¹²⁰

The European Union said in October 2020 it would offer “logis-

^j Portugal has said it is assisting Mozambique with its counterinsurgency program. “Governo consulta UE e ONU sobre Cabo Delgado. PSD pede intervenção externa,” *Plataforma*, June 17, 2020. According to the author’s background interviews with regional security sources, France offered to assist Mozambique with surveillance and satellite imagery in late 2019.

tics for training and technical training in several and specific areas” but would require “verifiable commitments from the Mozambican security forces to respect human rights in its operations and hold violators accountable” before providing military support. That support would not include any combat role.¹²¹

Over the past year, President Nyusi has preferred to use private military contractors, from Russia and southern Africa, with limited success and little consistency. In 2019, several firms bid for security work in Cabo Delgado, among them the South African contractor Umbra Aviation, “which recommended the use of attack aircraft and helicopters as well as a range of armored vehicles, in what it described as ‘a proposal for the effective defeat/destruction of the hostile/anti-government components.’”¹²²

However, the government then turned in a different direction. In August 2019, Nyusi visited Moscow, the first visit to Russia by a Mozambican head of state in two decades. He and President Vladimir Putin signed agreements on mineral resources, energy, defense, and security. Russian energy giant Rosneft signed an agreement at the same time with Mozambique’s state-owned energy company to help develop gas fields.¹²³ Within a month, the first contingent of Russian private military contractors from the Wagner Group arrived in Mozambique. Approximately 160 contractors arrived on September 13, 2019, in a Russian Antonov An-124 plane, according to flight data. Twelve days later, a second Antonov An-124 touched down at Nacala carrying military equipment, including an Mi-17 attack helicopter. They were subsequently based at Pemba and Mueda (the Mozambican army’s main base in Cabo Delgado.)¹²⁴ The Kremlin put distance between itself and the Russian contingent. Dmitry Peskov, President Putin’s spokesman, said in early October 2019 that “as far as Mozambique is concerned, there are no Russian soldiers there.”¹²⁵

The Wagner contingent—comprising at least 200 men—was ill-prepared for the mission at hand. They lacked aerial surveillance and had a poor relationship with local forces. Within weeks they had sustained casualties; at least two contractors were killed, perhaps more.¹²⁶ The role of the Wagner contingent has since been reduced,¹²⁷ and the government has turned to contractors from southern Africa, notably Lionel Dyck,¹²⁸ who had previously assisted with an anti-poaching program in Mozambique.¹²⁹ In an interview in July 2020, Dyck said, “The stakes are extremely high but the Mozambique Defence Forces are unprepared and under-resourced and we have to move fast.”¹³⁰

The Dyck Advisory Group has three helicopters based at Pemba¹³¹ and is beginning a new role training Mozambican police.¹³² It lost a Gazelle helicopter in April 2020, which was apparently shot down by insurgents,¹³³ and a Bat Hawk ultralight crashed two months later.¹³⁴ Sources say its efforts to assist troops defending Mocimboa port in August 2020 were ineffective, with ammunition dropped too far from the garrison to be retrieved.¹³⁵ The fact that helicopters had to be deployed from Pemba gave them limited time over Mocimboa.¹³⁶ Raymakers says military contractors may be able to plug certain capability gaps, but helicopters are not going to change the dynamics of the conflict. Contractors also have a risk threshold.¹³⁷ The scholar Emilia Columbo agrees that “to the extent PMC [private military contractor]-supported operations have been successful in pushing back insurgents, we have seen them adapt, regroup, and strike again.”¹³⁸

Regional Intervention

The Mozambique government has so far been reluctant to call upon neighbors for security assistance. It has instead stressed the need for border security, in keeping with its line that the insurgency is driven from beyond Mozambique. Defence Minister Neto has said that the only help Mozambique needs “is vigilance at the borders to prevent bandits from entering our territory.”¹³⁹

To the United States, a lack of regional coordination threatens to leave a vacuum in which the insurgency can grow. Major General Anderson said in August 2020: “Other countries in the region will need to engage: Tanzania, Malawi, and others will need to help. Terrorists know no borders. They will cross borders. They will engage. They will seek safe havens and refuges where they can in order to continue to disrupt the region.”¹⁴⁰

After the August 2020 attack on Mocimboa, Tanzania’s defense forces launched a counterinsurgency operation along the thickly forested border adjacent to the Rovuma River.¹⁴¹ They reported detaining one group suspected of being militants. A source close to the Mozambican presidency said collaboration with Tanzania was close and fruitful.¹⁴² The regional grouping to which Mozambique belongs, the Southern Africa Development Community (SADC), has done little more than express solidarity with Mozambique, both at a ministerial gathering in May 2020 and its virtual summit in August 2020.¹⁴³ South African President Cyril Ramaphosa has suggested that SADC will assist,¹⁴⁴ but without offering specifics. In any case, recent history suggests the government in Maputo is wary of intervention from South Africa. South Africa may be equally hesitant about getting embroiled in a conflict in which the Mozambican defense forces lack basic capabilities and are frequently accused of human rights abuses. Additionally, the South African defense forces have not staged an operation beyond the country’s own borders since 1998—besides their peacekeeping roles—and have been squeezed of funds in recent years.¹⁴⁵ The Islamic State, in its online publication *Al Naba*, warned at the beginning of July 2020 that any intervention would lead to retaliation inside South Africa.¹⁴⁶

The insurgency is, in any case, an East African more than a southern African problem. The porous border with Tanzania along the River Rovuma is the most problematic. Thickly-forested areas of southern Tanzania offer the insurgents escape routes and rear bases. There are linguistic and ethnic bonds among Muslims in northern Mozambique and southern Tanzania.

On October 15, 2020, the Islamic State claimed in a communiqué the first attack by IS-CAP into southern Tanzania, which included a “clash with Tanzanian soldiers in Mtwara.” IS-CAP fighters “attacked a military post in the town of Kitaya, inflicting an unspecified number of casualties and setting fire to a tank,” the communiqué stated.¹⁴⁷ While there was no confirmation of the incident by Tanzanian authorities, it was reported in regional media, and a photograph of a damaged Chinese-made armored personnel carrier in service with the Tanzanian military was also circulated.¹⁴⁸

Conclusion

Cabo Delgado is now at a turning point. The months-long occu-

k Article 6 (1) of the SADC Mutual Defence Pact specifies that “an armed attack against a state party shall be considered a threat to regional peace and security and such an attack shall be met with immediate collective action.” However, the organization has not exercised this option.

pation of a major town by ASWJ, as well as continuing operations across a wide area, is dramatic evidence of the group's growing capabilities. It requires fresh thinking from the government in addressing both the security threat and the underlying social and economic conditions in the region.

