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Greening the Media

Cancer and Cellphones in the News—It's Complicated

On the latest scientific study about the links of cellphone radiation and cancer

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Every day there are reams of environmental news stories that fail to make headlines in the mainstream press. The media in general are averse to the highly technical nature of scientific reports, but Americans share responsibility for the lack of attention to science. While most of us care that the planet is heating up and worry about our own contribution, we seem uninterested in causal explanations for this phenomenon. If a study asserts that the Earth's warming harms a flower's ability to produce its sweet smell, we don't necessarily care about the mechanism of "phenylpropanoid-based floral scent production" (the chemical basis of the plant's perfume) or its related impact on "plant-pollinator mutualism" (confused bees). We just want to hear a simple "yes or no" answer to the problem this poses for us: does global warming eliminate a blossom's fragrance?

Many news organizations striving to survive in the digital economy will reduce environmental reporting to yes/no questions because these tend to provoke readers to click through to the article and add to the number of advertisements viewed that day. Journalism has become a click-baiting operation for news organizations looking for ways to compete with social media's annexation of audience curiosity—and journalistic skill and labor (anyone for Facebook as news outlet?). And the broadcast networks veer between drastic reductions in coverage and peddling nonsense.

This situation is particularly damaging to the quality of environmental journalism, because the relevant science is never encapsulated in easy answers. Studies of the environment are complicated, ongoing, and not given to pronouncements of absolute certainty. This has made environmental journalism vulnerable to misinterpretation, when, for example, a reporter employs a he said/she said model of investigation that leaves people wondering where the truth lies—whether it's about flowers or freak storms. Journalists don't do well with scientific uncertainty, and they can make matters worse by seeking "balance." Even today, after scientists have reached consensus on the human causes of global warming, journalistic practices give license to naysayers and the lingering doubt they peddle in the name of objectivity.

Into this media-made world of anxiety-fueled clicking and blinkered environmental reporting comes a recent announcement from the US National Toxicology Program (NTP) concerning partial results of a two-year, publicly-funded study on chronic exposure to radiofrequency radiation (RFR). The study purports to demonstrate that the kind of RFR associated with cellphones is linked to higher risk for two kinds of cancers in male rats.

Unsurprisingly, the press picked up on the key click-bait aspects of the story, expressed in the first round of headlines: "Cellphone Radiation Study Raises Concerns Despite Low Risk" (The Associated Press and *The New York Times*), "'Game-Changing' Study Links Cellphone Radiation to Cancer" (*Mother Jones*), "US Cellphone Study Fans Cancer Concerns" (*The Wall Street Journal*), "Do Cellphones Cause Cancer? Don't Believe the Hype" (*The Washington Post*), and from the digital newcomer, *Vox*, the most clickable of all, "Seriously, stop with the irresponsible reporting on cellphones and cancer."

Despite these varying displays of hype and anti-hype, all the articles shared a surprising degree of interest in the science and the professional process of peer-review and peer skepticism conveyed by the report (except *The New York Times*, whose science reporter Gina Kolata narrated a video telling people that it's absolutely fine to use cellphones). Such journalistic interest is one important aspect of the story; the fact that the authors released partial results is another. The full study will not be published until next year, after revising, re-examining methods, re-analyzing results, and undergoing more extensive peer review by experts in the field. But the authors of the study thought that the initial, and very partial, results were too important to withhold from open scrutiny.

What makes this preview report so engaging is its public display of an ongoing process of scientific debate leading to an as yet unknown final outcome. The report is over 70 pages, half of which are devoted to analysis by external evaluators who comment on the research design, statistical analysis, and findings. Crucially, these expert reviewers did not universally endorse the authors' analysis. Perhaps in anticipation of agenda setting press reports, the NTP authors made sure to set a tone of scientific debate, inviting challenges to which they were able to respond in the report with scientific and methodological clarifications and counter-arguments. Their openness is there for all to see, which seemed lost on the journalists reporting on the study's partial release even as they gorged themselves on its skeptical contents.

So what are the key findings that has the journalistic world so agitated and the scientific world so excited? The authors didn't say that cellphones cause cancer in humans, though they cited the study from the International Agency for Research on Cancer that concluded cellphone radiation is a "possible human carcinogen." And they noted the widespread use of mobile technology and intensification of RFR exposure: "Given the extremely large number of people who use wireless communication devices, even a very small increase in the incidence of disease resulting from exposure to the RFR generated by those devices could have broad implications for public health."

What the researchers found was increased occurrence of two types of tumors in male rats, one affecting the brain, the other the heart—the latter, called a cardiac schwannoma, is a very rare cancer, which makes the finding more significant. There are, of course, caveats acknowledged by the authors and their expert evaluators, and plenty of confusing results to work through. But the main point is that this study—the biggest and longest experiment to control for everything but RFR exposure—generated data that showed apparent causal links between RFR and cancer, and that data has been made available to the scientific community for review and re-analysis. It is by no means the final word on the matter. The full, vetted report may clarify much of the puzzlement associated with the recently released results.

For the non-specialist, the technical language in this report is difficult to comprehend, but not impossible, and easier than the Intergovernmental Panel on Climate Change's reports, which make reading Einstein as easy as watching Ozzie Smith in his prime. Let's direct our skepticism at the environmental reporters who are too often tempted to downplay something that is not immediately intelligible to them. The American Cancer Society (ACS) said the study "marks a paradigm shift in our understanding of radiation and cancer risk." That's certainly an invitation to learn more. So instead of looking for yes or no answers to difficult scientific questions, have a go at informing yourself … by clicking here. And if you are concerned or convinced, contact the journalists who reached for the easy account of what they read and demand more serious reportage.

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