The Metaphysics of Communications Overload

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Abstract. This paper enquires into the nature of the act of communication between two or more persons. It proposes that such acts are best conceived of as moral, as related to the performative consequences of the acts in question. Given this, the paper then asks what applicability phrases like 'overload' might have, and whether quantitative techniques have a role other than as a heuristic in understanding and designing tools for the control of communication overload between people.

Keywords: Communications, human activity, overload, moral, common sense reasoning, scientific concepts.

1 Introduction

In Microsoft, each employee sends and receives about 120 emails every day; many also receive alerts from RSS feeds; and, most, if not all, run *Link*, its own Instant Messaging client. Now of course the staff at Microsoft might like to think that they are busy, efficient and effective people, and that they are knowledgeable enough about the communications technologies of the 21st Century to leverage them for our own benefit. After all, Microsoft helped invent some of them and if not, then it certainly has a business interest in most. Consequently, Microsoft staff should know about these things. Yet any visit to a Microsoft office will find the staff complaining: they say that they are constantly interrupted; that they can't keep up with all the email; that they find it difficult to say Goodbye when IM'ing. The result, they say, is that there is not enough time to get their work done. Somehow the balance of things seems to have gone wrong, they will explain; the tools designed to let them work better seem to have had the opposite effect. It is not only at work that this malaise seems to be appearing. For these individuals will also go on to say that when they leave work their personal mobiles start bleeping as SMS's arrive; 'There are voice messages too!' they complain. And, worse, when they get home, there are traditional letters–not many to be sure, but always some–and these also have to be dealt with. So they say that if 'at work there is no time for work', so at home there is no time for 'being at home'. The point of their complaints is that their world–which is of course the world most readers of this short chapter occupy–seems to be getting harder to live in, busier than ever, fraught with more things said and communicated than ever before. It is no surprise, then, that each morning, over coffee, Microsoft staff can be heard to assert, 'Surely, a threshold is being reached! Enough, already! No more communication!'

Within research, this issue, the idea that some kind of tipping point beyond which the balance between what is practical and what is excessive has been or is about to be reached, is well known: the phrase *communications overload* is commonly heard. Many researchers are devising tools and techniques that can reduce this 'problem'. Some are devising machine learning applications that assess whether a change in the content of a website is sufficiently interesting to alert (via RSS feeds) a 'user' for example; others are devising filtering mechanisms that can let users 'triage' their in-trays more effectively. Yet others are designing ways of integrating messaging channels so as to reduce the burden of dealing with them all. Some of these solutions are, even by their author's own admission, forms of fire fighting. Assessing the degree of change in an RSS feed seems to be a case in point: all this does is put off to the future the moment when a user says, 'That's it! No more feeds!' Similarly, new ways of filtering and triaging only delay the day when the limits of time press down: 'When does one deal with the less urgent if all one ever has time for is that which is urgent?', and 'What about the simply important if not urgent?' one can hear a future user grumble.

Curiously, many of the researchers who are undertaking projects into these and other 'solutions' are doing something else, something that seems, at first glance, perplexing. These attempts at solving the communications overload are not by any means the primary focus of their research endeavors. Indeed, one might say quite the opposite: for in-between their continuous emailing and IM-ing, many of these researchers spend much of their time adopting new ways as they arise: keeping up with their newly acquired *Facebook* accounts for example or creating short messages via *Twitter*, on their mobiles. In other words, they seem to enjoy and indeed indulge in ever more forms of communication. And, even more curiously, these same people also put a great deal of effort in to devising new ways of communicating. They seek ways of conveying tactile experiences, as a case in point, to supplement audio-visual messaging; they devise new social communications systems that let people vote and comment and express *en masse*. In other words, they delight in the very thing that they seem so often to complain about: they gleefully produce the content that at other times they say weighs them down. At work and at play they fill their lives up with the thing that they say stops them working and playing. They communicate yet complain about communication; they express themselves in new ways yet berate the fact that there is not enough time to listen to others' expression.

