

Listening 2.0

Can technology restore the art of conversation?

A Google White Paper

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Introduction

Technology's main impact on us is through the social change it causes – “the texture of human experience”¹. Over the past four decades that texture has been radically transformed by new ways of communicating over distance, all based on Internet and telecommunication technology and almost all text-based. Revealing the results of some fascinating new research, this White Paper explores two questions about the relationship between technology and communication.

- 1 What have been the social effects of text-based communication methods, and in particular are they adversely affecting listening skills?
- 2 If so, can technology itself offer a solution?

Executive summary

New research, specially commissioned for this White Paper and conducted by Dr Iain McGregor at Edinburgh Napier University, shows that the recent proliferation of new channels for distant communication is not all good news. In just a few decades, the successive waves of text-based distant communication channels – first email, then SMS, instant messaging and social networks – have led to three disturbing consequences.

1. **We are in communication silos.** Although face to face remains the favourite across all age groups, when it comes to distant communication people of different ages are using very different sets of communication tools: the telephone is favoured by older people, email by the middle-aged, while the young prefer social networks like Facebook. With such different channel choices (and the different styles they demand), people will struggle to communicate outside their groups, making it harder than ever for the generations to connect.
2. **Social communication etiquette is now bewildering.** Our research reveals that in many cases people prefer to send a particular message one way but receive it another. We are clearly confused by the panoply of choices, and people get upset when they receive what they deem to be inappropriate messages.
3. **Text has displaced conversation.** This is particularly true of the younger generations, who seem daunted by speaking and yet clearly yearn to listen. Listening is critical for human relationships, and if the young don't practice it we may see whole generations who find it hard to connect.

The text habit has undoubtedly been influenced by the Internet's inability to speak and listen: all our searching has been done by screen-based typing and reading, so this has become the dominant meme in the past two decades.

This is about to change. Low cost VoIP and personal videoconferencing have already started to encourage distant conversation, and now natural voice search is set to create a sea change where we start really talking and listening to the Internet.

This heralds a new age of listening – a reboot of our listening skills, with great benefits for us all as individuals and as societies.

Channels, confusion and the art of conversation

Throughout most of mankind's history, virtually all communication has been spoken. Homo sapiens emerged about 200,000 years ago; for 95% of the time from then until now, the range of immediate communication was how far a person could shout, and the spread of knowledge was limited by how fast and accurately a spoken message could be carried by travellers.

Four quantum events have changed all that. The invention of writing around 5,000 years ago was the first, allowing recording and duplication of communication for the first time, albeit painstakingly hand-crafted. Printing was the second, industrialising this duplication and bringing written communication to the masses. Telecommunication was the third, allowing instant distant conversation for the first time, and then giving birth to broadcasting. The fourth was the Internet, connecting the world's devices with common protocols and allowing a whole new class of mobile, real-time, two-way communication channels to arise.

Anticipating unlimited connectivity, early Internet commentators forecasted a golden age of communication where the world's population became one big family, all interconnected and all enjoying instant access to the enormous store of all human knowledge.

They got the second part right: Google has put vast amounts of humanity's knowledge at the fingertips of anyone with a smart phone or a computer. However those commentators did not foresee the rise of text-based distant communication at the expense of voice; stress and confusion arising from the proliferation of new communication channels; or the popularity of social networks as communication platforms, with the resulting rise of personal broadcasting instead of conversation.

Text or voice?

The power and convenience of the new text-based communication methods have seduced us away from voice-based conversation for distant communication. Our research shows that although face to face conversation is still the number one communication channel for 18-24 year olds, their preferences for distant communication are radically different to those of older generations. Only 9% of the 18-24 year olds prefer the telephone overall, while to 41% of them would use text-based communication channels instead. The cliché of teenagers sitting together but texting others rather than talking to each other is becoming a reality.