"The momentum is firmly with ASWJ and without significant regional assistance, substantial financial commitments and major structural reform it is unlikely that the Mozambican army will manage to substantially turn the tide in their favour in the next six months," Raymakers says.¹⁴⁹ In a June 2020 report, the Tony Blair Institute for Global Change argued that ASWJ may "potentially pose just as acute a threat as Boko Haram in the Lake Chad Basin, Jama'a Nusrat al-Islam wa al-Muslimin' (JNIM) and Islamic State in the Greater Sahara (ISGS) in the Sahel, and al-Shabaab in Somalia."¹⁵⁰

At present, there is little sign of a coherent government strategy. Analyst Emilia Columbo says that Mozambican security forces are not trained in counter-extremist operations and lack the discipline, equipment, and military intelligence to combat the insurgency. And without a more comprehensive approach to dealing with economic and social problems in northern Mozambique, she believes the insurgency will become an entrenched and long-term security problem.¹⁵¹

For its part, ASWJ's growing tactical sophistication, widening reach, and ability to hold territory pose deep problems for a state that appears hesitant to draw on foreign assistance. Promised economic assistance to northern Mozambique can only begin when a degree of security is restored; at present, about one-third of the province is consistently or largely beyond the government's control

and its main coastal artery is unsafe.¹⁵² Mozambique's insurgency is intensifying and becoming a growing attraction for jihadis beyond its borders.

Attacks by ASWJ across Cabo Delgado in the first nine months of 2020 were twice those in all of 2019.¹⁵³ The group has established a dangerous momentum. Whether that continues depends on ASWJ's own ability to recruit more fighters and attract jihadis from elsewhere in East Africa, as well as its ability to sustain operations financially and through acquiring more powerful weaponry. The indications thus far are that the insurgency is driven by young, marginalized Mozambicans, but the first signs are emerging of capabilities that suggest advice and assistance is coming from outside Mozambique, given the rapid evolution of the insurgency.

The immediate future will also depend on the government's willingness to seek international assistance beyond simply protecting energy infrastructure in the Afungi Peninsula. The seizure of Mocimboa da Praia may have been a wake-up call. President Nyusi has indicated the government's readiness to embark on a broader campaign to win hearts and minds in the north through financing economic development. However, there is little sign yet of the urgent reforms required to improve the organization and effectiveness of the security forces. That will demand much more than the limited training and other support that can be offered by private military contractors. It will also demand that the international community—especially the United States and European Union—provides greater support and training that is tied to well-focused aid programs.

The current trajectory of the conflict suggests that 2021 will be an even greater challenge than this year—so far—has been. **CTC**

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Twenty Years after the USS Cole Attack: The Search for Justice

By Pete Erickson, Seth Loertscher, David C. Lane, and Paul Erickson

The United States has endured significant challenges over the past 20 years in securing justice for the victims of the attack on the USS Cole, which was carried out by al-Qa`ida on October 12, 2000. At best, the United States has achieved only a partial sense of justice for the victims of the Cole attack and their families. It has been able to hold only five of the perpetrators of the attacks accountable for their crimes, two through continued detention at Guantánamo Bay and three killed in airstrikes. Twenty years later, no trial has been conducted by the United States for the perpetrators, either in federal court or in the military commission system. Yemen has held at least seven of the perpetrators accountable, though all have been released and some returned to militant activity. Justice, in the case of the Cole has been long, complicated, and mostly unsatisfying, and in many ways this illustrates the broad difficulties associated with the vital concepts of justice and accountability during the fight against terrorism.

On October 12, 2000, two al-Qa`ida suicide bombers attacked the USS Cole, a U.S. warship refueling in the port of Aden, Yemen. The suicide bombers had placed nearly 500 pounds of explosives inside a small fishing vessel and maneuvered it alongside the Cole, blasting a large hole near the ship's galley.¹ The attack killed 17 American sailors, injured dozens more, and nearly sunk the Cole.² Less than 11 months afterward, the attacks of 9/11 occurred, ushering the United States and its allies into the "Global War on Terrorism."

After 20 years and efforts spanning four presidential administrations, the question of whether the United States achieved justice for those killed in the attack on the Cole remains. It is a vital question because the nation's response to the Cole reveals many of the difficulties the country has experienced during the past 20 years of counterterrorism operations. Ultimately, an examination of the U.S. response to the attack on the Cole shows that, at best, only a sense of partial justice has been achieved for the victims and their families.

This article proceeds in three parts. First, using a variety of government reports and memoirs of senior civilian officials, it summarizes the initial efforts of the U.S. response to the attack, outlining some of the major bureaucratic difficulties that hindered the government from mounting a swift and effective response. Second, relying on open-source data, it examines in detail the fates of 10 individuals operationally connected to the attack. Third, it examines the degree to which there has been accountability and justice for the Cole attack—a difficult endeavor in any setting but even more difficult in the context of the war on terrorism. The article ul-

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Authors' note: This article is dedicated to the memory of Ambassador Michael Sheehan, the former Distinguished Chair of the Combating Terrorism Center at West Point, who passed away in July 2018 after a lengthy illness. He was a strong advocate of the General Wayne A. Downing Scholarship Program, of which two of the authors are alumni. His candor, wit, and drive influenced a generation of military, counterterrorism, and intelligence officers. It is also dedicated to the 17 men and women killed in the attack on the USS Cole: HT3 Kenneth E. Clodfelter, ETC Richard Costelow, MSSN Lakeina M. Francis, USN, ITSN Timothy L. Gauna, SMSN Cherone L. Gunn, ITSN James R. McDaniels, EN2 Marc I. Nieto, EW3 Ronald S. Owens, SN Lakiba N. Palmer, ENFA Joshua L. Parlett, FN Patrick H. Roy, USN, EW2 Kevin S. Rux, MS3 Ronchester M. Santiago, OS2 Timothy L. Saunders, FN Gary G. Swenchonis, Jr., ENS Andrew Triplett, and SN Craig B. Wibberley, USN, as well as those injured in the attack and all the families who suffered tragic loss and continue to seek justice. In addition, the authors are grateful to Commander (Ret) Kirk Lippold and Ali Soufan for the assistance they provided in the course of this research and for their continued dedication to securing justice for the USS Cole.

The views expressed in this article are those of the authors and do not necessarily reflect those of the Combating Terrorism Center, United States Military Academy, Department of Defense, or U.S. Government.

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timately argues that the pursuit of justice in the case of the Cole has been complex, challenging, and remains incomplete. For this reason, even as the nation and the U.S. military prepares to encounter evolving threats, to include those posed by near-peer competitors, the United States must continue to focus on achieving justice for the perpetrators of terrorist attacks such as that against the USS Cole.

