

New media: Benefits and drawbacks

The technical communicator or information designer today needs to work with diverse groups of society, varied technology channels, and many types of communication. The ideal worker needs to be “T-shaped” (Davies, Fidler, and Gorbis, 2011, p. 11) gaining sidebars of understanding in a variety disciplines.

In communicating across varied media, society enjoys the benefits but must also suffer with the drawbacks. What examples show where technology has succeeded and where has it failed? Why did each occur? We look at examples such as education, public libraries, selling with email messages, corporate public discussions, audio-video media, and upcoming technologies like personalized service and a two-way market framework.

The diversity of society groups and their technology usage creates several digital divides and a wide range of literacy levels. Measures of a medium’s success include how the medium may: reduce any of the facets of a digital divide; enhance metaliteracy; and provide ethical and nurturing services.

With their increased visual and audio components, the new media channels are compared to older technologies with these components, such as television, film, and radio. Many of the failures carry forward to the new technologies. In some technologies, earlier philosophies are resurging in direct applicability, such as hypertext, and the concepts from Baudrillard, McLuhan, and Postman—to name a few—are still relevant.

Method

We studied email in relation to other channels such as Twitter, especially in educational environments. We discussed the experiences of one researcher's experience with introducing Twitter to first year tertiary students at University of West Georgia. We compared this to results of a recent paper on adoption of Twitter in a middle school in the US.

We analyzed the relevance of public libraries through the real life experiences of the researchers in our class and in the literature.

We analyzed today's typical video and audio media and compared them to historical media like television and radio. We studied the mechanics of the spam email, or grifter email, in terms of its communication within the darker side of media systems. Each researcher in the class set up a malicious campaign directed at the rest of the researchers in the class. We composed the message based on guidelines from Ross and from Shipley and Schwalbe (2008).

We analyzed the current state of corporate public discussions. We compared social media policies posted by Sun Microsystems/Oracle in 2008 (as Sun) and then in 2010 (as Oracle). We compared the ethics of the public social content of two successful companies, NetApp and Coca-Cola.

We looked ahead at upcoming frameworks and how they may be relating to existing philosophies. In particular, we analyzed Yahoo's vision and the market framework of Doc Searles. We also peered into the semantic web and how it stems from hypertext theory.

Results

Real-life results exposed important aspects in working with the new media. Our direct experience with email as a medium, the new technologies in education, and public libraries revealed the darker side of the new media, the lack of participation by students and how strained some of our public libraries have become. Research into real corporate discussions with the public revealed an increase in suppression and uncertainty of their ethics—all aspects explained by earlier philosophies.

Email as a medium

With the email scam exercise, a large majority of the messages were read and the content was favorably received. The statistics from MailChimp showed that we had engaged the audience well, with the understanding that it was a cooperating audience. We were alarmed that it could track complaints by the recipient and that almost all messages got through the different spam filters.

Education

We heard many negative comments on technology adoption from the educators in our class.

- I see the digital divide in my English 1101 classroom all the time. They still use the PC as a typewriter.
- Most of them don't know jack about computers.
- Members just want someone to show them what to do with all this new technology, but they don't want to learn or educate themselves.

Libraries using new media

According to an infographic from OpenSite (2013), people nowadays are using libraries even more and a high proportion of libraries offer e-books, although publishers are restricting their use. For example, it was reported recently that libraries cannot buy many Amazon ebooks.

Libraries still battle with limited technology resources. A high proportion of libraries use social media such as Facebook.

Readers using digital libraries may face additional challenges because “librarians organize information in digital libraries very differently” to others, according to Losh.

The researchers from the class rated the quality of public libraries poor in most cases. They said the cause was underfunding for education and literacy programs. Only a few reported that excellent libraries existed in their neighborhood. One downloaded Kindle e-books regularly from the library.

Corporate public discussions

The two social media policies posted by Sun Microsystems/Oracle were vastly different in the way they engaged people. Many of the differences are explained by the views of Habermas (1989), Katz (1992), and Hirschorn (2010).

With NetApp and Coca-Cola, we found both were committed to monitoring CO₂ emissions and the like, when viewing their on-line presence. Neither of them seemed to have an active two-way conversation with the public on these subjects on Facebook or Twitter, but Coca-Cola did get many comments on its web about community work and it responded quickly. NetApp had discussion groups for these subjects but they had been dead for four years.

Discussion

The new media provide avenues for both perversion and for power. We see that the media serves a divided society with varied and multi-faceted literacies. We explore the some of the mechanisms at play in the darker side of media. We explore how we can educate society using the new media even against the inertia of the system. Analysis of corporate discussions with the public reveals suppression and ethical versus rational conflict. We look into some future products that leverage some of the traditional features of hypertext.

