

It's late at night and I'm watching a YouTube video by the American defence and aerospace manufacturer Lockheed Martin. The video is about the Space-Based Infrared System (SBIRS for short). SBIRS is a constellation of satellites positioned in geosynchronous and highly elliptical orbits that scan the surface of the entire planet every ten seconds to facilitate the United States' early-warning network. Equipped with infrared sensors, these satellites detect heat signatures from missile launches and transmit near-instant data to the North American Aerospace Defense Command—providing the “technical intelligence” necessary for retaliation and maintaining what the military calls “battlespace awareness”.¹ There are only two early-warning satellite systems of this kind, the other being Russia's slightly less sophisticated EKS Kupol. When one of these satellites detects a heat flare from a launch, the system reacts in seconds, leaving decision-makers less than a fifteen-minute window to decide whether the world burns. Essentially, these systems loop over Earth, like one big smoke detector. The Lockheed Martin video ends with the company's tagline: *'We never forget who we are working for'*.

In 1947, the *Bulletin of the Atomic Scientists*, founded by a selection of Manhattan Project physicists including ‘Destroyer of Worlds’ J. Robert Oppenheimer, as well as ‘Father of the Atomic Age’ Albert Einstein, commissioned the creation of the Doomsday Clock to visualise humanity's proximity to global catastrophe. Striking midnight means the end of the world. The clockface, designed by artist Martyl Langsdorf, features four dots (9, 10, 11 & 12), and two rectangular hands (minute, hour), which are adjusted every year depending on the particular unique mix of existential threats. In 2025, we are 89 seconds to midnight, according to the Doomsday Clock, the closest it's ever been. In a 1946 closed Senate hearing, Oppenheimer was asked how authorities might detect a Nuclear bomb smuggled into a city like New York. Oppenheimer pointedly replied, *“With a screwdriver”*, so one could *“open each and every crate or suitcase [in the city]”*². His point was clear: there could be no meaningful defence. The only real protection against nuclear catastrophe was the total elimination of nuclear weapons, not any system of detection.

Sometimes catastrophe is avoided only by hesitation. In 1983, the Soviet Union's early-warning satellite system Oko (the predecessor to EKS) reported five incoming U.S. missiles. Russian Duty Officer Stanislav Petrov was responsible for relaying such alerts up the chain of command, which, under the doctrine of mutual assured destruction, would have triggered an immediate nuclear counter-attack. *“For 15 seconds, we were in a state of shock”*, he recalled.³ However, Petrov felt something was wrong. He thought a U.S strike would be all-out hellfire, so five missiles seemed like an illogical way to start the end of the world. He was right—it was. A rare alignment of sunlight on high-altitude clouds reflected above North Dakota and the positioning of the Molniya orbit of a satellite caused an incorrect reading by the system. Something as simple as sunlight had tricked the satellites into seeing launches that were never there. Petrov had trusted his instincts and civilian training, believing his military-trained colleagues would almost certainly have followed procedure and reported it as an attack, leading to a mutual nuclear annihilation.⁴

1 The North American Aerospace Defense Command (aka NORAD) is a combined organization of the United States and Canada that provides aerospace warning, air sovereignty, and protection for Canada and the continental United States.

2 Bird, K. and Sherwin, M.J. (2007). *American Prometheus*. Vintage, p.12.

3 Hoffman, D. (1999). *Washingtonpost.com: 'I Had a Funny Feeling in My Gut'*. [online] *Washingtonpost.com*. Available at: <https://www.washingtonpost.com/wp-srv/inatl/longterm/coldwar/soviet10.htm>.

4 Aksenov, P. (2013). *Stanislav Petrov: The man who may have saved the world*. BBC News. [online] 26 Sep. Available at: <https://www.bbc.com/news/world-europe-24280831>.

animal house*

If you look into anything for long enough, you do get the sense we truly live in a fragile world. The vulnerability of these systems is no surprise. Tim Woodward's exhibition *A shadow boils in the small hours* taps into this infrastructural anxiety and the limitations of this kind of systems thinking. The main focus, three large 'smoke alarm paintings' in the palette of the June, July and August 1947 covers of the *Bulletin of the Atomic Scientists* (the first issues to feature Langsdorf's Cold War-era design). Each panel is rolled using ordinary ceiling paint and features working smoke alarms salvaged from homes, businesses and online auction sites. Manufactured by different companies, the alarms are slightly out of phase: tones staggered, response times delayed. Some are painted over, dulled (given the 'Landlord Special'⁵), making them less able to warn effectively. One composition suggests the other side of the Doomsday Clock (with the smoke alarms in a radial array: 12, 1, 2, 3), pointing past midnight, into the early hours when decisions are still being made. As the series moves clockwise, the alarms become more misaligned, like particles that have begun to drift out of orbit. Looking at them longer, it feels like we are looking at the ceiling, not the wall. A reminiscent spatial flip for anyone familiar with Woodward's 'Z' desk works.

When discussing this series of works with Woodward, he recalled to me a story from his past working as a cinema projectionist. Traditional film reels were temperamental, prone to jamming and demanding manual intervention. Most of the time, he was already in the booth trying to free a stuck reel when his manager's voice would crackle over the radio, alerting him to a problem he was literally holding in his hands. The message always arrived just after the event had begun. That overlap, hearing the warning while already inside the crisis, produced a strangely dissonant, almost absurd sensation.

Four years ago, I was working on my computer when I heard my name being yelled at by my partner from the kitchen in a panic. I rushed in and saw that there was a huge grease fire on the stove top. My partner grabbed a pot of water just as I stepped into the scene— too late to stop him — and the fire leapt higher. I ran into the living room, grabbed a blanket off the couch and we smothered the fire together before it could spread from the stove to the rest of the kitchen. We called the fire brigade to check for embers. The head firefighter pointed out to us how poorly the rangehood was made: two layers of wire mesh over a Bunnings bathroom exhaust fan, which pulled the smoke out into an MDF cavity, whose only connection to the outside world was through a single ventilation brick in the exterior wall. We learned that the wall cavity above the stove had been quietly filling with grease for decades. The smoke alarm, checked every six months by a contractor employed by our landlord, never went off during the fire. We were already inside the event before any signal could reach us.

5 Wiktionary describes it as such: '(informal, derogatory) An inadequate repair made to a rented property by the landlord or owner'. One of the most common examples of this is painting over a problem area in order to hide said problem. landlord special - Wiktionary, the free dictionary (2022) Wiktionary. Available at: https://en.wiktionary.org/wiki/landlord_special (Accessed: 15 September 2025).