Lost in Transition

Speaking the day after the attack, President Bill Clinton vowed to bring the perpetrators to justice, stating “we will find out who was responsible and hold them accountable.”³ However, turbulent domestic politics and bureaucratic indifference within the U.S. government with respect to terrorism prevented the United States from forming and delivering a coherent response in the immediate months after the attack on the Cole. Though the U.S. government suspected early on that al-Qa`ida was responsible, U.S. intelligence agencies did not confirm that the terrorist group was behind the attack until December 2000.⁴ In the intervening period between October and December, moreover, the United States experienced a bitter and ultimately contested presidential election that went undecided until December 12, 2000, when the Supreme Court ruled in favor of George W. Bush.⁵ Key personnel working within the Clinton administration, such as President Clinton’s National Coordinator for Security, Infrastructure Protection, and Counter-Terrorism Richard Clarke, vigorously fought to ensure that there would be no momentum lost between the transitioning administrations with respect to terrorism and, in particular, delivering a response to al-Qa`ida for the attack on the Cole. But the combination of less-than-certain intelligence and handover among key personnel within the administrations meant that the perceived degree of urgency in responding to the attack on the Cole weakened.⁶

Moreover, in the pre-9/11 era, terrorism was not viewed as a significant threat by many Americans.⁶ Consider that during the final presidential debate between George W. Bush and Al Gore, which occurred just five days after the attack on the Cole, the topics of terrorism, al-Qa`ida, and the attack itself were hardly mentioned. The debate moderator asked the audience to observe a moment of silence before the debate began, but not for those killed in the Cole bombing, but rather in memory of Missouri Governor Mel Carnahan, who died the night prior in a plane crash.⁷ Of the two candidates, Vice President Gore later mentioned the victims of the Cole attack during one of his responses, but neither candidate was asked to elaborate on a potential military response against, or on a government strategy for dealing with, al-Qa`ida. At the time of the attack on the Cole, most Americans simply did not perceive terrorism as a serious threat.

Bureaucratic disunity and a lack of focus were also present within and among multiple governmental agencies and organizations at the time, further complicating governmental efforts to form a sound response against al-Qa`ida after the attack on the Cole. For instance, in at least two investigations undertaken by the U.S. Navy and the Department of Defense regarding the attack, key findings and recommendations ultimately centered on issues related to force

protection.⁸ At his final press conference on January 19, 2001, President Clinton’s Secretary of Defense, William Cohen, explained several of the conclusions reached by these investigations, stating, “we must constantly search for and find the so-called ‘seams’ in our force protection plans before our enemies do. In the case of the *Cole*, we did not do so ... we need force protection measures that are more imaginative, more flexible, and less predictable.”⁹ While the issue of force protection is certainly important and was rightly included as a topic of the investigations, in retrospect it seems as though the government made the issue of force protection the primary concern, while other topics, including the growing threat posed by al-Qa`ida and how to respond to the attack, received secondary status.

Michael Sheehan, who served as Ambassador-at-Large for Counterterrorism at the State Department at the time, later recalled that in the months immediately following the attack on the Cole, the government writ large lacked a sense of outrage and anger.¹⁰ To Sheehan, it seemed that many within the government had come to view an occasional terrorist attack—even one that killed Americans—as simply “the cost of doing business in a dangerous world.”¹¹ Richard Clarke further recalls in his memoirs that following a meeting in the days after the attack on the Cole in which several leaders from the Defense Department were present, Michael Sheehan was disgusted at what he perceived to be a general sense of apathy among several of the Defense officials regarding a potential military response against al-Qa`ida.¹² In what is now a somewhat infamous recounting of that incident, Clarke recalls that Sheehan vented his frustration by exclaiming, “What’s it going to take, Dick (Richard Clarke)? ... Does al Qaeda have to attack the Pentagon to get their attention?”¹³

Sheehan’s frustration also reveals a sense that in the pre-9/11 era among governmental organizations, to include the military, law enforcement, and intelligence agencies, there was not only disagreement about if and how the United States should respond against terrorism, but also concerning who should take the lead in responding and whether at its root terrorism fell under the jurisdiction of the legal, military, or intelligence communities. After leading a team to investigate the attacks on the Khobar Towers in 1996, which resulted in the deaths of 19 U.S. Airmen, General Wayne A. Downing, the former head of U.S. Special Operations Command, recalled that though he “emphasized people were at war with us [the United States] ... no one [in government] wanted to address terrorism as war.”¹⁴ Further, in a lengthy interview with one of this article’s authors in 2015, Sheehan described how after the Cole attack, the government continued to “punt the issue of terrorism” despite a very clear record of al-Qa`ida attacking Americans in the years before the Cole bombing.¹⁵

Indeed, al-Qa`ida had been involved in several incidents involving actual or attempted attacks on Americans. In August 1998, al-Qa`ida struck the U.S. embassies in Kenya and Tanzania, killing 257 people, among them 12 Americans.¹⁶ A little more than a year later, toward the close of 1999, terrorists linked to al-Qa`ida planned a series of attacks that became known as the “Millennium Plots.” In one, Jordanian al-Qa`ida operatives attempted to attack Americans staying at hotels in Jordan, but the cell was broken up in December 1999.¹⁷ In another, an Algerian named Ahmed Rasm, who had trained in Afghanistan and had ties to al-Qa`ida, was arrested, also in December 1999, after attempting to smuggle his explosive-laden vehicle into the United States from Canada with the goal of attacking Los Angeles International Airport.¹⁸

a In their memoirs, key Clinton and Bush officials, to include Condoleezza Rice and George Tenet, cite the general sense of change associated with the presidential transition as at least making it more difficult for the government to decide if and how to respond to the attack on the Cole.

Still, despite these many incidents in which al-Qa`ida clearly made both its intent and capabilities to kill Americans known, the attack on the Cole did not galvanize the nation, nor American leaders, to swiftly and firmly respond to the terrorist group. The timing of the attack, and in particular, its simultaneity with a spirited presidential campaign and the subsequent turnover between presidential administrations, combined with an imprecise accounting of the true threat posed by al-Qa`ida, prevented the formation of a timely and direct response to the attack. It would not be until 11 months after the Cole attack, on September 11, 2001, when any doubts about the threat posed by al-Qa`ida, or any sense of apathy about what to do about the group, would disappear.

The Fate of the USS Cole Attackers Explored

In order to assess the degree to which justice has been attained in the Cole case, it is important to first identify those individuals associated with the attack and their levels of culpability. The authors were able to compile a list of 12 individuals who were reported in the open source as being operationally connected to the Cole attack. Since two of those individuals, Ibrahim al-Thawar and Hassan al-Khamri, died conducting the attack, this analysis will continue using the 10 remaining names on the list.

