TPWKY - Ep 207 Tear Gas

[00:00:00]

EAU: "Now tear gas canisters were plummeting everywhere behind the barricade, through the trees. A huge cloud of gas rolled over the barricade, and cops with gas masks on came over the barricade in an assault wave, with shotguns and rifles, using the butts as clubs on anyone in sight, knocking people down and standing on them. "Gas! Gas!" was the cry, as if poisonous snakes had been loosed in the area. Thousands streamed across the Park toward Clark Street, and panic started, headlong running, the sudden threat of being trampled by your own people.

The tear gas was catching up with us, a sharp menthol sort of burning on the cheeks and burning in the eyes, but though some people ran from it, most of us kept on walking. Now the tear gas began really burning, making the eyes twist tightly closed, and if you rubbed it, the burning got worse, as if your eyeballs were being rolled in fire. The medics were shouting, "Keep your eyes open! Let it tear away! Water! Wash your eyes with water!" The information on how to handle the tear gas passed rapidly and with a warm feeling from one person to another. The gas drifted over Old Town, and the citizens came out of their houses, coughing and gritting their eyes, angrily."

EW: Yeah. Yep. So. That was excerpted from a book that was published in 1969 called, uh, No One Was Killed by John Schultz. And it's about the 1968 protest and the, in Chicago at the Democratic, uh, convention, in which police tear gas was used extensively by police, along with other forms of violence.

EAU: Yeah, it feels like it could be from any old day these days. Erin.

EW: It does. It does.

Hi, I'm Erin Welsh

EAU: And I'm Erin Allmann Updyke.

EW: This is, This Podcast Will Kill You.

EAU: And today we're talking about tear gas.

EW: We're talking about tear gas. Not just a timely topic, a timely topic for any part of, well, almost the entire 20th century, 21st century. Um, yeah. So we really wanted to, yeah. As we'll learn, we really wanted to kind of get into what it is we know about tear gas and why many countries allow its use on its own citizens, despite the fact that it is banned in international warfare.

EAU: yeah. Kind of a big deal.

EW: kind of big deal. There's a lot to cover. A lot to

EAU: that came from. Okay, good.

EW: yeah. We'll, we'll get there, but first, but first it's quarantini time. What are we drinking this week?

EAU: this week. We're drinking the tear jerker.

EW: We are, I'm drinking the tear jerker. It's got, uh, elderflower syrup, lemon juice club sodas, sprig of rosemary. It's pretty good.

EAU: nice little bev for a not nice topic.

EW: There we sums up most of our quarantinis, I

EAU: That's so true.

EW: Uh, but you can find the quarantini on our website. This podcast will kill you.com on all of our social media channels. Check us out. If you're not following us, we've got some great content. If you're like, Hey, I missed an episode. What's going on? What, what do you want? You know, there

EAU: There.

EW: do, do that. What new merch do you have?

EAU: I don't know what new mech we have, but we do have it on our website. This podcast will kill you.com along with, uh, blood Mobile who does the music for all of our episodes, a bookshop.org affiliate account. A good reads list, which Erin curates and is phenomenal. We've got transcripts from all of our episodes. We've got, All of the sources firsthand, account form, contact us form.

EW: I, I will say I no longer curate the Goodreads list because it stops the number of submissions that you're allowed to add to a list. And so like years ago, probably like three years at this point, I haven't been

EAU: it's like three years old. So we need another Good Reads list

EW: We need another Good Reads list or we need somebody else to add to them. But if you want to see like the full list, anytime that I read a book or reference a book on the podcast, uh, in any episode or for our book club episodes or whatever, bookshop.org has a bunch of lists. It has the kids book club, T-P-W-K-Y Kids Book Club. So if you're not following us on social media, you're missing out on

EAU: don't even know what we're talking about there.

EW: Uh, our book, I-T-P-W-K-Y book club books, um, there's, and then there's like podcast related books in general. So that includes nonfiction, memoirs, uh, fiction even. So but anyway, you should check all that out. And, um, I think that's it. Are we ready to get started?

EAU: Let's do it.

EW: Let's do it.

Tear gas is prohibited in war, yet many countries, including the United States, permit tear gas to be used against their own citizens.

EAU: Yeah. Like more countries than not,

EW: it was surprisingly hard. I was Googling like tear gas banned, and it,

EAU: you can't, uh, no. There's not like a curated list of like, here's all the,

EW: Right

EAU: [00:05:00] and no, they, it's used like extensively across the globe for crowd control purposes.

EW: Mm-hmm. And proponents of tear gas claim that it is a safe and more humane tool to control riots

EAU: mm-hmm.

EW: While opponents of tear gas question its alleged harmlessness, and point towards the many instances where tear gas is deployed as a weapon to quell legal and peaceful protests. Not a tool of deescalation used as a last resort. But a frontline weapon of political suppression, one that is not evenly utilized across the political spectrum. So there, there are statistics I found from the US Crisis monitor that showed that in the early 2020s. Can we say that yet? Yeah. Okay. And from like 20 I, I don't remember the exact years, but in the early 2020s, police were three times more likely to use force in protests organized by left-leaning groups such as Abolish ICE and Black Lives Matter.

EAU: Three times more

EW: times more likely. And this is not just about tear gas, this is just the use of force in general. In general.

EAU: Okay. Yeah. Uhhuh,

EW: Uh, and also this uneven use, like, we're gonna call out the US a lot throughout this, but this uneven use is not restricted to the US alone.

EAU: no.

EW: Our mental image of protests today is incomplete without a police officer spraying a demonstrator in the face with pepper spray. That infamous image that they tried to get wiped from the internet and it, it had the opposite effect, the Streisand effect as it happens. Um, or, you know, these, these images of launching a canister of tear gas into a crowd of peacefully and legally assembled citizens, those thick choking clouds are chilling reminders that quote unquote "peaceful assembly" is in the eye of the beholder.

EAU: Ugh, God, Erin,

EW: Was this the intention of tear gas when it was invented? If not, what was the claimed intention and why has tear gas followed such a different trajectory than other agents of chemical warfare? That's the story that I want to tell today.

EAU: Okay. I can't wait.

EW: Tear gas is not in fact a gas. I know you're gonna get into this in more detail, um, later on, Erin, but, and it's also not one thing at all. It is an umbrella

term that encompasses chemical compounds that are lachrymatory agents, as in they produce tears. And historically they were also referred to as harassing agents. And I'm not gonna go into the individual histories of each of the different comp like compounds that are. That make up this tear gas category. Uh, but rather I wanna take us through the overall history of tear gas as one discreet unit and how its idealized image of a safe, non-toxic tool to protect citizens is rarely borne out in reality.

EAU: It's just the idea of it being non-toxic entirely.

Okay. Keep going

EW: To protect citizens is

EAU: to protect

EW: kills me. Yeah. Yeah. Uh, the history, this history begins in World War I. When chemical weapons, including tear gas, chlorine, phosgene mustard gas, and others were first developed and used extensively while chemical warfare had been utilized as early as 400 BCE in the Pella Sian war between the Spartans and the Athenians. Yeah.

