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Per a sideline article that appeared in the August 5, 2014 edition of the Miami Herald newspaper, the technology to do just that has apparently moved beyond development.

Researchers at the Massachusetts Institute of Technology have created an algorithm that can reconstruct sound – including intelligible speech – by analyzing the recorded vibrations resonating from a bag of snack chips. The movements are exceptionally small, sometimes only one thousandth of a video pixel, but when averaged together the extracted sound makes sense.

The snack bag can be as far away as across the room. In the article the described experiment was performed with a snack bag at a distance of 15 feet from the person talking.

And there is no need to worry if you cannot be in the same room as the person you are spying on: the experiment described in the article was performed through sound-proof glass. (Video, after all, does not rely on audio.)

While the article states that the reconstructed audio was not crystal clear, the words were nonetheless possible to decrypt.

The researchers used a camera capable of 2,000 to 6,000 frames per second, which pales in comparison to high-end cameras capable of over 100,000 frames per second. And the researchers noted that even less-expensive cameras than the ones they used would work.

While my less-than-one-year-old smartphone camera is only capable of approximately 30 frames per second, it may only be a handful of years before cell phone cameras have enough capability to manage this task. I should think that current smart phone processors, let alone any new ones coming along, would have the capacity to run the algorithm software. Now...if we combine this with facial recognition technology which is more mature and readily available, the smartphone is quickly becoming a commonplace appliance of intrusion beyond current privacy concerns. With the advanced video capabilities packaged onto drones this technology may advance their ability to both see and "hear". In both cases there is the real possibility of a new dimension to the spy-game playing field being added.

Where it is illegal to record a conversation without permission, would existing laws extend to video recording a vibrating object? After all, especially through glass – sound-proof or not – no audio is being recorded if only a vibrating object is being videoed.

Could this force snack chip manufacturers to alter their packaging to make them more vibration-resistant? What is the position or responsibility of snack chip manufacturers in a lawsuit if their vibrating snack chip bags were brought in as evidence or "witnesses"? Will people stop eating snack chips in public due to the fears of eavesdropping? Will we all have to resort to texting each other in public places to avoid having our audible conversations overheard or vibration-sensed? Will the fast-food industry stop selling snack chips in bags due to public backlash? Will this lead to the installation of more ceiling fans or other devices for the purpose of introducing background vibrations to throw off those from our audible conversations, and could this result in alternate health problems themselves?

This issue is still a little farther off on the horizon but it should present some interesting issues as it draws nearer.

Thanks.

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