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The Microwave Weapons That Could Explain Why ‘Havana Syndrome’ Report Is Not Being Released

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American officials in Cuba and China have experienced ‘Havana Syndrome’ : hearing strange sounds, then suffering dizziness, headaches and memory loss. A [new report in New York Times](#) suggests that the cause of the syndrome is being covered up by the State Department. A deep dive into the murky history of microwave weapons may give clues about exactly what is being covered up.

The incidents, first reported in Cuba in 2016, have been controversial from the start. Victims typically hear a burst of high-pitched, grating noise with no obvious source before suffering other symptoms. Other people in the same building do not experience either the sound or the other effects.

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Some have dismissed the incidents as psychogenic illness, what used to be called mass hysteria; the only noises that can be recorded are local insects. However, extensive brain scans of the victims found signs of injury, described as “a new syndrome....that resembles persistent concussion” in a paper in the *Journal of the American Medical Association* in 2018.

Such effects could not be produced by a sonic weapon, which cannot travel through walls or be localized in this way. But researchers suggested that a microwave device might be involved. Auditory

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“A minuscule but rapid rise in tissue temperature, resulting from the absorption of pulsed microwave energy, creates a thermoelastic expansion of brain matter,” says James Lin, a professor emeritus of bioelectromagnetic engineering at the University of Illinois, who has been investigating the effect for decades.

The rapid expansion causes an acoustic shockwave in the brain, which can be heard as sound coming from within your head. Attempts to harness this effect for communication came to nothing and it remained a scientific curiosity for many years.

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But there have been attempts to weaponize the effect.

In the early 2000s, the Sierra Nevada Corporation developed a device called MEDUSA, or Mob Excess Deterrent Using Silent Audio, for the U.S. Navy. The aim was to generate a microwave auditory effect loud enough to cause severe discomfort and disperse crowds – a [microwave scream inside your skull](#). The most significant development was a novel electronic antenna able to form a narrow beam and target a specific individual. MEDUSA never made it past the prototype stage, and Sierra Nevada have declined to comment on later developments.

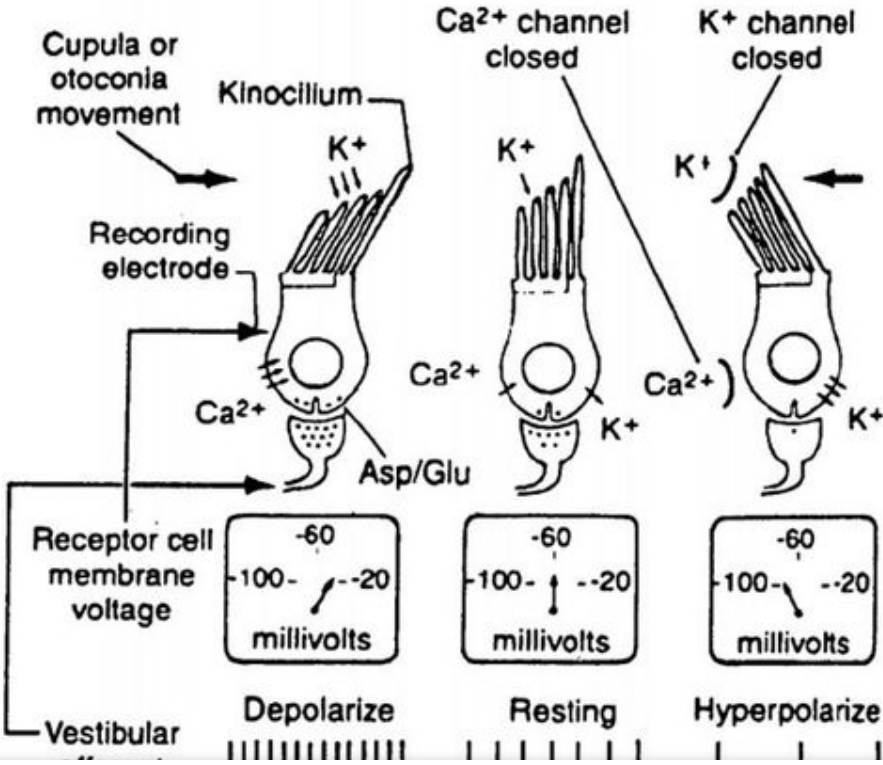
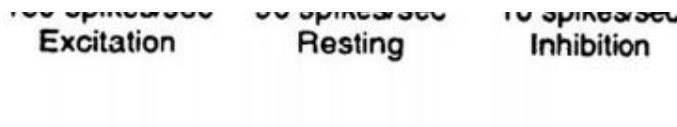


