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Themes and Influences; Phones and Risk

Discovering the Issue

This book examines the origins and development of health concerns associated with cellular phones, focusing principally on Western Europe, North America, and Australasia. Like so many other intellectual projects, this one began more by accident than design. Telephones of whatever sort do not hold any special fascination for the author. What sparked my initial curiosity was the succession of sometimes bizarre newspaper stories that began to appear in the United Kingdom following the infamous headline that cell phones might "fry" the brain (*Sunday Times*, 4 April 1996). Even past their 1997–9 peak, and four years after the "frying brain" story, the British media's fascination with cell phones and health has not entirely abated. On 17 October 2000, for example, London's newspaper, the *Evening Standard*, carried two whole pages on the subject. The first was concerned with the risk of (associated) violence: "Suburban crime surge is blamed on mobile phone thefts," ran the report, describing the trend for young people to be robbed of their cell phones on the streets. Further on, the more conventionally defined health problems were raised in a story announcing: "Sickly pupils 'recover' after leaving cell phone mast school." The article repeated the claim of longtime anti–cell phone tower campaigner Debbie Collins that removing her daughter from a school sited close to a tower had led to dramatic improvements in the girl's health. Discounting the skepticism of "the experts," Debbie claimed: "She's a different child now – it's all the proof I need to convince me there is a link between those wretched masts and the health of children." Another mother similarly dismissed the word of the unspecified "experts,"

declaring: "I needed no more proof than that. This term he started at a new school and I can already see the change in him. His memory has improved and his headaches have gone." Such anxieties are not restricted to parents or the vulnerable. The manager of London's top soccer team, Arsenal, insisted at the end of 2001 that his players fit a crystal device called the "PhoneShield" to their cell phones on the basis that radiation might somehow sap their strength.

Stories about health risks from radio-frequency radiation from cell phones and their communication towers have become common in the British media in the last five years. It is important to emphasize that these stories cannot be dismissed as of the *National Enquirer*, "aliens abducted my mother" variety. This remains a seriously regarded issue, and it was the United Kingdom's most influential "quality" weekend newspaper, the *Sunday Times*, that began the whole episode, and its sister daily, *The Times*, that reinvigorated the issue toward the end of 2000. Alongside the *Sunday Times* story, reports featured by the BBC television shows *Health Watchdog* and *Panorama* were the other influential moments in the evolution of cell phone health risk's public profile. In both their more populist and "up-market" formats, the stories about health risks follow a standard pattern of "revealing," "disturbing" new research about the link between cell phones and health. A week after the *Evening Standard* stories, for example, the leading middle market newspaper, the *Daily Mail*, announced: "Warning over mobile link to nerve damage" (24 October 2000). One of the two new studies in the report claimed that "excessive use" of the mobile phone could damage nerves around the ears, while the other described a "significant increase in skin temperature" with "unknown long-term health consequences."

None of the studies made public so far has offered verifiable evidence of negative health effects from cell phone emissions. It is *potential* rather than *actual* harm that has prompted concern. Unsurprisingly, perhaps, it is in relation to children that special measures on the basis of potential harm are most widely endorsed. Following research at the University of Utah suggesting that *if* mobile radiation were harmful, then children would be especially vulnerable, for example, an article in the left-liberal daily, the *Guardian*, advised that minors should take precautionary steps such as holding the phone at a distance while dialing and sending text messages (*Guardian*, 20 November 2001). By contrast, not a single British media source reported on an official report for the Dutch government that firmly concluded that there was no evidence of a health hazard from cell phones, and therefore no need for the precautionary limiting of children's usage

(Health Council of the Netherlands 2002). Good news appears to be no news for a media apparently fascinated only with the possibility of harm.

