Tom Ferstle

Lynn University

The iBook's Transhumanist Agenda

My name is Tom Ferstle. I am an Assistant Professor of Writing at Lynn University. I teach courses in the Dialogues of Learning, a core curriculum of sixty hours of interdisciplinary courses grounded in the traditional Liberal Arts. The curriculum revolves around thematic areas of Belief and Reason, Justice and Civic Life, Self and Society, Quantitative Reasoning and Scientific Literacy. The presentation I have for you today is the Transhumanistic Agenda of the iBook.

About a year ago, I was given the opportunity to convert a print textbook entitled, Dialogues of Belief and Reason Level 200-the standard textbook for a second year course in the Core Curriculum into an iBook format. The form of the iBook was to be similar to the print version, and like the older printed versions, the textbook was subject to the regular review of the required readings, from Plato to Rousseau to Thomas Kuhn or Mary Daly at which time some readings are added or subtracted. My co-author, Michael Lewis and I decided to organize our work into chapters. Six months later, the resultant work was twenty-two chapters and 324 pages in length. Of course, pages and chapters are outdated print media descriptors that don't take into account the hyperlinked applications such as Evernotes for research and writing, embedded videos and Twitter feeds built into the text.

The purpose of this presentation is to examine some of the traditional problems of writing and editing a textbook that have a new set of consequences when introduced in electronic media which I am going to argue are a prelude to a wholly transhumanistic education. A transhuman model of education relies upon the notion of enhancements to memory, concentration, and mental life. These are the implicit goals or agenda of the applications that we included in the iBook.

At this point in educational technology the applications are relatively simplistic. For example, a memory extension using old school technology might be called, "taking notes." Remember those? Nowadays, we can insert note taking applications including discussion prompts into the text, or ask students to highlight passages and include notes. Not much higher order thinking requirement there, I'm sure you're saying. But when you copy and paste those notes into an application like Inspiration Maps, and update that map over the course of the semester, then you begin to appreciate the ability of the technology to create a representation of a cognitive structure, replete with critical associations of terms, definitions, examples and outlines for argumentation. Cognitive scientists will readily acknowledge the concept map as a useful tool in distinguishing a beginner in a knowledge area from an expert due to the density and quantity of concepts and interconnections within a map. The real work of a

transhumanistic education is just beginning with these applications, but it really

gets going when these maps and notes are shared among students and others.

As Katherine Hayles notes in the case of distributed information processing

and interfaces designed for reader/viewer interactions, we have already begun

the process of transforming our identities and cognitive subjectivity. One of the

real advantages of working with Apple technology has to do with their attention

to the disabilities affordances in software and hardware. Any text in the iBook can

be modified for font size and illumination, or audible reading functions. The

possibilities for transhumanistic applications far exceed these limitations. For

example, the corneal implants or cochlear implants that work as perception

technology in the visual and audible environment use a transducer to produce a

signal compatible for interpretation by the various parts of the brain responsible

for vision or hearing. These devices could be enhanced to see or hear a greater

range of frequencies, or the range of amplitudes of the signals perceived could be

made greater to allow enhanced sight and hearing abilities within the range of the

normal processing faculties of the associated brain processing areas. Another

current human enhancement would be implanted ports that allow the download

or upload of data to and from computer systems designed with human brain

compatibility. Current prosthetic limb technology is using the earliest versions of

brain ports to allow paralytics with the possibility of moving limbs in a coordinated fashion by use of their brain, bypassing the motor nerves associated with spinal injuries. Virtual gaming technologies are already separating the user from the meat world with game space illusion as far as the brain is concerned. Recent research on specific neurons in the cortex related to bodily sensory paths and visual neural pathways indicate these neurons change in ways that adapt to the use of body and visual prosthetics. In effect these changes in our neural pathways create new frameworks of our body schemas. Our use of prosthetic devices becomes transparent and adaptive. Andy Clark describes these effects as examples of profound embodiment, or the effects one might expect from an organism whose environment dynamically influences its own structure and function. The effects at a cognitive level are assumed to be occurring but the evidence is much more obscure as the complexity of cognition is deep and extensive. I think we intuitively understand that the new extensions to our cognitive processes, such as calculators and narrow AI's like Siri are changing the way that we think. When we leave our cell phones at home and have to go without them for an entire day, that experience is somehow more disturbing than losing our glasses or forgetting to take some important medication than simply not having a few phone numbers. It seems like we have lost some essential part

of ourselves. Of course, I am not assuming that all the members of this audience have drunk the cool aid of transhumanism, and probably some of you are interested or advocating for a Slow Culture movement or at least regular disconnections from our all too connected lives. I would like to argue in my conclusion that this kind of movement is a necessary and vital step of a transhumanist future.

In the current world of publishing technology, authors are more and more involved with the writing and production of the textbook. Choices must be made with respect to legal restraints regarding fair use of external or original matter, to typography and layout of texts and widgets. A widget is a software application embedded in a web page used to execute simple commands such as to obtain or transfer data from a webpage. When building an iBook the widgets are placeholders within the text, allowing the text to flow around or be interrupted by the text, so the placement of the widgets was part of the design challenges of the textbook.