Distant conversation, as represented by the telephone, is increasingly being displaced by text: for all communications types tested, the telephone is preferred by 25% of those aged 65 and over, falling to around 15% of the middle-aged, then 11% of 25-34 year olds and the 9% mentioned above of the 18-24 year olds. As these generations age, their habits will follow them unless something happens to change their choices, so voice is set to be replaced by text-based channels for the majority in time.

Text-based channels (namely text search, email, SMS, IM and posting on social networks, forums or chatrooms) have some clear advantages. They are **immediate**: no respondee needs to be present, so sending can take place at any time. They are **asynchronous**, allowing for time to think in between messages and for both sending and receiving to be scheduled for just one person's convenience. They are **arm's length**, which makes many people feel safer using them: for example, shy youngsters have reported feeling more confident and finding it easier to strike up relationships when using the less threatening on-ramp of a Facebook or SMS conversation; many people use avatars, aliases or images to protect their identity or project an enhanced image of themselves when posting. They

can deliver **one-to-many**, making them very efficient ways of communicating with groups. They can offer a **record** of the communication, which can be valuable for legal, commercial or other reasons. And finally they are **low-cost**: IP-based text channels and email are typically free to send and receive and they don't require specific meeting times to be set aside by both parties, which is equally attractive to both organisations (especially those working across time zones) and young people on tight budgets. Never have we been able to communicate so easily.

However, these advantages have spawned some major social issues. Asynchronicity and immediacy have generated an **always-on culture** that expects rapid responses, creating stress and blurring the lines between work and leisure time forever. Arm's length has given rise to a torrent of **abusive communication**, from spam (which accounts for up to 80% of the world's email volume) and Twitter trolls to Facebook bullying and chatroom grooming. The largely permanent and easily copiable and editable nature of Internet-based communication brings issues of **security and privacy** at national level and also for individuals, with practices such as sexting and identity theft. One-to-many and low cost have contributed to **overload** and thus stress: in a 2010 survey of 1,800 office workers, 57% claimed they were overwhelmed by the volume of email², while researchers who followed a group of 30 government employees found that 83 per cent became more stressed while using email, rising to 92 per cent when speaking on the phone and using email at the same time³.

Equally importantly, habitual text communication misses out on the richness and intimacy of spoken conversation and displaces the practice of listening.

Spoken conversation has several benefits. It is **synchronous**, making dialogue fast and efficient. It is **focused**, usually being received only by the people directly involved. It **connects** people at a much deeper level than text – compare physically laughing with friends to a texted haha or smiley. Most of all, it is **rich**: we receive multiple nuances and subtle information from hearing someone's accent, prosody, pace, tone and timbre and even seeing their body language, which makes conversation much more efficient than text in delivering the whole intended communication. No stage directions are required: we don't need to read *blush* when we can see someone's cheeks reddening, or *sigh* when we can hear it in their voice.

There are of course disadvantages with spoken communication, just as there are with text. The term **sodcasting** has been coined to describe inconsiderate aural pollution, for example loud conversations on mobile phones without regard to those physically nearby. **Security** can be an issue in voice as much as in texted communication: even carefully pitched face to face conversations can be overheard, while the insecurity of voicemail is all too well known after Levinson. Conversations require all parties to be present at the same time, even if not in the same place, so they carry a **cost** in the time they take to arrange, the conversation time itself, and possibly travel as well. Finally, speech is **impermanent** unless recorded or noted diligently.

The conclusion? It's vital to choose the right channel for each communication because each channel has its own pros and cons. And herein lie some major issues for society today: the choice is wide and confusing, the etiquette is unclear, and text has become a habit at the expense of voice.

Choice, silos and inconsistency

Our new research shows that different groups tend to prefer different channels, which will inevitably produce miscommunication and has clearly led to the development of communication silos. Our survey reveals that older people prefer the telephone; the

middle-aged groups favour email; and the young prefer Facebook and text. Even within the silos there is confusion and inconsistency: the same people prefer to send a particular message one way, but to receive it a different way.

