Hamlet on the Holodeck
Synthesis Paper

Background

It is important to have an overview of Janet Murray’s book, Hamlet on the Holodeck (1997) in order to synthesize this with other articles from this class. Her book is about creating a new form of storytelling by creating digital environments. Like the Holodeck from Star Trek, the digital environment is a virtual reality form of interactive narratives. The computer is used to create a virtual arena, in which an individual may enter and create an adventure. Murray calls these forms of narration, “multiform”, in that they allow the virtual environment to fit the person that is taking the narrative journey. People can feel, taste, touch, and react in Murray’s digital environment. This is accomplished through three attributes that the computer creates. They are immersion, agency, and transformation. Immersion is the ability of the computer to create a complete state of captivation for the interactor. It is the digital format that creates the environment in which the interactor participates. Murray defines agency as “the satisfying power to take meaningful actions and see the results of our decisions and choices” (p. 126). This is the way that the plot plays out for the participant. Finally, transformation is the ability of the participant to become anything they want to become in the narrative environment.

According to Murray (1997) the computer must utilize four properties that allow characters to come to life. These are procedural, participatory, spatial, and encyclopedic. Procedural aspects are the programming algorithms that describe the way real things and people behave. This is linked to transformation. In transformation, the computer must follow real, logical models of worlds, in which things react as they are suppose to. Participatory aspects relate to agency in that they “create opportunities to make decisions and to dramatically enact the results of those decisions” (p.77). Spatial aspects are needed to create a way to navigate through the digital environment, and finally the computer program needs to be encyclopedic in nature. This means that resources need to be available that are immediate, accessible, and retrievable in order to create digital environments that appear as real as the Holodeck.
Murray (1997) goes beyond discussing the framework for a narrative environment. She makes commentary on how this reframing of storytelling can alter our world, much as technology has altered our same world. The rest of this paper will focus on themes that were found in this book that relate to technological ramifications. This paper will focus on three major themes associated with technology. These are education and technology, media and technology, and human interface and technology. The argument will be made that technology is merely a tool and it is the assumptions that people make about technology that drive the interactions they have with it.

Education and Technology

Murray discusses how computers will influence digital environments. She states that,

Just as the computer promises to reshape knowledge in ways that sometimes compliment and sometimes supercedes the work of books and lecture halls, so too does it promise to reshape the spectrum of narrative expression, not by replacing the novel or the movie, but by continuing their timeless bardic work within another framework” (pp. 9-10).

This trend is evident throughout recorded history. Homer reshaped knowledge by putting words in to writing and thus created narratives for the elite. Gutenberg created the printing press and printed Bibles for the masses thus generated the first affordable narratives. Television and film created visual narratives and developed a way to create storytelling as representative narratives, in which many people could visualize their stories to the masses. Mankind has created alternative frameworks through technology to spread the narrative message even further and faster. However, it remains throughout history that storytelling is still just storytelling.

When computers entered the educational scene in the 1980’s a potentially powerful new framework was created for narratives. Tell (2000) noted that,

Seymour Papert and others have described technology as a “revolution” because it has the potential to transform the way that we teach and learn and because the students themselves will be the ultimate transformers. (p. 9).
To blend both Papert and Murray’s ideas together could create an interesting logic model. It is clear that in Papert’s statement, the computer will be the potential transformer. According to Murray (1997), her digital narratives are interactive, and create agency. Since Murray’s digital narratives are computer driven it follows that these digital narratives will be the potential tool used to transform learning. Therefore, the computer becomes a tool in which agency gives students the ability to make meaningful decisions in learning. Students will be the ultimate transformers because agency will enable them to learn more effectively and therefore, revolutionize the learning environment by transforming the way knowledge is gained. This is a potentially powerful technological promise.

Just as other narrative mediums promised to reshape our world, the computer promised to reshape our world by creating “revolutionary change” using a framework similar to the one above. The promise of the computer is that it will transform learning so that all students will gain knowledge. It is powerful enough to create the potential to restructure how knowledge is gained. It is an equalizer for the masses, because everyone has the potential to learn from this new tool

In schools, the promise was that the masses would be educated with this new tool, called the computer. The computer would allow students to access and gain knowledge from a different framework. All students would have an equal opportunity to gain knowledge because of this promise. In fact, the computer would create an innovative way in which all students would attain equity in school. Norman (1993) states that,

The good news is that technology can make us smart-in fact it already has. The human mind is limited in capabilities. There is only so much we can remember; only so much we can learn. But among our abilities is that of devising artificial devices-artifacts- that expand our capabilities. We invent things that make us smart. Through technology, we can think better and more clearly. We have access to accurate information. We can work effectively with others, whether together in the same place, or separated in space or time. (p.3)
Not only would the computer give students access to data, which is information, it would also give them access to knowledge. Knowledge is the process of synthesizing the raw data or information into learning. Agency would allow students a means of synthesizing knowledge and therefore transform learning on an individual basis because the decision making process is different for each individual. Individuals would be “able to think better and more clearly” as Norman noted. That is where the equity in education lies.

