

**ENVIRONMENTALLY SPEAKING****Peter Schwartzman**

# Cell phone for me? No thanks

Everywhere you look people now have something metallic in their hands or pockets. Whatever this contraption is, it must be really important. It interrupts conversations. It disrupts gatherings. It distracts us while we drive. It disturbs us in the middle of the night. It costs a considerable amount of money to maintain. And, it is easy to misplace and lose. Despite all of these negative characteristics, more and more people seem to want one—a mobile (or cellular) phone—and few appear ready to give it up.

Well, I too don't want to give it up. But my "it" isn't a cell phone but rather my freedom, my independence, my health, my money, or the planet. Thus, I have never owned a cell phone nor do I plan on doing so. More and more I not only feel isolated by this decision but find that it is often a source of contention—i.e., people are uncomfortable with the fact that I don't have one and some even get angry with me. As such, I feel obliged to flush out my reasons for not having (or wanting) one. By sharing these reasons, I hope to offer a rationale for others not to get hooked on this gadget in the first place or for giving it up (for those that are already hooked).

Cell phones have lots of positives, people tell me. They are extremely convenient—you can contact nearly anyone (but me) from anywhere and at anytime. They provide safety—if your car breaks down on the highway, you get lost in an unfamiliar place, or if you witness a crime in action. They often come with tons of accessories which allow people to tell time, check email, text friends, take photos, get navigational instructions, etc.

All this being said, I am not sold. Convenience comes at a price and I am already too addicted to the Internet (via my computer) to adopt another vice. Additionally, as I'll hopefully show, cell phones come with a lot of concerns and unanswered questions. For me, this is more than enough reason to say, "No, thanks."

There are three fundamental areas of concern that I have with cell phones. They are responsible for serious environmental and human rights abuses, they may be detrimental to our health, and they seem to change our social relationships in questionable ways.

From an environmental perspective, cell phones are problematic in several ways. They contain valuable substances that require mining. In particular, tantalum, a metal which comes from columbite-tantalite (coltan, for short) ore, is used in electronic equipment that engages in wireless communication. As such, once refined, tantalum powder can be very valuable. An uncertain amount, but as high as 80 percent according to grassroots organizations, of the world's coltan comes from the Democratic Republic of the Congo (DRC)—formerly Zaire. Most of the coltan in Central Africa is mined by desperately poor people, including young children, who are easily manipulated and abused by large mining companies and militias. Massive killings (presumably over territorial control) have been reported in these coltan-rich regions. Much of the terrain where coltan is mined also falls in the diminishing habitat of lowland gorillas; some estimate that the unregulated coltan market is largely responsible for the loss of 90 percent of these primates (Cellular News). And although, both the British Broadcast Company (BBC) and ABC News broke the story on coltan (and the complications created by its extraction) back in 2001 & 2002, most people still know very little about it. Yet since the costs to humans and gorillas appear to be so high, isn't about

time that we all became more aware of it? Several organizations are trying very hard to do just this. Visit, [www.eco-cell.org](http://www.eco-cell.org) or [www.friendsofthecongo.org](http://www.friendsofthecongo.org) for more information.

Cell phones also contain many other heavy metals. These all require the continued mining of the Earth, which is detrimental to the environment (via the destruction of land, use of fossil fuels, and the introduction of toxins during the extraction process). One way to gauge how much mined material is actually in a cell phone requires looking at the recycling industry surrounding them. One firm in Japan claims that given equal volumes of "discarded mobile phones" and ~2,000 pounds of mined ore, the cell phone "heap" will contain ~20,000 times more copper and ~600 times more silver, not to mention many other metals such as indium, antimony, bismuth and gold. Despite the huge potential savings (both economic and environmental) from recycling unusable phones, in Japan it is estimated that only 20-30 percent are properly recycled (partly because people are afraid of others getting personal information off of them) (Yoshikawa).

From a health perspective, cell phones have raised a lot of eyebrows as well. First, cell phones use microwave radiation to communicate. This concerns some because microwaves are more energetic than radio or TV waves—between forty to two-thousand times more energized per photon depending on wavelength. Since radiation of these energy levels can make chemicals heat up, react with other chemicals, or ionize molecules (i.e., change electron number), living cells have the potential to change if exposed to microwaves. Some scientists and health officials have raised concerns that adding additional microwave energy into the environment, via cell phones, wireless phones and wireless communication (i.e., Wi-Fi), may be detrimentally affecting biological functions in humans and other living things.

Additionally, not everyone is exposed to the same amount of microwave energy. People living near cell towers, where radiation intensities are obviously higher (because multiple calls are being relayed simultaneously and because the signals must be strong enough that they don't attenuate too much before they reach the user), have unique risks that have yet to be properly evaluated. Children also appear more vulnerable because these waves penetrate much deeper into their skulls and brains. Very little research has been done on children and only recently have children been using cell phones widely.

So what does the science say about the health effects of cell phones? It depends on whom you want to believe and how much evidence is sufficient to give you pause. An article published in *Environmental Health Perspectives* in 2007 concludes that the funding source of scientific research looking for health effects of cellular phone use appears to influence the results (i.e., studies funded by industry were more likely to show "no effect" than those funded by public agencies or charities) (Huss et al.). This is a very disturbing finding.

