



The Mysteries – and Realities – of the Havana Syndrome

It's the Russians

by Lewis Regenstein

In recent years, Havana Syndrome has been extensively discussed by government officials and the news media. But most of the reporting has been incomplete, inaccurate, or misleading.

At last count, over 220 American diplomats, intelligence, and military officers, as well as family members, have been harmed, severely disabled, and even felled by fatal cancers through apparent microwave radiation attacks.

These attacks are not a new phenomenon, but rather an evolution in the use of microwave radiation beams. Beginning in the 1950s such weapons have been directed at personnel in the American Embassy in Moscow, including high ranking visitors such as Vice President Nixon.

The Russians have bragged they were developing such weapons. And Russian operatives have reportedly been identified in locations where and when attacks have occurred. Russian fingerprints are all over these attacks – the evidence of their involvement is persuasive. All that is missing is a confession.

U.S. officials who are investigating this matter repeatedly have asserted that they are unaware of the

nature and source of these “mysterious” attacks. While much about “Havana Syndrome” remains a mystery, as administration officials stress, there is more than enough hard evidence to conclude with considerable confidence that Russia is the main culprit responsible.

Americans Attacked throughout the World

Americans have been reportedly targeted and harmed by these attacks, mainly in Moscow and Havana; but also in Beijing, Shanghai, and Guangzhou, China; Vienna; Georgia; Poland; Serbia; Taiwan; Australia; Colombia; Kyrgyzstan; Uzbekistan; the UK; some American cities; and even outside the White House, where two separate incidents have occurred involving National Security Council staffers.¹

The multiple attacks on individual Americans outside of Russia appear to have begun in late 2016 in Cuba, where over three dozen diplomats and CIA officers reported the onset of severe headaches and nausea, after hearing unidentifiable noises inside their heads.² The incidents continued through May 2018, with those who were exposed the longest suffering from the most crippling disabilities. It has been speculated that the attacks were intended to abort efforts by the United States to improve its relations with Cuba.³

In 2007 former President George W. Bush and his delegation may have been attacked with a sonic weapon as they were on their way to the G-8 summit in Heiligendamm, Germany. Former First Lady Laura Bush, in her 2010 book *Spoken from the Heart*, wrote that “by the afternoon of [June 7] I could barely stand up. My head inexplicably throbbed; I was horribly dizzy and nauseated [sic]. I went to bed, pulled up the covers, and for several hours felt so awful that I might die right there in the hotel room... Nearly a dozen members of our delegation were stricken... For most of us, the primary symptoms were nausea or dizziness, but one of

1. Miriam Berger and Rachel Pannett, “What to Know about ‘Havana Syndrome,’ the Mysterious Illness Affecting U.S. Officials around the World,” *The Washington Post*, September 21, 2021; James Schumaker, “Before Havana Syndrome, There Was Moscow Signal,” *The Foreign Service Journal*, American Foreign Service Association (AFSA), January-February, 2022; Julia Ioffe, “The Mystery of the Immaculate Concussion,” *GQ magazine*, October, 19, 2020; Adam Entous, “Vienna Is the New Havana Syndrome Hot Spot,” *The New Yorker*, July 16, 2021; Adam Entous and Jon Lee Anderson, “The Mystery of Havana Syndrome,” *The New Yorker*, November, 19, 2018.

2. This phenomenon is why microwave attacks are sometimes referred to as “sonic attacks.”

3. Tim Golden and Sebastian Rotella, “The Sound and the Fury: Inside the Mystery of the Havana Embassy,” *ProPublica*, February 14, 2018; and *CFR.org* editors, “US-Cuba Relations,” Council on Foreign Relations, June 3, 2022.

our military aides had difficulty walking and a White House staffer lost all hearing in one ear.”⁴

On 26 August 2021, a trip to Vietnam by Vice President Kamala Harris was delayed for over three hours after the U.S. embassy in Hanoi reported “a recent possible anomalous health incident” there, as the administration now likes to call the attacks.⁵

Probably the best known, most outspoken victim is former senior CIA operations officer Marc Polymeropoulos, who since he was attacked in his Moscow hotel bed in December 2017, has suffered from severe vertigo and migraine headaches that forced him to retire. He had recently been transferred from the Agency’s counter-terrorism division to deputy chief of operations for the Europe and Eurasia Mission Center, running covert operations. When he applied for his visa, the Russian embassy in Washington warned him not to go. He went anyway.⁶

After interviewing Polymeropoulos, Russian expert Julia Ioffe wrote: “he has become increasingly frustrated by the Agency’s reluctance to give him and the other CIA officers affected with the medical care they need...He has also grown alarmed that the Agency and this administration are neither investigating nor pushing back against the apparent perpetrators who are targeting his old comrades—and other Americans—in increasingly brazen ways.”⁷

Foreign Service Officer James Schumaker was stationed in Moscow and developed chronic lymphocytic leukemia in 1985 and has publicly discussed his ordeal. A former State Department intelligence official told this author recently that he knew two military attachés at the Moscow embassy who suffered severe health problems, including leukemia, after serving there.⁸

In December 2017 it was reported that Michael Beck, a National Security Agency counterintelligence officer, who had been detained in an unnamed “hostile” country, and an NSA colleague, later suffered debilitating illness and Parkinson’s disease after spending a week in that country in 1996.⁹

4. Laura Bush. *Spoken from the Heart*, New York: Simon & Schuster, 2010. It should be noted that sometimes it is impossible to know if a health incident, such as that involving Mrs. Bush, results from an ordinary illness like the flu or an attack.

