

I have seen the future, and it rings

Mick Winter

As a matter of fact, the damn thing won't stop ringing.

The most important media communication tool of the future is in the hands of the idiot at the next table who is shouting while you are trying to read the newspaper. This disruptive use of technology, sadly, is our present. Is the future going to be any better, or will this pattern continue?

Your coffee house neighbour is particularly annoying because of what researchers at Cornell University are referring to as “halfalogues.”¹

Why are people more irritated by nearby cell-phone conversations than by conversations between two people who are physically present? Overhearing someone on a cell phone means hearing only half of a conversation—a “halfalogue.” We show that merely overhearing a halfalogue results in decreased performance on cognitive tasks designed to reflect the attentional demands of daily activities... This may be because the content of a halfalogue is less predictable than both sides of a conversation... Less-predictable speech results in more distraction for a listener engaged in other tasks.²

Despite frequent annoyances, few people are ready to forsake their mobile phones. Currently there are approximately 6.8 billion human inhabitants of this planet, and it is estimated that at the end of 2009 they collectively owned more than 4.6 billion mobile telephones.³ This was predicted to become 5 billion by the end of 2010⁴, and there are currently only 1.3 billion personal computers⁵.

In developing countries the mobile phone is, and will remain, the only computing device that the vast majority of the people will ever own. According to the United Nations Conference on Trade and Development's *Information Economy Report 2010: ICTs, Enterprises and Poverty Alleviation*, use of mobile phones in the Least Developed Countries went from two mobile subscriptions per 100 people in 2003 to 25 per 100 in 2009.⁶ In one striking example,

1 L. Emberson, G. Lupyán, M. Goldstein, and M. Spivey, “Overheard cell-phone conversations: when less speech is more distracting,” *Psychological Science*, 3 September 2010, <http://pss.sagepub.com/content/early/2010/09/03/0956797610382126>

2 *ibid.*

3 ITU Newsroom, “The World in 2010 - ICT Facts and Figures, ITU sees 5 billion mobile subscriptions globally in 2010”, *International Telecommunication Union*, 4 October 2010, http://www.itu.int/net/pressoffice/press_releases/2010/06.aspx

4 *ibid.*

5 Gartner, “Gartner says more than 1 billion PCs in use worldwide and headed to 2 billion units by 2014,” <http://www.gartner.com/it/page.jsp?id=703807>

6 United Nations Conference on Trade and Development (UNCTAD) (2010), *Information Economy Report 2010: ICTs, Enterprises and Poverty Alleviation*,

the country of Bhutan went from zero mobile subscriptions per 100 people to 50 per 100 in just six years.⁷

It is not only in developing countries that mobile phone usage is dramatically increasing. In fully industrialized countries, mobile phone usage is also increasing, particularly when compared to the percentage of people using landlines. In the developed world, there are *more* than 100 mobile subscriptions per 100 people.⁸ Worldwide, over the period 2007 to 2009, the number of mobile cellular subscriptions increased by 1.9 billion while the number of fixed telephone lines decreased by 57 million.⁹

Mobile phones are also likely to be the primary real-time news source for much of the global population. Ninety percent of the world's population is now covered by a mobile cellular network, and in China and India more than 90% of villages are now connected through mobile.¹⁰ Although radios are common and television increasingly so, mobile phones are bidirectional, and can provide not only news and information selected by the user, but location targeted news and information as well. “Smart” mobile phones possess a number of features that make them flexible, diverse and resilient suppliers of content. Their satellite-based Global Positioning System (GPS) allows the phone to “know” where it is at all times. The phone can tell its owner how to navigate between locations, notify about the presence of friends in the immediate area, inform the owner about sales at geoproximate stores or of restaurants he or she might be interested in, warn of possible high-crime activities in the area, take photographs of the area for analysis by such programs as Google Goggles¹¹, and scan posted QR codes for information that is relevant to the current location.