The silo effect is at least partly related to online access, which is strongly age-related: for example, 89% of UK 16-24 year olds have mobile Internet access, compared to 29% of 55-64 year olds and just 9% of those 65 and over.⁴

Equally, silos may be based on gender. Previous research shows that women tend to use social networking sites to connect (three-quarters of women use online communities to stay up to date with friends and family), while men tend to use them to research or boost their career.⁵ A recent study of college students in the United Kingdom confirmed a gender-based difference in use of social networking: women were joining online communities to be generally sociable and keep in touch with existing friends, while men were joining due to peer pressure or to make new friends.⁶

With different preferred channels, these silos develop different habits in style (for example text-speak as opposed to 'proper English'); in content; and in expected response times (for example letter versus text or email). These habits have people doing the same thing in very different ways. For example, to organise a night out, 86% of the 18-24 age group in our sample would use SMS or Facebook, but 73% of the 45-54 year olds would use email; 50% of over 65s would choose email to communicate a joke, but nobody at all under 45 would do that; one in three 35-44 year olds would prefer to be asked out by email, while nobody at all under 35 would prefer to receive that communication in that way.

The challenge of modern communication etiquette is to match each communication with the appropriate channel. The evidence is that people are struggling to do this, and that habit and access are the dominant factors, not appropriateness. Listening appears to be a low priority.

Inappropriate channel selection, whether due to a silo mentality or to confusion, can cause real upset. In her book *Alone Together* Professor Sherry Turkle records the this case:

Randy[’s] sister[...] had just announced her engagement and wedding date via email to a list of friends and family. "That" Randy says to me bitterly, "is how I got the news." He doesn't know if he is more angry or hurt. "It doesn't feel right that she didn't call," he says. "I was getting ready for a trip home. Couldn't she have told me then? She's my sister, but I didn't have a private moment when she told me in person. Or at least a call, just the two of us." ⁷

Randy's sister may be in a minority of women, however, as our research shows that email is a predominantly male medium. 33% more men than women prefer to use it overall; twice as many men as women would choose email to send Christmas greetings, and one in eight men would choose email to give advice, compared to no women at all. Email has a particular generation of acolytes in the 45-64 year olds, peaking in the 55-64 range: 22% of that group prefer to ask someone out by email and 10% would even prefer to be broken up with that way (absolutely nobody under 35 shared this preference). Email is much less used by the youngest generation in our sample (just 6% of 18-24 year olds prefer it overall), maybe because they haven't started working in email-dominated organisations yet – but interestingly the 25-34 group also have very low preference for email (only 8% of them prefer to receive email overall). Maybe the age of email is passing.

Without doubt, physical post is virtually dead as a distant communication channel. While roughly one in seven over 65s prefer to use the post overall, only 1% of the 18-24 year olds expressed that preference. To resign from a job, only 10% of 25-34 year olds would use post; 15% would send an email, while the overwhelming majority would meet face to

face to deliver this message. And even to send Christmas greetings only 9% of the youngest group would send a card; 26% would choose text instead.

It is clear that voice is being displaced for distant communication, with telephone conversation much less popular among younger groups: less than one in 10 of the 18-24 year olds preferred to communicate via the telephone overall, compared to 25% of those over 65. There are major inconsistencies here: in several cases people prefer to receive a particular message by phone but not to send it that way, which would tend to indicate this may be because people (and particularly younger people) are intimidated or lack confidence in speaking, though they still enjoy listening. For example, 15% of 18-24 year olds would prefer to be invited out for the evening by telephone, but only 6% would use it to send that kind of communication. Perhaps this reflects the issues raised in the recent debate about UK education and articulation levels in young people.