In all data-driven examinations of terrorism, there are, unfortunately, inherent methodological challenges. First, it is difficult to determine a conclusive list of individual actors involved in a plot, as terrorist attacks are conducted by largely covert groups. This is especially problematic in the case of the Cole. Al-Qa`ida did not target the Cole specifically, rather Usama bin Ladin directed Walid bin

Attash and Abdul Rahim al-Nashiri to develop a “boats operation” in Yemen.¹⁹ Prior to the attack on the Cole, there was a previous and failed attempt to attack another U.S. ship, the USS The Sullivans. While many of the individuals involved in the Cole attack were also involved in the attempt on the The Sullivans, not all those who participated in the The Sullivans attack plot were part of the attack on the Cole.^b Similarly, when Yemeni authorities arrested al-Qa`ida suspects after the September 11th attacks and a number of other al-Qa`ida attacks in Yemen, many were held on charges of having been directly associated with the cell that conducted the Cole attack, when in actuality, they were merely linked to general al-Qa`ida activity in the country. Understandably, these arrests within Yemen generated significant media coverage, but a closer inspection of the evidence concerning several alleged individuals reveals that no con-

b For example, Husayn al-Badawi, the brother of Jamal al-Badawi, was identified as an early member of the al-Qa`ida cell established by Walid bin Attash in Aden for the attack on the The Sullivans. While he was listed as a conspirator in al-Nashiri's 2011 military commission charge sheet, little evidence available in the open source exists to tie him to the bombing of the Cole itself. See Ali Soufan and Daniel Freedman, *The Black Banners Declassified: How Torture Derailed the War on Terror after 9/11* (New York: W.W. Norton & Company, 2020), p. 260, and COL Edward J. Regan, Office of Military Commissions, Marine Corps Form 458, “Charge Sheet: Abd Al Rahim Hussayn Muhammad Al Nashiri (15 September 2011),” p. 5.



*Investigators in a boat examine the hull of the USS Cole at the Yemeni port of Aden on October 15, 2000.
(Dimitri Messinis/AP Photo)*

crete link between them and the attack on the Cole can be found.^c

Second, specific determinations about the culpability of each individual can be a problematic endeavor as it requires drawing lines between what constitutes ‘involvement’ in a plot. In this case, the authors chose to draw the lines narrowly, including only individuals with a functional role in the commission of the attack (hereafter “operational role”). These operational roles included either planning, directing, facilitating, or conducting the attack on the Cole.

The narrow lines drawn by the authors excludes a cast of ancillary figures with supporting ties to al-Qa`ida’s overarching goals, but not the actual plot and attack against the Cole specifically.<sup>d</sup> Abu Abdul Rahman al-Muhajir, al-Qa`ida’s chief bomb maker, for instance, provided support and training for Abdul Rahim al-Nashiri, teaching him to construct the bombs.²⁰ His role, however, appears limited to training, and no evidence exists to suggest that he traveled to Yemen to help construct the bomb,^e resulting in his exclusion from the list. Despite these challenges, the authors believe the data provides an instructive look at the individuals most culpable for the attack and subsequent efforts to secure justice.

Aside from the two suicide bombers who perished in the attack against the Cole, the remaining 10 individuals operationally connected to the Cole attack held a variety of roles (Table 1). Three of the individuals (Abd al-Rahim al-Nashiri, Walid bin Attash, and Qaed Salim Sinan al-Harethi^f) have been accused of having key planning roles in the attack and each has been described as the “mastermind” of the attack.²¹ Two individuals (Jamal al-Badawi and Fahd al-Quso) played roles as local coordinators of the attack.²² The remaining five individuals in the data were found to have had a variety of logistical support roles such as providing fraudulent documentation (passports) for others involved in the plot, finances, and explosives, or assisting with attack preparations, reconnaissance, or security.

Table 1: Roles and Current Statuses of Known USS Cole Suspects, as of October 2020

<i>Alleged Suspect</i>	<i>Role</i>	<i>Current Disposition</i>
AL-KHAMRI, Hassan	Suicide Attacker	Deceased in Attack, 10/12/2000
AL-THAWAR (AL-NIBRAS), Ibrahim	Suicide Attacker	Deceased in Attack, 10/12/2000
AL-NASHIRI, Abdul Rahim Mohammed Hussein Abda	Operational Planner and Field Commander	Arrested, 11/2002; Incarcerated (Guantánamo Bay), 9/2006
ATTASH, Walid (Tawfiq) bin (Khallad)	Operational Planner	Arrested, 4/2003; Incarcerated (Guantánamo Bay), 9/2006
AL-HARETHI, Qaed Salim Sinan (Sunian)	Leader of al-Qa`ida in Yemen, provided support to Nashiri’s cell	Deceased: U.S. Airstrike, 11/2002
AL-BADAWI, Jamal	Local coordinator and facilitator for attack	Deceased: U.S. Airstrike, 1/2019; previously jailed in Yemen
AL-QUSO (AL-AWLAQI), Fahd Mohammed	Local coordinator and facilitator for attack	Deceased: U.S. Airstrike, 5/2012; previously jailed in Yemen
AL-AHDAL, Mohammad Hamdi Sadiq (Abu `Asim)	Deputy to al-Harethi, provided logistical support	Unknown; released from Yemeni custody
AMSWAH, Mamoon	Logistical Support, Fraudulent Passports	Unknown; released from Yemeni custody
AL-MURAKKAB, Ali Mohammed Saleh	Logistical Support, Fraudulent Passports	Unknown; released from Yemeni custody
AL-SORORI, Morad	Logistical Support, Fraudulent Passports	Unknown; released from Yemeni custody
DILKUM, Hadi (Hadi Muhammad Salih al-Wirsh)	Logistical Support, Explosives	Unknown; released from Yemeni custody

c Abdel-Monem al-Fatahani, an AQAP figure killed in a November 2012 airstrike targeting AQAP, was reported as having had a role in the USS Cole attack, but his linkages to the plot are unclear. See “U.S. Airstrikes in Yemen Kill Suspect in USS Cole Bombing,” Associated Press, January 31, 2012. Also author interview, Ali Soufan, October 2020.

d It also excludes key leaders such as Usama bin Ladin, who commissioned the plot and appointed al-Nashiri and Attash to carry it out, as well as other Afghanistan-based al-Qa`ida members who knew about or supported the attack. While bin Ladin and other al-Qa`ida leaders were clearly responsible for the attack, the authors chose to exclude them from this study in the interest of closely examining U.S. efforts to seek justice for the Cole attack itself.

e In the federal indictment against Jamal al-Badawi and Fahd al-Quso, for instance, al-Muhajir was accused of providing training in Afghanistan, Pakistan, and Sudan. See *United States of America v. Al-Badawi and Al-Quso*, pp. 8-9.

f While there appears to be ample evidence to support the allegations that al-Nashiri and Attash actively plotted the Cole attack, al-Harethi’s role as a key planner is somewhat less clear. That said, there is evidence to support al-Harethi’s close relationship to bin Ladin as well as allegations that he received instructions from bin Ladin prior to 2000 to return to Yemen and begin plotting attacks. This, combined with his leadership of the al-Qa`ida operatives in Yemen and reports that U.S. intelligence officials searching for him in Yemen in 2002 considered him to have had a role in planning the attack, warrants his inclusion in this list. See Gabriel Koehler-Derrick ed., *A False Foundation? AQAP, Tribes, and Ungoverned Spaces in Yemen* (West Point, NY: Combating Terrorism Center, 2011), pp. 31-32, and James Bamford, “He’s in the Backseat!” *Atlantic*, April 2006.