New media: Avenues of perversion and of power

In a pair of opposing hypotheses, Baudrillard (2002) says the media are a “ruse of the masses” (p. 111). We desire a show or what Baudrillard calls simulation. We desire the perversion of any truth the system could otherwise deliver. We prefer to rely on the apparatus of publicity to “construct a choice” for us (p. 110). Baudrillard believes this is so deep that we do it without questioning, as a “hyper-conformist” (p. 113). One of today’s observers, Stephen Colbert, played with this idea by coining the term *truthiness*. As an example, when we look at social media today, we see that voters are trusting of social media (Tau, 2013). However, from Baudrillard's view, the users are just part of a simulation or game.

This hypothesis seems to oppose the other view that the system is an avenue for power. However, because the powers can use media so easily to thwart reality and truth, we are attracted to this destructive aspect of it, rather than the pure information and culture that could be communicated. In effect, we have renounced the position of subject—being conscious, free, and responsible—and of meaning.

McLuhan described the concept of layering of technologies through each generation, with art layered above technology in the sense that technology as of now becomes art in the future.

It's as if earlier technologies become a colorless platform with the more recent technologies being used in a more colorful way in the next generation. The content of a new technology is just the history of a superseded technology, according to McLuhan (Kroker, 2005). This aligns with the definition of remediation by Bolter and Grusin (1999): formal logic by which new media refashion prior media forms.

We go through a shock cycle that includes resisting the content of new technology and ultimately becoming exhausted and bewildered because we cannot understand the consequences of the technology (Kroker, 2005). The last phase is similar to Baudrillard's view.

Email is a good example of a layered medium. Email "is more interactive than traditional writing and more permanent than traditional speaking" (Munter, Rogers, and Rymer, 2003, p. 27)—the hybrid nature of email places it somewhere between spoken and written communication. Email disturbs social and organizational norms. Shipley & Schwalbe (2008) claim that its inherent absence of tone encourages misunderstanding and it allows us to project our fears (p. 8). It's as if we take it as a simulation of the real thing, described by Baudrillard. With email, "the inhibiting circuits in our brain [. . .] have checked out" (Shipley & Schwalbe, p. 13). It also gives a feeling of action when actually nothing is moving forward (p. 13), thanks to the double-blind processing by users of email (Berghel, 1997). Berghel also warns that email allows users to "easily circumvent established organizational information routes". We've probably coped with that by now, but we should be mindful of what other media channels may bring.

Email serves as a reference point to judge future technologies. We have heard that email isn't working as a means to inform, that email is for talking to old people and that students don't use email nor can they write email. But will a different technology be better? Bilton (July 2012)

talks about how much better we are without email, such as shown by an experiment in abstinence in the UC Irvine report (May 2012), or when email delivery is batched, where organizations send emails once or twice a day. Bilton misses the point when he states a remedy in the May 2012 article, “We need technological solutions that allow us to take our smartphones and computers off the hook, and not have anything waiting for us if we do.” At some stage a human has to deal with the information.

Media serves a divided society with varied literacies

An infographic (OnlineITDegree.net, 2012) discussing the digital divide in the US shows that the US has a divide of its own flavor, such as limited rural connectivity and high cost. The map from ICTP (2002) illustrates the huge digital divide among countries for technology access. The difference between the US and Africa, say, is very high. These sources only describe material access affecting the divide.

We should recognize four types of access to technology: psychological, material, skills, and usage. One of the most critical is the usage gap, demonstrated by the “want-nots” (Van Dijk & Hacker, 2000, p. 3). The material gap is becoming less important. The divide is not simply made up of two classes, especially for skills and usage. It is more complex. Different uses and skills will lead to new unknown inequalities. We need to look at the relative differences in gaps. Information is becoming more important. The gaps will probably widen where age, gender, literary skills, and digital skills are the main determinants (p. 14).

In particular, when we as technical communicators write scripts for video or podcasts, we encompass several of the literacies described by Mackey and Jacobson (2011). We need to be media literate to a high degree, as we “access, analyze, evaluate, create and participate using messages in a variety of forms” (p. 64). The variety is indeed great when we think of the three

media formats used in writing a typical script: the text of a novel or of a verbose description, the text script itself with its peculiar formatting conventions, and the resultant video or audio. Video script writing also requires an extended form of visual literacy. All these literacies, and others, come together under metaliteracy as defined by Mackey and Jacobson.