In communities confronting economic challenges, there may be only one or two mobile phones per village, but they are used by many people. In Uganda, for example, friends will combine to buy shared airtime, independently-operated phone kiosks allow people to pay by call, and “step messaging” involves phone messages being delivered the “last mile” by foot.¹² In fact, being the village “phone lady” in Bangladesh and several African countries has created a dramatically increased income for women, and in turn increased economic possibilities for all members of their village.¹³ In Gambia, former street beggars, many blind

www.unctad.org/en/docs/ier2010_embargo2010_en.pdf

7 *ibid.*, p. 69

8 *ibid.*, p. xi.

9 “Ubiquitous mobile,” *International Telecommunications Union, ITU Statshot*, Issue 3, June 2010, <http://www.itu.int/net/pressoffice/stats/2010/06/index.aspx>

10 *ibid.*

11 Google Goggles is a smartphone application that lets a user take a picture and search the web by image rather than by text, <http://www.google.com/mobile/goggles>

12 J. Chipchase, “Shared phone use,” *Future Perfect*, <http://www.janchipchase.com/sharedphoneuse>

13 Grameenphone, “Every freedom counts – village phone”, <http://www.grameenphone.com/index.php?id=79>

or legless, are now working as sales representatives for one of the country's largest mobile phone carriers. The beggars, who had already staked out good “sales” locations for contact with tourists when begging, now have new dignity, much greater safety (assured by the police after prodding by the mobile phone carrier) and an income higher than the national average.¹⁴

Mobile Phones and Social Change

Mobile phones, used by nearly five billion people, are transformative. Some change is unintentional. Other shifts and movements are intended. As Twitter co-founder Biz Stone has stated, “Humanity is the agent of change, and we’re here to foster it.”¹⁵ Some examples of change are quite dramatic, such as those connected with political/social upheaval and natural disasters. There are key moments to track when considering the relationship between mobility and telephony.

Iran – 1979 Islamic Revolution

Prior to the current use of mobile *phones*, one of the earliest examples of using electronic mobile devices for change was in 1979 in Iran. Audio cassette tapes clandestinely smuggled into Iran carried the sermons of the Ayatollah Ruhollah Khomeini, who was in exile in France and Iraq. These cassettes were listened to in the home or via portable Walkman-style players. The recordings helped support the revolution in which Iranians overthrew the government of Shah Mohammad Reza Pahlavi, who had ruled since 1941.¹⁶

Philippines – People Power II

In the Philippines during 2001, the trial to impeach President Joseph Estrada because of corruption was set back by an 11-10 vote of the Senate which disallowed evidence of corruption on the part of Estrada.¹⁷ Citizens and the opposition were incensed. Within minutes of the Senate's dismissal of the evidence, text messages went out to people throughout Manila, a typical one being “Go 2 EDSA. Wear blk.”¹⁸ Hundreds of thousands of people wearing black showed up at EDSA, Epifanio de los Santos Avenue. It was the site of the shrine where praying nuns faced down tanks during the 1986 revolution, the *first* People Power that forced the removal of Ferdinand Marcos as president. Eighty-eight hours after the Senate vote, Estrada left the palace and Vice-President Gloria Macapagal-Arroyo assumed office as President of the Philippines.

Spain - 2004 Election

In 2004, President Jose Maria Aznar blamed Basque separatists for the Madrid train bombings. Citizens who were convinced that those responsible were actually Al Qaeda, sent

14 UNCTAD (2010) report, op. cit., p.58

15 S. Strauss, “Twitter co-founders offer 5 tips for entrepreneurs”, *Tech Cocktail*, <http://techcocktail.com/twitter-co-founders-offer-5-tips-for-entrepreneurs-2010-10>

16 A. Sreberny-Mohammadi and A. Mohammadi, *Small Media, Big Revolution: Communication, Culture, and the Iranian Revolution*, (Minneapolis: University of Minnesota Press, 1994)