Moreover, the 10 individuals involved in the plot have endured a variety of outcomes: three (excluding the attackers themselves) are deceased, two are detained at Guantánamo Bay, and the whereabouts of the remaining five are unknown. All three of the deceased were killed in airstrikes by the United States.²³ Of the 10 individuals in the data, seven were tried or incarcerated in Yemen for their role in the attack and either escaped or were released from prison at the completion of their sentences or as the result of an amnesty agree-

ment made by the Yemeni government in 2007.²⁴ Of those seven, two are deceased and the whereabouts and activities of the other five are unknown.

Justice and Accountability for the Cole Attack

The data suggests that the long-term fight for justice has been far messier than might be expected for what would today be considered a major terrorist attack against the United States. The United States was able to hold only five of the perpetrators of the attacks accountable for their crimes, two through continued detention at Guantánamo and three killed in airstrikes. At the same time, the threat from the cell that conducted the attack has, at this point, largely been dissipated, although not before some went on to continue their militant careers in the years after the attack. The U.S. government has, in some cases, struggled to obtain justice through legal systems in the Middle East, where such systems are both far less durable and approach law from a wholly different perspective than the United States, especially with respect to defining which activities constitute “terrorism.” The United States has been somewhat more successful in employing more unilateral means such as military operations, airstrikes, and detentions. Where military action was unsuccessful and where criminal prosecution through partnered nations failed, civil damages served as a last resort for grieving families. A brief examination of these outcomes offers the opportunity to study both the strengths and weaknesses of U.S. efforts to secure justice for the perpetrators of the attack on the USS Cole.

Trials in U.S. Federal Court

Immediately after the attack on the Cole, the FBI initiated a criminal investigation in Yemen to gather evidence and identify the perpetrators. The FBI worked closely with attorneys from the Southern District of New York, who would advance any prosecutions resulting from the investigation.²⁵ In May 2003, Jamal al-Badawi and Fahd al-Quso were indicted for their roles in the attack, after their escape from Yemeni custody the month prior.²⁶ Abdul Rahim al-Nashiri and Walid Attash, the more senior planners of the attack, were named as co-conspirators in the indictment, but were not charged.^g The indictment was seen as a victory for the U.S. Department of Justice as debates emerged over whether individuals charged with terrorism should be tried in the federal court system versus military tribunals.²⁷ No trial for al-Nashiri and Attash was forthcoming, however. Despite long-standing requests and U.S.

pressure, the Yemeni government refused to extradite the men,^h citing a constitutional article preventing the extradition of Yemeni nationals to foreign countries.²⁸

Local Justice

While none of the Cole suspects has been tried in U.S. federal court, a number have faced trial and been convicted within Yemen. At least seven of the 10 individuals within this article’s dataset were arrested by Yemeni security services and sentencedⁱ for their roles in the Cole bombing.^j Justice in these cases appears incomplete, however, as all have either been released or escaped from Yemeni custody. This result stems from systemic limitations in the justice systems of developing nations, many of which, such as Yemen, are officially considered U.S. partners in the war on terrorism. These limitations derive from the unique domestic challenges and contexts within each of these nations. In particular, there are differing perspectives between the United States and these nations regarding the legal ramifications for individual actors suspected of and charged with terrorism. The fate of the Cole attackers offers a clear example of how the domestic challenges and differing legal perspectives in Yemen complicated the United States’ pursuit of justice.

First, Yemen has historically had issues with domestic support for groups like al-Qa`ida, requiring the Yemeni government to maintain a delicate balance with jihadis²⁹ and hampering the support the United States could realistically expect from the Yemeni government. At various points in the initial Cole investigation, for example, U.S. investigators were hampered by Yemeni officials who either seemed sympathetic to al-Qa`ida members or appeared concerned the investigation’s disclosures could prove embarrassing. In the immediate aftermath of 9/11, however, counterterrorism coop-

h The extradition of Jamal al-Badawi, among other issues, served as a significant source of friction in U.S.-Yemeni relations. In October 2007, shortly after al-Badawi’s release from Yemeni custody, the U.S.-sponsored Millennium Challenge Corporation suspended (functionally canceling) a previously awarded grant totaling \$20.6 million designed to help fight corruption and increase the rule of law in Yemen. In early 2008, FBI Director Robert Mueller traveled to the country to engage with Yemeni President Ali Abdullah Saleh over the issue in a meeting that reportedly “did not go well.” The disappointing meeting prompted a call to the Yemeni president from President George W. Bush, though no extradition was forthcoming. To mollify the United States, Yemeni security forces brought al-Badawi back into custody, though only temporarily. President Saleh, for his part, expressed frustration in a June 2008 interview with *The New York Times* that U.S. interference in Yemeni affairs complicated his ability to deal with terrorism inside Yemen and that al-Badawi’s release was part of a Yemeni strategy to control its jihadis and that viewing such releases as a conspiracy was “a misunderstanding.” See “MCC Assistance to Yemen,” Millennium Challenge Corporation, October 26, 2007; Michael Isikoff, “U.S. Angry Over Cole Bomber,” *Newsweek*, October 30, 2007; Michael Isikoff, “Terrorism: A Tense Impasse in Yemen,” *Newsweek*, April 26, 2008; Robert F. Worth, “For Yemen’s Leader, a Balancing Act Gets Harder,” *New York Times*, June 21, 2008.

i This does not include Abdul Rahim al-Nashiri, who was sentenced in 2004 to death in absentia in a Yemeni court while he was held in CIA custody. See Neil MacFarquhar and David Johnston, “Death Sentences in Attack on Cole,” *New York Times*, September 30, 2004.