Personal broadcasting

Our study shows that among the 18-24 age group Facebook is more than twice as popular as the phone for distant communication, especially for sending: overall, 20% prefer to send their communications via Facebook compared to just 8% by phone, though for receiving this gap falls by a third. This again suggests that people like listening more than talking, and it may also reflect the phenomenon of personal broadcasting: blogging, tweeting and posting comments in one-to-many mode, which is almost certainly more satisfying to send than to receive. We see this inconsistency in the case of birthday greetings. 31% of the 18-24 year olds would send a happy birthday message by Facebook, but only 9% of them prefer to receive it that way; even this most social media-savvy group prefer getting a phone call to a Facebook message on their birthday.

Personal broadcasting is completely new: until very recently, the entry cost of broadcasting kept it out of reach for most individuals. Now billions of opinions, blog posts, comments, tweets and status messages are posted every day by individuals broadcasting to the world. For our 18-24 year olds, Twitter and Facebook are their preferred sending channel for sharing music, with a combined preference of 80% dwarfing any other channel.

The problem with personal broadcasting is that it focuses on sending, so again the practice of listening is elbowed aside by a seductive new text-based communication medium. This is a concern because clearly social networks are an increasingly significant channel for general interpersonal communication. For example, 42% of the 18-24 group would recommend a TV programme via Facebook or Twitter while only 6% would use text and none would use the phone; by contrast 25% of the 35-44 group would use text for this communication and 17% would use the phone, while half of the over 65s would pick up the phone. As the younger generations age, their practices will spread across all age groups.

It's clear that the new communication channels have created a complex, challenging and possibly stressful situation for many people. The old ways are in decline: post is almost dead, email is the darling of just one generation and the telephone is eschewed by younger people. The range of choice is wide, leading to the formation of communication silos, and the inconsistencies between sending and receiving preferences we found in our survey indicate that social communication etiquette is not clear – and that the desire to listen and the need to be heard are being repressed by the ease and lower fear levels involved in text-based communication and personal broadcasting. Conversation and listening are clearly under threat.

The value of listening

Our research shows that the new text-based communication channels are displacing conversation, particularly for younger people. Speaking has always engendered some fear, particularly in the young who simply have less experience of it and thus dread being judged or saying the wrong thing. In the past there was no practical alternative to conversation other than a letter – but now there are many less intimidating choices, and they are being heavily used. This is understandable, but if young people get out of the habit of conversing, they will fail to develop their listening skills and the muscle may simply atrophy. Already there is evidence this is happening. Dr Andrew Tucker, of University College London and Birkbeck College, carried out a study in 2008 on the feasibility of teaching speaking and listening in schools. He commented: “We found that there is a distinct communication skills deficit, acknowledged by government ministers, business leaders and teachers. Thousands of jobs a year are not being filled easily because applicants can’t communicate effectively. Large companies complain of having to spend thousands of pounds on training call centre staff in basic communication, and in a survey two months ago 91 per cent of primary school teachers said speaking and listening skills – the twin pillars of oracy – should be the priority for schools in 2008.”⁸

Listening is vital because it connects us in three powerful dimensions. First, it connects us with **space** as we hear the acoustics and noises around us in our physical location. In this practical way listening keeps us safe: it’s our primary warning sense, and if we disconnect the results can be dangerous. One insurance company estimated that one in ten urban road traffic accidents are caused by ‘pedestrians’ – people wearing headphones and unconscious of the sound around them, leading them to step out in front of a car that has to brake hard and consequently gets rear-ended by the car behind⁹. Second, listening connects us with **time**: all sound has time embedded in it, so listening is the main way we are conscious of the passing of time. (Herman Hesse described music as “time made aesthetically perceptible.”) And third, listening connects us with **humanity**: conscious listening is the doorway to understanding. Only by not listening can we depersonalise and dehumanise people, with all of the cruel and tragic consequences we see on the daily news as well as in our history for thousands of years. It has been shown that listening and nonverbal communication training significantly influence multicultural sensitivity¹⁰ (Timm & Schroeder, 2000).