To improve the situation, Van Dijk and Hacker (2000) say we must prevent structural inequalities and make applications attractive to the old, women, and the minority. This emphasis on usage aligns with Lievrouw (2004) who states that, as an alternative to technology determinism, the social constructivist actions should improve the “reception and understanding” of technology (p. 13). One way to reduce the divide is to employ differential pricing of bits of information. The value of a bit should vary “not only in accordance with its essential character” but “also in accordance with who is using it? or when? or how?” (Negroponte, 1995, p. 32). For example, we can imagine “welfare bits, minority bits, and handicapped bits.” Today, the information falls short of this fine-grained categorization. As we look at solutions to solve this, we can take heart from recommendations like (Clark & Aufderheide, 2009):

If we’re going to have media for vibrant democratic culture, we have to plan for it, try it out, show people that it matters, and build new constituencies to invest in it. The first and crucial step is to embrace the participatory—the feature that has also been most disruptive of current media models.

Carroll, Horning, Hoffman, Ganoe, Robinson, and Rosson (2011) highlight these requirements for participation:

Technology will only entrain cultures of participation when it is integrated into multifaceted social and institutional infrastructures, predicated upon the interdependence of technology and human activity, and aimed primarily at enhancing participation and engagement among the greatest possible variety of human actors.

As the results show for public libraries, there is opportunity for improvement.

Sometimes we see a digital divide manifest in an unexpected and contrary way. Take mobile phones. McGrane (2012) points out that for many people in undeveloped countries, the mobile phone is the only information technology they have. So they are dependent on the content displayed on small mobile devices. They choose that technology because they cannot get or cannot afford the other technologies like broadband Internet and computer. They rely on the cellular phone for everything. It offers just enough to get by. Because this is such a huge group of people, we maybe need to think of this as yet another fork in the divide.

Even with all the divides, specific types of online education show great potential. In open classes we see a trend of more coaching and less teaching. Open classes have some core content but allow students to make their own knowledge by bringing what they find into their work. Because students get so enthusiastic and active in the online content, all we need to do is monitor and guide them within this type of service. The free Khan Academy service's popularity and fast growth has captured many people's imagination. The teaching part is in creation of the graphical and interactive content accessible in a browser, but after that the main work is seeing how well the students proceed and guiding them. The presentation by Mitra (2010) shows us a self-perpetuating education system. It is a great example of "those who are motivated to learn will." These types of ecosystems seem to lessen the literacy divide. A more recent presentation from Slavitt (2012) also shows how online education, such as Khan Academy, can change students' lives outside of the formal system. Disadvantaged or unusual students can benefit.

We see another aspect of the divide in the way the younger generations deal with email and similar technologies. Humans have a limit of about 100 on the number of messages they can assimilate per day, whether for email (Bilton, July 2012) or for text messages of teens in late 2009 (Rosen, 2010). Even if the iGenerators (born in 90s) represent a digital divide, something is at

least constant. The iGeners have significantly different motivation: they dislike face-to-face meetings and can multitask almost twice as much as Baby Boomers (Rosen). They are just as committed to the process and quality, but they follow different steps. They prefer autonomy and a focus on the end point, rather than constant monitoring. The new messaging tools, to replace email, need to satisfy their mode of operation.

Darker side of the new media

Issues still abound. Lievrouw (2004) says we must recognize that our dependency on the Internet has sunk in, proving determinism, and that more regulation is coming up (as of 2004). The Internet has evolved in a “punctuated equilibrium” (Collins, Neville, & Bielaczyc, 2000): crazy growth or change followed by a gradual stabilization. That describes the last thirty years of technological evolution. People take the Internet and technology for granted; having become so commonplace, new media is now ordinary (Lievrouw, 2004).

The Internet has become less of a social tool and more of a pipeline used for old-style mass delivery (Lievrouw, p. 12). There is a danger of obscuring large-scale power structures within technology.

For Richtel (2012), although the digital divide occurs between “the haves and the have-nots,” the consequence is manifested in the use (or misuse) of time, particularly among children: children spend an extraordinary amount of time using digital and other electronic technology for entertainment. This problem is not necessarily confined to lower economic strata.

According to Saxon (2003), Postman “indicted the television industry on the charge of making entertainment out of the world's most serious problems” and “asserted that television conflated what should be the separate worlds of children and adults.” Postman believed complicated truths could only be conveyed in printed material. Postman (1981) criticized TV as

a trivialization of culture. This seems less shocking in the age of the Internet. The Internet makes it possible to share information with the world—such a beautiful and high-minded goal—but the digital divide makes it untrue for many people and it is also the information superhighway of our darkest secrets laid bare.