17 S. Burton, “People Power Redux,” *Time*, Vol. 157, No. 4, 29 January 2001

18 G. Griff, “Text the vote,” *New York Times*, 13 August 13 2008

out the text “Who did it?” to notify people about anti-government rallies on the day prior to the election. Aznar's party lost.¹⁹

United States – World Trade Organization Protest

The 1999 protest against the World Trade Organization's (WTO) conference in Seattle has been called by communications professor William Briggs “the first wired mass demonstration”.²⁰ Briggs in his article “Sea turtles, cell phones and the WTO”, stated that, “the Internet and e-mail allowed small groups to coordinate a mass protest, not just in Seattle but across the U.S. and in other countries. Cell phones and pagers helped organizers move demonstrators, block streets and coordinate protests. Video cameras and digital cameras documented police tactics and streamed the pictures onto the web and to the world.”²¹ The use of this digital activism was so effective that the next WTO conference in 2001 was held in Qatar, in the knowledge that its location far from the United States and Europe would keep the number of protestors to a minimum.

United States – Sex Information

In San Francisco, the Department of Public Health created SexInfoSF.org to provide young people with sex information via their mobile phones. The campaign was modeled after a similar program in the UK. For example: “Txt 'sexinfo' to 61827”, “Txt '5' for STD info”, “Txt '1' if ur condom broke”, “Txt '5' if s/he's cheating on u”, “Txt '6' if ur not sure u want 2 have sex.”²² In the first twenty-five weeks, the service received more than 4,500 inquiries of which 2,500 led to further information and referrals. The program has since been replicated in Washington, D.C.²³

Haiti – 2010 Earthquake

The digital reaction to the earthquake demonstrates an effort to deal with a social change caused by nature. Within an hour after the disastrous magnitude 7 earthquake in Port-au-Prince, Haiti on 13 January, 2010, the non-profit Yéle Haiti, founded by Haitian hip-hop singer Wyclef Jean, was receiving \$5 donations via text messaging.²⁴ The American Red Cross (supported by the US State Department) followed shortly afterward, and was quickly receiving \$10 contributions through the same method.²⁵ Mobile phone owners would text the word “Haiti” to an SMS address, and the money donated would be added on to their phone bill.²⁶ Facebook and Twitter messages circulated through the U.S. notifying people of the donation procedure.

19 *ibid.*

20 W. Biggs, “Sea turtles, cell phones and the WTO,” *Communication World*, 1 February 2000

21 *ibid.*

22 San Francisco Department of Public Health, *SexInfoSF.org*

23 “Case study: Sexinfo: A sexual health text messaging service”, *The National Campaign to Prevent Teen and and Unplanned Pregnancy*,
http://www.thenationalcampaign.org/resources/monster/MM_CaseStudySEXINFO.pdf

24 L. Maynard, “#Haiti, by way of Twitter”, *Capture the Conversation*, 13 January 2010,
www.capturetheconversation.com/social-community/haiti-by-way-of-twitter

25 *ibid.*

The results were dramatic. “Within 48 hours the Red Cross had received \$5 million in donations through mobile texting.”²⁷ Several hours after the disaster, before and after photographs of the destruction could be seen on the Web, thanks to satellite images and Google Earth.²⁸ This enabled the world—and particularly relief workers and rescue teams—to see exactly where the worst destroyed areas were located in the city. Real-time news about Haiti continued to be circulated throughout the internet, with text messaging from people on the ground in Haiti being recirculated across the net.

Power and telephone landlines were down throughout the country but many mobile phone towers remained functional enabling Haitians, foreigners and arriving support teams to provide real-time eyewitness reports via text to the Internet. As Lauren Maynard confirmed at the social media agency Room 14's blog capturetheconversation.com: “Twitter has essentially become the communication hub for all live information out of Haiti.”²⁹ Google also set up a website where those with friends and relatives in Haiti could find out the probable intensity of the earthquake at specific street addresses.³⁰ Another Google site, developed in conjunction with the US State Department, was a “Person Finder,”³¹ helping viewers find, or provide information on, people in Haiti. Both of the Google websites were accessible by both computer and mobile.

