Unearthing Google: Corporate Networks, Public Participation Geographic Information Systems, and (Infiltrating) Cyborgs

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Abstract

The aim of this paper is to examine how large mapping software companies produce corporate network structures that may or may not hinder the work of progressive and/or grassroots organizations. Furthermore, it will examine how to counter corporate network structures with techno-social approaches to mapping. Techno-social approaches to Geographic Information Systems (GIS) involve moving beyond strictly technological approaches. While technological approaches to GIS adhere to strict rationality, rigid structures, and individualistic, bureaucratic, or corporatist guarding of knowledge, techno-social approaches bridge three types of knowledge: scientific, technical, and cultural (Puri and Sahay, 2003). Techno-social approaches are in compatible with critiques of GIS that focus on alienating aspects of GIS. A solution to this 'alienation problem' is the creation of GIS/2, which might include tagged information in conjunction with user-generated content, open source code, 'infiltration of the cyborg,' and the introduction of public participation into GIS (or PPGIS). 'Infiltration of the cyborg' means that an individual with techno-social and innovative GIS capabilities, enters technocratic offices. Once 'inside', the 'cyborg' can introduce changes. Google Earth and Google Maps are two tools appropriate for this project. Ion conclusion I examine the consequences of investing time and energy in Google, from a critical standpoint. Care must be taken to avoid recapitulating the 'alienation problem' of older GIS approaches within the newer approaches.

Background and Relevance

Producers of well known software packages and mapping systems include large corporations, such as the Environmental Systems Research Institution (ESRI), comparable in scale (in the GIS world) to Microsoft. These companies produce hegemonic corporate network structures that define and constrain the ways we choose to live on a daily basis. This occurs through top-down approaches to building software, interfaces, and databases. These top-down approaches tend to create bureaucratic and rationalized forms of knowledge that become more static the more entrenched they become (Pickles, 1995). It is posited here, that not only ESRI and Microsoft are implicated in the process just described, but also companies such as Google. In order to counter the rigid rationalization of knowledge, a techno-social approach to GIS is proposed in this paper.

Techno-social approaches to GIS combine and bridge scientific, technical, and cultural knowledge (Puri and Sahay, 2003). Those involving free and open-source software might, furthermore, become instances of Public Participation

GIS (PPGIS). Additionally, PPGIS as 'crowdsourcing' holds exciting new possibilities for participatory mapping. 'Crowdsourcing' is form of peer review through usage, with validation by the 'masses,' in the style of Wikipedia. One real-world example of a 'crowdsourced' PPGIS application is the Google Maps 'mash-up' produced in the aftermath of Hurricane Katrina, which allowed anyone to enter geographically specific information, with attached text, about locations of people in distress or needing attention. Errors and vandalism were detected by legitimate users, and were quickly corrected (Miller, 2006). In this way, a social approach to technology (or techno-social) was put into action.

Free, online, or open-source programs (or combinations thereof), such as Google Maps and Google Earth, allow for an 'infiltration of the cyborg' into guarded spatial domains. 'Infiltration of the cyborg' means that an individual with techno-social and innovative GIS capabilities, might openly enter traditional technocratic offices. Once 'inside', the 'cyborg' can introduce changes. In this way, GIS/2 and PPGIS might enter the mainstream and change it for the better (Sieber, 2004). Furthermore, the 'infiltrating cyborg' has at their disposal mapping systems that allow (or do not disallow) hacking in, such that the hacker can program their own code into the application, modifying it for their own (and their employer's) purposes, free of charge.

The point here is not that a 'cyborg' should be militant, but that the presence and capabilities of the programs, applications or methods should be asserted and considered against attempts to continue the hegemony of, for instance, ESRI programs. Thus, at budget meetings, 'cyborgs' should feel it their duty to add open source and free options, singly or in combination, especially if there are budget constraints. This would involve a shift from within from GIS to more of a PPGIS environment, without the overt use of such a name. PPGIS is an approach, and it is important to remember that even dominant software programs, used in a participatory way, may, to varying degrees, have the potential to be (or they may actually be) PPGIS or GIS/2. It is incumbent, then, upon the 'cyborg' to educate his/her coworkers about GIS, so they can also use it, not just the experts, managers, or 'insiders' with some special knowledge.

Next, I examine the consequences of placing so much time and energy in Google, from a stance that is critical of corporatist and top-down management styles. It might be said that Google is a company fully composed of 'cyborgs.' In other words, the corporate style is such that each employee of Google is allowed to think creatively and outside 'the box.' It would seem that (creative) subversion is actually promoted within the 'Googleplex'. Recently *The Economist* (2007) suggested that while Google enjoyed the status as the 'good guy' early in its formation (and it is still very young), following its own maxim of 'don't be evil,' it is increasingly concerned with control of the markets. Furthermore, Google has proven that it will use tactics that, while not evil, are certainly corporatist. Monopolization of markets, for instance or just 'being the best,' will be seen by competitors and consumers alike, as cutthroat tactics. Google is sophisticated enough to realize these objections in advance and adapt. Or it might lose its

ability to be reflexive beyond a certain size. Perhaps a 'critical mass' has been reached: it is possible that Google is already no longer in touch with 'the masses.'

Conclusions

The (PP)GIS community needs to be very careful in moving beyond static GIS models with corporate data structures, in order to avoid installing new structures of the very same, oppressive type. We must look beyond Google, and keep in mind our primary goals: promoting the interests of Indigenous peoples, protecting the environment, fighting corporate hegemony, helping those who cannot help themselves, promoting health, and many others.

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