As computer technology grew, so did the promises of this new technology to create equity in learning. Educators were told that computer “canned” programs would enhance learning for all students. They were also told that the Internet would open possibilities of new worlds for students. Chat rooms and interactive programs were presented as alternative ways for students to gain agency and create a better framework for knowledge retention. Because this was a new framework for teaching, all students would have the same opportunity to learn. Norman further notes that,

New forms of media are being invented, new methods of communication, of education, and of doing business. …All the ailments of the past, it is claimed will disappear once these new approaches are in place. (p. 4)

This statement clearly promises how technology will create equity in business communication, and schools by clearing away “all of the ailments of the past.”

Several articles indicate that the computer will not be able to hold up the promise of knowledge equity in schools. Perhaps the main reason is due to social class inequities. Koch (2000) notes that inequity in funding schools leads to richer districts than others. This implies that better financed schools have more access to additional funding for computers as knowledge tools. Skylar, Collins, and Leonard-Wright (1999) note that “Nearly three in ten lower-income families were unable to pay the mortgage, rent, or utility bills at some point in the prior year” (p. 48-49). This could be an indication that these families do not have the disposable income to buy computers in order to create an equitable knowledge environment with those families that do, thus creating a larger gap between the haves and have-nots. Malcolm (1988) indicates the “Poorer school districts have less access to computers and other technologies than wealthier districts” (p. 218).
Jean Anyon (1998) completed a study that showed how social class and school knowledge were related. Anyon says that,

The data suggest, and the article will argue, that while there were similarities in curriculum topics and materials, there were also subtle as well as dramatic differences in the curriculum and the curriculum-in-use among schools (p.3.)

Anyon argues that children that come from different social classes view knowledge in different ways. She further argues that teachers view knowledge acquisition in different ways. Teachers tend to use social class structure to build knowledge in ways that are necessary to maintain the status quo. Each individual involved in a particular social class perpetuate this knowledge discretion based on what they view is important in their lives. This knowledge judgment creates inequities in the way that we think and use knowledge in schools. If this were applied to computers in school, it would follow that if social classes view knowledge differently, then computer use in the schools will be viewed as a tool with unique purposes for individual social classes. Anyon further notes that

Class conflict in education is thus not dormant, nor a relic of an earlier era, nor is the outcome yet determined (p. 39)

Because of the varying viewpoints of computer use, this tool does not create equitable knowledge in schools, as promised, but created several different frameworks to define knowledge in the social classes.

To further illustrate the point of knowledge inequity of the classes, Malcolm (1988) noted that the 1987 U. S. Congress found that,

Students who are disadvantaged are generally given very rigid opportunities for interaction with the machine-such as in-drill and practice. Students who are more advantaged are provided more flexible opportunities for interaction with the computer (p.218).

How then can the computer educate children with new knowledge when classes of people and educators view knowledge from so many different vantage points? The promise of the
computer to educate the masses by giving them a different framework that will fix “all the ailments of the past” has been skewed because not all children and educators view the computer from the same perspective, nor can all children have the same access to the computer in order to create knowledge equity. Which framework will Murray use in order to deliver the new narrative environment and what class of people will she reach with this digital framework?

The educational system has made several assumptions about the use of computers in the classroom. The first is that computers will revolutionize the way in which students learn. The second assumption is that the computer will create an equitable learning environment. The computer does neither of these things. The computer is a tool. It was and still is the assumptions of the school system that created these inequities in learning. What is happening in reality is that educators made assumptions based on social status, that create this didactic relationship between schools and computer use based on educator’s assumptions about teaching and learning.

Media and Technology

A second theme that Murray comments on is that of television and film and their role in narrative environments. She states that.

Television shows and films have also targeted the computer as “dehumanizing representational technology. …Virtual reality technologies are explicitly equated with lethal drugs as the source of addiction, destitution, bad trips, overdose deaths, and gangster violence” (p.23).

This statement indicates that film and television are depicting technology as a “bad thing”. Take for example the article by Giroux called Substituting Prisons for Schools (1999). In this article, films about education are, “Depoliticized, Hollywood portrays public schools as not only dysfunctional, but also as an imminent threat to the dominant society” (page 48). Cyber films such as “Terminator” and “Tron” show how the industry uses science fiction to depict “bad” technology in this same light. Not only do film and television demonstrate that technology is “bad”, but other forms of media do the same thing. An example of this is the article by Norberg-Hodge (1997), in which she demonstrates how technology has altered the thinking and lives of people in Ladakh for the worse.
It is ironic then, that so much technology is depicted as being a “good thing” by the media. This could be due to media’s apparent duplicity in promoting technology. Take for example the chemical corporations. Herman (1999) notes the media is not accurately reporting what is happening with these corporate giants,

But the mainstream media have not been interested, because as members of the corporate system the media’s role has been to protect the powerful chemical industry’s rights, to avoid and deflect fundamental criticism, and to normalize the ongoing arrangements (p. 23).