EAU: Oh my God. 400

EW: 400 BCE. Yeah. People have been trying this for ages

EAU: Just like we'll throw things

EW: they're like, what else can we do? Yeah. Um, but it was really only in the early 20th century that the scientific and technological advancements made, uh, during the industrial revolution, could actually be applied to war. So it was like, let's use all this new scientific and technical knowledge to better kill people or

EAU: To better kill people, to kill people more efficiently.

EW: kill them more efficiently and when chemical weapons were introduced in the First World War, the reaction was one of utter horror. A military chaplain describes what he saw in April, 1915 during the first use of chlorine by German troops in Ypres, Belgium on French forces. Okay, quote, "A greenish gray cloud had swept down upon them. Turning yellow as it traveled over the country, blasting everything it touched, shriveling up the vegetation. No human courage could face such a peril. Then there staggered into our midst, french soldiers,

blinded, coughing, chests heaving, faces an ugly purple color, lips speechless with agony and behind them In the gas choked trenches, we learned that they had left hundreds of dead and dying comrades. The impossible was only too true. It was the most fiendish, wicked thing I have ever seen." End quote.

EAU: Ugh,

EW: Yeah. And that's, there are, there are so many accounts like we, we really should do some of these other [00:10:00] gases someday as well. Um, but like the, the accounts were like something out of a horror book. Like it was un it was like unimaginable. I mean, at first, unless I think so many people, until they saw it themselves or were part of it themselves, did not know the scale of I guess just agony and terror

EAU: It's hard to, I think, even imagine or conceptualize when it's just that, I mean, it's, it's everywhere, right? It's not like you control where a gas or a smoke or whatever goes when you, when it's released. It's just everything in its path.

Ugh,

EW: and that's a big part of like tear gas today, is that it's, it's indiscriminately applied and who is affected by it is also indiscriminate. It's. The wind changes. Yeah,

EAU: We'll get there. Erin.

EW: The Ypres gas attack with chlorine was the first to garner widespread attention due to its extreme lethality, and it prompted the development and distribution of protective equipment like gas masks. It would not be the last attack, nor would chlorine be the only chemical agent deployed. Mustard gas and Phosgene also contributed to the 91,000 gas deaths in World War I.

EAU: Wow.

EW: Which 91,000. It's a lot and it's, it's interesting, like there are so many of these chemical warfare books that were published either in the 1920s or in during World War II period that were still like. We, chemical warfare is the best path forward. This statistic is a positive for them. They're like, oh, it caused 25% of all of the casualties, all of the injuries, all of the things that kept people from being able to be in battle, but it only caused this many deaths.

EAU: Mm. So like it incapacitated

EW: incapacitated Long-term effects. Forget about it. No one died. You know, it's like that kind of thing.

EAU: Oh, God. Okay.

EW: But before there was chlorine, phosgene, or mustard gas, there was tear gas

EAU: Before those.

EW: before those, the first use of gas in battle in World War I was in August, 1914 when French troops fired tear gas grenades into German trenches.

EAU: Huh.

EW: Yeah. And apparently the amount of chemicals was so low that no one noticed, but it set off an arms race where different countries sought to outcompete each other in devising more and more deadly gases and better protective equipment. It was just like, all right. That's, yeah. Strictly speaking, the use of asphyxiating agents like chlorine was against the Hague conventions that had been set in place in the late 1890s. Tear gas was not banned under this, this agreement

EAU: Okay. Only

EW: because it's like asphyxiating. Yeah. But these agreements were so vague as to be taken as suggestions at best. Like the loophole was absolutely enormous. It was just like, well, you, you could argue your, your way out of any of it.

EAU: Right.

EW: And when World War I concluded in November of 1918,

the perception of chemical warfare was divided along two very different lines. It was either the most humane form of weaponry ever created, or the least, yeah,

EAU: I just,

EW: I know the argument is mental gymnastics at its finest, I

EAU: humane weaponry period. Like, uh,

EW: Ah, and that's, that's what really kills me about some of these arguments that people made then and still make today. And they're like, listen, if we're gonna have war, war is unavoidable. And you can't say that one weapon is right. Right. So that's like, first of all, what, how many assumptions are you asking

EAU: So many. So we've already had to leap. Okay. This far down the line.

EW: It's all, it's all inhumane. But anyway, so, so we've got, we've got these two different camps. Chemical warfare is humane. Chemical warfare is not humane. And those who experienced gas attacks firsthand, which is many veterans, often more often fell into the latter camp, that it's the least humane weaponry. It's horrible with some expressing that they were more afraid of gas than of shell fire. The effect of gas was not only physical, but it was hugely psychological, caused widespread panic and chaos, which often left troops more vulnerable to artillery fire. And this was often, again, like a feature, not a bug. This is the intention, and this is. Later on it was like, oh, but it's not harmful. And it's like, no, but we, you, you introduced tear gas to then

EAU: In order to do harm,

EW: in order to do harm. Yeah. Protective equipment didn't always live up to its promise, either. The unwieldy, awkward masks made it more difficult to maneuver. And then you've got something like mustard gas, which will burn your skin through clothing. Uh. Uh, yeah, it's awful. Gas overall, gas [00:15:00] weapons were designed to induce suffering or at the least harm. For those who believed it to be the most humane form of weaponry, these qualities were points in favor of chemical warfare. And among these proponents was US General, Amos Fries Pro-military, anti-communist, xenophobic, racist, white supremacist champion of the chemical warfare service, and author of the 1921 book, Chemical Warfare, in which he claims, yeah. Oh yeah. It's a really dark read. It's a how to. It's like a, oh, so you wanna try? Yeah. It's a little bit of a persuasive argument at the beginning. It's like. This is the best thing that's ever happened. And then, yeah, and let's go through them all. And how do you recognize them? I'm pretty sure it's that one. I read another book on chemical warfare, or not all of it, but like I found another book on chemical warfare from 1944. One of them has a poem that's supposed to help you remember how to detect the different,

EAU: different types. That's gross.

EW: Grim. It's really grim. Um, but anyway, so in, in Amos Free's chemical warfare, he says at one point quote, "instead of gas warfare being the most horrible, it is the most humane. Where both sides are prepared for it. While against savage or unprepared peoples, it can be made so humane that, but very few casualties will result." End quote.

EAU: Erin, I, there's a lot in

EW: There's a lot. There's a

EAU: Against sa. Oh,

okay. Yeah, yeah, yeah. Okay.

EW: And so

EAU: to use it in war. Everyone's got a gas mask and it's cool to use it against,

EW: against people not in war, even if they don't have a gas

EAU: even if they don't have a gas mask. It's all good.

EW: right. The ends justify the means.

EAU: Of course they always do.

EW: Right, right. And so for Fries and others in the pro gas camp, chemical weapons represented the future of war and the anti-gas sentiment that emerged after World War I threatened Fries's, relevance and his career.

EAU: Mm-hmm.

EW: Nevertheless, many world leaders disagreed. And this was in alignment with the overall anti-war sentiment that prevailed throughout many countries after the horrific loss of life from World War I. Discussions over the future use of chemical and biological warfare in this interwar period led eventually to the Geneva Protocol, which was signed in 1925, and it prohibited the use of both biological and chemical weapons in international armed conflicts.