We spend up to 60% of our time listening¹¹, but we retain only around 25% of what we hear¹². Listening is consistently rated as the most important communication skill in work¹³, possibly because it is the most effective way to receive the bulk of daily communication. Both business practitioners and academics list listening as one of the most important skills for an effective professional, yet only 1.5% of articles in business journals dealt with listening effectiveness¹⁴.

Listening is also critical to academic success. One US study gave a freshman class of over 400 students a listening test at the start of their first term. A year later, 49% of students scoring low on the listening test were on academic probation, compared to just 4% of those with high scores – while 69% of those scoring high on the listening test were rated as Honors Students, compared to only 4% of those scoring low¹⁵.

Listening is the most generous gift we can give to our loved ones. Lack of listening causes damage at home: the most familiar complaint in relationships, especially from women, is “he/she doesn’t listen to me”. We all have a deep need to be listened to.

Listening matters – and it’s under threat.

One source of that threat is simply inaction. Listening is a skill that takes learning, effort and practice. It should be taught as a skill in schools, but it is not; indeed many school classrooms have such bad acoustics that children can't hear their education, let alone learn to listen¹⁶. If we don't teach or promote listening and we furnish young people with less scary, text-based alternatives, the skill will diminish with potentially disastrous results for society.

Also, there are many threats to listening over and above the rise of text-based communication. Increasing noise levels, especially in cities, cause us to habitually suppress sound. With the invention of recording techniques (first writing, then audio and video) the premium on careful listening disappeared: if you miss it you can usually catch it later. Modern society has become less patient and more multitasking, so we are less comfortable quietly listening to one person; we often have multiple inputs calling for our attention, so we fall into the habit of partial or superficial listening. All these factors make us less likely to listen consciously to the world around us or to the person in front of us.

Tragically, many people have never had the experience of being truly listened to. Consciously, deeply listening to someone creates real connection; to both parties it feels very different from the faux listening (while speechwriting or thinking of or doing something else) that our multi-input, screen-based, text-oriented world tends to produce.

There are some simple steps we can all take to combat these threats to our listening. In my TED talk on conscious listening, which has already been seen by more than three million people, I list five exercises that can help to improve conscious listening. Here they are with some explanation for each.

1 Silence

Try to get just a few minutes a day of silence. Silence is like a sorbet in a meal: it resets your ears and allows you listen afresh. If real silence is impossible, a peaceful, quiet soundscape will do.

2 The mixer

In any complex soundscape, have fun distinguishing the separate individual sounds that make up the whole, like a sound engineer with separate tracks on a mixing desk. This is a great way of improving the quality of your listening, and of being more present.

3 Savouring

Some sounds we habitually ignore have real beauty locked inside them, like a hidden choir. Pay attention to them and see if you can unlock the beauty and start relishing those previously humdrum sounds.

4 Listening positions

We all listen through filters set by our culture, language, beliefs, values, attitudes, expectations and intentions. As soon as we become aware of this, it becomes possible to alter those filters and change our listening position. You don't have to listen the same way all the time! For example, critical listening (assessing, evaluating, judging usefulness and so on) may be very useful in business, but in family or loving relationships often empathetic listening (feeling the other person's feelings, leaving them feeling understood) is more effective. Play with listening positions; create your own and find out what works best for you in each situation. Wherever you are listening, ask yourself: what listening position would be best here?

5 RASA

In conversation, try this four-step process:

Receive - listen with your whole body, which means eye contact and body language fully attentive. Not looking at a screen!

Appreciate - little affirmative noises help oil the conversation and confirm you are receiving the communication.

Summarise - using the word SO, pull together what's been said and confirm you got it, then the conversation can move on.

Ask - posing questions throughout and at the end shows that you've been listening.

All five of these practices will help, but the threats to listening are global and universal so what's required is for the whole world to be doing them, or something like them. This is why it is vital that we start teaching conscious listening in schools.

