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Social OS and Collective Construction of Knowledge

By Stephen Downes
March 8, 2010

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Forward written for El Proyecto Facebook y la post-universidad. Sistemas operativos sociales y entornos abiertos de aprendizaje (The Facebook Project and Post-University. Social OS and Open Learning Environments), Editors: Alejandro Piscitelli, Iván Aidaime, Inés binder.

In February, 2004, Harvard student Mark Zuckerberg launched a web site called ‘thefacebook’ as a service to help Harvard students network with each other.[1] The name was taken from sheets of paper profiling students and staff that were distributed to new students. [2] Harvard has an elite reputation, a close-knit community, and the networking one does is almost as important as the learning. Within 24 hours, a thousand people had signed up, and after a month half the Harvard student body had a profile. The service soon spread to other elite schools, Stanford and Yale, and was eventually offered to schools across the United States. The name was shortened to ‘Facebook’ in 2005 and a phenomenon was born.

Facebook was not the first social networking site – arguably that honour belongs to Friendster or Tribes – nor even the first social networking service designed by Zuckerberg. Indeed, if we focus on the community aspect of social networking sites, we can see predecessors in The Well, launched by Stuart Brand in 1985 [3] and in the Globe, a community launched in 1994 by Cornell students Stephan Paternot and Todd Krizelman. [4] By the time Facebook came along, the idea of connecting people through the use of profiles, status updates, and forums was well established.

It may seem hard to comprehend in a world where it has 350 million users [5] and where people compile ‘friend lists’ of thousands of people, but Facebook became successful because it tapped into genuine need, by focusing on authentic community. The social networking site was defined, in its early years, by its exclusivity. People without a university email address were not permitted to join. Membership was restricted to students, staff and alumni. Facebook, in other words, cleaved tightly to an existing community, drawing upon strong connections in the physical world to create strong – and exclusive – connections in the virtual world.

This strength continues to play an important role in Facebook’s success in the years since it

opened to the public at large. Facebook allows family members to create their own private groups, for example, and functions as a “virtual living room” for far-flung extended families. [6] Activists and social organizers, too, have seen the value of transferring existing communities to online venues; in this, Facebook’s groups and networking features have made it an ideal venue to support social mobilization. Ethan Zuckerman, for example, talks of Facebook activism in Egypt; where one in nine has internet access, the country’s 800,000 Facebook members have spawned numerous activist groups. [7]

The structure of Facebook is therefore a reflection of society itself. How are we to understand this? What insights about ourselves can we glean from the organization of Facebook contacts? Some structures, such as the university, the family, the activist group, are obvious. But we are able to look at ourselves through a new lens, taking advantage of new ways to visualize Facebook data. [8] Will we see, as danah boyd does in her examination of MySpace, not just social organization, but social divisions, and in particular, class distinctions? “It breaks my heart to watch a class divide play out in the technology,” she writes. “I shouldn’t be surprised - when orkut grew popular in India, the caste system was formalized within the system by the users. But there’s something so strange about watching a generation slice themselves in two based on class divisions or lifestyles or whatever you want to call these socio-structural divisions.” [9]

If there is a sense, though, in which Facebook can become popular by mirroring existing communities in society, there is a sense in which it can draw upon that popularity by exerting its own structure into communities. As Schimkus and Gruffat remind us, [10] Lawrence Lessig writes in *Code and Other Laws of Cyberspace* that architecture in cyberspace is law, it is control. As he writes, “Architecture regulates behavior; its constraints are simultaneous; but its constraints get enforced not through the will of the state, or through the will of a community. Its constraints get enforced through the physical power of a context, or environment.” [11]

Consider the effect one small change creates in the entire social networking community and how it is perceived. Facebook requires that members have an email address from an elite institution to join. Years later, we see social divisions reflected in the choice of social networking service. Danah boyd observes, “The goodie two shoes, jocks, athletes, or other “good” kids are now going to Facebook. These kids tend to come from families who emphasize education and going to college. They are part of what we’d call hegemonic society. They are primarily white, but not exclusively. They are in honors classes, looking forward to the prom, and live in a world dictated by after school activities. MySpace is still home for Latino/Hispanic teens, immigrant teens, ‘burnouts,’ ‘alternative kids,’ ‘art fags,’ punks, emos, goths, gangstas, queer kids, and other kids who didn’t play into the dominant high school popularity paradigm.” [12]