Many studies have been done on short-term effects of cell phones and cell phone towers. Some conditions, such as cancer, typically take many years to develop. But, since cell phones are a relatively new technology, long term consequences are nearly impossible to ascertain at this time. Furthermore, any negative indication that cell phone usage among children may be harmful is also not easily determined (given the relatively brief period of time that

children have been using them).

However, despite these difficulties, there are some early indications that serious problems may exist. Devra Davis, a world-renowned epidemiologist and award-winning author, hosts a website ([www.devradavis.com](http://www.devradavis.com)) that highlights some of the more disturbing scientific findings. One of the most comprehensive studies ever done—performed by the World Health Organization, known as the Interphone study—is still underway but early evidence suggests that glioma brain tumors are more prevalent among people who have used cell phones for at least ten years. Many other studies find damaging effects in other organs—kidneys and heart. But the overwhelming conclusion of the research so far is: We don't know yet if cell phones (and increased microwave exposure) are harmful to humans. This isn't a comforting thought for those that err on the side of caution. This is particularly disturbing when you consider that children are using cell phones more and more frequently—and an increasing number of them even sleep with them under their pillow—and science hasn't done much at all to determine what the effects of cell phones will have on their developing bodies and brains. This is one of the major reasons that several countries, including France, Canada, and India, have issued warnings that children should limit their cell phone usage as much as possible.

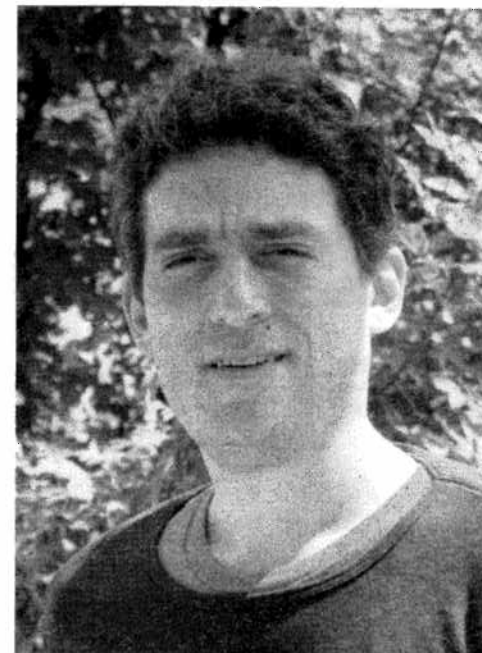
If anything in the previous paragraph surprises you, it shouldn't. The introduction of untested chemicals and products into our lives is very common. Most industrialized chemicals that spew into our environment each and every day haven't been properly tested and far fewer have been tested on the effects they might have on children or pregnant mothers (and their fetuses). For more on this topic, please consult my previous *The Zephyr* articles on this matter (from 4/25/2002 and 4/24/2003).

For the latest information on cancer and cell phones, I encourage you to go to the University of Pittsburgh's Cancer Institute's Center for Environmental Oncology's website: [www.environmentaloncology.org](http://www.environmentaloncology.org). They have a "briefing book" that is updated regularly and addresses "what the [latest] science says" on the matter.

If the environmental and health concerns weren't enough, I am still uneasy about the ways in which cell phones seem to alter our forms of interaction and communication. (While these concerns are not based on scientific evidence—in contrast to the first two sections—it is something that I still think deserves inquiry.) First of all, cell phones make us available at all times. Whatever happened to having down time or private time? Doesn't anyone want peace and quiet or a sense of serenity anymore? Often when I am engaged with people in important discussions, we get interrupted by a ringing cellular phone. Not only is this irritating for both parties but it destroys the atmosphere and continuity.

More important than disrupting conversations, cellular phones, and in particular, the texting feature that comes with them, keeps us connected 24-7. Isn't there anything better to do than connect with others cybernetically? I already spend too much time reading and writing emails. Must I spend all of my free time hooked to a mobile device so I never have time to engage with the immediate world around me? What about sitting down and reading a good book or walking through the neighborhood and actually talking to neighbors face to face? Wouldn't that serve an important, and often overlooked, purpose?

A few other matters concern me.



Don't cell phones lend themselves to a hyper-consumeristic mentality—instant gratification and access or, otherwise, disappointment and frustration. How much more materialistic can we get? Also, can we become too reliant on cell phones? We will no longer need to know many things (such as, numeric calculations, word spelling, etc.) because everything becomes readily available at the tip of our fingers. I'd rather keep my brain active than depend on a machine. Lastly, what about the tracking of individuals? Many cell phones now come with GPS tracking systems. This allows someone (or many someones) to know where you are at all times. Personally, I like the idea that I can be "loose" and "free" from surveillance cameras and sophisticated technologies. I'm not going to implant a chip into me voluntarily. Are you? Well, hopefully I have given you something to chew on. Remember that not everything we chew is worth swallowing and, at the same time, some things that don't taste all that good the first time are really good for us in the end. I recognize that I may be the last person on Earth without a cell phone—which perhaps is a fitting epitaph for me. I don't suspect I am going to change the world by not having one, but at least I am free not to (for now). The same cannot be said for letting my lawn grow wild or working in a Wi-Fi free environment. These freedoms have been lost. What's next?

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