5. Byron Tau, “Havana Syndrome: What We Know,” *The Wall Street Journal*, February 22, 2022.

6. Ioffe, “The Mystery of the Immaculate Concussion;” Sean Power and Michael Miner, *Report—Havana Syndrome: American Officials Under Attack*, The Belfer Center, Harvard Kennedy School, November 4, 2021.

7. Ioffe, “The Mystery of the Immaculate Concussion.”

8. Schumaker, “Before Havana Syndrome.” Personal communication, August 2021.

9. Greg Myre, “Long Before Havana Syndrome, The U.S. Reported

As of a few months ago, over 220 American officials are believed to have been harmed by possible microwave radiation attacks, suffering such debilitating and disabling symptoms as constant headaches, dizziness, loss of memory and vision, nausea, insomnia, and vertigo. In addition, over 1,000 U.S. Government employees and family members believe they are experiencing severe headaches and mental disorientation because of such attacks. Most of these incidents have been dismissed by investigators as not provably related to Havana Syndrome.¹⁰

Attacks in Washington, D.C.

In a 26 June 2022 segment of *60 Minutes*, several other injured American officials described to correspondent Scott Pelley their painful, disorienting, and traumatic experiences. Among those was Olivia Troye, an experienced national security official who worked at the Eisenhower Executive Office Building beside the West Wing of the White House. In the summer of 2019, walking toward the White House, she felt as if she were being physically struck: “[I]t was like this piercing feeling on the side of my head, it was like, I remember it was on the right side of my head and I got like, vertigo. I was unsteady, I was, I felt nauseous... I was somewhat disoriented, and I was just, I remember thinking, ... don’t fall down the stairs. You’ve gotta find your ground again and steady yourself...” The “piercing feeling” lingered as she walked by an entrance to the West Wing.¹¹

Miles Taylor, who at the time was deputy chief of staff of the Department of Homeland Security, also described how he suffered the same apparent attack as Olivia Troye: “It was late one night in April 2018. I’d just become deputy chief of staff of the department ... and woke up in my apartment that night, a row house on Capitol Hill, to a really strange sound... It was sort of a chirping ... I opened up my window, looked down at the street... this is probably 3–3:30 in the morning and I see a white van. And the van’s brake lights turned on, and it pulled off and it sped away.”¹²

The description of a chirping sound, and a white van pulling away is common to several accounts of apparent attacks prior to the onset of Havana Syndrome.

Microwaves Beamed at an Embassy,” *NPR*, October 21, 2021.

10. Berger and Pannett, “What to Know about ‘Havana Syndrome.’” Also, Jonathan Landay, “U.S. Diplomats, Spies May Have been Hit by Electromagnetic Energy,” *Reuters*, February 2, 2022.

11. Scott Pelley, “Targeting Americans,” *60 Minutes*, *CBS News*, February 20, 2022 and “Targeting Americans,” June 26, 2022.

12. Pelley, “Targeting Americans,” June 26, 2022.

An unnamed “senior member of the National Security Council” was similarly stricken in November 2020, also on the steps by the West Wing, and described the incident to John Bolton, a close colleague and former national security adviser. The official told *60 Minutes* that more than a year later, “I’m still recovering and suffering from headaches and other symptoms, and have been diagnosed with two other medical conditions that are believed to be the result of the attack...” He’s still an outpatient at Walter Reed National Military Medical Center.¹³

Others have been targeted too. The front page of the 29 March 2022 *Wall Street Journal* carried an article on an apparent attack on Ukrainian peace negotiators, around 3 March, causing illness and in one case temporary blindness: “western experts...said by poison or some sort of electromagnetic radiation attack, the people familiar with the matter said...Some...blamed the suspected attack on hard liners in Moscow who they said wanted to sabotage talks to end the war.”¹⁴

The Attacks Began 70 Years Ago

Much of the reporting on the subject by the media has portrayed the apparent attacks inaccurately or incompletely as a recent new phenomenon and of uncertain origin. The media has often reported that these attacks began in Cuba six years ago, often contradicting their own reporting of previous years. As has been widely and accurately reported, the attacks began in Moscow some 70 years ago, in 1953, and was then known within the diplomatic and intelligence communities as “the Moscow Signal” (often referred to as the MUTS signal).¹⁵

The Russians have privately admitted this, justifying it on the grounds that they were simply jamming US listening devices on the embassy’s roof. As *New York Times* correspondent Bernard Gwertzman wrote on 26 February 1976, after 15 years of denials, “The Russians have privately admitted to using microwaves, to counter the array of listening devices on the roof, they have claimed. Some people think they use microwaves to activate their own surveillance devices hidden in the embassy.” Gwertzman went on to write

that the Russian action had “irritated Administration officials and produced diplomatic protests” because of “possible damage to the health of American personnel from long periods of exposure to the low-level radiation... According to Administration and Congressional sources, the Russians have been beaming, the microwave emissions into the American embassy for 15 years. At first the waves came from a nearby building, but after that structure was torn down, the waves came from across Tchaikovsky Street, the large boulevard the embassy faces.”¹⁶

