

Networks, Information and Society

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By this time in the Digital Age, many consumers of electronics are familiar with Moore's Law—processing power tends to double every two years. The implications that arise from this exponential growth pattern are manifold, but we can see some of them in our everyday lives when the new laptop bought for Christmas becomes obsolete by the spring thaw. However, Moore's law is a window into a larger phenomenon that is left largely undiscussed in modern society— the accelerating rate of human innovation itself.

A poll of 15 different sources, including Encyclopedia Britannica staff, and Nobel prize-winning scientists, about events which should be considered major watersheds in human cultural evolution, found an exponentially upward trend in the frequency of such events over recorded history(1).

There are multiple views as to why this is occurring, but one interesting perspective goes as follows. In any given society, there is a certain percentage of "innovative thinkers" capable of making Einstein-like quantum leaps in conceptual understanding—and since the global human population is increasing exponentially, so are the number of inventors. This seemingly tenuous claim can be buttressed slightly through IQ test results, which purport to test "reasoning ability" and tend to fall in a bell-shaped distribution in human populations. While it can be argued that this ignores societal conditions giving rise to inventive thought, i.e. leisure time, resources, and access to information, these factors are increasing in industrial society as well. In particular, access to information is rapidly spreading across the globe. Take Wikipedia, the open-access, open-review online encyclopedia. 7 years after its launch in 2000, Wikipedia has over 5.3 million articles and, according to Nature, is on par with the Encyclopedia Britannica concerning science content (2).

Corporate news pundits have proclaimed the advent of the "Internet age" for almost a decade now, but their primary focus has predictably been on profiling new ways to persuade consumers to spend while on the web. Nevertheless, the truly revolutionary function of the internet is the efficient transmission of information. The days of poring through textbooks and cross-referencing in libraries are rapidly coming to a close—students and professionals alike now Google just about anything (3) and instantly have hundreds of credible sources assembled from all over the world (and, increasingly, backwards in history as web editions of thousands of classic texts are published online). Meanwhile, internet movements like Open Access (4) are working towards universal, free access to peer-reviewed literature from all scientific publications around the world. This is effectively the democratization of science and, more broadly, information itself.

When examined in the context of the massive popularity of social networking sites like Myspace and Facebook, which so far claim about 140 million users, the trend towards instantaneous, universal access to information of all types begins to crystallize. In fact, these networks are such efficient transmitters of

relevant data between users that the CIA recently instituted its own private Myspace and del.icio.us knockoffs strictly for its intelligence community (5). "del.icio.us" is the quirky web address of one of the emerging "bookmark organizing" sites which allows users to save news articles, online radio stations or interesting websites of any type in a format that is easily searchable to both you and, if you choose, everyone else.

These seemingly divergent web services are becoming so hugely popular because they simply facilitate information transfer between many individuals in the most efficient way possible. And this, ultimately, captures the fundamental essence of any type of communication between humans—and makes it many orders of magnitude faster.

There are political and social possibilities inherent in these networks that are only beginning to be tapped. Youtubed videos of police brutality in Los Angeles have been caught on cell phone cameras, uploaded the same night and then virally spread to so many users that mainstream television news corporations eventually picked up on the stories (6). Facebook has added optional applications that allow people to fundraise for political candidates online. And Google (which bought Youtube recently) hosted one of this year's Democratic Party debates in conjunction with CNN by relaying video questions from internet users to the candidates, who themselves had already posted campaign videos on the website.

Undoubtedly, information is king—and since knowledge is power, as the old adage goes, the full potential of the internet may actually lie in shifting societal control over information dissemination from rigid constructs like radio-television-print media conglomerates and professional scientific journals back to the jacked-in, exponentially increasing global population. Despite major setbacks to this positive vision (take massive internet censorship in China (7) or rewritten Wikipedia entries on oil spills by employees from Exxon-Mobil (8)) the world-wide trend towards free and open information is now

probably unstoppable. There are simply too many internet users and not enough censors. But until that dream becomes reality—keep networking!



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