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TAKING PEOPLE OUT OF THE NETWORK: A Deconstruction of “Your Next IT Strategy”

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Abstract

Web services are frequently discussed as “the next big thing” in information technology architecture. The picture painted by pundits, practitioners, IT vendors, and academics is appealing technically: Web service applications “exposed” to one another through standard protocols, navigating through an open infrastructure to search out counterparts over the Internet, with “seamless” integration across business processes and enterprises, without human intervention. However, the vision of a computing architecture that takes “people out of the network” has troubling social implications. In this paper, we utilize deconstruction as an analytic approach to examine a paper that promotes Web services, entitled “Your Next IT Strategy” (Hagel and Brown 2001). Our analytic purpose is to generate interpretations of the text that surface assumptions about how this IT innovation may influence the social organization of IT-related work. Our interpretation suggests that the Web services architecture could contribute to reproduction and consolidation of control among already powerful socio-economic actors, while restructuring and automating the work of IT professionals and other knowledge workers. We conclude with a discussion of deconstruction as a research approach to investigate issues of social inclusion and IT innovation.

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1 INTRODUCTION AND MOTIVATION

The term *Web services* has numerous definitions, most referring to business applications that are built using a set of open, standard protocols and that are shared over the Internet among business processes within and across enterprises. Beyond the technical definitions, the phrase has become an *organizing vision* (Swanson and Ramiller 1997) of how IT assets and business functions can be organized and managed. For some, this organizing vision extends beyond the IT function to the reorganization of business enterprises as loosely-coupled value chains (Hagel and Brown 2001).

In technical terms, the World Wide Web Consortium defines Web services as software applications designed to support machine-to-machine interaction over a network (<http://www.w3.org/2002/ws/Activity>). There are a number of open standards related to the Web services architecture that will make this possible. Extensible mark-up language (XML) provides a meta-language to create a shared and common structure for the exchange of data between applications. SOAP (simple object access protocol) provides a standard approach to transmitting XML-coded data between different systems and a method to invoke remote applications. WSDL (Web services definition language) is a protocol to describe Web services in a standard, machine-readable format. UDDI (universal description, discovery, and integration service) is a mechanism for applications to dynamically find and use Web services programs. These and other Web services standards are being developed by industry consortia and major IT vendors (see Table 1).

Although Web services technology is an important area of research, our interest in this paper is the purported social and organizational implications of Web services. Consider the following description of the Web services vision:

The Web services vision is grand: a universal set of communications protocols to enable computer systems and business processes to seek each other out over the Internet, lonely hearts style, and have deep, meaningful interactions with no human intervention. ("The Battle for Web Services," C. Koch, *CIO Magazine*, October 1, 2003)

Table 1. Key Standards Setting Organizations for Web Services

<p>World Wide Web Consortium (W3C) (http://www.w3.org/Consortium/) Firms represented on Advisory Board: ILOG, Boeing, HP, Oracle, Sun Microsystems, IBM, MITRE, Nokia, SAP AG</p>
<p>Web Services Interoperability (WS-I) (www.ws-i.org) Board of Directors: SAP, Intel, BEA Systems, Fujitsu, IBM, Sun Microsystems, HP, Microsoft, Oracle, Webmethods</p>
<p>Organization for the Advancement of Structured Information Standards (Oasis) (www.oasis-open.org) Board of Directors: BEA Systems, Fujitsu Software, OASIS, Center for Document Engineering, UC Berkeley, Sun Microsystems, Nokia, General Motors, Microsoft, Oracle, SAP AG, IBM</p>

This quote illustrates a common theme in Web service discussions: the potential to automate human activity by creating and operating autonomous computer applications. Despite considerable attention to the loss of IT work from Western economies to India, China, and other lower-cost labor markets, “off-shoring” accounts for a small percentage of the IT economy (Carmel and Tjia 2005). A much more significant influence on the future of the IT workforce will be the automation of both IT and non-IT work using computer automation. According to one of the chief architects at Microsoft, outsourcing has historically been a prelude to software automation and mechanization, and future IT work, though less plentiful, will be in the automation of business processes and of IT work (Murphy 2003).

Our purpose is to critically examine the visions motivating automation of work through IT innovations, such as the Web services architecture, in order to understand how humans might be “taken out of the network” (Hagel and Brown 2001, p. 107). One only has to look at the struggles between IT vendors, anxious to shape the IT marketplace to their own advantage (Koch 2003), or the hard political battles fought within industries and organizations to define and shape IT standards, to realize that people are still very much part of “the network.” However, the ways in which humans influence the design and use of technologies can be transformed by such organizing visions for IT innovations. Examining these visions brings attention to the potential for inclusion or exclusion of different groups involved with and affected by IT.