In the short term, one simple change is about to make a massive difference, especially to the R in RASA, which requires getting people's eyes up off their screens and onto the faces of the people they are listening to, whether face to face or in videoconferencing. After years of research and development and billions in investment, speech recognition and voice synthesis technology have at last reached the point where they will allow us to have natural, realistic conversations with the Internet, returning voice to its rightful position as our default choice for communication and rebooting our listening practice.

A new age of listening

For two decades the Internet has made heavy demands on our eyes and our fingers, partly because bandwidth was too limited or the technology too expensive to allow real-time video communication for the masses and partly because the human voice is so rich, varied and complex that yesterday's computers were unable to manage natural conversation. At last both of these constraints are being removed.

There has always been a cost to distant conversation. Pre-Internet, many a blazing family row was caused by the arrival of a huge phone bill caused by long teenage phone calls, while videoconferencing (VC) was the sole preserve of big organisations. The advent of voice over Internet protocol (VoIP) was a great step in encouraging distant conversation; VoIP's free calls have been massively popular, with the number of global 'over the top' mobile VoIP subscribers forecast to leap to over one billion this year¹⁷. As bandwidth availability continued to grow, VoIP was followed by the introduction of effective personal VC with Apple FaceTime, Skype and Google Hangouts. Personal VC looks set to follow VoIP's rapid adoption curve and become the default distant communication channel that science fiction writers have always forecast it would be. With distant conversation very low cost or even free, there will be no economic barrier to humanity engaging in more conversation, and more listening.

But if we have to carry on typing and staring at screens every time we want to access the Internet, there remains a social barrier to listening: we can't do those things and listen to someone properly at the same time, and we will stay in the habit of choosing text as our default communication channel. At last we have another choice. With Google Voice the Internet itself will be helping us to rediscover our most natural communication mode: conversation.

After years of requiring only text-based communication, the Internet can finally speak and listen in a meaningful way, with real intelligence. There have been some faltering steps in this direction before, but most have proved frustrating to use, sounding stilted, making too many mistakes and producing unnatural results. Now through Google Voice we can search and query the world's wisdom in natural conversation, freeing our eyes and our fingers to be doing other things. The billions that have been invested in the last few years on speech synthesis and voice recognition, together with the exponential growth in processing power and bandwidth, mean that it is at last possible to have what feels like a real conversation with a machine. Google Voice will understand plain language, informal cross references, and colloquialisms, bringing speaking – and listening – to the man/machine interface. This was always the way science fiction writers envisaged us connecting with technology (and each other); we just had to endure a few strange decades where the technology hadn't developed to deal with the complexities or bandwidth of human conversation. At last it has.

As we become accustomed to using natural speech for our questions and hearing the answers, we not only gain instant access to all the world's information in the most efficient way, but we also rediscover the power and value of spoken communication.

This is only the first step. In due course we'll be having conversations with our mobile devices, our houses, our cars and many other devices. Our most natural form of communication will again become our default mode.

Text will never go away of course: there are many situations and applications where writing and reading are the best and most efficient communication method. The importance of this quantum leap is that we now have a choice of all four communication modes (speaking, listening, writing and reading), and can rediscover voice as the most effective mode in many situations where until now we've been unnaturally constrained to use text.

This will have two effects. First, it frees us to look up and engage with the world around us, including listening to other people. Second, it gets us back in the habit of using speaking and listening as our primary communication channel – so it has us practicing conscious listening again.

So it is that technology, which diverted us away from listening for a while, brings us back to the practice. This is the dawn of a new age of listening. Low cost mobile personal videoconferencing has removed the barriers to distant conversation, and at the same time natural voice input and output will encourage us to speak and listen to technology itself, first for searching the Internet, and then for interacting with the Internet of things. Taken together, all of this will restore listening to its rightful and vital prime position in human communication.

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