



The Sound, The Fury and Me

Living with the pain — and pleasure — of everyday sounds.

➔ It was the salads that got me. On nights when my parents started off dinner with some leafy greens, I left the room. The habit quickly became a ritual, and to my family's credit — or not — no one ever remarked on it. It was just another quirk, like sticking your tongue out when you concentrate.

You see, to me, the sound of salad was unendurable. The crisp crunching and the scrape and squeak of utensils on ceramic dinnerware felt like a personal affront, a stimulus inducing red-hot rage inside. I felt an inexplicable urge to hurl plates and bowls against the walls. Instead, I left the table.

As I grew up and moved away, the problem faded into the background. Not till much later did I discover that there was a name for these irrational fits of anger.

Misophonia is an aversive reaction to specific sounds, often

It's an aversive reaction to specific sounds; an annoyance that turns quickly to anger. Eating, chewing gum and typing are all common triggers.

in the form of annoyance that turns quickly to anger. Eating, chewing gum and typing on keyboards are all common triggers. But it varies from person to person. Human-made noises will most often cause the reaction, and these sounds typically come from people close to sufferers, like family and friends. The condition tends to surface during childhood or adolescence. And while scientists don't know how many people are affected, a 2014 study published in *Clinical Psychology* found some level of misophonia in nearly 20 percent of the 500 undergrads studied.

The severity of reactions ranges across a fairly broad spectrum, from mild to debilitating. Some people can control their symptoms with minimal difficulty, using techniques like maintaining mindfulness (telling themselves that their reaction is out of whack and that they should let it go), mimicking the sounds or just keeping noise-canceling headphones on hand. Others, though, find themselves

unable to endure even basic social situations. For me, the best correlate I've found for the reaction is getting cut off in traffic. You know you shouldn't feel so angry, but that fury is unstoppable.

SALAD DAYS

Misophonia was first identified fewer than 20 years ago. Husband-and-wife team Pawel and Margaret Jastreboff were studying tinnitus (ringing in the ears) at Emory University when they found that some people seemed to have oddly specific — and intense — reactions to particular sounds.

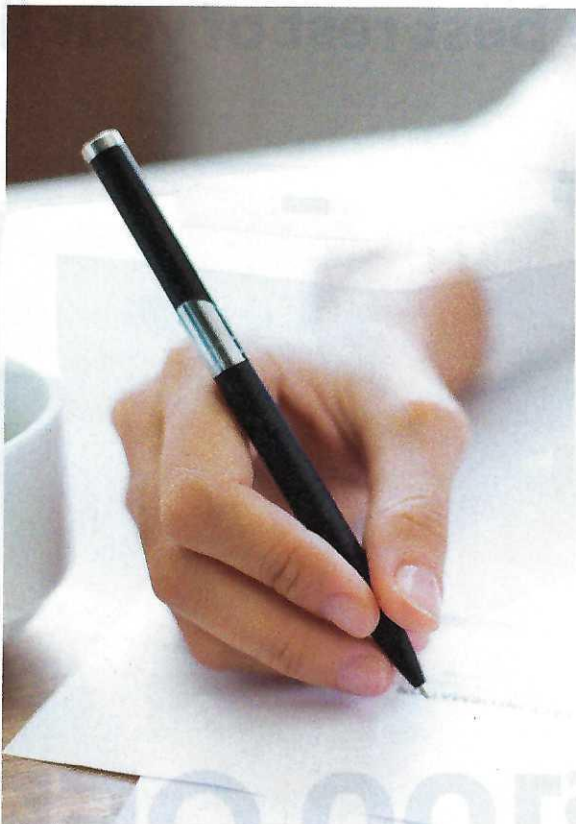
A 2013 study in *Frontiers in Human Neuroscience* provided some validation for misophonia as a condition by tracking heightened levels of skin conductance (a common measure of bodily arousal) when participants heard sounds that triggered them. It's an indication that the sounds somehow set off the autonomic nervous system, responsible, among other things, for our fight-or-flight response.

Another group of scientists had misophonics lie in an MRI scanner and then played trigger sounds, like of eating or breathing. Compared with a control group, the misophonics had elevated levels of activity in their anterior insula, a brain region involved with emotional processing. Not only that, but their anterior insulas seemed to have unusual connections to parts of the brain dealing with memory.