EAU: Okay.

EW: The language here is kind of important, so I'm gonna, I'm gonna break apart these a little bit so we understand what's being prohibited and what's not. Okay. It prohibits specifically, number one, the first use in war of "asphyxiating, poisonous, or other gases, and of all analogous liquids, materials or devices." End quote. Okay. And number two, the first use of bacteriological methods of warfare. We are not gonna pay attention to that in this episode.

EAU: Still

EW: Still interesting. Exactly. That's one of the things I was like, hmm. Uh, but what, what the Geneva protocol, this, this version of it did not do it was prohibit the research, development, testing or stockpiling of such weapons, chemical or biological, or the domestic use of tear gases or herbicides.

EAU: Of course not.

EW: Nor did it prohibit things like concealment smoke or incendiary weapons, like napalm

EAU: Okay.

EW: tear gas was a more contentious issue. Like did it fall under "other gases or analogous liquids, materials or devices"? Does it.

EAU: I mean, yes.

EW: Could be argued either way, right? Like some, it just depends on do you want tear? Do you like tear gas or do you like tear gas? So some said, of course it does. Others were like, no, that's, it needs to be banned, right? Or someone's like, yeah, no, no, it doesn't count. And so, because there was such confusion over this and just making sure that the precision in language was there, in 1930, a conference was convened in which all but one country that attended, which I think was like 13 countries overall, all but one country agreed that tear gases were covered by the ban.

Because it was difficult to draw a line between lethal and incapacitating gases. Okay, so going back to the language of that protocol, the protocol prohibits, it forbade the first use of these gases, and so that means that retaliation is permitted.

EAU: Mm. So if someone gases you, you can go ahead and gas them, but they were the ones who did wrong in the first place. But two wrongs make a right,

EW: two wrongs make a right. All fair in war and, yeah.

EAU: yeah.

EW: Yeah. And so, um, and so like, and they essentially the, a lot of the countries who were like no tear gases also need to be banned were imagining a scenario in which, let's say that a [00:20:00] cloud of choking gas is released over a group of soldiers. Um, they are, they don't know how to. Discern between tear, despite the lovely little rhymes that are included in textbooks, but they don't know how to discern between, uh, tear gas versus chlorine versus, you know, it's not something that maybe immediately you are able To you're able to tell is this, is this one of the banned gases or not one banned gases And so before you even find out, because you're allowed second use. To retaliate, you could then retaliate with a more lethal deadly gas like mustard gas, chlorine. Even if tear gas was the first use one of the allowed gases,

EAU: Allowed gases. That makes sense. Where it's like if you don't know, then you, you're just, it's just tit for tat and you're going higher and higher each time.

EW: right. Tear gas would easily escalate or start a conflict in that way,

EAU: Uhhuh. Okay.

EW: and so that is why its use is banned in war.

EAU: That is why its use is banned in war. Okay. Well that's an answer at least.

EW: It's an answer. Uh, but you know how I said all but one country agreed to this. Guess who, guess who

EAU: Oh, how? How, what a hard guess. The United states, like the country that likes to say no to all the things

EW: We were like, you're not my mom. Stop.

both: Stop telling me what to do

EAU: I can use tear gas if I want to

EW: Yeah. I mean, that's basically how I imagine the US especially, uh, a Amos Fries who, who had campaigned very hard by this point, like by the ni, by

1925, he had campaigned so hard to make tear gas acceptable. Um, and so the uss yeah.

EAU: I am sorry. I'm just imagining the slogans compared to today.

EW: oh. There will be some slogans in here. Um, but the US' response was, was, was that they were unwilling to bind themselves, quote, "to refrain from the use in war against any enemy of agencies, which had been adopted for peacetime use against our own population. Agencies adopted on the ground that while causing temporary inconvenience, they cause no real suffering or permanent disability." End quote.

EAU: We're using it against our own people.

EW: come on, like, we're using this, this is fine. Yeah. We're

EAU: aren't. we all using this? Isn't everyone using this?

EW: It's not

EAU: funny. None of

EW: it's not, none of this is funny. It's just, I, I don't even know.

Yeah,

The fact that, like, that that's not the, the argument that you think it is.

EAU: You're missing the point.

EW: You're missing the point. You're, yeah. Yeah.

EAU: Yeah.

EW: But I will say that like. The discussion of whether domestic use of tear gas should or should not be banned was never on the table for, uh, this protocol or a, or a protocol like this. Really, it wouldn't be for, is from my understanding for a country to agree to external policing by another. You know, so, so to me the question is not. "Why didn't the Geneva Protocol also ban domestic use of tear gas?" But instead, "why did these countries permit the use of this chemical weapon against its own citizens?"

EAU: In the first place. Yeah.

EW: Mm,

EAU: Uhhuh.

EW: As you just heard, by 1925, the US had already begun transforming tear gas from a war weapon to one that police could wield against citizens in peace time. They were not alone in this. Many countries would've not only also refused to ban domestic use from if it had been on the table in this, in these discussions, but these countries also, many countries continue to use tear gas today against their citizens. As we said, it's harder to find countries that have banned it than those who have not. Yeah.

EAU: Period.

EW: In the US leading the charge was General Fries, who within months of the war ending embarked on a campaign to make over the reputation of tear gas, singling it out as a safe and humane policing tool. It's, yeah. Tear gas was one of the earliest recipients of the PR treatment with public demonstrations, marketing campaigns, paid spokespeople, like doctors saying like, I attest to the safety of this tear gas.

EAU: This is why we can't have doctors promoting things. Okay. Thank

EW: Yeah. And smear tactics against those who questioned its safety, who were like, uh, this is bad. I've experienced this firsthand and I this is not acceptable to use. So there's a 1921 profile that was written about Fries, and it described how he was, quote, "firmly convinced that as soon as officers of the law and colonial administrators have familiarized themselves with gas as a means of maintaining order and power, there will be such a diminution of violent social disorders and savage uprising as to amount to their disappearance. The tear gases appear to be admirably suited to the purpose of isolating the individual from the mob spirit. He [00:25:00] is thrown into a condition in which he can think of nothing but relieving his own distress. An advantage of the milder form of gas weapons in dealing with a mob is that the responsible officer need not hesitate to use his weapons." End quote.

EAU: Oh my God, Erin, like, not only do they just make it so clear. That we will use this to shut up anyone who is fighting against us, who, any dissent we can shut it down. And also we can just use our, use our weapons much more freely.

EW: That. Because I feel like so much of the time, the proponents of tear gas, whether, you know, in since the 1960s and beyond, tear gas has always been framed and today is framed as a weapon of last resort of like a, a, not even a weapon, a tool of last resort, right? Like, well, it's, it's only when we are worried about bodily harm, it's only when we're worried about the safety of our citizens and private property naturally. Private property. Damage to private property. So it, it's only when these things are on the table is tear gas ever used. And that has never, it's like it is literally that this is what he was pushing for, is that you don't have to hesitate to use it. This is a frontline weapon to be

EAU: Right This, this is the first thing you can reach for. 'Cause it won't

EW: 'cause it. Yeah.