Bangladesh - Grameenphone

The Nobel Peace Prize-winning Grameen Bank (GB) “has reversed conventional banking practice by removing the need for collateral and created a banking system based on mutual trust, accountability, participation and creativity. GB provides credit to the poorest of the poor in rural Bangladesh, without any collateral.”³² Grameenphone is a joint venture created by the bank's non-profit Grameen Telecom company. With Grameen Bank financing, a Grameenphone borrower buys a mobile phone to become the Telephone Lady of the village. She provides the telecommunication services to the village while earning profits for herself. Today there are 210,000 telephone ladies in Bangladesh earning good income for their families.³³ As Grameenphone states on its website:

26 P. Dvorak, “Texting allows multitude of donors for victims of Haiti earthquake”, *The Washington Post*, 15 January 2010

27 *ibid.*

28 D. Macsai, “Haiti earthquake disaster: Google Earth, online-map 'absolutely crucial,” *Fast Company*, 14 January 2010, <http://www.fastcompany.com/blog/dan-macsai/popwise/haiti-earthquake-google-maps-Web-tech>

29 Maynard, *op. cit.*

30 Macsai, *op. cit.*

31 Google, “Staying connected in post-earthquake Haiti,” <http://googleblog.blogspot.com/2010/01/staying-connected-in-post-earthquake.html>

32 Grameen Bank, “Introduction”, http://www.grameen-info.org/index.php?option=com_content&task=view&id=16&Itemid=112

33 Grameenphone, “History”, <http://www.grameenphone.com/index.php?id=63>

Grameenphone is now the leading telecommunications service provider in the country with more than 23 million subscribers as of December 2009. Presently, there are about 60 million telephone users in the country, of which, a little over one million are fixed-phone users and the rest mobile phone subscribers.³⁴

In addition, Grameenphone has more than 4,500 full and part-time employees and indirectly supports more than 150,000 vendors, retailers and others who are essential to the functioning of the company.

Worldwide - Carrotmobs

Based on the examples of what author Howard Rheingold has called “smart mobs”³⁵ (groups mobilized by mobile phone messages) and flash mobs (people that appear out of nowhere, do something playful for a few minutes and then disappear), a San Francisco movement called “Carrotmob” now has more than ninety campaigns in North America, South America, Europe, Southeast Asia and Africa. Carrotmob's mobile phone-based consumer activism encourages businesses to be socially responsible and rewards them with consumers to purchase their products or services. “Carrot” comes from “carrot or stick,” because of Carrotmob's belief that rewarding responsible businesses with customers is more effective than punishing them with boycotts. As Carrotmob says on its website:

It's easier to understand if you look at an example. In the first ever Carrotmob event, a liquor store agreed to invest in upgrades that made their store more energy-efficient. In exchange, hundreds of Carrotmobbers showed up at once to support the winning liquor store.³⁶

Through supportive actions such as this, Carrotmob has helped small businesses throughout the world afford to become more sustainable, socially-responsible, and energy-efficient, from a restaurant in Finland to a convenience store in Berlin to a bubble tea shop in Singapore.

