

New Technology Enables Auditory Stalking: The Devil as an Aural Architect

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On April 24, 2007, the Boston Globe published a small article entitled “The marketers have your ears,” which described a new loudspeaker technology that most assuredly will be spreading into the general world culture. I would like to explore the social implications of an audio transducer that can create extremely narrow sound fields.

While the physics and technology of a narrow beam ultra-sonic loudspeaker are abstruse and arcane, its properties are simple. The loudspeaker is the aural analog of a narrow beam laser flashlight. Rather than flooding a space with sound, as would be the case for a conventional loudspeaker, this new type of transducer can focus sound directly on a target person without anyone else hearing it, as if the sound were inside your head, thereby creating a message for you and you only. I first became aware of this technology some years ago when I heard a prototype. Now, only a few years later, it is being installed in stores.

By itself, the technology is socially neutral, being an application of a newly discovered non-linear property of air as a medium for sound waves. But as with all new technologies, our legal systems and social norms lag behind the way in which a technology can be used and exploited in the wrong hands.

Organizations that install the technology control both the auditory message and the target of the message. Because our species does not have ear lids, and because hearing does not have the equivalent of a vision’s voluntary point of focus, the target person has no ability to avoid a voice appearing inside his head. Our evolutionary history created an always-on 24/7 auditory sensory system in order to be in contact with events that created sound. It has survival value. But in modern society, this evolutionary property can be exploited for commercial gain and manipulative control.

When we enter a space, we experience the space and its sounds as being “out there” while preserving our inner sense of self. When entering private property, such as retail store, we begrudgingly accept the fact that the external world is under the control of the owner, but our inner world still belongs to us. That is no longer the case when our inner world contains voices injected by the owner.

Can owners of private spaces engage in auditory stalking? I know of no law that prevents them from doing so. Consider the following scenario, which may seem far-fetched but

which is actually based on current technology. Assume that a super-market has installed multiple narrow beam loudspeakers in combination with people tracking cameras, RFID (radio frequency identification) tags embedded in all packages, and a data base of previous purchases based on customer discount ID cards. As you enter an aisle, you hear a voice saying: “cookies would go nicely with the milk in your cart.” If you ignore the message, the voice could remind you about a sale on muffins, cakes, and pies. An odor generating system could inject the smell of freshly baked chocolate chip cookies. A face recognition system might identify you as being a young male who would respond better to a seductive female voice. Children might hear the influential voice of their favorite television character, and the child’s parent would not even know that their child is being targeted.

The commercial voice in your head can follow you around the store until you yield to its wishes, which might be the only way to shut it off. If a human being did this, you could probably have them arrested for stalking. But you cannot arrest an inanimate sound system, and for decades, owners have been exercising their right to inject sound in private property. This is just a more sophisticated and predatory version of our current world of commercial soundscapes. Consider the continuous soundtrack that plays in every store during the holiday season or the addition of very loud commercials in cinema theaters.

While the search for effective marketing has been with us for more than a century, there are new forces at work. Not only has technology provided new options for delivering advertising messages, but also old techniques are no longer working. Traditional television and newspaper are becoming less and less effective. We control visual advertising by where we focus our eyes, and we select what can come from our sound systems by a push of a button. Every mass-merchandizing organization is desperately searching for an effective means for preventing potential customers from blocking their messages. And these powerful organizations will pay for an effective means of penetrating our sensory gatekeepers.

There might be an active rebellion against the scenarios that I have described, and there might be legislative pressure to set legal limits on controlling our inner space, but if history is a guide, the economic pressure for profits will allow such predatory stalking technology to enter and spread through our culture. More and more, we are becoming merchandise rather than human beings with the right to the privacy of our own consciousness.

On a final note, consider the more frightening scenario of a portable and miniaturized narrow beam loudspeaker in the hand of, not a commercial entity, but a manipulative predator. Unlike other forms of communications, with this new technology, there is neither a witness nor an evidence trail to show how the predator is influencing the behavior of the target person.

By using this new technology, aural architects can now control the soundscape in our heads. Narrow beam loudspeakers escalate the sensory arms race.