EAU: Lasting damage that's in air quotes if you're just listening.

EW: There was pushback against the military, the, the use of military weapons against citizens, and many veterans strongly objected to the characterization of any gas as humane, but they were dismissed as liars or exaggerators. These were the people that Fries was like smear campaigns. Smear campaigns. Oh, they just want benefits. Oh, they just do whatever they, they don't know what they're talking about. Fries was strongly in favor of using military tactics to quell dissent domestically, but it was more than that. There was a whole industry to consider a burgeoning industry, Erin. The late 19th and early 20th centuries were witnessing a chemical revolution, not just in scientific knowledge, but also industry. Many chemical companies stood a lot to gain by keeping gas on the table, and if they couldn't get approval to keep manufacturing all wartime gases, then maybe tear gas could still be a nice revenue stream.

EAU: Ugh,

EW: Where would that revenue come from? Well, we've got police departments, prisons, the National Guard, and private security. Ample opportunity there. And I mean, it wasn't a hard sell at all. The incorporation of tear gas essentially began the militarization of police in this country.

EAU: Ugh, Erin.

EW: Gas. Yeah. Tear gas was framed in a positive light as the best and safest alternative to lethal force, as though if tear gas were taken away, the only option would be to use lethal force against a crowd, not nonviolent, non-lethal

deescalation techniques. Just lethal force. And so, yeah, it's, it's this false dichotomy between you. It reduces the options down to two: tear gas.

EAU: Or lethal force. That's it tho. Those are our only two options in dealing with crowds or anyone saying anything that we don't want. We can either kill you or quote unquote not harm you that bad Incapacitate. You. We can. Those are our only two options. Oh my God. It's

EW: yeah. Tear gas lowered the threshold for deciding to use force.

EAU: Yeah.

EW: The development of tear gas technology reveals that the intention for harm was built into the devices themselves. Tear gas shells were meant to be fired directly in someone's face, to be quote unquote "effective" for best efficacy fire this into someone's face. They were desirable. Yep. Written about as desirable for their ability to cause, quote unquote "walloping" pain. Mm-hmm. Tests tests measuring the efficacy of tear gas were deployed specifically against unarmed individuals, again, demonstrating that causing injury was not a bug, but a feature. By the end of the 1920s, tear gas had been heartily embraced by many policing forces in the United States, and it had begun to be used to suppress labor movements such as in the Panama Canal and political protests like when the Bonus Army lobbied outside the White House to demand their overdue wartime payments. The publicity surrounding the use of tear gas served in, like in these specific instances, served as advertisements for many policing forces. It, it normalized its use and it demonstrated how effective it could be.

EAU: Oh wow. Look how great we did

EW: Look how

EAU: at getting [00:30:00] these veterans to get down.

EW: Yeah. Mm-hmm. The tagline of, uh, Lake Erie Chemical Company, which was a. There was their line of tear gas products. They were one of the biggest manufacturers of tear gas products, was "one man with chemical warfare gas can put to flight a thousand armed men, an irresistible blast of blinding, choking pain. No permanent injury." End quote.

EAU: No permanent injury.

EW: No permanent injury. That promise did not reflect reality. Severe head injuries were not uncommon after protests or strikes were tear gassed. And this wasn't just about, you know, long-term effects in terms of, and I know you're gonna talk about this being, you know, effects on or damage to vision, damage to your lungs, GI tract, burns, but also the canisters themselves can often cause tremendous harm and head injuries. Yes. Yeah. And even though at the time there were supposed to be restrictions on who could actually buy tear gas, those were often ignored. And a committee that was investigating the chemical warfare service found that between 1933 and 1937, over $1.25 million worth of old time money of tear gases was sold in anticipation of strikes.

EAU: Wow.

EW: Labor movements, man, dangerous things.

EAU: Ooh. So dangerous to demand equal pay days off. Ooh.

EW: Disrupting labor disputes and breaking up political protests, they were just two demonstrated uses of tear gas. The weapon was also readily wielded by colonial administrators, particularly in British colonies. It didn't start out that way. Following World War I Britain was actually opposed to the use of tear gas feeling that it was uncivilized and could not possibly be used against citizens when its use in war was prohibited.

EAU: so logical.

EW: like what? Yeah, but the, after a few violent suppressions of colonial uprisings in which colonial authorities killed at least 400 and possibly 1500 unarmed people in India protesting new authoritarian legislation. And there was a lot of outcry, public outcry, shame, negative public opinion that followed this. And so they were like, you know what? Maybe this blanket ban on chemical warfare, it's a bit extreme. Maybe the use of tear gas could help us out in this way. Public image versus safer. I don't know. I was not there

EAU: But again, it's the sa, it's the same thing that we already talked about. It's this false dichotomy. Oh, well, we accidentally killed too many people. We better find a way to get these people in line without killing them. All

EW: killing them. Without changing the who's wielding The, the force, the weapon. Yeah. Yeah. Yep. Uh, yeah. And so, um, they began to adopt the use of tear gas in their, in British colonies, beginning in the 1930s. And then later they were used in tear gas was used in Northern Ireland during the Troubles.

And while england or the UK did not play a big role in the manufacturer of tear gas. Unlike the US they did do extensive research on deployment strategies. You know, how much to use, when to use, just like how best to gas people. You know how to guide. Here's a pamphlet. And the US found this extremely helpful throughout the 1960s, particularly in the later half of the decade with the civil rights movement and anti-war protests. Tear gas was extensively deployed on so many peaceful demonstrations, disrupting sit-ins, marches, assemblies at meeting halls. It was not used as it was claimed to be, to put a stop to violence, but rather it introduced it, forced people to run wildly and flee in terror as they struggled to breathe. So I read a book for this called Tear Gas by Anna Feigenbaum, and there's a, a quote I'm gonna read that describes the psychological impact of tear gas. "In escalating force and arousing derision from onlookers, tear gas, implicates protesters, and often bystanders in a violent and chaotic scene, it turns civilians into criminals." End quote.

EAU: Yeah.

EW: When people are bombarded by tear gas and they begin to run in panic, some police then might feel justified to beat them, taser them, shoot them in order to restore the peace that they themselves had destroyed.

EAU: Right.

EW: So wielded in this way, tear gas became the grounds for police violence, a punitive weapon to threaten what would happen if you dared to challenge the political authority, just like we see with abolish ice protests and Black Lives Matter marches today, [00:35:00] if what you stood up for was not in line with what was deemed politically acceptable, your action, legal or peaceful, though it may be, would be deemed illegitimate or violent through the use of tear gas.

EAU: Right.

EW: And In the 1960s in the US things kind of came to a head, uh, in 1968 at the Democratic National Convention held in Chicago. So this is where our firsthand account comes from. 10,000 people marched on the city for civil rights and to put an end to the war in Vietnam. Police deployed staggering amounts of tear gas, so much so that it wormed its way into buildings. Covered entire city blocks. There was no escape, not from the tear gas and not from police beatings. An estimated 400 people were treated for injuries from tear gas. But No one was killed. No one was killed. So this event was later described in an official report as a quote unquote "police riot" due to the excessive violence and the entire event captured headlines across the country. It was on like so many news

reports. It was like one of the biggest demonstrations of the excessive use of force and tear gas. The whole world is watching. The whole world is watching,

EAU: Yeah.