Day-to-Day Use of Mobile Phones

While individual phone users are involved in—and critical to—all of these examples, there are other less dramatic but still significant examples taking place worldwide, particularly in developing countries. In Kenya, watchdog groups are reporting cases of “land grabbing” to the authorities. Doctors are using automatic texting to remind patients to take their medication. Regional organizations are providing information to buyers looking for low prices, and sellers looking for high prices. For example, farmers and fishermen can text to find the best place to sell their produce or catch.³⁷ Telephone carriers in many countries, increasingly in conjunction with regular banks, offer “mobile banking”. Customers purchase vouchers for a certain amount from local agents and text a code number to a distant relative who can then take the code number to an agent and collect cash. With a number of systems, customers can text the money directly to the other person's mobile phone, or even keep the cash on account as a basic, non-interest form of savings account.³⁸

34 Grameenphone, “About us”, <http://www.grameenphone.com/index.php?id=64>

35 H. Rheingold, *Smart Mobs: The Next Social Revolution*, (New York: Basic Books, 2002)

36 Carrotmob, <http://www.carrotmob.com>

37 S. Corbett, “Can the cellphone help end global poverty?” *New York Times*, 13 April 2008

Throughout the world, witnesses are videoing acts of police brutality and government oppression. Farmers obtain weather forecasts, agricultural advice and information needed for the irrigation of crops.³⁹ Villagers use texting to confirm that a doctor will be available in a distant town, ensuring that their long journey on foot will not be in vain.⁴⁰ Health experts in cities give medical and first aid advice to residents of rural villages.⁴¹ Women selling crafts and food discover which markets and buyers will offer the best price for their products. Women weavers in Nigeria have been able to reduce transaction costs by using mobile phones.⁴² Youths and adults in Kenya obtain information about STDs, particularly HIV/AIDS, make medical appointments and receive test results.⁴³ In Uganda, Google offers “Google Trader”, a free Craigslist-type exchange, accessible via SMS, that lets people buy and sell goods and services.⁴⁴ In Nigeria and Ghana, in order to combat counterfeit drugs, drug packaging is being used that contains a code. Sending a text to a special number can confirm if the drug is legitimate.⁴⁵

All of these activities may be mundane tasks for people in urban areas, particularly in industrialized countries, but for residents of rural areas with no landline telephones, these capabilities are life-changing and empowering. While much of the telephone usage in poorer regions of the world can be done with voice or texting, many of these more sophisticated applications require more sophisticated mobile phones: the so-called “smartphones,” which offer full web access, cameras and graphics-enabled screens for viewing websites, photographs and videos. As smartphones become more common throughout the world, phone owners will be able to enjoy the full range of their features. Here are a number of features that are possible with smartphones.

Economic: Use as credit cards and loyalty cards; engage in barter and recycling; read QR/barcodes to find products, product prices, reviews and detailed information; find the best markets for prices for buyer or seller; pay parking meters; buy entertainment tickets; check in to airlines; pay for transit such as trains, buses and subways; find location-based information on local businesses and services. An important example is the ability to conduct banking. As the United Nations agency International Telecommunication Union (ITU) states: “there are now large numbers of people worldwide, especially in developing countries, who have a

38 C. Partridge, “Needy Ugandans develop the mobile-phone ATM,” *The Sunday Times*, 24 October 2006

39 “New uses for mobile phones could launch another wave of development,” *The Economist*, 24 September 2009

40 Corbett, op. cit.

41 *ibid.*

42 UNCTAD (2010) report, op. cit., p.79

43 *ibid.*

44 *Economist*, op. cit.

45 M. Goldberg, “Using mobile phones to spot counterfeit drugs,” *UN Dispatch*, 7 October 2010, <http://www.undispatch.com/using-mobile-phones-to-spot-counterfeit-drugs>

mobile phone subscription but no bank account — and increasingly, subscribers are using their phones for banking.”⁴⁶

Cultural: Disseminate and read, listen to music, audiobooks, podcasts, ebooks, lectures, speeches, sermons, discussions, articles, instruction, technical manuals; collaborate in novel writing; watch movies, videos and television programs; engage in online culture-related discussions; see graphics and video of art, theatrical and dance performances; watch travelogues; play games, either individually or with other players located nearby or worldwide.

Political: Conduct political campaigns with texting and voice calls; conduct get-out-and-vote actions on election day; organize protests, support events and other demonstrations; rally hundreds of thousands of people to take political action by crowd gathering, texting, emailing, or making phone calls to targeted authorities.

