

## **Diabologic: On The Edge**

by Frank Dolinar

The Edge Foundation's World Question for 2010 is "How is the Internet Changing the Way You Think?" As usual, this year's collection of 172 answers are thought provoking. I've provided a few drastically summarized examples (that I hope are not too out-of-context), with some additional comments of my own. You can access the entire list at: [http://www.edge.org/q2010/q10\\_index.html](http://www.edge.org/q2010/q10_index.html)

### **TIM O'REILLY: PATTERN RECOGNITION**

"...I began my career in technology as a technical writer..." "The one skill I had to rely on was ... the ability to follow the breadcrumb trail of words back to their *meaning*." "Unfamiliar with the technology I was asked to document, I had to recognize landmarks and to connect the dots..." "I learned not as you are taught in school, with a curriculum and a syllabus, but with the explorations of a child, who composites a world-view bit by bit out of the stuff of everyday life." "When you learn in this way, you tell your own story and draw your own map." "The information river rushes by." "But patterns remain. You can map a river as well as you can map a mountain or a wood. You just need to remember that the sandbars may have moved the next time you come by."

*The map is not the territory. But a good map helps us avoid the quicksand and the crocodiles.*

### **ALAN ALDA: SPEED PLUS MOBS**

"In email, there's no instant modulation of the voice that can correct a wrong tone as there is on the phone..." "This is not so good because, increasingly, we communicate quickly, without the sound of that modulating voice." "In addition, the Internet has connected so many millions of us into anonymous online mobs that the impression that something is true can be created simply by the sheer number of people who repeat it." "Speed plus mobs. A scary combination. Together, will they seriously reduce the accuracy of information and our thoughtfulness in using it?"

*A recent example of this from the 2008 Presidential campaign is the emergence of Ron Paul's "flash mobs", who would appear (as if by magic and out of thin air) at the designated time and place for a rally with no apparent advance planning. It also reminds me of "momentum investing", e.g. a stock is popular and its price is going up, so relatively naive investors will buy the stock expecting the trend to continue.*

### **W. DANIEL HILLIS: THE DAWN OF THE ENTANGLEMENT**

"It seems that most people, even intelligent and well-informed people, are confused about the difference between the Internet and the Web." "The Web is a wonderful resource for speeding up the retrieval and dissemination of information and that ... is no small change. Yet, the Internet is much more than just the Web." "...by allowing adaptive complex systems to interoperate, the Internet has changed the way we make decisions. More and more, it is not individual humans who decide, but an entangled, adaptive network of humans and machines."

*If we are lucky, we'll achieve a symbiosis of the speed and precision of the machines coupled with human brilliance and the ability to make unexpected connections – instead of mass-producing drivel at the lowest possible common denominator (of which we already see too much).*

### **RUDY RUCKER: SEARCH AND EMERGENCE**

"Twenty or thirty years ago, people dreamed of a global mind that knew everything and could answer any question. In those early times, we imagined that we'd need a huge breakthrough in artificial intelligence to make the global mind work..." "And now, in 2010, we have the global mind. Search-engines, user-curated encyclopedias, images of everything under the sun, clever apps to carry out simple computations — it's all happening. But old-school artificial intelligence is barely involved at all." "As it happens, data, and not algorithms, is where it's at. Put enough information into the planetary information cloud, crank up a search engine, and you've got an all-knowing global mind. The answers emerge." "Note that the Internet wouldn't work as a global mind if it were a completely flat and undistinguished sea of data. We need a way to locate the regions that are most desirable in terms of accuracy and elegance." "...surprising success is found in user-curated encyclopedias." "I am a novelist..." "Day after day, I comb through my material, integrating it into my mental Net, forging links and ranks. And, fairly reliably, the scenes and chapters of my novel emerge. It's how my creative process works."

*Apart from the technical infrastructure and communication among the nodes of the Internet and the rules/laws that protect the users/citizens, there's very little across-the-board planning for the free-wheeling Internet or any functional democracy. This confounds and terrifies totalitarian central planning.*

**ROGER SCHANK: THE THINKING PROCESS HASN'T CHANGED IN 50,000 YEARS**

“The Internet has not changed the way I think nor has it changed the way anyone else thinks. Thinking has always been the same. To simplify: the thinking process starts with an expectation or hypothesis; thinking requires one to find (or make up) evidence that explains where that expectation went wrong; and thinking involves deciding upon explanations of one's initial misunderstanding.” “This process was in place long before the Internet existed. Thinking hasn't changed.” “Finding evidence and interpreting evidence has not, unfortunately, changed that much either.” “Throughout human history, evidence to help thinking has been gathered by consulting others, typically the village elder who might very well have gotten his knowledge by talking to a puff of smoke.” “The intelligentsia may well be getting smarter because they have easy access to a wider range of good thinking, but the rest of the world may easily be getting dumber because they have easy access to nonsense.” “I don't believe the Internet has changed the way I or anyone else thinks. It has changed the arbiters of truth however. Now everyone is an expert.”

*I'm reminded that "Freedom of the press belongs to those who have the (printing) presses." The Internet allows all of us to have "printing presses" in the form of websites, blogs, Facebook, and Twitter. Unfortunately, the intrinsic value of most of these is suspect. So, who's the expert?*

**ERIC DREXLER: THE WEB HELPS US SEE WHAT ISN'T THERE**

“As the Web becomes more comprehensive and searchable, it helps us see what's missing in the world.” “Absence-detection boosts the growth of shared human knowledge in at least three ways:

- *Development of knowledge*
- *Validation of knowledge*
- *Destruction of anti-knowledge*”

“Identifying what is absent by observation is inherently more difficult than identifying what is present, and conclusions about absences are usually substantially less certain.” “We could benefit immensely from a medium that is as good at representing factual controversies as Wikipedia is at representing factual consensus.” “The most important debates could be expected to gain traction early. The science of climate change comes to mind, but there are many others. The benefits of more effective absence-detection could be immense and concrete.”