One former embassy officer told me, “Over 40 years ago, when I was assigned as an Assistant Army Attaché at the Moscow Embassy, my desk was directly in front of a window, which had a large screen attached, directly across the Ring Road from a KGB facility. Periodically, some type of technician would visit my desk and the screen covering the window. He would raise the screen and the dial on his meter would approach a [dangerously high] reading of 100. Lowering the screen would return the needle to a safe reading near Zero. He was measuring a Microwave Bombardment from the KGB facility across the street.”¹⁷

Irradiating the Vice President

In July 1959, while Vice President Nixon was visiting Moscow, the Russians subjected him and his wife, Pat, to ionizing radiation, bombarding the bedrooms at the American ambassador’s residence, known as Spaso House. After detection equipment, known as Radiac Dosimeters, detected the high levels of radiation, Secret Service agents, assuming the quarters had been bugged, loudly complained about “dirty tricks by their hosts,” and the levels of radiation “settled down.” Interestingly, the Secret Service account, released by the National Security Archive, reports that U.S. Ambassador to Moscow, Llewellyn Thompson, and Vice Admiral Hyman Rickover, who accompanied Nixon, decided “not to make this information known to the Vice President,” and it remained a secret for 17 years until the media exposed “The Moscow Signal” in February 1976.¹⁸

When the State Department began investigating the health effects of the radiation beams, James

13. Pelley, “Targeting Americans,” June 26, 2022.

14. Florence Powell, Daily News Roundup, “Russia, Ukraine - Diplomacy,” *JustSecurity.org*, March 29, 2022.

15. Bernard Gwertzman, “Moscow Rays Linked to U.S Bugging,” *The New York Times*, February 26, 1976; also, “A literal secret weapon is hurting U.S. diplomats abroad. What is it?” Editorial, *The Washington Post*, 7 September 2018. See also Schumaker, “Before Havana Syndrome.” Schumaker notes the first Moscow Signal was detected in 1951.

16. Gwertzman. “Moscow Rays...”

17. Author’s personal discussion with a former military attaché, April 2022.

18. These attacks are described in detail in declassified Secret Service documents obtained from the Nixon Presidential Library in California and released in September 2022 by the National Security Archive. <https://nsarchive.gwu.edu/briefing-book/intelligence-nuclear-vault-russia-programs/2022-09-22/moscow-signals-declassified>.

Golden, who was on Nixon's Secret Service detail, revealed the story to State Department medical officials and the Soviet desk on 28 April 1976. He later learned that he had been subjected to "massive dosages" of ionizing radiation generated by an atomic battery that the Russians "used to power radio transmitters used for bugging purposes."¹⁹

Secretary of State Kissinger Protests

Some sixteen years after Nixon's trip, on 9 December 1975, Secretary of State Henry Kissinger was finalizing plans to visit Moscow to engage Soviet leaders face-to-face for talks on arms control. On that day, he placed an "urgent" telephone call to the Soviet's affable Ambassador in Washington, Anatoly Dobrynin, saying, "I want to talk to you about the signal. That beam you are beaming into our Embassy in Moscow... Maybe you could turn it off until I get there." Expressing concern that the Russians "could give me a radiation treatment," Kissinger warned Dobrynin that the microwaves could become a big obstacle to better relations between the two countries, saying, "We really are sitting on it here but too many people know about it... We will catch hell unless we can say something is happening" to put an end to it. Transcripts of these conversations were released on 13 September 2022 after being obtained under the Freedom of Information Act by the National Security Archive, which notes that: "High-level U.S. efforts to press Soviet leaders to halt the radiation activity began in 1967 and continued under four administrations into the Carter era. The microwave transmissions, believed to be related to bugging devices hidden in the Embassy walls, continued for decades after they were first detected when the U.S. Chancery opened in the early 1950s."²⁰

In December 1975, President Gerald Ford wrote to Soviet Premier Leonid Brezhnev, that microwaves "Pose Unacceptable Potential Hazards to the Health of Our Employees." "These transmissions have created levels of radiation within the Embassy which may, in the opinion of our medical authorities, represent a hazard to the health of the American families living and working in that building." Brezhnev responded, denying any malicious intent, and asserting that "the electromagnetic field in the area of the U.S. Embassy in Moscow [was] of industrial origin." and noting, with some validity, that the radiation, was "several times

lower than the standard officially recognized in the United States as not hazardous for human health."²¹

There were also secret and unsuccessful negotiations in early 1976 between U.S. Deputy National Security Adviser William Hyland and Soviet official Yuli Vorontsov discussing a possible agreement under which the Soviets would "turn off their radiation," and both countries would take down their electronic surveillance "shacks" on the roofs of their respective embassies.²²

The National Security Archive notes that released documents show that "Soviet denial was part of a pattern: when the Ford and Carter administrations lodged protests about increased strength of the microwave radiation, top Soviet officials, including Foreign Minister Andrei Gromyko and Communist Party General Secretary Leonid Brezhnev, stonewalled. According to a declassified telegram, Gromyko told U.S. Ambassador Walter Stoessel in January 1976 that it was an 'imaginary issue.'" After years of exposure, three U.S. ambassadors to Moscow have died of cancer at early ages – Chip Bohlen at 69, Llewellyn Thompson at 67 and, after suffering from nausea and bleeding in his eyes, Walter Stoessel at 66. While not a smoking gun, none of these untimely deaths should be ignored.²³

Weaponizing Microwaves Against Americans

Over the years, American diplomats in Russia repeatedly protested the "...possible damage to the health of American personnel from long periods of exposure to the low-level radiation...", including at least three American ambassadors prior to 1976 – Foy Kohler, Jacob Beam, and Llewellyn Thompson.