If our architectures are intrinsically political, as Schimkus and Gruffat say, then what will be the political organization revealed in the global graph? What will our social network architectures reveal about our society, in general, and what changes will we impose on our society, in general? Lessig writes that freedom, privacy, and free flow of content were built into the original design of the internet, but that this is changing. “Technologies are being layered onto the original architecture of the web that change this original design. Architectures that make it easier to identify who someone is; architectures that make it easier to know from where they come from; architectures that make it simpler to control the content that they use.” [13]

* * *

We are, of course, cognizant of control in other, more physical, forms of architecture. Dan Lockton, for example, illustrated the ‘architecture of control in design’ in his blog and dissertation. [14] Subtle changes, such as sloping seats, creating barriers or clearing paths, can guide and manage user behaviour through design. And control may be even more gentle, through the shaping of language. George Orwell illustrates this through his design of ‘Newspeak’. He explains, “Don't you see that the whole aim of Newspeak is to narrow the range of thought? In the end we shall make thoughtcrime literally impossible, because there will be no words in which to express it.... Every year fewer and fewer words, and the range of consciousness always a little smaller.” [15]

But the excesses of control in language suggest that more nuanced approaches are desirable in architecture and in software. Language can be used to guide, suggest or cajole. It allows for the possibility of dialogue, exchange, conversation. The cold edge of technology doesn't sit well with the warmer forms of interaction found in more human enterprise. Language allows, and arguably encourages, engagement and even empowerment. Technology looks like language, but behaves more like architecture, a duality that may lead us to expect more from its intervention than is warranted, as suggested by Cobo. [16] If we are to understand what technology can do, he argues, we need to understand what it can do, and crucially, what we can't do with it.

Technological literacy has much in common with its logical and linguistic counterpart, critical literacy. It is a set of tools, skills and aptitudes that allow one to manipulate the design, and not just be manipulated by it. It is more than just a defense, it is additionally a way to project one's own intentions into the world. It is a matter of learning not simply as being shaped by the world around one oneself, but of shaping oneself through the process of shaping the world. Creating words, creating design, creating software, creating communities: these are all ways we create our own learning, and shape our own thought, our own knowledge, in the most liberating manner possible. As Seymour Papert would say, “people construct new knowledge with particular effectiveness when they are engaged in constructing personally-meaningful products.” [17]

Of the ‘products’ a person could create, perhaps the most challenging is his or her own learning. This is an idea I explored with Diego Leal through the delivery of EduCamps in Colombia, where participants in Bogota and Medellin created their own learning through participation in creative Web 2.0 activities. [18] And the idea was extended and put online with the Connectivism and Connective Knowledge course I ran with George Siemens in 2008 and 2009. [19] This leads Leal to propose “an unstructured collective learning experience that seeks to make visible the possibilities of some social software tools in learning processes and interaction.” [20] The intent is to help people not simply to learn about the tools, but to develop a capacity to work with the tools, to build a creative capacity, and hence not just technical knowledge but rather technological literacy.

The development of a technological literacy, though, is uneven. In the divide between a world where we control technology and a world where we are controlled by technology lies what Henry Jenkins calls the “participation gap.” [21] It is the divide between those who can create

and have created using digital technologies and those who have not. This is not simply a digital divide, not simply a division between those who can access technology and those who cannot, but rather, a divide between those who have been empowered by technology and those who have not. And it is a gap we see not only at the base level of simple web constructs such as web pages or Twitter profiles, but even more so at the higher reaches of social engagement, in professional discourse and communities of practice. To begin to learn is to begin to participate at the periphery of a community of practice [22]; to become learned is to reduce the participation gap between oneself and fully engaged members of that community.

It is no wonder, then, that Dolores Reig writes that one of the most important tasks of educators is to extend and enlarge participation in new media and in these online communities. [23] Students need to access the basic skills required to use technology, and to take advantage of online services to extend their participation into the wider community. New technologies allow them to reach into these networks independently of any institutional constraints. And they create the possibility of new forms of participation – of blogs and Twitter posts, for example – beyond the more traditional modes of conference presentations and academic papers. And it will be the responsibility, not only of educators, but of professionals in those communities, to embrace this new reach. “Things as important as the power of minorities, the long tail, the diversity and opportunity for innovation, growth and not as a threat, depend on it.”