Fig. 6

The patent for the EPIC device shows how it causes...
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In the same time period, the U.S. Marine Corps funded work on another non-lethal weapon called EPIC — [Electromagnetic Personnel Interdiction Control](#). This aimed to disable people inside a building through the walls using pulsed radio waves to influence tiny hairs in the vestibular system. These hairs give us our sense of balance and orientation; hitting them with a resonant frequency can make them vibrate, causing dizziness and loss of balance. EPIC was intended to prevent subjects from moving or even standing up, forcing them to give up without a fight.

Testing EPIC on animals was challenging. Rats were trained to traverse a course for a food reward; researchers then tested whether they were stopped when EPIC was activated. This elaborate set-up was needed because a stationary rat with a disabled vestibular system just hunkers down without any obvious signs. However, the technology was not developed beyond this initial stages.

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Subsequent research may also shed light on other features of Havana Syndrome. In 2013 Chinese researchers found that [rats exposed to pulsed microwaves](#) had difficulty in learning to negotiate a water maze for up to three days after exposure. The researchers believed this was due to damage to the hippocampus, a part of the brain associated with memory. It is suggestive of the memory loss and mental impairment suffered by some of the victims in Cuba and China.

In 2015, scientists in Tokyo carried out their own tests on rats, using intense pulsed power to cause [microwave-induced traumatic brain injury](#). When they examined the damage to brain tissue afterwards, they concluded that “microwave-induced neurotrauma shows the same pathological changes as blast traumatic brain injury.” In other words, it is possible to produce concussion inside the skull with microwave pulses, exactly as seen in Havana Syndrome.

The sound, dizziness, headaches, memory loss and brain damage all seem to be consistent with microwave effects, and cannot easily be accounted for with other explanations.

In August, the National Academies of Sciences finished up the most thorough study to date of the likely causes of the incidents in Cuba and China. It might finally settle the issue. It could also bring relief to some of those affected, who have had lasting health effects including migraines and hearing loss, and are being told their condition is psychological. However, the State Department is withholding the report.

why the State Department is refusing to share the report with Congress or the public.

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One possibility is that the report might complicate relations with China if it indicates that a Chinese weapon caused some of the cases. It might also open a Pandora's Box of new cases, real or imagined, simply by suggesting that microwave harassment is a real thing. It would also raise questions of whether U.S. agencies possess similar technology and whether it has ever been used.

The National Academies of Sciences report will certainly make interesting reading – but only if and when it is ever released.

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Nov 21, 2020, 09:37pm EST

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This story is part of the Forbes Shopping guide to [Black Friday and Cyber Monday](#), where we'll be tracking the best deals all month long.

Today, beauty superstore Ulta kicks off its Black Friday sales with over a thousand discounted items, from brands including Colour Pop, Clinique, and It's a 10. To save you time, we've gone through all the best Black Friday deals at Ulta and listed them below.

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Ulta's official Black Friday sale kicked off tonight on [Ulta.com](https://www.ulta.com) at 8 pm CT, and in stores November 22 at 8 am CT. Expect additional sales to be added November 24.

Psst: Want more Black Friday? You can jump to our guides for the best [Black Friday clothing deals](#), the best [Black Friday TV deals](#), [Target's Black Friday deals](#) and everything we know about the best [Black Friday deals](#) so far.