Claims of harm from cell phones seemed less than compelling to the author, given their largely hypothetical basis. Imperfect a guide as it is, experience also contradicted these news stories; many people I knew had been using these devices since their introduction in the mid-1980s, without ever reporting any ill effects. Even in retrospect it is clear that there was something quite unique about the treatment of the issue in the British media. More distinctively still, British newspapers developed public warning campaigns about potential dangers as an explicit campaigning focus. Stories were typically created out of obscure, single studies from which the possibility of more generalized human harm was illegitimately extrapolated or inferred. Ominous implications are suggested by the "significant increase in skin temperature" and "unknown long-term health consequences" described above, for example. The far greater increase in skin temperature from getting into a hot bath or sitting in the sun might also be described as having "unknown consequences" (including cancer in the latter case), but we can recognize in these instances that portentous language means little. Similarly, the suspicions of a parent who consciously rejects any expertise in considering whether his or her child's health is related to cell phone towers is only "news" insofar as the media have chosen to make it so. The uncritical way in which the British media announced unreviewed research on the effects of microwave radiation and encouraged readers to draw unwarranted conclusions suggested that many journalists, editors, and producers made an early decision that the possibility of harm being proved at a later stage was worth gambling on. On the assumption that cell phones might turn out to be the "new tobacco," even barely credible fragments presented themselves to the British media as potentially part of a bigger picture. An interview with the journalist who most determinedly sought to promote the issue, becoming a fulcrum for organized campaign activities in the process, confirmed this impression.[1]

The U.K. media's determination to alert audiences to potential dangers from cell phones was relatively unsurprising given their and indeed the American media's similar obsession with health scares. A diet of worries about food products is served on an almost daily basis on both sides of the Atlantic. But an important dimension that marked out this from many other media alarms was that the British authorities commissioned a comprehensive survey by a group of experts into possible health effects,

[1] Interview with Cathy Moran of the *Express* newspaper, 23 August 2000.

apparently in response to the media's campaigning. In March 1999, Minister for Public Health Tessa Jowell initiated an Independent Expert Group on Mobile Phones (IEGMP) to assess the current state of research on possible health risks. The inquiry was an explicit response to "public perceptions and concerns," as the opening section of the final report was entitled.

The IEGMP was unusual in many ways, not least the fact that the official radiation regulator, the National Radiological Protection Board (NRPB), was deliberately marginalized from the inquiry, and that several of the scientific experts were consciously drawn from those without specific expertise in the field of possible effects from weak electromagnetic fields. Personnel for the inquiry were selected in order to limit the possibility of a simple reaffirmation of accepted scientific orthodoxy that only direct heating effects from radiation can be considered, and that these are simply too weak to cause human harm. The IEGMP, or simply the Stewart Inquiry (after its chair, former Chief Medical Officer Sir William Stewart), went on to heavily criticize the NRPB for not being sufficiently proactive in raising radiation concerns, and demanded that their safety standards be rejected and the threshold for exposure to low-level radiation be raised by several times. Overall, the enquiry concluded, in May 1999, that "the balance of evidence does not suggest that mobile phone technologies put the health of the general population . . . at risk" (IEGMP 2000: iii). Nonetheless, the expert group recommended, among many other proposals, a "precautionary" approach, particularly with regard to children's usage, which it suggested should be "limited." What appears a somewhat contradictory endorsement of unsubstantiated worries was made even more curious by the fact that it could hardly be suggested to be a straightforward response to wider "public concern."

Rightly or wrongly, the British population had evidently proven by their actions that using cell phones was a potential risk they were prepared to accept. In the face of the media campaign of stories linking cell phones to ill health, Britons continued to use cell phones in greater numbers. Some 42 million (out of a population of around 58 million) Britons owned one in late 2001, an exponential increase that has come about precisely during the post-1996 period when the public profile of the cell phone was principally in relation to health risks. The British government, meanwhile, was devoting well-publicized efforts to investigating an issue that appeared principally driven by media concern, in spite of public acceptance. Special leaflets on mobile phones and health are distributed

through sales outlets that summarize the precautionary warnings of the Stewart Report. They warn, for example, of children's special vulnerability *if there were* a danger and recommend that under-sixteens use them only for "essential purposes" and for short periods (Department of Health 2000). The recommendation flew in the face of the almost entirely recreational cell phone usage of British teenagers to the extent that it is unclear what the advice could mean, let alone how it might be implemented. Was the precautionary approach embodied in the Stewart Inquiry a case where public authorities decided for, rather than in any meaningful sense, on behalf of the population that they really should be more careful about their choices, despite the fact that cell phones were not "putting the health of the general population at risk"?