Best literacy practices affect any textual design. How many interruptions besides the normal chapter and paragraph breaks are acceptable for reading practice? How can you interrupt the text in any fashion without disrupting the

sustained reading and comprehension of the students? At what point or how many widgets does it take to divert the attention of the students towards the applications and external links instead of the text? The research that is available to answer these questions is mixed. There is extensive support for etext affordances, that is, the ability to transfer meaning dependent upon the media, from the learning disabilities researchers. As I've already mentioned, the ability of the text to allow audio files for students to listen to is one great affordance of the medium. The simple ability to adjust font size and screen lighting is another. Criticism of etexts is growing also, but the general complaint seems to revolve around the problem of sustained reading practice which doesn't seem to me to be a new problem and not one that can be identified strictly as a phenomenon related to electronic medium versus the print medium. I think the assumption underlying these critiques is an expectation that our students should produce traditional texts within the print media tradition. Within the computers and writing community the argument that the affordances of the new media require new forms of writing has been taking place since the early 1990's and early new media proponents cite much earlier theory on popular culture such as Mcluhan.

        The goal that Michael and I set for ourselves was to create a textbook that students could use to create their own texts or media. The widgets that we

selected were deliberately chosen to offer points of access for students for research and writing. For example, we created widgets for library research which would allow for the generation of student built notes within the textbook that linked to external sources. The Twitter feeds we selected in certain chapters link to ongoing discussions about issues related to the chapter topics. Writing exercises that encourage students to go out into the social media world relating to political or philosophical topics of interest help to engage students in the difficult task of information literacy, how to discern the trash from treasure, or as Howard Rheingold says, "crap detection." We also included student productions of essays as models or exemplars in the textbook as a first step towards the devising of their own companion textbooks. In my own research it has been humbling to see that grade school children in innovative school districts are already producing their own eTextbooks for class projects.

I see two forces that are like cross currents rushing against each other one moment and then combining with incredible force that will influence a transhumanistic model of education. The first is our desire to produce students that resemble what I am calling the classical academic. She or he is an avid reader, capable of deep comprehension of verbal texts aligned with the author's intentions. She or he is capable of writing a sustained argument using the classical

rhetorical strategies. This ideal student, or ideal at least in the minds of many of my colleagues and perhaps in the popular mindset as well, is a creature that is becoming particularly rare in my classrooms, perhaps yours as well. Many of my students quite readily admit that they really don't like to read. But they do write a lot. As Dr. Andrea Lunsford has shown, students write more today than ever before, they just don't usually get credit for this writing because it happens outside of our classrooms. In social media forums, texts, and chat spaces our students are the most rhetorically savvy of writers.

Commercial applications programmers and educational technology companies are well aware of our students interests in these areas. So there is a rush to meet the demand for these kinds of platforms in schools and curriculums. That is why Lynn is an Apple accredited University today. It is as much a response to the marketplace of education as it is an informed choice of the best technologies to serve educational goals. This is the other force that I am describing the technology marketplace and its creation of smart narrow applications that can be used in education. As educators, of course, we try to take advantage of these applications to encourage the interest and develop the skill sets of students to use technology in school and their everyday lives as well

as what we believe to be the shape of the future workplaces they might inhabit in their professional lives.

But technology, like education, has a rhetoric of its own. It is easy enough to read if you pay attention. The simple action of the Finder function in an Apple machine differentiates between software that its corporate management has deemed safe and compatible and so opens automatically versus a product of another corporation that forces the Apple user to click again on a file that is downloaded before it will open the document is a simple example of the message, Use our software and everything is easier, or use someone else's software and it will be a little harder for you. I get the message, Apple. Even the latest moves by Apple to create a standard of their own for eTextbooks that is incompatible with any other device than an Apple device is a way that technology companies force the hands of the marketplace in their favor. I would suggest that the goal of transhumanism as a process that encourages the flourishing of human existence is shortchanged in a commercial transaction which limits its vision to the flourishing of its stockholders.

Michael and I and Dr. Sanne Unger included a research questionnaire at the back of our iBooks to try and determine how our students "read" these new

textbooks. We were especially interested in learning how the applications affected the students perception of meeting the course learning objectives, which of course, included some of the classical learning expectations, such as critical thinking skills, knowledge acquisition, etc. But in preparing for this lecture, I realized that what I am really interested in learning is how these tools affect the desire of my students to want to learn new things, to understand as Marvin Minsky describes understanding, as the "kludge of cognitive processes" one perspective after another constantly updating and transforming itself into new views of the world and themselves.

If it's not already apparent, I love technology, especially robots! But, I am glad that I am working at a University that has chosen to value a core curriculum that deals with essential concerns about the nature of the individual, the state, and our collective welfare. I think that our technology needs to evolve to include the messier, original, creative processes as well as the more linear, logical classical demands of traditional educational expectations. That is where the "slow culture" initiative has much to add to education, I believe. Perhaps to return to slower processes of creativity, like Linklater's movie "Boyhood" created over a period of twelve years, are models of ways that we can return a kind of artfulness to

learning. If transhumanists have it right, we might all be out of jobs one day, and

we will have to learn how to play all over again.