EW: And it didn't slow down the use of tear gas. In fact, it wasn't that much longer afterwards that Reagan, who was governor of California at the time, ordered a military helicopter to drop a bunch of tear gas on protesters at a park in Berkeley. So there you go.

EAU: Yeah.

EW: And it's just, it is really interesting because the increased visibility Did it, what did it do? I don't, I, I don't know. I

EAU: Right. I mean, it's like the same thing today where we have cell phones and we can capture the fact that people are just sitting at a protest. They're dressed like frogs for goodness sake, or chickens, and there's tear gas being deployed for, for absolutely no reason. And it's still, or or at aid convoys.

EW: reason. Yeah,

EAU: Right. Exactly. And yet we can see it. And, and it still is, it still is ongoing.

EW: Yeah, it is an interesting outcome, like the increased visibility should lead to increased accountability, but it almost just like normalizes its use in a way. Because if like you see it, no one does something about it, you see it again, no one does something about it again, you just expect that no one will ever do something about this.

EAU: That's dangerous.

EW: Yeah, and so tear gas, that that is what happened to tear gas in the 1960s. It emerged from this decade as a weapon that framed protestors as dangerous enemies, not as citizens exercising their rights. And because its use had become so normalized, alternatives like negotiation and nonviolent deescalation were rarely pursued. Resources instead went into producing more and more tear gas and better ways to efficiently deliver it.

EAU: Mm, more tear gas weapons.

EW: More tear gas weapons. With all of these resources pouring into the optimization of tear gas, was there any leftover to look into health effects? There actually was, um, a small amount, at least there was research carried out, uh, in the uk. But few, if any, just gets worse. Of the 20,000 military volunteers who underwent testing at the Ministry of Defense's porting down military research facility, few of these volunteers were told what substances they were being exposed to, which included tear gas, but also the nerve agent sarin, uh, mustard gas and smoke bombs.

EAU: I'm sorry, just without knowing what it is that you're being exposed to. Cool, cool, cool. And you have a lot of control over that, I'm sure, being in the military. Mm-hmm.

EW: Yep. the 1970s, the, with the news reports of tear gas being used against protesters, a renewed call for its ban was made by many countries. And so there was some like anger, this did incite some like, Hey, wait a second, let's reconsider this.

EAU: Yeah.

EW: But the US and the UK resisted. And in February, 1970, British foreign secretary Michael Stewart announced that quote, "CS smoke is considered to be not significantly harmful to man in other than a wholly exceptional circumstances. And we regard CS and other such gases accordingly as being outside the scope of the Geneva Protocol" end quote. Right? So it's just like this is our, we decided this is the truth.

EAU: We decided that it's fine, so it's fine.

EW: It's fine. It, it was not received well that, that conclusion, that declaration,

EAU: quite good.

EW: But then came the argument that not only was [00:40:00] tear gas not harmful, it was actually lifesaving because who knows how many people would've been killed in protests by police, if not for tear gas.

EAU: That's the same thing all over again,

EW: thing. The argument is still in use today, and it implies that we should accept police violence as inevitable. And so it's on us to choose the lesser of two

evils. Here you go. Here are your two options. Oh, you're gonna choose gun violence? No, we don't choose

EAU: No, it's ridiculous. That's a ridiculous argument to make.

EW: I know. So much is ridiculous in this world, Erin. Like

EAU: is utterly ridiculous. Those are your only two choices, a gun in your face or a tear gun.

EW: Right. And it's also like, this is what I was, I was trying to figure out, um, when I was looking up like countries that had banned tear gas. I was trying to be like, is there any data even to to support this And I know there's a lot of other factors in terms of is there an authoritarian government? How much of this would be silenced? Just in general, any sort of state sponsored violence. But, um, I don't, I don't know. I just, it's a, it's a shockingly horrible argument.

EAU: It really is.

EW: Yeah. But, but, but going back to the medical research on tear gas, what did they find? Many of the early reports, such as the Hemsworth report, which is still referenced today, were carried out in an official governmental capacity, and they were largely unreliable. So, for instance, people with epilepsy who had a seizure after exposure to tear gas. It was concluded often that like, well, we don't really know that it was tear gas. It's probably that they just forgot to take their meds. Like we can't tell.

EAU: We can't tell. You can't, you can't do that study. Really.

EW: No. Right. So.

EAU: Oh, cool. Cool, cool, cool. Yeah. Yeah. of, that's just a little, a little, um, sample of that.

EW: There were also, there were reports like people were in instructed to follow up on reports where people had died after tear gas exposure and they found it impossible to find any more information. The police were like, Nope, nothing to see here. Move on. There's nothing. Just don't worry about it.

EAU: Uh, just, we swept it under the rug. It's under the right, yeah. The incentives for downplaying the medical effects of tear gas were just too great. As a political and policing weapon, it discouraged political protests or labor

strikes, and it painted peaceful protestors as violent dissidents and as a product, it was very lucrative. The United States exports both the substance itself as well as the weapons to deploy it.

EW: So for instance, in 1989, the US exported six and a half million dollars worth of tear gas and tear gas weapons to Israel where it was thrown into Palestinian homes and hospitals and schools and mosques. But the US is far from the only country to profit from this weapon. I came across a new phrase in my research for this, the riot control industrial complex.

EAU: Gosh,

EW: very grim. Very

EAU: grim and specific.

EW: Mm-hmm. It is an incredibly profitable international venture of which tear gas is a substantial part.

EAU: Mm-hmm.

EW: Tear gas is manufactured in most countries in Europe. It's manufactured in Canada, Turkey, India, Pakistan, China, and South Korea. That's not all. There's many more. I looked up the current projections for the tear gas market, which was projected to be in 2026, $1.45 billion. And guess what, Erin? It's predicted to experience robust growth because of increasing civil unrest.

EAU: Are you serious that we have statistics like that? And I bet the economists are like, woo

EW: right.

EAU: it's this sector is growing.

EW: Yeah, I know that it's, I know dystopian is essentially the bottom line. That's what I have written. Truly dystopian.

EAU: That really is,

EW: Yeah. Projected to increase because of growing civil unrest.

EAU: What a great sector to be in. Ugh.

EW: yeah.

EAU: Okay.

EW: We're almost done.

EAU: Uh, I'm almost done.

EW: Yeah, I know, I know. I mean, and this is, that's the thing is that like the history of tear gas is still being written today every single day. It is an indelible mark of protests around the world where it is increasingly used against people exercising their legal right to assembly. What I have presented here is far from a comprehensive history of its use, which is largely as a weapon of political oppression and state endorsed violence, but there are glimmers of hope in this history as well. Scientists who fight for objective research on the harms of tear gas. Street medics that attend protests and have extensive firsthand knowledge of these [00:45:00] chemicals and how to treat them immediately. People who design better masks or treatments to protect from tear gas exposure and then make that information freely available. Groups that disseminate this information and pave the way for collective resistance. Artists turning tear gas canisters into exhibits. Cities like Berkeley, banning the use of tear gas, which happened in June, 2020. Although they've considered rolling it back. Today with the advent of social media and basically everyone carrying a camera with them at all times, the use of tear gas is more publicized, just like we talked about. These images are shared and shared again around the world, and can act as powerful icons of unity or resistance, and hopefully they will be used to increase accountability and change things for the better.