Digging deeper, other aspects of cell phone health concerns were intriguing; an obvious question being, Was it actually true that radiofrequency radiation could cause harm? Yet it was quickly apparent that what appeared to be the key issue was only a beginning rather than an end. Specific allegations of actual harm from cell phones had indeed begun the whole episode, following a famous lawsuit in the United States. Similar attempts have been made subsequently to prove a connection between cell phones and cancer. A class-action suit for "biological injury" is still being vigorously pursued in the American courts at the time of writing in August 2001. As has already been suggested, however, the case for cell phone risk is not based on clear evidence of specific harm. The heart of the cell phone matter, like so many other contemporary risk issues, is that we, and the manufacturers, *cannot rule out the possibility* of future harm. A further layer of complication is added by the argument that this is a possible risk that might affect only a minority of especially sensitive individuals, in which case it is difficult to see how it could ever be either proven or disproven. In any event, whatever may be proven, cell phone risk remains an idea rather than a demonstrable reality, and how we view it depends on the inclination of our beliefs and suspicions, rather than knowledge. In this respect the more compelling question for me became, Where had this idea come from and how had it spread?

It also became necessary to explain the very different reactions and responses to these issues in different countries. Health fears about cell phones and base stations are by no means confined to the United Kingdom. Although the media profile and governmental response have been more concerted in the United Kingdom than in any other country, cell phone health concerns have already been consolidated in Australia, several European societies, and a growing number of others, as mobile

telecommunications spread internationally. In December 1998, for example, a businessman sued mobile operators in South Africa alleging that his brain cancer had been caused by the electromagnetic fields from his cell phone. Reporting on the incident, the pre-eminent monitor of such "microwave news" noted that South Africa could now "be added to the list of countries" to which mobile EMF suspicions had diffused (*Microwave News*, January/February 1999).

However, the pattern of an increasing number of countries sharing cell phone health concerns is uneven. Some societies appeared almost actively disinterested in even considering the possibility of harm from these devices, and, at the other end of the spectrum, there were those societies that appeared to be reacting in an even more anxious way than in Britain. But these patterns bore little relationship to the actual number of cell phone users. Finland, for example, the country with the highest percentage of cell phone users in the world, is largely immune to the issue of cell phones and health. In Italy, on the other hand, where there are also very high levels of usage, it is quite a different story. Italians visibly love their mobile devices; a modern young Italian appears to feel hardly dressed if not walking down the road animatedly speaking into his or her cell phone. Yet alarm about the radiation "electrosmog" they produce is a common subject of discussion; hence the entry of this highly distinctive and loaded expression into their vernacular. Such is the Italian authorities' concern about radio-frequency emissions from these and other sources that they have passed the most stringent laws in the world limiting their radio-frequency fields. This has had some dramatic consequences. Diplomatic war broke out with the Vatican in early 2001 over allegations that the Papal radio station's emissions were causing cancer among local villagers. While a frosty compromise was eventually reached, this was not before the Italian authorities threatened to cut off the station's electricity supply. In other countries, such as Turkey, disputes over transmitters have led to them being destroyed, and even to the murder of neighbors, as well as the more typical stories of parents blaming towers for a wide variety of minor health complaints.[2]

[2] A retired night guard, in Kucukcekmece, a sub-district of Istanbul, killed two and injured three from the family of his neighbor after they allowed the installation of a tower on top of their apartment block, leaving a mast opposite his home (*Hurriyet Istanbul*, 6 December 2000). More generally, mobile phone masts (*baz itasyonlari*) were referred to 135 times between 1997 and 2000 in *Hurriyet Istanbul*, one of the biggest daily Turkish newspapers. Most of these were in 2000, when towers became more prolific. A typical story is "Furious parents" (13 December 2000), where parents of children at an Istanbul school blamed

One thing was certainly apparent; anxieties about ultra-high-frequency radio waves (or microwaves) not only had appeared in an increasing number of societies, but there was a discernible sequence to their development. As with so many other contemporary ideas and sensibilities, the issue first appeared in the United States, in this case at the beginning of the 1990s. While its profile waned in America, public reaction emerged in Australia and several European countries. It was as if health fears about radio-frequency radiation had run their course in America, only to somehow reappear in other continents. What's more, in the process their focus and character had changed. Beginning life as a lawsuit focused on an alleged cancer connection to cell phone handsets in the United States, when similar "microwave fears" then exploded in Australia a few years later, it was cell phone towers that were the objects of concern. Rather than pursuing legal action, Australians staged community direct action with parents chaining themselves to the fences of the offending tower. Elsewhere, concerns were very clearly absorbed into distinctive national preoccupations and organizations. In Northern Ireland, for example, anti–cell tower feelings revived and refocused existing suspicions of military facilities among residents.