*What are the problems that need to be addressed and solved (if possible) that humans don't see or, if seen, are not recognized as problems. It's a little like seeing the man behind the curtain even if we don't know the curtain is there. Gaining such vision could provide enormous benefit.*

**SHERRY TURKLE: THE INTERNET DISCONNECT**

“...the Internet is public and forever. This is the disconnect of Internet communication.” “...consequences of the disconnect show up in the inner life of the generation that has grown up with always-on/always-on-you connectivity. The disconnect shapes their psychological and political sensibility.” “The psychologist and psychoanalyst Erik Erikson argued that adolescents needed an experience of "moratorium," a time and space for relatively consequence-free experimentation.” “I have argued that the Internet provides such spaces and is thus a rich ground for working through identity. But over time, it has become clear that the idea of the moratorium space does not easily mesh with a life that generates its own electronic shadow.” “For all the talk of a generation empowered by the Net, the question of online privacy brings out claims of intentionally vague understandings and protests of impotence.” This is a life of resignation: teens are sure that at some point their privacy will be invaded, but that this is the course of doing business in their world.” “To me, opening up a conversation about rethinking the Net, privacy, and civil society is not backward-looking nostalgia or Luddite in the least. It seems like part of a healthy process of democracy defining its sacred spaces.”

*A young colleague recently noted on a tech group's listserv, "There is no privacy any more, get over it." This bothers me greatly. I see it as a symptom of the erosion of our civil liberties.*

**ED REGIS: A MIRACLE AND A CURSE**

“The Internet is not changing the way I think.” “What it has changed for me is my use of time. The Internet is simultaneously the world's greatest time-saver and the greatest time-waster in history.” “Of course I don't have to do any of this stuff. No one forces me to. I can only blame myself.” “Still, the Internet is so seductive—which is odd considering that it's so passive an agency. It doesn't actually do anything. It hasn't cured cancer, the common cold, or even hiccups.” “The Internet is a miracle and a curse. Mostly a miracle.”

*More, more; faster, faster. Everything! All the time! But where do we start?*

**LEE SMOLIN: WE HAVE BECOME HUNTER GATHERERS OF IMAGES AND INFORMATION**

“The Internet hasn't, so far, changed how we think. But it has radically altered the contexts in which we think and work.” “The Internet requires an active engagement and as a result it is full of surprises.” “The miracle of the browser is that it can show you any image or text from that storehouse. We used to cultivate thought, now we have become hunter gatherers of images and information.” “Scholars used to be more tied to the past through texts in libraries than to their contemporaries. The Internet reverses that by making each of our minds a node in a continually evolving network of other minds.” “The Internet is also itself a metaphor for the emerging paradigm of thought in which systems are conceived as networks of relationships.” “The Internet flattens communities of thought.” “The Internet delocalizes your community.” “The Internet synchronizes the thinking of global scientific communities.” “The Internet also broadens communities of thought. ... And it creates communities of diverse thinkers who would not otherwise have met, like the one we celebrate every year at this time when we answer the *Edge* Annual Question.”

*The Internet doesn't change the way we think, but it provides a context in which we must find a new way to interact, with the world, our communities, our families, and to contemplate ourselves.*

**PAUL SAFFO: A THIRD KIND OF KNOWLEDGE**

“Back in the mid-1700s, Samuel Johnson observed that there were two kinds of knowledge: that which you know, and that which you know where to get.” “Abundant print usurped this task and in the process created the need for a new skill — Johnson's knowing "where to get it." ” “Now the Internet is changing how we think again. Just as print took over the once-human task of knowing, cyberspace is assuming the task of knowing where to get what we seek.” “The Internet is changing our thinking by giving the tremendous power of search to the most casual of users. We have democratized knowledge-finding in the same way 18th century publishing democratized knowledge access.” “The Internet has changed our thinking, but if it is to be a change for the better, we must add a third kind of knowledge to Johnson's list — the knowledge of what matters.” “Knowing what matters is more than mere relevance. It is the skill of asking questions that have purpose, that lead to larger understandings.”

*I was taught that the ability to ask questions that illuminate the problem is the first step to finding an appropriate and effective solution.*

**STEVEN PINKER: NOT AT ALL**

“As someone who believes both in human nature and in timeless standards of logic and evidence, I'm skeptical of the common claim that the Internet is changing the way we think. Electronic media aren't going to revamp the brain's mechanisms of information processing, nor will they supersede modus ponens or Bayes' theorem. Claims that the Internet is changing human thought are propelled by a number of forces: the pressure on pundits to announce that this or that "changes everything"; a superficial conception of what "thinking" is that conflates content with process; the neophobic mindset that "if young people do something that I don't do, the culture is declining." But I don't think the claims stand up to scrutiny.” “To be sure, many aspects of the life of the mind have been affected by the Internet. ... But to call it an alternation of "how we think" is, I think, an exaggeration.”

*It's still the same old brain we've all had since birth.*

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These are just examples from a fraction of the excellent essays (by an array of 172 world-class scientists, artists, and creative thinkers), every one well worth the read. Every year I find myself drawn deeper into understanding the points of view of these thinkers and the implications that arise from their answers.

The many faceted conversation about each year's Edge World Question makes me think, makes me consider each answer, makes me examine what I know and how I might have answered the question □ and it adds to my knowledge.

The Edge Question and its answers provide value far in excess of the price of admission.