But if meaningful change is to be enabled, if the premise of participation is to be realized, then it will be necessary to extend practice beyond the traditional reach of institutions and community networks. To the extent that we rely on existing institutions, we depend on an earlier-style “broadcast” form of communication, on in which the learner is the passive recipient rather than the active contributor. The participation gap widens. This, writes Alejandro Piscitelli, is what we have seen in much learning technology to date: “because it relies on broadcast models of Web 1.0, strengthening the culture of unilateral top-down world of books and quality content - fixed and unchanging, produced exclusively by adults and experts - ends up getting exactly what it says it wants to avoid.” [24]

Instead, learning online needs to rely on an ethos that has aggregated under the name “edupunk” in recent years. Coined by Jim Groom, [25] edupunk “is student-centered, resourceful, teacher- or community-created rather than corporate-sourced, and underwritten by a progressive political stance.” It is not simply an end to reliance on institutional structures, it is a kicking down of those structures, treating them not so much as scaffolds that lead to greater empowerment and participation, but rather as the embodiment of the forces that limit these, that keep the learner subservient. The role of edupunk is to create one’s own learning, using whatever materials may be at hand, to advance one’s own agenda, and not a logic and language of participation delivered intact from the existing community. Participation is essentially transformative, not only of oneself, though it is that, but also of any community or network in which one participates.

This is the light in which we should understand our participation in social network services such as Facebook, argues Piscitelli. It is not to use Facebook “as an educational tool”. Rather, it is to model, in the best edupunk style, the subversion of Facebook as a tool with which to learn. “it shows in practical state what we often glimpsed, rarely wanted to accept, let alone recognize: we do not know what we want to teach. And this for infinite reasons, being one of the most

important the fact that ‘how to learn’ is constantly changing and cannot be taught once and forever.”

* * *

This, then, is the frame against which the essays in this volume are set. It is an exploration not only of Facebook, but of new technologies in general, not as devices that we may use to ‘deliver’ an education to our students, but rather, as a logic and a language that may be learned, to create a new literacy, that we may leverage in order to help ourselves learn. Each of the papers in the first two sections of this book explores this theme, approaching it from one direction or another, understanding Facebook as an architecture expressed in computer code, a community with its own ethos and set of values, or a language that can be learned and understood critically. The logic of participation as primary to learning is evident at all stages of the discourse, expressed as construction or creativity or communication, as well as the perils of the participation gap, the disempowerment we create when we treat ourselves and our students as passive observers.

How do these considerations become manifest in practice? The remaining essays in this volume explore this theme.

Consider video, for example. Film and television have been a part of education for decades and have had an impact that has been widely derided as unimpressive. Nadaner, echoing a conclusion reached by many others, writes, “While imaginative uses of television may augment visual thinking, constant exposure to fast-paced programming may inhibit the basic cognitive processes of attention, reflection and analysis.” [26] The faculties developed by the creation of video, though, is another matter. Maria Balestrini explores the creation of short videos in the Facebook project using mobile phones as a way for students to learn both an audio-visual language as well as the technology of recording devices. [27]

Using the technology simply to rewrite the rules of engagement of the traditional classroom also creates an interesting dynamic. Heloisa Primavera describes a scenario in which the number of course textbooks is reduced and where students are encouraged to explore new and much more diverse sources of information. This requires, they discovered, a new way of studying, one where students were encouraged to create abundance, to share liberally, to create – and then live in – a flow of content and information, and to think creatively and opportunistically.

Finally, we are faced with the possibility of the “post-university”. This is a possibility that has occurred to many as they explore digital alternatives. Can we imagine a world where universities are “irrelevant”, as David Wiley, a professor in the United States, suggests? [29] The Facebook Project, suggests Ivan Adaime, is a look at what this post-university would look like. [30] It is a way of looking at learning beyond the traditional transmission model, a model where instructors (and books) broadcast and students passively receive. The Facebook Project surprises, he writes, because of the level of engagement and commitment displayed by the participants. But the project, he writes, is not a model for others to follow, but a journey, which others may wish to undertake.