I set about the task of answering these questions with an open mind, and endeavored to gather as much information and speak with as many people connected to the evolution of the issue as possible, given the inevitable constraints of time and resources. In so doing, I sought some distance from established sensibilities of social science. It is almost an axiom of environmental sociology, for example, that the author should proceed from sympathy with the "community" against the corporation or state. Arguably, such an approach effectively limits the scope to investigate beyond superficial appearances; to see whether battle lines are really so clear-cut, and that "right" necessarily lies with an innocent "people." It is difficult to imagine a more value-laden approach than that betrayed by the title, *No Safe Place: Toxic Waste, Leukemia and Community Action* (Brown and Mikkelsen 1990), for example, an influential book on the growth of community protest against waste dumps in the United States. Before a line of the book is even read, a connection between toxic waste and leukemia is asserted in the title, as if self-evident fact. So pervasive (and thereby, presumably powerful) is its human impact that there is "no safe place" of shelter. The notion that any response emerged through

headaches, stomach aches, and coughs on a newly installed tower following the suggestion of a doctor that the illness of a teacher might be due to the structure.

media intervention and other influences is also effectively discounted by the title of the book, as reaction is endowed with the legitimacy and authority of "community action." Brown and Mikkelsen's title, and assumptions, are by no means exceptional in the literature of "environmental justice."[3] So many interesting questions are simply not investigated because the values that inform contemporary research are accepted: we might ask how a word such as "toxic" has become so powerfully evocative, for example, and how neutral terms such as "pesticide" or "chemicals" have become synonymous with the dreaded "toxic."[4] These were the sorts of questions that animated this inquiry into cell phones and health fears.

Attitudes toward Cell Phones

The author has no particular agenda with regard to the cell phone's fortunes, its good or bad public image. I am not driven by any impulse to promote the virtues of cell phones and the part they might play in a more communicative society, for example; as if this were an exciting vision only held back by "irrational" concerns about health and safety. Certainly, the cell phone is not so personally indispensable that I would be inclined through experience to set about its defense. Were I a traveling salesman, no doubt I would be a more enthusiastic proponent of the "mobile revolution." For some people, the cell phone has greatly enhanced and even, on occasion, saved their lives.[5] It is certainly clear that the cell phone is central to the lives of the younger generation, in particular.

Members of the author's own generation (born in the early 1960s) are perhaps the last to have a more or less functional attitude toward communication, with a rather more limited appreciation of the value of phones, whether mobile or fixed-line, for "idle chat" or entertainment.

[3] For example, Vyner, *Invisible Trauma: The Psychosocial Effects of Invisible Environmental Contaminants* (1987); more recently, *Roberts and Toffolon-Weiss, Chronicles from the Environmental Justice Frontline* (2001).

[4] See Slovic et al. (1997) for an interesting account of how "chemicals" have become coterminous with "toxic" and "hazardous."

[5] Mobile industry representatives and commentators – to some extent quite justifiably – often highlight instances where cell phones have saved lives in a counter to the presentation of mobiles as increasing health risks. On 9 April 2001, for example, thirty ferry passengers were rescued from a reef in Fiji after one of the passengers used his mobile to summon help. A survey of 720 users by Chapman and Schofield (1998) found that one in eight users have reported a traffic accident; one in four a dangerous situation; one in 16 a nonroad medical emergency; one in 20 a crime; and one in 45 being lost or having difficulty at sea.