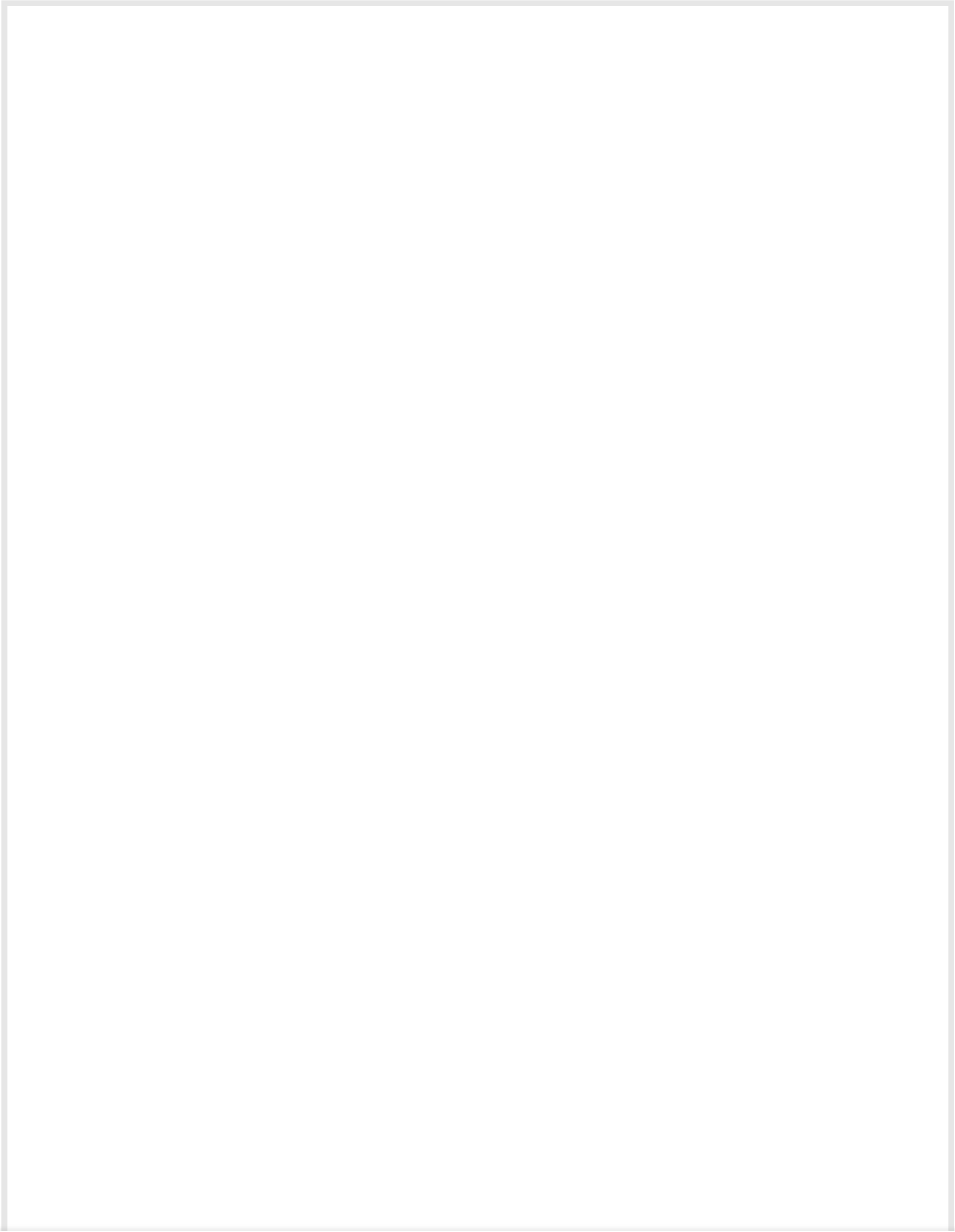
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