"It seems as if, for example, when they are listening to these sounds, their past experiences with those sounds are coming to bear," says Sukhbinder Kumar, a researcher at Newcastle University and co-author of the study, published in 2017 in *Current Biology*.

So, a negative experience long ago that we associate with a particular sound — even if the two weren't related — might explain the ongoing fight-or-flight reactions that misophonics experience. For example, if you hate your boss and they regularly clear their throat, that same throat-clearing noise might stir feelings of anger if heard in other situations.

In fact, Pawel Jastreboff thinks that nearly anyone could develop the condition. "I think that I know how to create misophonia to any type of sound in anybody. I could make you climb the walls hearing



The sound of chewing can send tingles racing through my skull, and pens whispering against paper are oddly relaxing.

the sound of the clicking of my glasses," he says.

Jastreboff does believe some people may be particularly susceptible to misophonia. Kumar agrees, and thinks underlying psychological factors may be to blame; he says we need more research into the neurological underpinnings of the condition, and the complex ways environment and personal history affect misophonia.

But before we begin any Freudian dives into my past, I have to let you in on a secret. Yes, some sounds inexplicably annoy me. But those same sounds, those that send my blood toward its boiling point — I also really, really like them.

The sound of chewing can send tingles racing through my skull, and pens whispering against paper are mysteriously relaxing. And though I can't be with my family when they're eating salads, a stranger munching lettuce right next to me is sublime.

TIES TO ASMR?

It's a phenomenon known as autonomous sensory meridian response (ASMR), and it's spawned its own online industry. Today, videos by ASMRtists on YouTube rack up hundreds of thousands of views. They commonly feature everyday activities, narrated in gentle whispers: haircuts, hotel check-ins, makeup tutorials and much more. Many people use the videos to help them fall asleep.

Specific trigger sounds, often those at once both sharp and muted, give those who experience ASMR a wave of pleasant shivers, accompanied by a sensation of calm and relaxation. Most people tend to prefer triggers made by people, but some people report things like the sound of water running through pipes can elicit ASMR. Others don't even need sound, reacting instead to lights flashed at their faces.

What brings the tingles is still a mystery. They can seem superficially similar to the sensation of chills down the spine that particularly moving music or art brings, though studies suggest that the two are separate phenomena. And there seems to be no link to sexual pleasure.

As of yet, few scientists have examined the experience, though a *PLOS ONE* study in 2018 looking at

participants who self-reported ASMR tingles did provide evidence that something involuntary and physiological — not just imagined — was happening. When viewing videos designed to produce an ASMR response, the participants' heart rates went down, an indication of relaxation. Meanwhile, their skin conductance levels increased, indicating bodily arousal.

One of the only studies to use brain imaging to study ASMR-sensitive individuals, published in 2017 in *Social Neuroscience*, found changes in regions of the brain that control inward-looking thoughts related to memories and emotions. Based on this, the researchers think those with ASMR might be more strongly affected by experiences that involve both senses and emotions. Feeling happy tingles when exposed to certain sounds, then, might be the result.

But what should we make of someone who experiences both of these similar, yet functionally opposed, conditions? Is there a scientific explanation for this auditory sadomasochism?

Giulia Poerio, who co-authored the *PLOS ONE* study while at the University of Sheffield in the U.K., says she experiences both ASMR and misophonia as well, and she thinks that's fairly common.

"Our working hypothesis is [that it] reflects an underlying sensory sensitivity," Poerio says. "It's that people who experience ASMR or misophonia, all of those sorts of things, experience the world in a different way."

The team plans to explore the connection further.

SOUNDS IN THE BRAIN

Kumar points out that our brains process sounds in more than one region. The most primitive parts of our brains are attuned solely to the acoustic signatures of a sound. But sound waves also increase activity in more complex regions of the brain responsible for emotion, memory and other advanced functions.

The effect of these sonic triggers can depend on the situation, Kumar thinks. And because sounds linger in our memories, a trigger sound that annoyed you once might stick around to haunt you in different situations.

Personally, I can't offer much insight into why some sounds can inspire such wildly different reactions in my head. But I can say that these sonic pushes and pulls are bewildering to me, and occasionally disorienting. I have, in rare instances, even felt myself teetering on a fine line between misophonia and ASMR, between anger and happiness.

With a mental shove, I force myself to the light. **D**

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