Social: Participate in social media networks such as Facebook, MySpace and Twitter; participate in, or manage, virtual communities through online forums, email lists, blogs and wikis; create affinity/interest groups (instant, short- or long-term) for personal support, business or political/social/environmental causes, in effect creating an intentional group-specific nervous system;

Health: Access health information (particularly HIV/AIDS); obtain emergency aid; call for ambulances; receive online diagnostic help from both live sources of information and artificial intelligence medical databases. As the ITU has stated, "Good examples include sending reminder messages to patient's phones when they have a medical appointment, or need a pre-natal check-up. Or using SMS messages to deliver instructions on when and how to take complex medication such as anti-retrovirals or vaccines. It's such a simple thing to do, and yet it saves millions of dollars—and can help improve and even save the lives of millions of people."⁴⁷

Personal: Assist health improvement through weight loss, stop smoking and other programs; find shopping information; obtain travel directions with turn-by-turn navigation; access nutritional information on grocery and restaurant food; mark the location of a parked car for easy return; receive medication reminders; maintain a calendar, personal phone book, rolodex, “to do” list, and personal organizer.

News/Civic: Receive emergency alerts, including severe weather and warnings for tsunamis, tornadoes and hurricanes; access instant global, national and local news; read newspapers and magazines; receive traffic reports; document police brutality, government oppression, and crimes; engage in on-the-spot, real-time public journalism; photograph proof of automobile collision damage and other useful evidence.

Tools: Use as a texting device, camera, video camera, audio recorder, video player, music player, compass, clock, alarm clock, calculator, decibel meter, dictionary, encyclopedia, thesaurus, photo gallery, exercise trainer, flashlight, game player, instant interpreter, instant translator, language teacher, converter of text-to-speech and speech-to-text; searcher by voice,

46 ITU Newsroom, op. cit.

47 ITU Newsroom, op. cit.

text or image; location finder, map, navigator, notebook, pedometer, radio, QR/barcode reader, remote control, and yes, telephone.

Upcoming: video chatting, video phone calls, picoprojection (miniature projectors displaying cell phone content on a screen or wall) and air quality testing.

While most of these activities may not appear significant on a large scale, they all contribute to an equalization of information distribution and to a slow but widespread change in society and how people obtain, process, share and use information. The use of one single device—a “smart” mobile phone—can instruct, educate, spread ideas, start and coordinate political and environmental movements, generate income, bring people together, change governments and public policy, save time, save money, and even save lives. Regardless of their social or economic level, all users of mobile phones have equal access to the information and features discussed in this article. While the poor may not be able to travel corporeally, they can travel virtually, and more importantly, information can travel to them.

British sociologist John Urry has stated that the automobile is the “quintessential manufactured object produced by the leading industrial sectors and the iconic firms within 20th-century capitalism,” and the “predominant global form of 'quasi-private' mobility.”⁴⁸ I suggest that the roles of the automobile are rapidly being displaced, and indeed in many developing countries have already been displaced, by the far less expensive mobile phone. According to U.S. analysis and research firm Plunkett Research, there were approximately one billion automobiles and light trucks on the road worldwide in 2010.⁴⁹ Compare that to the five billion mobile phones estimated to be in use worldwide by the end of the same year. The result of the power and possibilities of mobile phones is undoubtedly social change. In which ways that will manifest, and how systemic that change will be, is dependent on conditions and events in each country and region. The peoples of the world are interconnecting into one vast electronic nervous system. The results may be astonishing.

48 J. Urry, “The system of 'automobility' ”, *Theory, Culture and Society*, Vol. 21 (4/5), 2004, p. 25-39

49 Plunkett Research, “Automobile industry introduction”, <http://www.plunkettresearch.com/Industries/AutomobilesTrucks/AutomobileTrends/tabid/89/Default.aspx>