Cell phone usage among the under-thirties in Europe, by contrast, is extraordinarily extensive. Having not considered it significant enough to warrant investigation in 1997, the authoritative Eurobarometer monitor found in 2001 that some 80 percent of Europeans aged between fifteen and twenty-four used cell phones at least once a week.[6] A survey for a U.K. cell phone retailer found that on average British students spent more on their mobile phones than on food! (*Mobilex Environment Monthly*, October 2001). Quite grand claims are being made for this greater volume of conversation. Recent research argues that the constant "gossip" characteristic of cell phone use is the human equivalent of social grooming among apes, and essential to our social, psychological and physical well-being (Fox et al. 2001).[7] This researcher argues that such interaction improves teenagers' social skills. In an age where the specter of teenagers "communicating" principally with video games looms large, the impulse to elevate basic conversation with peers is perhaps understandable. The actual evidence for improved social skills among British teenagers since the arrival of the cell phone is more questionable, however.

Whatever one's opinion about the centrality of the cell phone to contemporary interaction, it is clearly changing the nature of communication. Communication and entertainment are becoming difficult to distinguish, for example. This is borne out by the rise of short message service (SMS) or, more simply, "text messaging," in the late 1990s. In April 1999 alone, users in Europe sent more than one billion text messages, and some operators were reporting 800 percent increases in the number of messages over the previous year (OECD 2000: 66). "Texting" has become routine for those in their teens and twenties, in particular, for everything from arranging blind dates and receiving football scores to interacting with television game shows. It was not lost on British politicians that, in July 2001, over 15 million electronic "votes" were cast by viewers of the elimination show *Big Brother*, many via SMS, three months after a general election that had seen the lowest voter turnout of modern times. Somewhat desperately, the British government is looking at ways in which it can utilize the ease and popularity of cell phones to address the problem of democratic participation. The British Electoral Commission announced in October 2001 their

[6] Eurobarometer Survey: European Communities, Young Europeans in 2001. Brussels: Eurobarometer. Available at www.http://europa.eu.int/comm/dg10/epo/eb/eb55/youngsummary_en.pdf.

[7] The research was carried out for the BT Cellnet operator in the United Kingdom and was based on a survey of 1,000 mobile users and focus group discussions.

plans to look at voting by mobile phone as a means of improving voting figures (*The Times*, 6 October 2001).

Texting has become an interesting sociological phenomenon. At the end of 2001, British Telecom introduced a home phone (the Diverse 4010) that can send text messages, a development suggesting that texting has grown into a medium of its own beyond the particularities of communicating on the move. While there are signs in 2001 of texting becoming more common among other generations, it remains a distinctive youth activity in Europe. In a survey of 1,000 British eleven- to fifteen-year-olds in 2001, the vast majority sent between one and six messages per day; 15 percent sent more than ten per day.[8] Young people appear transfixed by the features and appearance of mobiles, reflecting the way in which they have become a fixture of identity and status. Evidently, the cell phone is a cherished personal object in itself, illustrated most extravagantly by the Motorola Bezel mobile, studded with diamonds and available for around £2,300!

The inescapable use of cell phones in public places, most notoriously on trains, has become a source of vexation for those, often middle-aged, less enamoured with their ubiquity. "Hell is other people talking web-speak on mobile phones," as British journalist John Humphrys entitled a newspaper opinion piece (*Sunday Times*, 27 August 2000). Australia and Japan already allow jamming of cell phones in public places such as theaters, with others set to follow. A theme explored more fully in the next chapter is the way the cell phone intrudes on what was once a relatively clear division between our public and private worlds. Such a distinction appears to have less meaning for younger generations. Having said this, certainly in Europe, cell phones have so rapidly become a part of everyday life that they often now go virtually unnoticed. Cell phone public "intrusion" appears to have become culturally absorbed much like the initially irritating experience of "mobile music" from the Sony Walkman.

Beyond simple generational differences and particular professional needs there is a more serious reason for qualified enthusiasm about claims for a mobile and wider information technology "revolution." The implication is clearly that technological innovation, in itself, can have a transformative impact on social life. Such claims can be interesting, as in the work of "futurologist" Alvin Toffler, but are more often simply rather banal, and basically untrue (Toffler 1981). During a recent U.K. television

[8] The survey was carried out by the Pupil Researcher Initiative managed by a team at the Centre for Science Education, Sheffield Hallam University. The project site can be visited at www.shu.ac.uk/pri.