- [1] Sid Yadav, 'Facebook: The Complete Biography', Mashable, August 26, 2006.
<http://mashable.com/2006/08/25/facebook-profile/>
- [2] Sarah Phillips, 'A brief history of Facebook', The Guardian, July 25, 2007,
<http://www.guardian.co.uk/technology/2007/jul/25/media.newmedia>
- [3] George Por, 'The Well: Whole Earth 'Lectronic Link', Netweaver, August 1, 1985,
<http://cgi.gjhost.com/~cgi/mt/netweaverarchive/000013.html>
- [4] Jonathon Lawrence, 'A student created company is the talk of the web', Cornell University Chronicle Online, April 11, 1996.
<http://www.news.cornell.edu/chronicle/96/4.11.96/webgenesis.html>
- [5] Clara Ciuffoli and Guadalupe López, 'Participatory audiences: Facebook as a paradigm of 2.0 literacy', this volume.
- [6] John D. Sutter, 'All in the Facebook family: older generations join social networks', CNN, April 13, 2009. <http://www.cnn.com/2009/TECH/04/13/social.network.older/index.html>
- [7] Ethan Zuckerman, 'Revolution, Facebook Style', New York Times, January 22, 2009.
<http://www.nytimes.com/2009/01/25/magazine/25bloggers-t.html>
- [8] Ignacio Uman and Carolina Venesio, 'The challenge of selecting, indexing and mapping information. Graphical tools to visualize Facebook', this volume.
- [9] danah boyd, 'Viewing American class divisions through Facebook and MySpace', Apophenia Blog Essay. June 24, 2007. <http://www.danah.org/papers/essays/ClassDivisions.html>
- [10] Roberto Schimkus and Carolina Gruffat, 'Architecture is the policy of the network. Facebook and its rivals', this volume.
- [11] Lawrence Lessig, 'Architecting for control', Internet Political Economy Forum, Cambridge Review of International Affairs, May 11, 2000.
<http://www.lessig.org/content/articles/works/camkey.pdf>
- [12] danah boyd. Ibid.
- [13] Lawrence Lessig, Ibid.
- [14] Dan Lockton, 'Architectures of Control in Consumer Product Design', MPhil Technology Policy dissertation, Judge Institute of Management, University of Cambridge, 2005.
<http://econpapers.repec.org/paper/wpawuwpot/0512009.htm>
- [15] George Orwell. Nineteen Eighty-Four I, 5, 1949.
- [16] Cristóbal Cobo, 'What if new technologies were not the answer?', this volume.

- [17] Mitchel Resnick, Distributed Constructionism, Proceedings of the International Conference on the Learning Sciences, Association for the Advancement of Computing in Education, Northwestern University, 1996. <http://ilk.media.mit.edu/papers/Distrib-Construct.html>
- [18] Diego Ernesto Leal Fonseca, Educamp Colombia, edu.co.blog weblog, November 18, 2008. <http://www.diegoleal.org/social/blog/blogs/dotedu-dotco/index.php/2008/11/16/educamp-colombia-1>
- [19] Stephen Downes and George Siemens, Connectivism and Connective Knowledge, web-based course, 2008. <http://connect.downes.ca>
- [20] Diego Ernesto Leal Fonseca, Learning in a connected world: When to do (and to learn) is to click, this volume.
- [21] Henry Jenkins, 'Combating the Participation Gap: Why New Media Literacy Matters', Distinguished Lecture, UC Berkeley School of Information, February 6, 2008. <http://www.ischool.berkeley.edu/newsandevents/events/dls20080206>
- [22] Alison Fuller, Heather Hodgkinson, Phil Hodgkinson and Lorna Unwin, 'Learning as Peripheral Participation in Communities of Practice: A Reassessment of Key Concepts in Workplace Learning', British Educational Research Journal, 31:1, February, 2005, 49-68. <http://www.jstor.org/stable/1502156>
- [23] Dolores Reig, A world of endless media. Changes in learning, Facebook and the apotheosis of expressive applications, this volume.
- [24] Alejandro Piscitelli, 'Edupunk, ignorant teachers invisible education and The Facebook', this volume.
- [25] Stephen Downes, 'Introducing Edupunk', OLDaily, May 29, 2008. <http://www.downes.ca/post/44760>
- [26] Dan Nadaner, Toward an analysis of the educational value of film and television, Interchange, Volume 14, Number 1 / March, 1983. <http://www.springerlink.com/content/j0011r78j78621r6/>
- [27] Mara Balestrini, 'From chalks to mobiles: cell phone short films to think transmedia images and narratives', this volume.
- [28] Heloisa Primavera, Coaching, peer to peer production and neolearning, this volume.
- [29] Elaine Jarvik, Universities will be 'irrelevant' by 2020, Y. professor says, Deseret News, April 20, 2009. <http://www.deseretnews.com/article/705298649/Universities-will-be-irrelevant-by-2020-Y-professor-says.html>

[30] Iván Adaime, 'The Facebook Project and the Post-university', this volume