j Mohammad Hamdi al-Ahdal, Jamal al-Badawi, Ali Mohammed Saleh al-Murakkab, Fahd al-Quso, Morad al-Sorori, Mamoon Amswah, and Hadi Dilkum were all convicted during various trials in Yemeni courts. See Michael Scheuer, Stephen Ulph, and John C.K. Daly, “Saudi Arabian Oil Facilities: The Achilles Heel of the Western Economy,” Jamestown Foundation, May 2006, p. 45; Khaled Al-Mahdi, “Yemen To Free Top Al-Qaeda Suspect,” *Arab News*, November 19, 2006; and “Yemen frees suspected al-Qaida operative,” UPI, February 21, 2006.

g According to officials interviewed at the time of the indictment, the U.S. Department of Justice decided against charging al-Nashiri and Attash, both of whom were in CIA custody at the time, over concerns that such an indictment would require the U.S. government to remove them from overseas detentions sites where they were being interrogated. See Craig Whitlock, “Probe of USS Cole Bombing Unravels,” *Washington Post*, May 4, 2008, and “Pair of Al-Qaida Members Indicted in Cole Bombing,” *Daily Press*, May 15, 2003.

eration between the United States and Yemen increased markedly. Yemeni President Ali Abdullah Saleh sought to demonstrate his willingness to cooperate with the Bush administration and to be seen as a counterterrorism partner rather than a potential U.S. target.³⁰ As Cole plotters were arrested and tried, the United States had little choice but to trust the Yemeni justice system. When Yemeni domestic pressures mounted and these individuals were released or given lenient sentences, however, the United States could do little but watch, as there were no remaining diplomatic tools aside from bilateral engagement to encourage different outcomes.^k

Second, weaknesses in Yemeni institutions diminished the ability of President Saleh to deliver the type of justice sought by the United States. In some cases, Yemeni security forces lacked the capability to arrest individuals suspected of involvement in the attack.^l In others, Yemeni courts posed a more direct problem. For example, the seven individuals arrested by Yemeni security forces received relatively light sentences, escaped, or were released early as part of reconciliation efforts with the Yemeni government.^{31 m} This point is demonstrated by the case of Jamal al-Badawi, who, after being arrested for his role in the Cole attack, was sentenced to death in September 2004.³² However, his sentence was later commuted to 15 years imprisonment despite objections from the prosecution that such a move was too lenient.³³ Al-Badawi would later escape from prison and, upon surrendering himself to Yemeni authorities in 2007, received amnesty.³⁴ Prosecutors in the case, in fact, pushed for stiffer sentences for all those convicted, including the death penalty for Fahd al-Quso and Mamoon Amswah, but in each case, these appeals were denied and sentences were reduced.³⁵

Finally, pursuing justice in local venues exposed widely differing perspectives on the culpability of the perpetrators and the threat they represented. For U.S. officials and FBI investigators, for instance, Fahd al-Quso's role as al-Badawi's local deputy, his training in Afghanistan, and connections to al-Qa'ida members made him an important and potentially dangerous figure. Conversely, he was described as "a good simple youth" by the head of the Yemeni Political Security Organization in Aden.³⁶ Al-Quso would later be arrested, escape from prison, be rearrested, and sentenced to 10 years' incarceration, but was released after only three years.³⁷ Ad-

ditionally, while they are not included in the data for analysis, at least five additional individuals arrested by Yemeni security forces as ancillary Cole suspects were released in 2004 after "successful" participation in a Yemeni deradicalization program known as the Religious Dialogue Committee (RDC).^{38 n} While it is difficult to know the exact number of Cole suspects who continued to engage in militancy, at least one^o of the seven individuals held in Yemeni custody ultimately reengaged.^p

Military Tribunals

In some ways, the United States has been successful in obtaining a semblance of justice through detentions at Guantánamo Bay. Two of the most senior Cole plotters, al-Nashiri and Attash, have been in U.S. custody since their respective apprehensions in Dubai in 2002³⁹ and Karachi in 2003.⁴⁰ However, only al-Nashiri is facing charges related to the Cole attack.^q Attash, has been charged for his role in planning the September 11th attacks,⁴¹ but is not facing charges for his role in the attack on the Cole.^r Justice—and closure—has been slow in coming. Al-Nashiri's pending trial has been subject to multiple issues, including delays, changes in evidentiary standards, concern over al-Nashiri's alleged subjection to "enhanced interrogation techniques" while in CIA custody,⁴² and whether he can even be tried as an enemy combatant for an offense that took place prior to 9/11.⁴³

His trial has also been a source of scandal and embarrassment. In 2017, al-Nashiri's defense team halted proceedings after micro-

k As with many issues, however, the leverage that the United States had to induce the Yemeni government to change its stance on the Cole plotters was subject to other considerations. While the Bush and Obama administrations could have suspended military aid to Yemen, doing so would also have had a negative impact on the development of Yemeni counterterrorism capabilities and an impact on the willingness of President Saleh to allow the U.S. government to launch strikes against al-Qa'ida in the Arabian Peninsula within the country.

l One example is the December 2001 attempt to arrest al-Qa'ida in Yemen leader Qaed al-Harethi and his deputy and fellow USS Cole suspect Mohammad Hamdi al-Ahdal. In the attempt to capture the men, Yemeni troops, tanks, and aircraft surrounded a town in the Shabwah Governorate and clashed with the local tribesmen, resulting in the deaths of between 18 and 22 soldiers. Neither suspect was detained, and the operation served as a major embarrassment for Yemeni counterterrorism efforts. See Koehler-Derrick, pp. 74-76, and "Profile: Ali Qaed Senyan al-Harhi," BBC, November 5, 2002.

m In another example of institutional failure, at least two of the individuals in this list escaped from Yemeni custody during a breakout in 2003, and at least one, Jamal al-Badawi, escaped for a second time during a 2006 prison break. See Susan Sachs, "Suspects in U.S.S. Cole Bombing Escape from Prison," *New York Times*, April 11, 2003, and Christine Hauser, "Mastermind of U.S.S. Cole Attack Escapes Jail," *New York Times*, February 5, 2006.

n The authors were not able to find any names regarding releases for the RDC process, making unclear which individuals were released as part of the dialogues.

o Al-Quso, the "good simple youth," also went on to fill a leadership role within AQAP and was designated by the United States as a Specially Designated Global Terrorist in 2010. He was alleged to have become AQAP's head of external operations and was linked to Umar Farouk Abdulmutallab's failed attack on an airplane over Detroit on Christmas 2009. "Secretary of State's Terrorist Designation of al-Qa'ida in the Arabian Peninsula Operative Fahd Mohammed Ahmed Al-Quso," U.S. Department of State, December 7, 2010; Paul Cruickshank, Tim Lister, and Nic Robertson, "Al Qaeda's bomb-makers evolve, adapt and continue to plot," CNN, May 8, 2012; "US air strike kills top al-Qaida leader in Yemen," Associated Press, May 7, 2012.