EAU: yeah.

EW: The jury is out on that one. That maybe makes me a little cynical, but I'm just like, uh, who's, who's ever gonna be held accountable for anything ever?

EAU: Well, right now, that's a valid question. Yeah.

EW: But at the very least, what these images do is they serve to question the status quo. The normalization of tear gas, even at a legal, peaceful protest. And questioning is what we should be doing. We should be asking why the threshold for tear gas deployment is so low. Who is making money off of tear gas production? And what harm it can cause. Most of all though, we should be

questioning the reasons that we have been given for why tear gas is legal in this country to use against its citizens when it is outlawed in international warfare.

EAU: Yeah.

EW: And so now Erin, I'll turn it over to you to tell me what we know about the health effects of teargas.

EAU: Oh, let me tell you. There's a lot to cover here, Erin.

EW: Oh, I know there is.

EAU: Tear gas, like you mentioned Erin, it's one of several. It's not one thing. Uh, it is one of several. Riot control agents, they're called, or sometimes they're called harassing agents. Uh, there's lots of other names for them as well, and there's several different types of chemicals that make up this umbrella term tear gas. I'm gonna mention three of them by name, but then I am gonna just kind of lump them all together because we can, okay,

EW: Yeah.

EAU: So the three that are most common, one is called CN, or 1-Chloroacetophenone. It's also known as mace. That's the brand name. It used to be probably the most commonly used tear gas, but it's been largely replaced by a newer one called CS or O-chlorobenzylidene-malononitrile. Malononitrile.

EW: Impressed that you were able to get through that.

EAU: I came close. I messed it up a little. Um, so the reason that CN was replaced mostly by Cs is because CS is far more potent, meaning at much lower concentrations. It has an effect.

EW: We love an efficient weapon, don't we?

EAU: Don't we? Um, although supposedly CN was more toxic, which means that someone out there admitted that CN can be toxic, so there you

EW: if it was like the, like competition between different tear GRA tear gas companies and they're like, that one's really like, that's the only time is when you just to make more money

EAU: to make another version.

EW: Yeah.

EAU: In any case, mostly CN has been kind of replaced by cs. Um, and those are what is most, most often used when people say tear gas. But then there's also pepper spray, which I'm going to lump under tear gases as well, and that is the fancy name is Oloresin capsicum or OC. Now pepper spray. The main ingredient in pepper spray is capsaicin, which comes from pepper. Plants, is actually extracted from pepper plants, same stuff that burns your tongue. Um, but the scoville units on capsaicin like pepper sprays are like up to 2 million. And it's not just capsaicin. There's like tons of active compounds that are in a pepper plant that make up this pepper spray. And because like we've learned in all of our in defensive plants crossover episodes, not all plants are the same. There can be really varying concentrations of all of the different active ingredients that are in pepper spray, essentially,

EW: So, okay, so these are not artificially manufactured, these are

EAU: They're not synthetic. Yeah, they're not synthetic derivatives. Yeah. We, we do, there is a synthetic derivative version of it, but these are, these are extracted from pepper plants

EW: So, oh, wow,

EAU: but I am gonna lump all of these, including pepper spray, under this tear [00:50:00] gas umbrella. I'll probably just mostly call it tear gas or maybe riot control agents going forward, because they do share more similarities than differences, at least when it comes to understanding what they're doing and how they cause the symptoms that they cause.

EW: Okay.

EAU: So the first thing to know, and you said this already, Erin, tear gas is not a gas.

EW: Mm-hmm.

EAU: Generally. These things are solids and they're solid chemicals, and they're put into dispersal systems either dissolved in a solvent so that you end up with a liquid formulation that you can spray from a pressurized dispenser of some kind, like your personal pepper sprays or like pepper guns that are, you know,

spraying pepper spray liquids, or it's a powder that's put into a delivery system that includes some kind of pyrotechnic. That means something like within a gun or a grenade, something that can. Cause this powder to be released as a smoke or a fog.

EW: You've got the, the tear GRA gas substance itself, and then you've got all these other things that are going into the air and your lungs and your eyes and your GI tract and your respiratory tract, and.

EAU: You sure do Erin. And very often all of these other solvents and chemicals that are used as part of this mixture are also hazardous to our health. Not to mention just how dangerous the projectiles are if you get hit with them, and that happens All the time. Right. People lose their eyes because they got hit in the face with one of these pepper balls or gas canisters or whatever it

EW: Mm-hmm.

EAU: Um, and no one talks about the effect of all of those other chemicals when they're talking about the toxicities of tear gas. So just throwing that out there or off to a horrible start.

EW: We are.

EAU: In general, all of these chemicals produce a similar suite of symptoms. They all work really instantaneously, so either right away or within a matter of seconds, they're causing irritation of the eyes, nose, mouth, skin, and respiratory tract. And what this leads to is pain, itching, burning, and of course lacrimation, that's tear formation. And the amount of tears and crying can be so severe that it can result in temporary blindness because of how much tears you're producing. And when we inhale it, this also irritates our respiratory tract, which leads to coughing. Sometimes the sensation that you're choking, like you cannot get air in. Even though like if you checked in oxygen saturation, people might be technically saturating. Well, they're getting air, but it feels like you are choking, right? And if the exposure is large enough, it can also get into your GI tract and then end up causing nausea, vomiting, even diarrhea. Direct contact with the skin can result in like rashes and burns, which can range from pretty mild to like significant burns with like blistering, like what we would consider like second degree. We don't

EW: degree burn. We don't do that.

EAU: degrees anymore. It's thicknesses. We'll get there later this season.

EW: Yeah, we will.

EAU: Yeah. And a lot of the literature says that most of these symptoms will last anywhere from like 20, 30 minutes to an hour or so, but it's so depends on the duration and the dose of exposure. So it's not uncommon that people have much more prolonged symptoms. So we can talk a little bit more about that in a, in a bit. But I wanna tell you about how these things are actually causing.

EW: Right. Yeah.

EAU: Because even though there's a lot of different chemicals, then I didn't even list them all that we could consider under this tear gas umbrella. They all share a common mechanism, even if the like specific things they're binding to are a little different. Right. And that is that they all activate what are called our nociceptors and these are our pain sensory nerves. So they are literally binding to and activating nerve endings in our body that are responsible for sensing pain. And if we wanna get more specific, which you know, I do, pepper spray activates the same pain sensors that are activated by heat, like touching a hot pan or getting burned by your toaster oven.

EW: right.

EAU: And that's why when you eat a hot pepper, it feels like your tongue is burning right.

EW: Yeah.

EAU: CS and CN among some of the other tear gases, activate pain sensors that are also activated by cold burns, like think liquid nitrogen burn on your skin.