We've seen how we can use the characteristics of email to deceive. The grifter exercise provided a good opportunity to learn the principles in writing deceptive emails of the phishing genre and to learn the capabilities of MailChimp. Lack of user authentication has been a fundamental flaw of email since its inception. When we couple this with the array of rhetoric principles a grifter may use, email as a medium occasionally does not serve society well.

Educating with the new media

When the instructor at University of West Georgia suggested she send tweets to the class when a new module or reading was posted, the students were not enthusiastic. However, research indicates that this method should be pursued. Van Vooren and Bess (2013) say there is “a significant correlation between the use of Twitter and student performance” (p. 34). Young teenagers (iGeners) prefer Twitter to communicate with their teacher. It produced higher academic achievement in a middle school science class.

Tan and Guo (2009) highlight the inertia of the education system: the policy for testing refused to catch up with the teacher's use of newer media. This seemed an uphill battle. Policies like *No Child Left Behind*, *teaching to the test* and, according to Postman (PBS, 1995), computers in the classroom now influence how kids are socialized. It's important for us to understand the implications as part of audience analysis for information products. We know that instructions need to be simple and clear, for instance. But now we need to consider that even a

highly educated audience of college graduates may struggle to make connections outside of following routine steps.

The negative experiences our educators found in technology adoption relates to a key message from Van Dijk and Hacker (2000) about the wider public. To mitigate the divide, they recommend we prevent structural inequalities in skill and usage, such as providing career and learning opportunities. We need adult education and private guidance. Even so, to enjoy these services, the members need to move beyond the “just show me” mentality. Yet even when it's available (and free), most people don't take advantage of it.

Corporate public discussion: Suppression at Sun Microsystems/Oracle

The earlier guidelines contain strong reasons for communication whereas the later guidelines are strong on restrictions. The earlier guidelines treat the parties similarly, whereas the later guidelines dramatically split them on the corporate boundary. Some of this can be explained by the inexorable technoscientific logic of our post-modern society.

The earlier guidelines suggested higher goals using terms like public discourse and relating the discourse to work that could change the world. The later guidelines simply referred to the social media participation. The earlier guidelines express an inner world of sincerity that is the first of the three “world relations” of Habermas (1989). This seems to be lacking in the later guidelines.

Habermas says that acts of speech inherently involve claims that are in need of reasons. The earlier guidelines encourage users to share information, to “write what you know” and to “be interesting”: strong positive reasons. The later guidelines seem to lack positive reasons, instead providing restrictions with a negative tone.

In the later guidelines, we can see an example where the logic of the system, such as requiring management approval, supplants that of the lifeworld, such as the free discourse, as a form of suppression described by Habermas. The earlier guidelines merely required corporate moderation for some media used in the discourse.

Katz (1992) noted that language based on technoscientific logic can be used to evaluate and divide people. This logic can be seen at work in the personal versus corporate distinction. The technoscientific logic says a person has two roles, when really we feel we are just people.

The later guidelines are more specific about the separation of personal and corporate communication. This is a manifestation of the nudging within the trend of post-modernity, where social norms are no longer presumed to be valid but rather are subjected to critical reflection (Habermas).

The Internet media channel up to recently has served us well in terms of having a soul (such as open source and allowing free information) and in terms of providing an unencumbered delivery (such as free browsers or free apps). However, Hirschorn (2010) argues that both of these are fleeting: the colonization and exploitation of the Web is a foregone conclusion, as is ownership by a few companies like Apple and Google. We can see a move in this direction in the later guidelines.

Corporate public discussion: Ethics at NetApp and Coca-Cola

The lack of social response from NetApp in its community blogs illustrates what Surma (2005) calls the tension between ethical and rationalist views. NetApp said they want to hear from the public, but it was just not happening. Maybe people are switched off by its rationalist view and its use of the medium merely as an economic instrument. One limitation of the Internet is that it may not be as open as we think it is. Will the Internet become a place where “we write

chiefly to serve our own (largely economic) ends?” (Surma, 2005, p. 2). It may become a place where big interests control the information flow.

Springing into the future with hypertext

Two future products or frameworks extend Web 2.0 and use many of the features of the traditional hypertext model (Baer & Lang, 2012).

Last month Marissa Mayer talked of Yahoo’s direction (Perez, 2013). “I definitely think that with the web becoming so vast, there’s so much content and there’s so much social context, and now with mobile there’s so much location context and activity context, how do you pull all that together? The interesting way to take it is to bring some of that information . . . to actually make sense of the content. It’s the internet ordered for you,” Mayer said. By ordered she means personalized.