p While there is no open-source evidence to support a claim that al-Badawi had reengaged, the authors were told that the impetus for the drone strike against him in 2019 was the result of continued engagement with al-Qa'ida operatives. If this is true, it would bring the number to at least two. Authors interview, Commander (Ret) Kirk Lippold, October 2020.

q Charges against al-Nashiri were first levied in 2008 but were withdrawn in 2009 as part of an Obama administration review, and reinstated in 2011. Luis Martinez and Theresa Cook, "Alleged USS Cole Mastermind Charged," ABC News, July 1, 2008; "U.S. drops Guantanamo charges per Obama order," Reuters, February 5, 2009; Charlie Savage, "Accused Al-Qaeda Leader Is Arraigned in U.S.S. Cole Bombing," *New York Times*, November 9, 2011.

r According to Commander (Ret) Kirk Lippold, the commanding officer of the USS Cole at the time of the attack, while the Office of Military Commissions has made the decision to try Attash for his role in the September 11th attacks, he has admitted to his role in the Cole attack. Prosecutors retain the evidence and elements to the charges required to charge him for his role in the Cole attack should insufficient justice be achieved as part of the September 11th trial. Authors interview, Commander (Ret) Kirk Lippold, October 2020. See also Kristin Roberts, "Detainee claims USS Cole attack planning," Reuters, March 19, 2007.

phones were found in the room where they met with him.^s After refusing to order the defense attorneys to continue, the chief defense council for military commissions, Brigadier General John Baker, was found in contempt of court, a charge later overturned.⁴⁴ In 2019, a federal appeals court threw out all pre-trial orders in the al-Nashiri case after it was revealed that then presiding judge Colonel Vance Spath was applying for a job as an immigration judge with the Department of Justice—a potential conflict of interests in a case jointly prosecuted by the Justice and Defense Departments.⁴⁵ The ruling overturned nearly three and a half years of pre-trial rulings and effectively halted the prosecution. In 2020, the judge now overseeing the case set a new trial date for February 2022.⁴⁶

Targeted Killings

While legal proceedings have been drawn out, inconclusive, or lacked finality, airstrikes have provided a somewhat more decisive means of administering justice to the Cole suspects, although the use of these strikes raises questions about their appropriateness in holding the perpetrators of attacks against the United States accountable. Three of the 10 individuals within the dataset have been killed as a result of U.S. airstrikes, all of which appear to have been specifically targeted.⁴⁷

Each strike seems to have been an attempt by the United States to take action against individuals who were too difficult to apprehend through other means. The Yemeni government was unable to either induce al-Harethi's surrender or to capture him. After being arrested and convicted in Yemeni courts, al-Quso and al-Badawi were both released from Yemeni custody, and despite U.S. attempts, neither was extradited to the United States.⁴⁸ In some ways, military action was the last remaining tool to pursue justice against these individuals.^t

At the same time, U.S. military action is not employed as a punitive measure to secure justice for the perpetrators of attacks against the United States but is utilized against individuals who represent a threat to the United States and its interests. Both al-Harethi, the leader of al-Qa`ida in Yemen, and al-Quso, AQAP's external operations chief, represent cases where the continued threat was clear and identifiable. While some assert the strike against al-Badawi was justified by connections to active militants,⁴⁹ these were publicly little known, and his description in the DoD press release announcing his death as a "legacy al Qaeda operative in Yemen involved in the USS Cole bombing"⁵⁰ raised some questions about the legitimacy of the strike.⁵¹ While the finality of justice achieved through targeted airstrikes is not in doubt, the use of airstrikes as a counterterror-

ism tool has been controversial. The November 2002 strike against al-Harethi was the first use of a U.S. drone to conduct a strike outside Afghanistan,⁵² raising questions about whether such strikes were a violation of international law.^u The death of a U.S. citizen during the al-Harethi strike^v also raised questions about whether U.S. citizens could be targeted overseas without due process.⁵³ As the situation in Yemen destabilized and AQAP grew stronger, attempting to launch attacks against the U.S. homeland, the initial strike against al-Harethi gave way to a campaign of strikes against AQAP militants in Yemen.^w This led some to argue that rather than decreasing militancy in Yemen, the strikes have increased animosity for the United States among local tribes.⁵⁴ While U.S. administrations have defended airstrikes as being authorized under the 2001 Authorization for Use of Military Force and argued the internal vetting processes before and during targeting operations serve as a form of due process, questions remain about both the long-term viability of these strikes as an option for future administrations and their appropriate place in bringing the perpetrators of attacks to justice.

Sudan v. Harrison and the Search for Justice in Civil Court

With little recourse remaining for the victims and their families to pursue justice directly, several have attempted to find it in U.S. civil court. Unsurprisingly, the perpetrators of the attack could not be easily sued, which led the families to seek damages from state actors suspected of harboring al-Qa`ida. In 2004, 59 surviving victims and family members filed suit in U.S. District Court against the Republic of Sudan, the former residence of Usama bin Ladin, for providing material support to al-Qa`ida.⁵⁵ The suit argued that the autocratic regime of Omar al-Bashir actively supported al-Qa`ida and continued to do so well after bin Ladin's expulsion in 1996.⁵⁶

The suit was brought under the Foreign Sovereign Immunities Act of 1976 (FSIA), which provides countries with immunity from lawsuits by private citizens, but includes an exception for state sponsors of terrorism, a designation the U.S. government had given Sudan in 1993. The case was litigated for years in the federal judiciary, with successive legal victories for the families challenged on appeal until the U.S. Supreme Court took up the case *Republic*

s While the prosecution described the microphones as "disconnected, legacy microphones," defense attorneys had previously dealt with issues of recording and surveillance, and in June 2017, two months prior to the discovery of the microphones, Brigadier General Baker had distributed a memorandum to all defense attorneys advising them that he was "not confident that the prohibition on improper monitoring of attorney-client meetings at GTMO ... is being followed." See Carol Rosenberg, "Federal court overturns Marine general's Guantánamo war court contempt conviction," *Miami Herald*, June 18, 2018, and Shilpa Jindia, "Secret Surveillance and the Legacy of Torture have Paralyzed the USS Cole Bombing Trial at Guantánamo," *Intercept*, March 5, 2018.

t While extraction efforts were mounted by U.S. officials, it is also important to note that the deaths of al-Quso and al-Badawi may ultimately have negative impacts on the United States' ability to secure justice against al-Nashiri, as any statements they might have made against him could have been placed into evidence as part of his trial.