It may well be that the microwave bombardment of the embassy began as a way to counter communications equipment on the roof; to recharge Soviet listening devices; or disrupt American surveillance devices, like those listening in on the conversations of Soviet officials talking to each other while riding in their limousines. But once the Russians realized that the radiation was causing health effects — and they have studied this extensively — they continued to radiate the embassy and began to weaponize the use of microwaves, developing smaller microwave transmitters that could be directed against individuals.

19. National Security Archive release.

20. National Security Archive release.

21. National Security Archive release.

22. National Security Archive release.

23. Schumaker, "Before Havana Syndrome."

What is Havana syndrome?

The medical mystery named for the Cuban city where U.S. diplomats first experienced sudden, debilitating symptoms in 2016 has been reported by Americans serving in several other countries.

Acute symptoms (often occurring suddenly) may include:

Loud sounds (sometimes described as chirping, clicking or screeching) and pain in one or both ears; many felt the sensations came from a particular direction or were felt when in a specific location

Tinnitus, hearing loss

Intense pressure or vibration inside the head

Difficulty with memory or concentration

Visual disturbances

Nausea

Unsteady gait, loss of balance, vertigo/dizziness

Chronic symptoms (can last weeks, months or longer) may include:

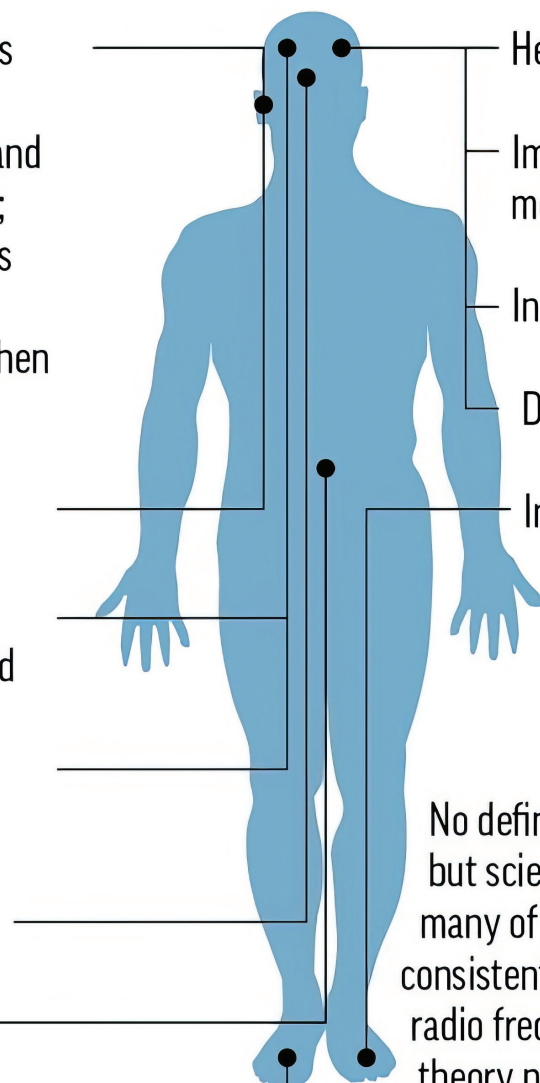
Headache

Impaired concentration, memory loss

Insomnia

Depression

Impaired balance



No definitive cause has been found, but scientific studies have noted many of the acute symptoms are consistent with exposure to directed radio frequency (RF) energy. One theory posits the use of RF energy by a U.S. adversary as a weapon or a tool of espionage.

Source: National Academy of Sciences

U.S. Government doctors have warned of the potential dangers caused by the “Moscow Signal,” stating that it was “vital to install protective screens on embassy windows and to inform the personnel of the risks.” In 2011, The International Agency for Research on Cancer (IARC) classified radiofrequency electromagnetic fields as being a possible human carcinogen.²⁴

Russians Bragged about Microwave Weapons

There are reliable reports that the Russians have been able to reduce the size of their microwave transmitters and to weaponize them, something they have not only acknowledged but even boasted about. As far back as March 2012, then Russian Defense Minister Anatoli Serdyukov announced that Russia’s ten-year military procurement plan included weapons based on “directed energy” and “psychotronics” — which would be intended to attack the central nervous system. “The development of weaponry based on new physics principles — direct-energy weapons, geophysical weapons, wave-energy weapons, genetic weapons, psychotronic weapons, etc. — is part of the state arms procurement program for 2011-2020...”²⁵

On 20 February 2022, CBS’s *60 Minutes* showed a variety of portable microwave transmitting devices that it said could cause injuries to humans.²⁶