Searles (2013) says that we are “tired of being just a ‘consumer’ when what we really do is produce (data especially) every time we make a click or a keystroke on our computers or mobile devices”. Searles foresees a market system where you have a personal cloud through which you—or your fourth party—can program interactions, for you the individual, among API-based services (in the manner of IFTTT described at <https://ifttt.com/wtf>) and the “Internet of things”. By a personal cloud he means something that enables cooperating networks of products and services, makes every product a platform, supports intention-driven automation, makes the world your user interface, and transforms the way you interact with the world.

Both products are moving in Hypertext original direction (Baer & Lang, 2012). The intertextual content has become more predominant in Searles’ framework. The user’s programming of triggers and actions between multiple applications represents interrelation and cognitive associated links. Both have a rhizomatic structure at the core of the overall

personalization and content management system. Both are less concerned with presentation but rather focus on content, in its many multimedia forms.

In Searles' framework, as with Web 2.0, collaborative authoring or editing occur as in the hypertext sense, but not fully to the extent that the author becomes a marginal or displaced figure. The content itself is not edited at the atomic level. Instead, comments or media items are added, really like "metacommentary" (Baer & Lang, 2012, p. 48).

Looking further into the future, Baer and Lang made no mention of ontologies for creating and maintaining cognitive associative links. The paper instead focused on established technologies as of the mid 2000s, and did not tackle the semantic web fully. Today's semantic tools are expensive and specialized. They are not as pervasive as the web we know today. But we are getting there. HTML5 is a small step to attach semantics to document sections. To do it properly we need the whole architecture. d'Aquin, Gangemi, Halpin, and Presutti (2011, p. 291) are surprised "that it has taken so long for an ontology to be created for Web architecture."

Conclusion

In communicating across varied media, society enjoys the benefits but must also suffer with the drawbacks. We looked at some examples where the technology has succeeded or failed and why each occurred. Measures of success included how the medium may reduce any of the facets of a digital divide, enhance metaliteracy, and provide ethical and nurturing services.

With their increased visual and audio components, the new media channels were compared to older technologies with these components, such as television, film, and radio. Many of the failures carry forward to the new technologies. In some technologies, older philosophies are resurging in applicability, such as hypertext.

The new media provide avenues for both perversion and for power. As described by Baudrillard, we desire the perversion of any truth the media system could otherwise deliver. The powers can use media so easily to thwart reality and truth. The content of a new technology is just the history of a superseded technology, according to McLuhan, or a process of remediation that Bolter and Grusin describe as logic by which new media refashion prior media forms. Email provides a good example of how new media evolves. Email disturbs social and organizational norms. It encourages misunderstanding and it allows us to project our fears. The double-blind processing by users of email described by Bergel gives us a feeling of action when actually nothing is moving forward. Email may not be working for many users, but at some stage a human has to deal with the types of information that email currently provides.

We see that the media serves a divided society with varied and multi-faceted literacies. There are big and varied divides in the US as well as other countries. We need to consider four types of access to technology: psychological, material, skills, and usage. The divide is not simply made up of two classes, especially for skills and usage. We as technical communicators need to embrace metaliteracy, which covers many forms such as visual literacy or media literacy as defined by Mackey and Jacobson. To improve the situation, we must prevent structural inequalities in skill and usage, employ differential pricing of bits of information, embrace the participatory and integrate technology into multifaceted social and institutional infrastructures. We see examples of the effects of literacy in the predominant use of mobile phones in undeveloped countries, in online learning such as Khan Academy, and in the way the younger generations adapt to new media.

We exposed some of the mechanisms at play in the darker side of media. With the Internet now commonplace, there will be more regulation, continued large-scale power

structures, time wasting, trivialization of culture, and exposure of our darkest secrets. We see that when a grifter uses the array of rhetoric principles combined with email's poor authentication, email as a medium does not serve society well.

We continue to struggle educate society using the new media even against the unwillingness of students (such as proven benefits of Twitter) and inertia of the system that relies on testing against old ideas.

Analysis of corporate discussions with the public reveals suppression explained by the inexorable technoscientific logic of our post-modern society, based on views of Habermas and Katz. The discussions also show the tension between ethical and rationalist views described by Surma.

Some future products leverage some of the traditional features of hypertext described by Baer & Lang: intertextual content, rhizomatic structure, and a focus on content. Even further into the future, the concept of cognitive associative links in hypertext apply to the ontology for web architecture that supports the semantic web.

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Supplementary information in lieu of a title page

By Peter Carlson

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