u Not all U.S. allies accepted the Bush administration's rationale shared by presidential spokesman Ari Fleisher that "we fight the war on terrorism wherever we need. Terrorists don't recognize any borders or nations." Swedish Foreign Minister Anna Lindh, for instance, described the strike as "a summary execution that violates human rights," further stating that "even terrorists must be treated according to international law. Otherwise, any country can start executing those whom they consider terrorists." Bootie Cosgrove-Mather, "Remote Controlled Spy Planes," *CBS News*, November 6, 2002.

v The American who was killed was Kamal Derwish. Also known as Ahmed Hijazi, he was a Yemeni American who recruited a group of six Yemeni Americans from outside Buffalo, New York, known as the "Lakawanna Six," for a religious pilgrimage, which ultimately led to an al-Qa`ida training camp in Afghanistan. Derwish was riding in the same car as al-Harethi. See James Sandler, "Kamal Derwish: The Life and Death of an American Terrorist," *PBS Frontline*, October 16, 2003.

w According to the New America Foundation, the U.S. government has conducted 374 total airstrikes in Yemen since the al-Harethi strike in 2002. One of those strikes was conducted by the Bush administration, 185 by the Obama administration, and 188 by the Trump administration. See Peter Bergen, David Sterman, and Melissa Salyk-Virk, "America's Counterterrorism Wars: Tracking the United States' Drone Strikes and Other Operations in Pakistan, Yemen, Somalia, and Libya," *New America*, March 30, 2020.

of *Sudan v. Harrison* in 2018. Sudan argued before the court that the suit was improper due to a technicality: the respondents had mailed the service packet to the Sudanese embassy in Washington, D.C., rather than directly to the foreign minister, as stipulated under the FSIA.⁵⁷ In an action that was considered hurtful by at least one victim, Solicitor General Noel Francisco filed an amicus brief agreeing with Sudan on behalf of the U.S. government.⁵⁸ In an 8-1 ruling on March 26, 2019, the Supreme Court found in favor of Sudan, citing the letter of the law as well as its “sensitive diplomatic implications.”⁵⁹

In April 2019, following mass demonstrations, President Omar al-Bashir was ousted in a coup by the Sudanese military. The subsequent transitional government, eager to normalize its relations with other states, agreed to settle out of court with the victims and families of the Cole bombing for a rumored sum of around \$70 million (USD).⁶⁰ The agreement was not accompanied by an admission of complicity and came with the caveat that the settlement was made “because of the strategic interests of Sudan [...] so it can remove its name from the US list of state sponsors of terrorism.”^{61x} After 16 years in the courts, the most direct route to justice pursued by the victims and families reached an imperfect and incongruous conclusion: restitution was dispensed, but seemingly without the accountability or apportionment of guilt.

Conclusion

The U.S. record in securing justice for the attack on the Cole is mixed. In the light of competing domestic pressures and a lack of clarity on how to react to the attack within the Clinton and Bush administrations, the initial U.S. response languished. The events of September 11th helped crystalize the role of terrorism as a national security priority, opening the aperture for tools available to secure justice and inducing Yemen to become a more willing partner in the fight against al-Qa`ida.

In some sense, this focus on terrorism was a boon to efforts to secure justice for the victims of the Cole attack. By the end of 2003, the three most senior plotters, al-Nashiri, Attash, and al-Harethi, were either in U.S. custody or dead, and many others were in Yemeni prison facing trial for their roles in the attack. In the years following, however, continued U.S. engagement in the global fight against al-Qa`ida with its ever-increasing list of high-ranking targets and the need to prevent further attacks consumed the resources of the U.S. government, undoubtedly reducing the priority of the pursuit of justice for the victims of the Cole.

In the final accounting, two of the perpetrators of the attack re-

main in U.S. detention at Guantánamo Bay, neither of whom have been tried for their crimes. None of those arrested in Yemen remain in custody, owing to release or escape, at least one of whom went on to participate in further plots against the United States. Three of the perpetrators are dead as a result of targeted U.S. airstrikes. The families of the Cole victims have gained a hard-fought, if inadequate, justice via the courts, securing a monetary settlement with the government of Sudan. In the end, what does justice look like for these families and for Americans concerned with seeing terrorists held accountable for their crimes? According to Commander (Ret) Kirk Lippold, the commanding officer of the USS Cole at the time of the attack, it is simple: “They just want to know that there is a defined legal process that works, that can result in a trial, a conviction, a sentence, and a penalty.”⁶² To Ali Soufan, the former lead FBI investigator in the Cole case, the answer is similar, but more specific, and focuses on prosecuting al-Nashiri: “At this point, the best sense of justice we’ll get is to prosecute Nashiri. When you prosecute Nashiri, you can give closure to the families for everything that happened regarding the USS Cole ... we need to prosecute this case, and we have everything we need, including a ton of evidence, to do it.”⁶³

Spanning the course of 20 years, four presidential administrations, and several major troop commitments in Afghanistan, Iraq, and Syria, the case of the Cole exemplifies the challenges and contradictions of securing justice in the “Global War on Terrorism.” The difficulties are myriad, from establishing culpability to marshalling the resources needed, finding the right legal avenues, and inducing the cooperation of foreign countries. While public statements about the resolve of the U.S. to bring perpetrators to justice are easy to make, maintaining focus on applying that justice—over time and across differing presidential administrations—is not.

The case of the USS Cole is not an aberration for the United States, nor should it be seen as a historical anecdote. The United States continues to grapple with what it means to achieve justice in the face of terrorism. The deaths of many key al-Qa`ida leaders, Usama bin Ladin among them, have partially secured justice for the victims of the September 11th attacks, although trials through the military commission system for those plotters held at Guantánamo Bay, including Attash, have yet to take place.⁶⁴ Several Islamic State leaders who played roles in the 2014 executions of American hostages in Syria have been killed, and the wife of one has been charged in Iraqi courts.⁶⁵ Two of the alleged perpetrators of those executions, El Shafee Elsheikh and Alexandra Kotey, have been returned to the United States and charged in U.S. federal court, a much needed breakthrough in efforts to secure justice against terrorists.⁶⁶ As in the case of the USS Cole, individuals and agencies across the U.S. government endeavor to hold those who kill Americans accountable for their crimes, but the 20-year search for justice for the victims of the Cole bombing demonstrates that without consistent focus, securing this justice is often long, complicated, and, in many cases, unsatisfying. **CTC**

x On October 20, 2020, the U.S. government announced it had reached an agreement with Sudan to begin the process of lifting Sudan’s designation. The agreed settlement of \$355 million expands the previous agreement regarding the victims and families of the USS Cole to also include those of the 1998 embassy bombings in Kenya and Tanzania. See Abdi Latif Dahir, “‘It’s a New Day’: Sudan Exults in Move to Take it Off List of Terror States,” *New York Times*, October 20, 2020.

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