EW: This is diabolical.

EAU: I know.

EW: The fact that like let's engineer this compound to directly target pain receptors so that the sensation that you feel is overwhelming pain.

EAU: [00:55:00] Pain, burning. Pain, right? And I mean a cold burn versus a hot burn, you, you can't really distinguish those. Right? And we have these pain receptors. Everywhere. Our skin, our eyes, our mucus membranes. Pain is a signal to our brain that something bad is happening, something harmful is happening, and that is why activating these receptors activates these reflex loops

that cause things like. Tearing, fluid production. We're trying to, our bodies are trying to clear away, wash away this noxious stimulus.

EW: Do whatever it takes to stop this feeling.

EAU: Right, and we see the release of a really wide variety of neurotransmitters and other inflammatory markers that are promoting inflammation, exacerbating pain, because we know that inflammation can also exacerbate pain. We see increases in things like vascular permeability, smooth muscle contraction. Uh, we see fluid production, which is going to then cause that coughing and difficulty breathing. Some of the things that are released as part of this reflex arc are actually directly involved, we think, in the pathogenesis of asthma, which is why we can see exacerbations of asthma and other respiratory conditions.

EW: Whoa.

EAU: Mm-hmm. So that's, that is how these things are working and while. One of the hallmarks of all of these tear gas agents is supposed to be that they have a so-called wide safety margin between what is considered an incapacitating dose. That's what it's called, the irritant dose or the incapacitating dose, and what would be considered a lethal dose.

EW: How do they determine these different, the, the ends of the spectrum here?

EAU: Yeah, it's a good question. So the, the irritant doses were determined either by animal models and in some cases human studies. So to see like at what dosage do people detect this and can they not stand it, have to leave the room, that sort of a thing. And then the lethal dose, that LC50s are all based on animal studies. And then you extrapolate out to humans. But that does not mean that there can't be more severe effects, and the idea that these are completely benign, not quote unquote harmful, is factually incorrect. A.

EW: Right. Okay.

EAU: In our eyes, these agents can cause significant swelling, what's called corneal edema, that most of the time gets better with time, but in some cases can be much more severe, lead to ulceration and scarring, and eventually essentially cataract formation and blindness. And. Especially in people who wear contacts, that's an especially big risk because the contacts can trap these chemicals on your eyes for longer, which can then just lead to prolonged exposure and more damage to the

EW: Mm-hmm.

EAU: On the skin. I already said we can sometimes have really severe burns, um, like blistering and really severe rashes. It's also thought that there's like a sensitization like allergy type component, so if you're exposed once, you might have an even worse reaction on any subsequent encounters.

EW: Okay, and that is for like any of the symptoms, whether it's respiratory, skin, anything.

EAU: That, that's more specific for skin, but in theory, yes, could happen to any, but, but we see it. It's more, more visible on the skin, I think with the like severity of rashes.

EW: Okay.

EAU: But the most common severe reactions to tear gases in the respiratory system, because if you think of it, what tear gas is doing, like if you think what it's doing to your eyes, right, where it's causing this intense degree of tear and fluid formation, if it does that in our lungs. It's causing this intense inflammatory response, a lot of fluid production, and fluid in our lungs is incredibly dangerous. There's nowhere for it to go. So this can cause something called pulmonary edema and that can and has been fatal in cases.

EW: but it's harmless. It's humane.

EAU: It's harmless, it's humane. It's also like been shown that it can put people at risk for secondary infections. People who have asthma or COPD or other respiratory diseases we see that can trigger exacerbations of those diseases. And there's other like that's, that is not all of it. There have been some case reports of miscarriage associated with tear gas exposure and and there is other literature that suggests there is not risk to pregnancy. So it's a little bit like the data is not entirely clear. But I will say there's a lot of survey studies that report disruption in people's menstrual cycles after exposure. What exactly is the cause of that? We don't really know. But the other thing that's often overlooked [01:00:00] in descriptions of the symptoms of tear gas exposure is the intense psychological pressure that these chemicals put onto people. I.

EW: Huge.

EAU: Huge, right? The intense amount of discomfort that these cause because they are literally triggering your pain receptors, but in combination with the

stress of the situations that they're used in. This can cause a huge amount of anxiety, which can increase your blood pressure leading to other complications and putting people at risk for things like depression, anxiety, and PTSD after the

EW: Mm-hmm. Mm-hmm.

EAU: So it's like these agents are not benign and I'm not even done.

EW: The, is the impact is not, even across, like there are people who are more susceptible and people who are, who Yeah. Have, tend to experience more severe outcomes with exposure

EAU: a hundred percent. And.

EW: the elderly. Yeah.

EAU: Children, the elderly. 'cause that's the thing about the safety studies that we do have. 'cause it's not like we have no data, right? We have some data on this, but the vast majority of these safety studies are either in animal studies, which is just like to determine dosages, et cetera. Or they were done in young, healthy military recruits, most of whom were white males. And again, this is mostly just to determine like irritant thresholds and there's very little data that we have on long-term exposures. We have some data on like repeat exposures or like different durations of exposures, but not much. And so what all of the data that we have and what the like, you know, thresholds are like what is considered safe and things like that. What these short-term studies don't take into account are all of the conditions under which someone might be exposed, and the characteristics, like you said, of the people being exposed. So if you have asthma or COPD or any other chronic lung condition, you are at higher risk of injury. If you are a child. Kids have a completely different surface area to volume ratio than adults. Kids also breathe more than twice as much air per minute than adults

EW: wild. I had no idea. And it makes sense, but I just didn't ' think

EAU: they're breathing much faster. Their faces also sit lower to the ground because they are small and these chemicals are heavier than air. They're not actually gases, and so their faces are being exposed to more of these chemicals. So they have a much higher risk of exposure and toxicity from exposure to these chemicals. And we are not studying these on children. If you are a very old person or if these chemicals are being deployed in confined spaces with no ventilation. If you're wearing contact lenses, if the effects of these chemicals is

also amplified by certain conditions like high heat or high humidity. So the situation in which you're exposed, as well as your individual characteristics are also going to affect the severity of your symptoms.

EW: Yeah.

EAU: None of this is being studied in all of the data that we have. So to say that there's no long-term effects, like we don't really have data to show that there's no long-term effects of these

EW: I have to wonder about the research incentives too. Like who is there funding to do studies on this? Who's funding it and, yeah.

EAU: Exactly. This is, these are the great questions, right? There are some studies that have been done, like there was one out of Turkey, um, that looked at people who had been repeatedly exposed to tear gases that did find higher rates of chronic respiratory illness. Things like COPD or asthma developing after repeated exposure. But again, these are like, these studies are few and far between. There are some animal studies that point to potential carcinogenicity or things on some of these chemicals, but not all of them.

EW: Right then you, that's, that's a whole separate dimension is like the different types of chemicals. Yeah.

EAU: And the exposure and the exact level and for how long? Like there's so many variables and we just, we don't understand, and and the thing is that these are being used in completely uncontrolled situations, right? First of all, there are no federal regulations on the use of these chemicals. None. Erin. Like there are none.

