A Fact-Free Hit on a 5G Critic

Fabricating History on the *New York Times* Science Desk

July 22, 2019
Last updated July 13, 2021

Last Tuesday, July 16, the *New York Times* devoted most of the front page of its science section to William Broad's latest attack on those who challenge the dogma that wireless radiation is absolutely safe.

"The 5G Health Hazard That Isn't" is the catchy headline of the Web version of his article. It is followed by "How one scientist and his inaccurate chart led to unwarranted fears of wireless technology."

Broad focuses on two letters* written about 20 years ago by Bill Curry, a consulting physicist, who openly disapproved of putting Wi-Fi in classrooms. Here's the nub of Broad's argument:

> "Over the years, Dr. Curry's warning spread far, resonating with educators, consumers and entire cities as the frequencies of cellphones, cell towers and wireless local networks rose. To no small degree, the blossoming anxiety over the professed health risks of 5G technology can be *traced to a single scientist and a single chart*." [emphasis added]

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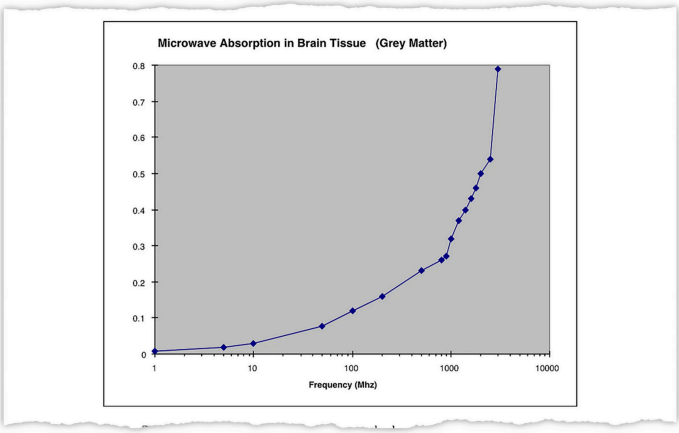
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A 2000 graph by physicist Bill P. Curry purported to show that tissue damage increases with the rising frequency of radio waves. But it failed to account for the shielding effect of human skin. NO CREDIT

Curry's chart above —which shows the proportion of electromagnetic radiation absorbed by brain tissue ("grey matter") as a function of frequency— is prominently displayed in Broad's article on the *Times* website, though not in the print edition, where the headline was "Don't Fear the Frequency."

Broad then springs a gotcha: "Except that Dr. Curry and his graph got it wrong."

In fact, it's Broad who gets it wrong. Curry's graph is correct.

"I think Curry's graph is right, though the issue is more complicated than can be shown in one diagram," said Frank Barnes, a distinguished professor emeritus at the University of Colorado in Boulder and a long-time member of the National Academy of Engineering. "It's not very far from what Camelia Gabriel has shown," he added, referring to the former researcher at King's College, London, whose measurements of the electrical properties of biological tissues are considered the gold standard in the field. Barnes said that he had never seen Curry's graph before.

Indeed, the graph has never been published in a peer-reviewed journal and has rarely surfaced anywhere. Broad offers three examples of where it has appeared: Two are in testimony by David Carpenter, a public health physician, filed in 2011 and 2012 by the same law firm. The third is in a briefing package in which one of Curry's letters is reprinted among dozens of items on cell towers. His letter runs five pages out of more than two hundred in the collection.

When asked about the graph, Carpenter had no recollection of it, or of Curry. Indeed, no one interviewed for this story had ever seen Curry's graph until Broad resurrected it for the *Times*. Only one person had heard of Curry.

Does this sound like a graph that launched a thousand protests and caused "blossoming anxiety"?

Fast and Loose with the Facts

Broad does not play fair with two central issues.

First, he conflates the frequencies used in 5G wireless communications. For the foreseeable future, 5G networks will mostly use the 1-6 GHz band, frequencies similar to those used in 4G and previous generations of cell phones. Higher frequencies (above 24 GHz), called millimeter (mm) waves, will only come into play much later. There is a crucial biophysical difference between the two bands: radiation at the lower frequencies penetrates into the body, while the radiation at the higher frequencies is mostly absorbed by the skin.† Broad mixes up the two.

Broad quotes Christopher Collins, an NYU professor of radiology, as saying, “It doesn’t penetrate” beyond the skin. I asked Collins by e-mail what the “It” referred to. This is part of his reply: “When I read the article my first concern was that my saying ‘It doesn't penetrate’ might be misunderstood without more context on the frequency.” Collins explained that he was talking about mm waves —not the lower 5G frequencies. Those, he agreed, do penetrate into the brain.

Collins, whose research deals with the electrical properties of biological tissues, is well acquainted with Gabriel’s work. He too said that he had never seen Curry’s graph before the *Times* brought it to his attention.

Broad’s second trick is to use sleight of hand to make it seem as if Curry is ignoring the shielding provided by outer layers of tissue. He suggests that Curry’s graph is of radiation in the brain when a phone is held next to the head, with skin and skull in between. Not so. Curry’s graph describes the dissipation of microwave energy in the brain, not the path the radiation took to get there. It is clearly labeled as “Microwave Absorption in Brain Tissue.” There’s nothing more.

Broad’s legend to the Curry graph is blatantly deceptive.

> “A 2000 graph by physicist Bill P. Curry purported to show that tissue damage increases with the rising frequency of radio waves. But it failed to account for the shielding effect of human skin.”