Presented this way, this doing of one set of things and saying of another, might seem an amusing albeit lamentable fact of modern lives. Sure, we are all too busy these days, but what more can one usefully say? I think one can say something, something about where we have come from, how we got here, and where we might go in the future. I think one can also say something about how we have come to think about ourselves, what we think 'we are'—as a species who suffer from communications overload. I think all of this has partly to do with our desire to communicate and express, and partly the relationship between this and our ability to devise and exploit new technologies that foster and enable that same expression. Beyond this it also has to do with a philosophy about what a human is in this day and

age. This philosophy constitutes a vision, a view about what the human who does all this communicating might be.

In my book *Texture* (MIT Press, 2010) I argue that why we communicate (and how and in what form), and, how, in turn, this communication keeps making more communication, is a measure of our age – for it ends up being a measure of us, of what we do, it seems to me. We are people who are communicants. But I also argue that this predilection for communication has also led us to create a new set of measures to apply to ourselves. Unfortunately, I do not think these measures are good or accurate. On the contrary, I argue that the measures conjure up a view of the human that is distant from how humans ought to understand themselves when it comes to the question of overload. These measures are derived from a sort of corrupt scientific vision of what the human communicator is and this vision is largely opposed to the vision of the human that people themselves use in everyday life when they think about and judge their own (and their friends and colleagues) acts of communication. I argue that if you look carefully at these every day or common sense techniques — the ones deployed in practical action – you will see that the value of communication is central, and that this value is constituted only in very small part quantitatively. A much more important set of elements concern the moral value that an act of communication delivers. Thus, for someone to say 'I love you' means a great deal when it is said once. This value may alter if it is said many times. But this value is moral, above all else, and this value has to do with the consequences the act has on the relationship between the participants. The quantitative aspect of this value, how often something is said, is not the central part to it, though might create inflections to the moral consequences in question. Yet, it seems to me that the techniques derived from the purportedly scientific approaches used to judge questions like communications overload more or less willfully ignore this delicate but fundamental fact: that value, that moral consequences of communication, are the metric that ought to be applied when thinking about communication and communications overload.

I propose that many of those researchers who are looking at the problem of communications overload have been tempted by various concepts that derive from what I call the metaphysics of computer science – ideas deriving from Turing, for example, and more latterly from Bayes and the current manifestation of his ideas in computer science, namely machine learning, which take them away from asking questions about what values are delivered when people message to one another. These concepts (there are a bundle, nested with one another in numerous ways, combining as they do aspects of signal processing theory, cybernetics, theories of inference, as well as machine learning, statistics and much else beside) encourage a disregard of these values. Doing so, it seems to me, can lead to profound misunderstandings about what communications between people is all about and can prohibit sensible attempts to answer whether we do in fact suffer from communications overload; of greater salience to this book it can also scupper creative ways of using technology to address the problem of controlling communication.

2 An example

In this chapter I do not want to explore every aspect of what those values might be or how they might leverage better answers, hoping instead that the reader might turn to my book for discussion of that in detail. But what I do want to note is how this temptation to overlook the values in what humans do when they communicate is so powerful and pervasive that it affects people from many disciplines, and not just those in, say, machine learning and signal processing, constitutive of the readership of this book. If one looks at some of these other instances one will find an illustrations of just the confusion and misunderstanding that can result.

Take, as one such case, the view from what has come to be called *communication science* (or sometimes *media studies*). Central to this discipline is exploring the relationship between the human user (or recipient) of media content, especially broadcast content, and the content itself. This discipline looks at how content affects the recipient. When the discipline first emerged some twenty or thirty years ago, defining the media (and hence the message that affected the user in one way or another) was easy to do. But today, there are various sources of media, not just newspapers, radio, and television. The internet has altered the landscape so much that a plurality of channels now mediate content to (and from) the user. Hence not only is it more difficult to ascertain the relationship between message and action, between content and the human, but in some instances media has no effect on the human. This is because people are becoming overloaded–and hence they cannot be subject to the consequences of some media, some message, since the content in question is likely to have disappeared in a chaos of media—TV, radio, YouTube, e-newspapers.