An unpublished paper written by a former intelligence officer, who has technical experience and expertise, concludes “that intelligence officers are the predominant targets is probably not by chance.” As one author wrote in *The International Journal of Cuban Studies*, there was “no reason to believe this was anything but an intentional act.”²⁷

Evidence from the literature seems to indicate that a powerful, yet localized and directional RF device is affecting a given subset of the diplomatic population...Given that the power requirements to generate a RF signal such as this with the strength and duration to penetrate buildings and cause bodily harm, one imagines a vehicle-mounted device. If man-portable, this

device could be cumbersome, requiring at least two-man transport.²⁸

Russian specialist Julia Ioffe wrote in *GQ Magazine*, in October 2020:

“As the Cold War progressed, both the United States and the Soviet Union raced to find military uses for what came to be called directed energy weapons.” American researchers had studied things like beaming words into subjects’ heads—great for psychological warfare—while also researching the thermal aspects of microwaves. Packaged in the right way, a microwave weapon could be mounted on a truck, where it could cast a beam outward to create an invisible barrier anywhere, anytime, capable of immobilizing any person who got within its range. This research ultimately culminated in the development of a weapon the Pentagon calls an Active Denial System (ADS). In a video touting its capabilities, the U.S. military boasts that this highly portable weapon can be attached to a military vehicle and used to direct precise beams of electromagnetic radiation at, say, an armed militant in a crowd or a suspicious person approaching a military checkpoint. The beam would instantaneously produce a sensation of heat on the skin, which would trigger a person’s reflex to flee.

On the other side of the world, the Soviets focused on the non-thermal applications of microwave radiation. A 1976 report compiled by the Defense Intelligence Agency (DIA), reviewed Soviet research on the topic. The report detailed Moscow’s investigation of the effects of microwaves on the nervous system. Soviet, and later Russian, scientists found that exposing an animal’s brain to microwaves changed the frequency at which neurons fired. Neurons also became suddenly out of sync with one another. Some brain cells in mice were found to have withered. Nerves became damaged. The radiation also showed the potential to disturb the blood-brain barrier and, according to the DIA, resulted in ‘the alterations of brain function.’ The most common symptoms reported in humans who had been exposed to microwaves for long periods of time sounded familiar: headache, fatigue, perspiration, dizziness, insomnia,

24. Gwertzman. “Moscow Rays...”

25. Simon Shuster, “Is Moscow Developing Super Duper Secret Maga Weapons?,” *Time*, April, 19, 2012. Also, Alan Boyle, “Reality check on Russia’s zombie ‘ray gun,’” *NBC News*, April 6, 2012; and “Russia Eyes Development of Futuristic Weaponry,” *Sputnik International*, 22 March 2012. <https://sputniknews.com/20120322/172332421.html>.

26. Pelley, “Targeting Americans,” February 20, 2022.

27. Personal conversation with the author, January 3, 2023.

28. J.M. Kirk, “The Strange Case of the Havana Sonic Attacks,” *The International Journal of Cuban Studies*, 11(1), pp. 24-42, 2019. <https://www-proquest-com.ezproxy2.apus.edu/scholarly-journals/strange-case-havana-sonic-attacks/docview/2310652646/se-2? Or https://www.scienceopen.com/hosted-document?doi=10.13169/intejcubastud.11.1.0024>.

depression, anxiety, forgetfulness, and lack of concentration.”²⁹

Former DIA Russia analyst Rebekah Koffler wrote in the *New York Post*:

“Here is why Russia almost certainly did it... Russia has the capability, doctrine, and intent to use nonlethal weapons against US personnel and physical assets. For decades, the Russians have been researching and developing what they call ‘weapons based on new physical principles,’ to degrade, damage, disrupt or destroy infrastructure and equipment, such as satellites, computers, and other devices, in preparation for war with a technologically superior adversary such as the United States. Russia’s development of directed energy weapons (DEW) is highly advanced. Members of congressional intelligence committees were briefed in April 2021 on Russia’s suspected targeting of US military officers in Syria with directed energy weapons.”³⁰

US Officials Seem Baffled by the Injuries

Some government doctors have attributed “Havana Syndrome” to “hysteria” and other psychological causes, including an FBI study, prompting press stories that many of the victims felt “abandoned by their own government,” and some have spoken out. On 4 November 2021, the Harvard Kennedy School’s Belfer Center for Science and International Affairs issued a report, “Havana Syndrome: American Officials Under Attack,” by Sean Power and Michael Miner, strongly criticizing reports by the FBI and the State Department on the issue, saying “A deeply flawed internal FBI report concluded the illnesses were psychogenic.” The report stated:

This FBI report amplified initial skepticism across departments and agencies and hindered a cohesive government response. The FBI’s Criminal Investigative Division first interviewed Havana Syndrome victims as part of their criminal investigation. The Behavioral Analysis Unit reviewed those reports and concluded the symptoms were psychogenic, a medical opinion made without any physical examination of the patients. Unfortunately, this grave misstep provided ammunition to those questioning whether

29. Ioffe, “The Mystery of the Immaculate Concussion.”

30. Rebekah Koffler, “New Attacks on U.S. Officials Prove Russia is our Enemy, not our Friend,” *New York Post*, July 31, 2021.