Once again, not so. The graph says nothing about radiation damage in the brain, though, of course, that is an obvious concern. The graph is simply a set of biophysical data points taken from a report by Gabriel for the U.S. Air Force in 1996.

The reference to “shielding effect of human skin” is out of context. Here again, Broad is mixing up the frequencies. Curry was only concerned with the lower microwave band (2.5 GHz) not what happens with mm waves. Remember, he mapped out the graph back in 2000, when 3G had only just been introduced and many were still using 2G. In this part of the spectrum, radiation does indeed reach well into the brain.

A comment posted on the *Times* website by “Bruce” in San Jose illustrates the confusion over skin penetration engendered by Broad’s story. It’s in response to other readers who were pointing out that RF radiation may be linked to cancer in a number of

different internal organs —implying that cell phone radiation does pass through the skin. Bruce replied:

> "Wow. None of that jives [sic] with the very most basic thing pointed out in this article, that skin does not allow the propagation [of] EM waves at these frequencies through it. Now, if you were talking skin cancer or some such, that would be more believable."

David Carpenter in the Crosshairs

Curry is not Broad's real target. Rather, it is David Carpenter who years ago cited the graph in two obscure documents. He is the director of the Institute for Health and the Environment at the School of Public Health in Albany, NY. Carpenter is the most respected and best credentialed advocate for a precautionary approach to all types of non-ionizing radiation —from power lines to cell phones— in the United States. He is one of the very few who speaks for public health on 5G and other types of wireless radiation. In the early 1990s, Carpenter was on the short list to be the director of the NIEHS and the NTP.

Broad would like readers to believe that Carpenter is little more than a tool of Russian disinformation. This was also spelled out in Broad's first attack on Carpenter just a few months ago. In that story, headlined "Your 5G Phone Won't Hurt You. But Russia Wants You To Think Otherwise," Broad portrayed Carpenter —"a prominent 5G critic"— as a mouthpiece for Russian propaganda. He went on to chastise him for issuing scary alarms, insinuating that he has been scientifically discredited.

Junk Journalism, Not Junk Science

Many questions remain unanswered: How did a star science reporter misrepresent so many facts to spin such a misleading story? Who on the *Times* science desk fact-checked it? (Was it fact-checked?) Who brought the obscure Curry graph to Broad's attention?

The telecom industry, not surprisingly, welcomed his article. The next day, the *Wireless SmartBrief* celebrated with: "Experts: 5G Health Scare Based on Bad Science."

As it happens, just two days shy of 20 years ago, on July 24, 1999, Broad set out to discredit research on health risks in another part of the electromagnetic spectrum. The target was power-line EMFs, which, at the time, were a widespread concern, much like 5G is today.

In an article that appeared on the front page of the *Times* that morning, Broad described a case of misconduct at the Lawrence Berkeley National Laboratory that would help ruin the career of a promising scientist, Robert Liburdy, for what was at worst a lapse of judgment. The headline on Broad's 1999 story was "Data Tying Cancer to Electric Power Found To Be False." This was an outright fabrication: the work which Liburdy was accused of mishandling had no obvious connection to cancer. (More on the Liburdy affair here.)

Last fall, Broad tried to cast doubt on the National Toxicology Program's $30 million RF-animal study. This is what he and a *Times* headline writer came up with for the story: "Study of Cellphone Risks Finds 'Some Evidence' of Link to Cancer, at Least in Male Rats." That's not only flippant, but wrong. The NTP study showed "clear evidence" of cancer. (See "Defending the Indefensible.")

In all his recent articles, Broad spins concern over cell phone radiation as based on junk science. The result is junk journalism.

Irish Press Ombudsman Finds NYT Article Inaccurate

February 6, 2020

Last September 5, William Broad's article was reprinted in the *Irish Times* under the headline, "Are There Any Real Links Between Wireless Technology and Health?" This prompted Tom Butler of University College Cork to file a formal complaint with the Press Council's Ombudsman's Office over inaccuracies in Broad's reporting.

Today, the Ombudsman released an opinion, agreeing with Butler, stating that, the "*Irish Times* breached Principle 1 (Truth and Accuracy) of the Code of Practice of the Press Council of Ireland."

The opinion states, in part:

> "I am upholding this complaint on the basis that the article, in not taking more account of scientific research that raised concerns about the impact on human health of radio waves, breached the accuracy requirements found in Principle 1."

The opinion, which also appears on the *Irish Times* website, does not mention Broad by name.

The *NY Times* Stands by Broad

April 13, 2020

The U.K. *Sunday Times* picked up the thread about Tom Butler winning the support of the Irish Ombudsman on February 16. In this case, the U.K *Times* not only identified William Broad as the errant reporter, but ran his photo too.

Eithne Dodd of the *Times* asked the *New York Times* for a comment. Here is the reply she received: "We're confident in the accuracy of our reporting."

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* The first letter is dated February 24, 2000, the second September 29, 2000.

† The issue of what mm waves may do when absorbed by the skin is not addressed in this article. A number of those interviewed remarked that possible side effects should not be dismissed out of hand.

William Broad, New York Times, 5G, cell phones cancer, Bill Curry, David Carpenter, Frank Barnes, Camelia Gabriel, Christopher Collins, Robert Liburdy, NTP, cell phones (media), Tom Butler,

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