EW: I'm trying to think of what federal re regulations would look like for this.

EAU: It's a great question. I don't know. Um, and it's, but, but it's not, which also means like the use of these is not reported, et cetera. Like there, there is a lot that that goes into that, but there's not, like, there

EW: The use isn't reported. That's, uh, you should what? Okay. Okay. Just keep going.

EAU: And I mean, maybe it's on a local level. I don't know. I don't know where you get that information from. The EPA has like an exposure, an acute exposure guideline only for one of the tear gases, and that is cs. But it's not a regulation

on its use. [01:05:00] Like you can't use this much of it in an environment or anything like that. It is guidance on how much is likely to cause an effect for emergency responders to be aware of if they are exposed during the course of duty. That's the only like federal level regulation that exists in all of the reading that I did about any of these. And the thing is that it's not just the United States. Tear gases. All of the ones that we talked about and so many more are used primarily by governments against their own citizens for so-called crowd control across the entire globe. There's a couple of really great, and by great I mean horrific maps that Amnesty International put together, one that is Amnesty International us. That's just looking at places where tear gas was used. Against peaceful protestors and not just tear gas. It's other, quote, unquote, less lethal forms of crowd control in the US in just 2020 during Black Lives Matter protests. And then there's another map that they put together that's like 500 instances of tear gas and other weapons, less lethal weapons being used against protestors for, for no reason. No reason,

EW: know? Right, right, right there. I'm sure that a reason exists and whether it is an acceptable or logical or humane region reason is up for debate.

EAU: Exactly, and, but they documented this across like 31 different countries, and that's just based on their reporting. Like I, I think like we've talked about, it's harder to find places where this is not allowed to be used than trying to figure out where it is used. And it's not just governments. Teargas is also used as an agent of terror, and there was a paper that I found from 2020 that in the cases they were able to identify what agent was used. Teargas was used in 21% of chemical attacks. So it's like it's accessible and it is used across the globe, OB

EW: Yeah. Accessible. Yeah, you can just, oh my God. Okay.

EAU: And like we kind of already talked about, I think that being able to witness the use of this so much over the last few years because of our smartphones and because of our access to being able to video what is actually going on it. We can see with our own eyes the circumstances under which these weapons are being deployed against peaceful protestors against people trying to get aid from aid trucks against like human beings. And I think it makes it a lot harder to spin this narrative that protests are violent and it is required that we use this kind of force. It doesn't mean that the propaganda machine isn't propaganda ing,

EW: I was gonna say, yeah, like the narrative will be spun no matter what. It's just a endless vomit of complete nonsense, but harmful, malicious nonsense.

EAU: exactly. And I think everyone knows at this point, um, unless it's your first time tuning in, this is not a medical advice podcast. Um, and so I'm not going to give you medical advice, but.

EW: You are gonna tell us

EAU: tell you about,

EW: exist.

EAU: Yeah, there are no treatments. Um, we have, we have no specific therapeutics. There are people who are like, we need to develop therapeutics because there's also a whole discussion to be had about how much medical professionals do not know about tear gases? In part because when someone's exposed at a protest, we have no way of knowing what they're exposed to. Right? It's not like the police are like, Hey guys, just so you know, today we're using pepper balls.

EW: Yeah. Alright. Everyone okay with that? Great. Yeah.

EAU: Right. No, so and so. It's really, it's hard to know like what people are even exposed to. But all, all that said, there's also not as much data as there should be on the best ways to decontaminate, but many people listening might be going to protests and engaging in lawful protests and be exposed to these agents because they're being used. So frequently. So, um, physicians for Human Rights is one organization that I know of that has some really great like infographics and information sheets on ways to protect yourself as a protestor, which includes preventing exposure to tear gas by having things like face masks to cover your respiratory tract, goggles, or glasses or something to protect your eyes. Ideally, not wearing contact lenses to avoid chemicals getting trapped under your contacts, long sleeves and gloves. To prevent skin contact. And then once exposure happens, the general recommendation is that anyone who's small, uh, like kids or things like that, should be lifted to higher ground, um, in order to reduce exposure. Getting out of exposure as quickly as possible is important. And then removing all contaminated clothing as soon as you can after exposure. And then for direct contact with eyes or mucus [01:10:00] membranes, the best recommendation is just to rinse it profusely for like 10 to 15 minutes, um, with plain water if you have it, but salty water if that's available. So like saline solution.

EW: Okay.

EAU: Or some people recommend like a dilute soapy solution with something like a very gentle baby soap or something. 'cause that can help to like bind to and wash away any other remaining chemicals that are there. But that's not based on that grade of data, but that's kind of the best that we have right now.

EW: Wow. Yeah,

EAU: Yeah, so

EW: it is. That's such a, that's such a terrifying point about like, we don't know what you're being sprayed with. So it could be their treatment might not be, that's that, Ugh. It just drives home. Yet another horrific point

EAU: Right.

EW: of this.

EAU: And there's now, like, there's so many, some of the, a lot of the pepper balls that they're using in the US today are mixtures. And so they have both CS and pepper spray in them, and then of course they're fired from a projectile, which can cause damage as well. Um, so yeah, no, it's, it's really truly horrific. Um, it's really awful. And that is

EW: tear gas. Sources. have a bunch of different sources. I'm gonna shout out two in particular. One I already mentioned during the episode itself, Tear Gas by Anna Feigenbaum. Really great. Overview of the entire history of tear gas. I think it's a great place to start. Um, actually start and end. There's a lot more out there, but, um, but there's, there is also so much packed into that. And then also I found a paper from 1989 that was quite interesting called, uh, called Tear Gas Harassing Agent, or Toxic Chemical Weapon. And that was Hugh et al. And it's published in jama, but there's more that I have. Yeah.

EAU: Yeah, I also had quite a number of papers for this, but a couple that I, um, think were really good overviews and things. One was by brown et al from 2021 titled Reevaluating Tear Gas, toxicity and Safety from the Journal, inhalation, toxicology, and then another by Rothenberg at al from 2016. Called tear gas and epidemiological and mechanistic reassessment. And that was from the Annals of the New York Academy of Sciences. But there was a bunch more, um, including, I will make sure to post those links to the two Amnesty International Maps that I mentioned. And then I also have a few in addition to like journal articles, just a few like news articles and things about recent uses of,

um, tear gas in the US and abroad. So you can find all of that on our website. This podcast will kill you.com under the episodes tab.

EW: You can, you can also find links to Blood Mobile who Thank you, blood Mobile. You provide the music for this episode. In all of our episodes,

EAU: Thank you for doing that. We so appreciate it.

EW: we do.

EAU: Thank you also to everyone at exactly right, especially Liana and Tom and Pete and Mark and Jess and everyone else.

EW: Everyone. And thank you to you. Yes, we do. And thank you to you listeners. Uh, you are the reason we do this. So thank you for tuning in.

EAU: Yeah. Yeah. And especially a shout out to our patrons. Thank you so much for your support over on Patreon. It really does mean the world to us.

EW: It does, it does. And until next time, wash your hands.

EAU: You filthy animals.