Havana Syndrome had physical markers. Senior officials at the CIA and State Department relied on the FBI report in assessing their employees’ healthcare needs, even as cases increased around the world. As Havana Syndrome was not viewed as a legitimate threat at that time, few resources in the U.S. government were dedicated to solving this ongoing mystery.³¹

NBC *News* reported on 24 November 2021 that, for the first time, the FBI had formally acknowledged that some of its current or former employees could have symptoms of the Syndrome. An internal State Department assessment found “serious deficiencies” in the State Department’s own response in areas of “accountability, interagency coordination, and communication, at all levels.”

The attacks also took on a new dimension as White House staffers became targets. Two staffers in London ahead of President Trump’s state visit in May 2019 reported symptoms of Havana Syndrome. Another staffer later reported experiencing symptoms just outside the White House as he walked to his car. Still, no coordinated effort was formed in the U.S. government. These events raise a series of... questions of why top leaders across the American government did not actively raise the alarm in a more proactive way over the last two years of the Trump administration. Or, if they had done so, why did national security policymakers fail to respond to clear evidence of attacks on American personnel?

The Mechanics of Weaponized Microwaves

One thorough scientific study provides detailed evidence implicating weaponized microwaves as the cause of the Syndrome. In December 2020, the National Academies of Sciences, Engineering, and Medicine concluded in a report by a panel of 19 experts in medicine and related fields, commissioned by the State Department, that the “most plausible mechanism” that caused the severe health effects during incidents beginning in 2016 was “directed, pulsed radiofrequency energy,” a category that includes microwaves. Dr. David Relman, a professor of medicine at Stanford University who led the study, told NBC’s Andrea Mitchell in an interview:

“...there is a literature that describes health effects of a particular form of microwave energy,

31. Power and Miner, The Belfer Center.

which is pulsed and directed... And that literature now goes back a number of decades and was published largely by the former Soviet Union. That literature does mimic and is consistent with a number of the clinical findings that we noted... [T]he views of some of the world's most-renowned neurologists was that among the various possible mechanisms that would explain these cases, there was one that stood out. And that was pulsed directed radio frequency energy, or microwave energy. In other words, it could be focused on one room and not another room in the same house. That's the nature of how this kind of energy can be delivered."³²

Russian Operatives Identified at the Location of Attacks

U.S. intelligence officials suspect, and have evidence, that the attacks have been carried out by Russia's successor to the KGB—the FSB, or its military espionage agency, the GRU, which has carried out sabotage and assassinations throughout Europe.

According to Julia Ioffe: “The most compelling evidence came from publicly available data... Mobile phones track people's movements, and location data companies accumulate this information and sell it. Using this sort of data, CIA investigators were able to deduce the whereabouts of Russian agents, and place them in close physical proximity to the CIA officers at the time they had been attacked when they were in Poland, Georgia, Australia, and Taiwan. In each case, individuals believed to be [Russian] FSB agents were within range of the CIA officers who had been hit in 2019. In two of the incidents, location data apparently showed FSB agents in the same hotel at the same time their targets experienced the onset of symptoms.”³³

Similarly, on 7 December 2020, *NBC News* reported that it was told by “a source with direct knowledge” that “the CIA, using mobile phone location data, had determined that some Russian intelligence agents, who had worked on microwave weapons programs, were present in the same cities at the same time that CIA officers suffered mysterious symptoms... including a CIA officer who experienced symptoms in Poland last spring, two CIA officers allegedly hit

32. Ken Dilanian, “FBI Acknowledges that Some Agents may have Havana Syndrome,” *NBC News*, November 27, 2021; Ken Dilanian, Andrea Mitchell, and Brenda Breslauer, “CIA officers suffered crippling syndromes in Moscow, Was it Havana Syndrome?,” *NBC News*, December 7, 2020.

33. Ioffe, “The Mystery of the Immaculate Concussion.”

The Havana Syndrome is an ongoing threat... American diplomats and personnel continue to be targets of directed energy attacks by malign actors and rogue states...

— Sen. Mark Warner, Chairman,
Senate Select Intelligence Committee

in East Asia last fall, and incidents in London in May and December 2019.”³⁴

Ioffe believes that the leaks of such sensitive data are motivated by frustration on the part of some U.S. officials.

“The secrecy ensures that Russia suffers no consequences for its actions, and the impunity may motivate Russian security services to carry out more attacks. This has caused growing anger at the CIA, that neither their director nor the commander in chief seems willing to protect them or American civilians... This is why intelligence officials leaked the information about Russian bounties on American troops in Afghanistan to the press,³⁵ and it was the stated motivation of my sources in revealing the highly sensitive information they possessed on the microwave attacks. They felt they had no other recourse. It was also another way to continue the work Polymeropoulos did — expose what he thinks are Russian covert operations with the aim of thwarting them.”³⁶

On 11 September 2018, *NBC* reported, “Intelligence agencies investigating ‘mysterious attacks’ that led to brain injuries in U.S. personnel in Cuba and China consider Russia to be the main suspect, three U.S. officials and two others briefed on the investigation tell *NBC News*”:

The suspicion that Russia is likely behind the alleged attacks is backed up by evidence from communications intercepts, known in the spy

34. Brenda Breslauer, Ken Dilanian and Josh Lederman. “‘Havana Syndrome’ likely caused by pulsed microwave energy, government study finds,” *NBC News*, December 5, 2020. <https://www.nbcnews.com/news/all/havana-syndrome-likely-caused-microwave-energy-government-study-finds-n1250094>. Ken Dilanian, Andrea Mitchell, and Brenda Breslauer, “CIA officer suffered crippling symptoms in Moscow. Was it ‘Havana Syndrome?’” *NBC News*, December 7, 2020. <https://www.nbcnews.com/news/world/cia-officer-suffered-crippling-symptoms-moscow-was-it-havana-syndrome-n1250177>.