Herman indicates that this is happening because the chemical companies are out to make money. Owners of the chemical companies share a common culture where they resent the regulation of their products. Since the print media own forests and pulp mills that create toxic wastes, they have a direct stake in regulations because the chemical companies advertise with them. It would not be in the media’s best interest say negative things about these companies because they are making money on advertisements.

Another example of media’ duplicity is shown through Tokar’s (1999) article that outlines the atrocities committed by the chemical company Monsanto. After many justified lawsuits, this corporation presented a new image to the world.

Monsanto has pulled out all the stops to transform its image from a purveyor of dangerous chemicals to an enlightened, forward-looking institution crusading to feed the world (p.43).

Monsanto is still creating dangerous chemicals, but the media is portraying them as “do-gooders”. This appears to be a conscious choice of the media to do so. Herman illustrates this by saying,

In the case of the media, the industry takes advantage of journalists’ ignorance, laziness, and desire to avoid flak, and not infrequent pro-industry bias. Those reporters without a pro-industry bias will be constrained by the threat of flak, the demand for “balance”, and other pressures from above. (p. 40)
A final example of how the media influence us into thinking that technology is a “good thing” is illustrated by Glausiusz’s (1998) article about seed companies and the scientist’s heuristic view of technology. These scientists and corporations want to “assure us” that this is safe technology created for the betterment of societies’ growing need for food.

These are prime examples of how technology has been presented as a “good technology”. Technology is just a thing. It is the assumptions that people make about the technology and the way in which the technology is portrayed that personify it. The chemical companies want to make money, and they need to promote good intentions and products. The media’s duplicity in promoting the chemical corporation’s personal agenda is based on money, and therefore to present chemical technology as anything other than “good” would be a detriment to the media conglomerate. This is one way that the media dupes the public into making assumptions that the chemical companies’ technologies are good for all. After all, the intention of the media is to make money.

The media further bombard us with technology innovations with their eye on capitalism. The media promotes “good” technology through the use of commercialism in the schools as noted in Monar and Morales (2000) article. Corporate sponsors give money to schools for computers, televisions, and other technologies to promote their own agendas. If someone can see the good things that sponsors do for schools, then they might be willing to support those sponsors without questions. This is another way that society makes assumptions about technology. Not based on if it is good or bad, but on how the corporations can help the community. Television technology skews our views of reality in the article by Jenson (1998), and magazine advertisements create gender stratification in the chapter by Wienstein (1997). The implications of how the media creates assumptions for the public is so widespread. All forms of media present assumptions to the public and few have a critical enough eye to recognize and change these assumptions.

Murray’s statement about how film and television depict technology as a “bad” thing conflicts with the way media actually drives technology. It is not the technology that is a good or bad thing, it is the way in which technology is portrayed by the media that drives the assumptions that society makes about technology.
Human Interface and Technology

Murray uses computers to create new narrative environments. Immersion, agency, and transformation are computer driven. Murray wants to use the computer as a way in which to blur humans and machines together. Haraway (1991) calls this blurring of human and machine; “cyborg”. She states that

A cyborg is a cybernetic organism, a hybrid of machine and organism, a creation of social reality as well as a creature of fiction. (p. 149)

What are the consequences of developing this new technology for use by society? Heuristic of science may be at work in Murray’s design. The idea that we need to trust Murray’s innovative framework as a way to change the world to a better place is absurd. She espouses how this new technology will integrate all narrative formats for the past 5000 years and put them into one arena. She feels that immersion, agency, and participation will draw society to the digital environment. Murray assumptions could be the catalyst for the public to buy into her particular slant on technology.

Haraway notes that cyborgs are subversive toward technology. Yeaman (1994), demonstrates this subversive attitude by pointing out that,

…the technology evangelists have no idea where they are going or what they are doing. There are many unanticipated side effects and some of them are dangerously destructive to the global environment and to humane standards for human social conduct (p viii).

He further notes that,

Why is anyone certain that machines improve the quality of life for everyone? Where are the research findings to support that? …Computers are suppose to work for people, not the other way around. (p.viii).

Both of Yeaman’s comments indicate that humans need to think about the ramifications of technology. Society is challenged by technology. It is a failure of society to blindly accept technology without understanding the implications that technology brings with it. Society
cannot stop technology from advancing; it can however question the assumptions that are placed upon us by a media driven conglomerate. Haraway wants cyborgs to be subversive, and to question the assumptions that are associated with technology. It is the responsibility of society to recognize the manipulations that personify the computer as a good or bad thing.

Conclusion
Technology is personified by society. Assumptions about technology have been made in education, media, and through human interfaces. Most of these assumptions are driven by the media’s duplicity in creating a techno-friendly society. Technology is a thing that has shaped mankind throughout history. It is neither good nor bad. It is the assumptions that people make about technology that influence how we view it. This is the challenge that has been brought forth for society to recognize. Only through reflection, can society create a critical view about technology. It is not technology that creates social class struggles, pollution, or wars; it is the way in which society has chosen to personify technology to take the blame for all the technological ills of society. Technology is the medium through which people’s actions are realized. Until society takes responsibility for its actions, then nothing can be done to change how technology is viewed.
References