This is the conclusion of W. Russell Neuman and colleagues' report *Tracking the Flow of Information into the Home* (2007), a study of media consumption in the United States from 1960 to 2005. In this case, Neuman and his colleagues argue that a human can be treated as an information processor, a processor of *words*. Taking their cue from Itheil Pool's research in the 1980s (see Pool's 1983 article *Tracking the Flow of Information*), they argue that adults read 240 words per minute. With this base line, they analyze the time that the user has to consume the words sent to the home via the many channels or media that are "sent" or "pulled" into that setting. They conclude that there are too many words for the user to read or consume in the time available. Automated or intelligent systems will be necessary to select content on behalf of the user in the home of the future. Thus what Neuman *et al.* do is disregard the purpose of words, the 'reason behind the act of communication' and focus instead on simply counting the words.

This sounds like a kind of science but it comes at a cost. It is an odd thing to change a heterogeneous activity such as reading and distill into a simple metric like 240 words per minute. In this view, reading the back of a cornflake box is the same as reading a newspaper, a novel, a blog, a manual for a new washing machine—or a love letter. This view also makes the human choosing to do these different acts the same too. It makes reading a singular, mechanical act and makes the human equally mechanical. This approach can be appealing because it allows a simple quantification,

but it offers a rather feeble vision of the human that reads, it seems to me. As I noted with co-author Abi Sellen in *Myth of the Paperless Office* (2003), reading is an activity that is easy to oversimplify, and reading is a catch-all phrase for a number of activities that reflect something of the human in question—who they are and what they are seeking to do when they read. As it happens, only some activities labelled "reading in the workplace" can sensibly be understood in terms of speed. Indeed, speed is not the important dimension to be applied when thinking about reading technologies for work, for example. This is also likely to be the case in the home setting, the one that Neuman et al. concern themselves with. As Alex Taylor and I noted in 2003 (115–126) (in a study about television consumption), when people go home and pick up a newspaper or switch on the TV, they are not approaching that action as merely an information processing task. They might be doing so simply to turn themselves off. Reading the paper and watching TV here are ways to end the day's work and begin the day's leisure. These activities are not to be understood as being done on the basis of a choice between content formats or types or in terms of speed. However many words are read or news items watched, this type of activity is concerned with using twenty minutes to make a transition between work and home. And this, in turn, says something about the kind of person who chooses to break up their day in this fashion (not all people will do so, after all).

I do not want to suggest that in offering quantitative measures of an activity such as reading (and media consumption more generally), Neuman *et al.* are being disingenuous; they are not *intending* to lose sight of the phenomena they are seeking to analyse; nor am I suggesting that they are merely a bit lax in their science. It is rather that, in their desire to turn to this rendering of the phenomena (this quantification of media usage), they end up losing sight of what people are doing when they consume. Their approach prohibits understanding why people listen, watch, or read; it stops Neuman *et al.* understanding that reading is not always about consumption; it is sometimes about passing the time of day.

As I have remarked, their countings of media input and media consumption are typical not just of their discipline but of the ways that others, in quite different disciplines, also tend to think about humans and their acts of communication. There is nothing wrong with using quantitative tools; but one has to be careful: when one turns to them one has to ask, what does one gain and what does one loose? Is counting appropriate for the questions one is asking? Sometimes the answer will be yes but not always. Think about the chapters in this book, and the various questions that motivate the research reported in each: is quantification the right technique for all? Most? Just a few? What criteria would one use to judge? Besides, when I say counting, what I am suggesting is counted?: merely the volumes of messages or some property of the message? Or is it, for a third option, the sender or the recipient that is being counted? Beyond this, there is the question of how the counting is being done, what it entails: the example above of media consumption uses a kind of arithmetic, but when people use probalistic techniques to research aspects of human communication they are doing something different, something that might be more subtle. They might be pointing towards an emphasis, a tenor, a likelihood; not something strictly or even literally numerical, even though numbers are used in the calculation of this likelihood.