35. Charlie Savage, Eric Schmitt, and Michael Schwartz. “Russia Secretly Offered Afghan Militants Bounties to Kill U.S. Troops, Intelligence Says,” *The New York Times*, 26 June 2020, updated 17 August 2021, <https://www.nytimes.com/2020/06/26/us/politics/russia-afghanistan-bounties.html>.

36. Ioffe, “The Mystery of the Immaculate Concussion.”

world as signals intelligence, amassed during a lengthy and ongoing investigation involving the FBI, the CIA and other U.S. agencies. The officials declined to elaborate on the nature of the intelligence.

The U.S. military has been working to reverse-engineer the weapon or weapons used to harm the diplomats, according to Trump administration officials, congressional aides and others briefed on the investigation, including by testing various devices on animals. As part of that effort, the U.S. has turned to the Air Force and its directed energy research program at Kirtland Air Force Base in New Mexico, where the military has giant lasers and advanced laboratories to test high-power electromagnetic weapons, including microwaves.

State Department officials have testified the incidents should be considered ‘attacks.’ Ambassador Peter Boode, who leads the task force responding to the incidents, told a House Foreign Affairs Committee panel “The State Department has come to the determination that they were attacks.”³⁷

“An Act of War”

In May 2021 former Acting Secretary of Defense Christopher Miller told *Politico* that such attacks amounted to “an act of war.”³⁸

The issue of Havana Syndrome is reportedly a “top priority” for current CIA Director, William Burns, who is said to refer privately to the incidents as “attacks.”³⁹ In 2021, he met with the heads of the State Department and the FBI to discuss the issue, and CIA has established a special task force to investigate the issue. But the Biden administration continues officially to cast doubt on Russia as the source of the attacks. For example, on 5 August 2021, Secretary of State Antony Blinken, trying to reassure his diplomats

about the attacks, stated in a memo, in effect, that the government does not know what is happening or how to stop it. In January 2022, he told MSNBC, “To date, we don’t know exactly what’s happened and we don’t know exactly who is responsible.” The 16 July 2021 issue of *The New Yorker*, in a well-researched story by Adam Entous, made it clear that “many American officials...suspect that Russian operators and technology are responsible for the [Havana] syndrome, but quoted a “senior Biden administration official” as saying “We have not yet determined intent or motive. We do not have a view on that yet.”⁴⁰

In January 2022, it was reported that a CIA task force’s interim report determined that “Havana Syndrome” was not “the result of a sustained global campaign by a hostile power aimed at hundreds of U.S. diplomats and spies...” But in a couple of dozen instances, the report did not rule out foreign involvement, and other cases could not be resolved.⁴¹

The group Advocacy for Victims of Havana Syndrome expressed skepticism about the findings, stating that “We have reason to believe the interim report does not even represent the consensus of the full CIA, instead reflecting the views of a subset of officials most interested in resolution and closure.”⁴²

Mark Lenzi, a State Department official, who believes he was attacked and injured while on assignment in China, told *The New York Times* in an article published on 24 June 2022, that the administration’s investigation into the attacks had been inadequate: “State and CIA will continue to give Congress an incomplete and misleading picture of what the U.S. government knows about the pulsed microwave attacks that injured me, my family and my American Foreign Service neighbor and her family members in China.” The sub-heading of the article, by Julian Barnes, states, “The cause of the ailments first observed in American diplomats and CIA officers serving in Cuba remains a mystery.”⁴³

Senate Select Intelligence Committee Chairman Mark Warner, who has access to top secret intelligence, has called Havana Syndrome “an ongoing

37. *Associated Press* reported by *NBC News*. “Listen to What Americans Heard in Mysterious Cuba Sound ‘Incidents,’” 12 October 2017. <https://www.nbcnews.com/politics/white-house/dangerous-sound-what-americans-heard-cuba-attacks-n810306>. Also, <https://www.nbcnews.com/storyline/u-s-cuba-relations/u-s-investigating-diplomats-hearing-loss-cuba-n791451>; and Josh Lederman, Courtney Kube, Abigail Williams, and Ken Dilanian, “U.S. Officials Suspect Russia in Mysterious ‘Attacks’ on Diplomats in Cuba, China: The Strong Suspicion...is Backed by Signals Intelligence, Meaning Intercepted Communications, Say U.S. Officials,” *NBC News*, September 11, 2018.

38. Spencer Bokart-Lindell, “Is Havana Syndrome an ‘Act of War’ or ‘Mass Hysteria’?”, *The New York Times*, Opinion, October 26, 2021; Also, Jeremy Herb, “Senate Intel leaders say mysterious directed energy attacks appear to be increasing,” *CNN*, April 30, 2021.

