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# Understanding Acoustic Privacy

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Typing the word 'privacy' into a search engine yields a lengthy stream of entries describing the many ways in which it can be violated, including reports of hackers acquiring credit card information, various groups mining social networking sites, and voice-activated electronics with the ability to eavesdrop on their owners.

Our preoccupation with the vulnerabilities exposed by the internet and electronic products is understandable given their relatively rapid spread into almost every aspect of our lives. But we shouldn't forget that privacy can still be violated in traditional ways—whether by deliberate eavesdropping or simply by being within audible range of a conversation. While privacy legislation tends to focus on securing access to information stored on computers and within filing cabinets, attention also needs to be paid to our built environment.

Many immediately equate acoustic privacy with speech privacy, but there's more to this concept than the ability to clearly hear what another person is saying. For example, even if the conversation taking place in the room next to you is unintelligible, you may still be able to identify the speaker's tone and determine whether they're happy, sad or angry. This type of information can be considered private under certain circumstances, such as when issuing from behind the closed door of a human resources manager's office. The same can be said for non-verbal noises from an adjacent hotel room.

How much of what we understand of a conversation also depends on whether or not we can see the speaker. This effect—known as visual cues—has been quantified by various studies. Generally speaking, if you can only understand 20 percent of someone's conversation when you're not looking at them, the ability to see their lips increases that amount to nearly 55 percent. If you start at 50 percent, visual cues increase it to almost 90. In other words, there's also a visual component to acoustic privacy, which is important to bear in mind when designing a space.

A lack of acoustic privacy carries real risk, particularly in facilities where there's a perceived need for it—or an expectation on the part of its users. Examples that readily spring to mind are hospitals, bank branches, law offices, government and military facilities. However, other types of spaces—such as commercial offices, call centers and hotels, to name but a few—have privacy needs as well. The degree required usually depends on the type of activities the space hosts.

It's easy to understand the need for acoustic privacy—or even acoustic security—from a speaker's perspective, particularly in environments where they're discussing medical information, financial planning, personal relationships, trade secrets, matters of national security, or similarly confidential topics. But a lack of acoustic privacy can have impacts beyond divulging sensitive information to unintended parties. This fact becomes clear when we look at conversation from the viewpoint of the (often involuntary) listeners, rather than that of the individuals talking.

When a noise or voice enters 'our space,' some degree of annoyance is typical, but it can also make us feel as though our privacy is being invaded or our sense of physical separation from others violated. Perhaps the most relatable examples of this sensation are when the guest in a neighboring hotel room turns up their television's volume or the patient at the other end of a waiting area starts speaking loudly into their cell phone. If we can inadvertently hear a conversation, we also become self-conscious about our own level of privacy. In some contexts, it creates a sense of unease, which in turn impacts our ability

to freely communicate. For instance, if we visit a medical clinic and hear what's happening in the adjacent exam room, we're less inclined to disclose information to the doctor, knowing that we too can be overheard.

The degree of acoustic privacy afforded by the built environment can even impact an organization's brand image. We want to be in control of our personal information when meeting with a financial or legal advisor, for example, and a positive acoustic experience can reinforce our confidence in their firm. This level of protection is also indispensable for staff to effectively negotiate.

In some countries, protecting verbal communication within particular types of facilities is actually mandated by law. The *Health Insurance Portability and Accountability Act* (HIPAA) introduced by the U.S. Department of Health and Human Services in 1996 is a good example. It requires healthcare entities to take 'reasonable safeguards' to ensure speech privacy during both in-person and telephone conversations with patients and between employees.

Acoustic privacy is also vital to employees' overall satisfaction with their workplace. A decade-long survey run by the Center for the Built Environment (CBE), University of California, Berkeley, found that lack of speech privacy is the number one complaint in offices. Participants expressed irritation at being able to overhear in-person and telephone communications, as well as concern for their own level of privacy.

The topic of workplace satisfaction also emphasizes the need to consider those occupying spaces other than closed rooms. Though some may dismiss the importance of acoustic privacy when designing open plan space, studies show that it has a significant impact on productivity. For instance, research conducted by the Finnish Institute of Occupational Health shows that unwilling listeners demonstrate

a five to 10 percent decline in performance when undertaking tasks such as reading, writing and other forms of creative work. Simply hearing that someone is speaking can disturb concentration, but this problem is amplified when you can clearly understand what they're saying. Essentially, if you can follow a conversation, it's much harder to tune it out.

Although an organization might not consider privacy a goal within open plan, it's impossible to justify increasing distractions. Occupants working in an acoustically comfortable environment have an easier time concentrating on their tasks, and also suffer less stress and fatigue. An organization may decide it's more motivated by the need for a high-performance workplace than acoustic privacy, but taking the steps required to lower speech intelligibility allows them to reap both rewards. The only difference is how you see the benefit: from the perspective of the group listening rather than the person talking.



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