There are subtleties, here, some quite consequential. Nevertheless, my point remains the same: one still has to be careful: is a message sent after a prior message on the same topic 'probably too much'? How would one know? I have suggested above that one criteria that one might use to make such distinctions has to do with what might be the consequences of some act; hence what the act 'is'—that it seems to be the same as some prior message say—is not sufficient to analyse the thing 'itself'. I am applying this to the question of communications between people and suggested that it's not just what they say and thus how long, how quick, how often, or even whether they repeat themselves that matters, but what results when the act of doing the communication is considered too. So, one might ask why someone keeps repeating themselves: are they disregarding the possibility that they might overload the recipient of that message? Or are they deliberately trying to overload them, as a way of getting them to attend to something else, a prior message perhaps? Or are they being playful, seeking to annoy the person they are messaging to?

I would be the first to admit that treating the issue in this sort of way does not mean that answers are more easily come by. Asking what an act achieves extends the topic and the evidence that need to be brought to bear. At least with a simple counting of, say, the words in an act of communication one limits the data; but how would one know when one has defined the consequence of an act? It is tempting to take the easy route, all the more so if we can say it is in the name of science. It is not just scientists and scholars who are so tempted. At the current time, many laymen tend to think of themselves in quantifiable ways. What I have suggested are the more apposite every day or common sense ways of understanding communication are being infected by what I think are infelicitous understandings. By laymen, I am thinking of all of the readers of this chapter, of ourselves in other words, but not as we are now: with our professional guises on. I am thinking of us when we take off our professional hats, go home, and orient to our lives in ordinary common-sense ways. It seems to me that then, however we might have thought about communications in the past, we often do look at the infinite number of channels on our TVs and wonder how we might consume them all. We do look at the news on the Web and wonder how much time we could allocate to reading it all. We do look at all our emails in our domestic accounts and the postings on our Facebooks and think, 'how can we deal with it?' We do, beyond this, start looking at ourselves in terms of inputs and outputs and start treating our communicative habits, all of them, the mediated communications as well as personal face to face ones, as visible measures of overload. Hence, we notice these acts of communications and start counting. We look at the numbers of messages received and wonder how we can balance the delight we get from their receipt against the labour we need to put in to reply. As we do so, we naturally turn to measures of our time and the pressures on it since this seems the most precious resource of all. We start from the *assumption* that quantitatively demonstrable overload is the measure of our age, and so we look at ourselves and our activities with that in mind and *make it so*.

If we don't start from this point, we soon learn that we ought to by the narratives produced by the experts—the media specialists like Neuman *et al.*, and by our

computer science and HCI brethren offering us solutions to our computer mediated overload. We thus find ourselves ignoring the fact that when we read the back of a cornflake box at breakfast, our eyes are simply caressing the words and not consuming them; and similarly we forget or ignore the fact that when we switch on our home computers and gaze at the evening news on our Web feeds, we aren't digesting what we see but are waiting for our minds to unravel the news in *our own* affairs, not in the world at large.

Our bodies might consume words then but not in the sense that Neuman *et al*. mean it or indeed those who offer various quantitatively based techniques to judge, parse and weigh our communications traffic. The goal of those who deploy these techniques is often to reduce communication. My concern is that in looking at communication as they do they can entirely miss the point of communication. Sometimes one will want to reduce communication to be sure, but if one starts from the assumption that communication is to be judged in terms of moral value, then what is or is not too much becomes a very sticky question to deal with altogether. No amount of inference, quantification or statistics will help with that unless one starts with understanding of human affairs. These affairs are often obtuse in their purpose and meaning, even though they are common, natural, 'common sense'.