39. David Sanger. “Mysterious Attacks on Diplomats Leave Scores of Victims, But Still Little Evidence,” *The New York Times*, August 8, 2021.

40. Entous, *The New Yorker*. Also, Emily Crane, “4 US Diplomats Struck by Havana Syndrome in Geneva and Paris,” *The New York Post*, January 13, 2022; and Arwa Mahdawi, “Blinken Says U.S. Stumped over Havana Syndrome as more Diplomats Fall Ill,” *The Guardian*, January 13, 2022.

41. Andrew Disiderio, “Lawmakers skewer interim CIA report on Havana Syndrome,” *Politico*, January 20, 2022.

42. Disiderio, *Politico*.

43. Katie Bo Lillis, Jeremy Herb, Kylie Atwood, “Exclusive: Dozens of CIA Officers Accuse Intel Agency of Soft Pedaling its ‘Havana Syndrome’ Investigation,” *CNN*, October 5, 2022; Also, Julian E. Barnes, “CIA Begins Compensating Victims of Havana Syndrome,” *The New York Times*, August 24, 2022.

threat... American diplomats and personnel continue to be targets of directed energy attacks by malign actors and rogue states....” Congress and the State Department have now agreed to provide compensation, under certain conditions, to officials who can prove they were injured by such attacks.⁴⁴

The Controversy Continues

Recent leaks to the media by Agency officials profess uncertainty about the source of Havana Syndrome and can be summarized by two articles in *The New York Times*. On 2 December, 2021, it reported that, “For months, the CIA and government scientists have been working to find a cause of the chronic ailments — reported by intelligence officers and diplomats — but the health incidents known as Havana Syndrome remain as mysterious now as they were a year ago.”⁴⁵ And on 15 October 2022, the *Times* reported, “...while some victims believe the incidents were caused by a foreign power, the CIA investigators have not found any evidence to support that conclusion — no single adversary appears to be responsible for the various incidents around the world, according to government officials.”⁴⁶

But some knowledgeable officials are convinced that Russia is behind at least some of the suspected attacks. CIA Director Burns is reported to have told Russian officials in his trip to Moscow that attacks on Americans would not be tolerated, and that consequences would ensue if Russia were shown to be culpable.⁴⁷

Russian officials continue to deny involvement. President Biden is reported to have raised the issue with President Vladimir V. Putin in their Geneva Summit on 16 June 2021, but no details on this have been disclosed.⁴⁸

44. Office of Senator Mark R. Warner, “U.S. Sen. Mark R. Warner’s Bill to Support Havana Syndrome Victims Signed Into Law,” Press Release, October 8, 2021, and “Bill to Support ‘Havana Syndrome’ Victims Unanimously Passes Senate,” Press Release, June 7, 2021.

45. Julian E. Barnes, “U.S. Outlines Compensation Rules for Some Havana Syndrome Victims,” *The New York Times*, June 24, 2022. See also Julian E. Barnes and Adam Goldman, “No Answers to Mystery of Havana Syndrome,” *The New York Times*, December 2, 2021.

46. Julian E. Barnes, “Report Finds C.I.A. Failed In Response to Syndrome,” *The New York Times*, October 15, 2022.

47. John Hudson, “CIA Director Warns Russian Spies of Consequences If They Are Behind ‘Havana Syndrome’ Incidents,” *The Washington Post*, November 24, 2021.

48. Rebecca Morin, “From Hacking to Havana Syndrome: 5 Top Issues Facing the U.S.—Russia Relationship,” *USA Today*, June 16, 2021.

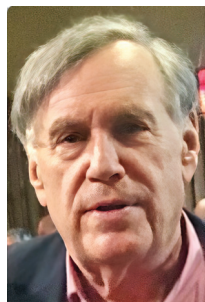
But while it is true that no one piece of the puzzle of Havana Syndrome is conclusive, the parts, taken together, add up to a strong, credible case against Russia, based in part on known Russian use from decades earlier of weaponized microwave radiation.

Editor’s Note: On 1 March 2023 the *Washington Post* published an article that the Director of the CIA doubted that the ‘Havana Syndrome’ was caused by the Russians or by a radio frequency weapon. This conclusion is at odds of others’ determinations. Readers are referred to <https://www.washingtonpost.com/national-security/2023/03/01/havana-syndrome-intelligence-report-weapon/>.

In late March 2023, a newly declassified intelligence study reported that the most likely cause of the range of illnesses may be “pulsed electromagnetic energy” that could penetrate buildings using “commercial off-the-shelf technology,” with devices that are “easily portable and concealable, and can be powered by standard electricity or batteries.”

The report, from the Intelligence Community Experts Panel on Anomalous Health Incidents, called HS a “distinctive, unique, unusual neuro-sensory syndrome ...unreported elsewhere in the medical literature.” See: <https://media.salon.com/pdf/22-cv-674%20Final%20Response%20Package.pdf> and <https://greatamericanewsdesk.com/opinion/declassified-report-points-to-fed-cover-up-of-sonic-weapon-causing-havana-syndrome/paul-crespo/2023/03/>.

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