2 Conclusion

Perhaps I am being too sensitive to what is popular at the current time. Some years ago Marta Banta noted in her book *Taylored Lives* (1993), that society had already become transfixed by numerical ways of thinking about our endeavors. Banta's analysis was written well before the onset of any concern with communications overload (it was about the desire to measure and monitor every activity in the home, at work, all with the expectation of managing ourselves better). Thinking of her draws attention to how questions about why people communicate and who the communicating human might be are as old as philosophy itself—perhaps even as old as language itself—and thus certainly older than computer science and the other disciplines that dominate our own time. In my view the best history of thinking about the relationship between how we think of the human as a communicating agent and the technologies we devise to enable that communication is John Durham Peters' *Speaking into the Air: A History of the Idea of Communication* (1999). Peters is particularly good at exploring the conceptual implications that various technologies have on the structure or hopes that are embedded in what he calls the "metaphysics of the idea" of communication. New technologies alter this metaphysics, he shows.

For example, the invention of recording devices in the nineteenth century that could 'copy' and 'replay' human voices helped cultivate the idea that people had a 'speaking soul' that was 'trapped inside a body'. This might sound odd to us today, but it is hard to capture just how startling people found the recorded voice at that time. The hearer of these early recordings thought that they were not hearing the same thing as they might when a person spoke in ordinary circumstances; somehow the

recordings conveyed something ethereal, ghostlike; something transcendental. This led people at start thinking about "innerness"—on a thing, a spirit perhaps a soul trying to get out and transcend the body and its "skin" through words. Hence the title of Peter's book: 'Speaking into the air'. Even new words such as 'solipsism', were constructed at this time, coined as a result of the shock that people felt on hearing the recorded voice for the first time. Peters goes on to say that there is a contemporary metaphysics, too, though the one he focuses on is different to the one I have highlighted – for reasons we need not go in to now. He says that attempts (in the late twentieth century) to devise ways of seeing each other via video, for example, and relatedly attempts to offer more sensual aspects to communication to augment sight (like touch), draw attention to what he calls the erotic aspect in the act of communication. His view is not that people have always communicated for erotic reasons but that the late twentieth century and early twenty-first century have led us to think and act as if being in touch means just that—something erotic. Our technologies of communication have helped create what we think we are and hence give motive to our acts of communication. My view is that, as we enter the second decade of the twenty-first century, a somewhat different kind of metaphysics is coming to dominate ideas about communication—in this case one that says that people are processing machines of various kinds, and that problems like overload can be solved by determining what is the threshold beyond which these machines can no longer process. This view is held quite commonly as it has gradually suffused everyday reasoning. My discussion of how communications and media studies treat the user of media content illustrated this.

My case is that one ought to recognize that this view is somewhat arbitrary, and hence a kind of metaphysics. Other views could have come to dominate; Peter's erotic is another. But to say such views are arbitrary is not to deny they have causes, that they have emerged for good reason. Nor should it prevent us from being sensitive to the value a view might have. All views will have advantages; doubtless they will have disadvantages too, as I suggested with regard to the quantitative view. Though a view may be better or worse than others, one should nevertheless treat it according to whether it is useful or not. Sometimes it will be, sometimes it won't. My purpose in presenting these arguments has been to help the reader make such judgments about the views they use or read about in the chapters that follow. They will be better able to understand what the claims assume and posit, what is the metaphysics in each case. To be sure, some views will be grounded in appropriate understandings of what might be occurring when communication occurs. But there are many types of communication–what I have been remarking on is that peculiar type that occurs when people communicate with each other. It doesn't matter whether it is mediated or not, face to face in real time or conveyed asynchronously via, let us say, text. All of this is moral and is to be understood as such. Other types of communication, between a person and a machine, for example, can hardly be called moral. Information exchange might be a better phrase. But the point is that one needs to be aware of such distinctions. Otherwise we will misunderstand what is being argued and said, what is being communicated, and when for example, too much has been conveyed. It is only then can we facilitate new ways of communicating through technology more effectively.

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