To investigate these issues, we utilize deconstruction as an analytic method. Deconstruction involves a critical reading of texts to reveal alternative interpretations that surface and challenge dominant elements and interpretations (Martin 1990). In this paper, we present our deconstruction of an article that promotes a vision for Web services, in order to expose underlying tensions concerning the role of human actors in the development and application of this IT innovation in this discourse. What we reveal is an antipathy to human activity that venerates automation over socio-technical design and the promotion of immediate action by those already in power—executive management and large IT vendors and firms.

In the next section, we provide a brief discussion of deconstruction. We then describe the approach to our deconstructive reading and analysis of this management text. We focus our analysis on *différance* and *supplement* strategies that include technical and exclude social elements. To highlight alternative socio-technical possibilities, we draw on the concept of *potentiality* (Feenberg 2002) in reconstructing a passage of the text, highlighting the social and ethical choices that might be made within the IT architecture. We conclude by discussing the implications for practice and the contributions of deconstruction in researching inclusion and exclusion issues in IS texts.

2 A BRIEF INTRODUCTION TO DECONSTRUCTION

Deconstruction is a form of critical reading of a text, often associated with the literary critiques of Jacques Derrida (1973, 1977, 1982), in which hidden and alternative interpretations of the text’s meaning are surfaced. Deconstruction assumes that speech and writing are as much *performative* (i.e., promises and acts) as *declarative* (i.e.,

factual descriptions) (Royle 2003). There is often an unstated and unstable relationship between the two, which allows multiple interpretations and critique (Royle 2003).

Acknowledging the difficulty in identifying the key tenets of deconstruction (i.e., centering), we suggest one important purpose is to expose dominating interpretations of texts (Royle 2003). Domination is achieved by our inclination to privilege language as natural and factual (i.e., *logocentricism*) and is challenged by disturbing the normal and exploring the excluded possibilities in texts (de-centering) (Royle 2003). In doing so, deconstruction pursues an emancipatory project to uncover excluded possibilities in the text (Norris 2000). A deconstructive reading does not aim to produce a simple, unified, or “true” interpretation but instead reveals the excluded possibilities hidden by the text’s dominant interpretation. It thus reveals “power operating in structures of thinking and behavior that previously seemed devoid of power relations” (White 1986, p. 421, quoted in Martin 1990, p. 340).

One approach to a deconstructive reading is to explore *différance*. This term incorporates the idea of “differing,” or contrast, and “deferring,” or giving way to. *Différance* is represented as dichotomies, which on the surface appear to be natural but in fact privilege one element over the other. For example, in American culture, being *young* is valued over being *old*, as is evident in cultural texts such as movies, television programs, music, and advertisement. The old *differs* from the young and also *defers* to the young in these texts. Related to *différance* is *supplement* (Beath and Orlikowski 1994; Royle 2003), where the privileged element of the dichotomy shares common roots with and depends on the deferred element (*supplement*): the *old* were once *young*; the *old* create and sustain the *young*; thus, *old* is a supplement to *young* in this context.

Deconstruction cannot be reduced to technique and instead requires close reading of the text in context (Kilduff 1993, p. 16); however, a variety of techniques to assist with deconstruction have been identified. Occurrences of both *différance* and *supplement* can be exposed through a deconstructive reading of the text, in which the reader explores words, their position, and their possible meanings. Other techniques include examining the margins of a text such as footnotes or parenthetical expressions, dichotomies, metaphors, double entendre, tautologies, and silences (unacknowledged ideas or concepts) to expose subordinated elements (Beath and Orlikowski 1994; Martin 1990).

In management studies, deconstruction has been used as an analytic approach to examine gender conflicts in organizational life (Martin 1990), the positivist agenda in organizational theory (Kilduff 1993), and limitations of information systems methodologies (Beath and Orlikowski 1994; Watson and Wood-Harper 1996). Texts drawn from management literatures are analyzed to surface inconsistencies in the text, which may reflect conflicts in the social world to which the text refers. Although seldom used in managerial research thus far, such works can be influential if they achieve what Golden-Biddle and Locke (1993) refer to as criticality by bringing the reader to a deeper perspective on the phenomena examined. Beath and Orlikowski’s (1994) deconstruction of a systems development methodology highlighted contradictory attitudes about the users’ participation in systems development. This paper has been widely cited in IS research, suggesting its themes resonated with researchers studying user participation.

In this paper, we use deconstruction to examine a text that promotes an IT innovation (Web services) to explore themes of exclusion and inclusion of people. Our goal

is not to provide answers about the future (unlike the text we deconstruct) but to raise questions about the social consequences of the dominant organizing vision in this text and the *potentiality* of alternative social outcomes (Feenburg 2002) that might be realized through this innovation. In doing so, we question the dichotomy of social and technical by considering the social nature of technical architectures (Bloomfield 1992; Watson and Wood-Harper 1996).

3 RESEARCH APPROACH AND METHODS

We selected the article, “Your Next IT Strategy,” by John Hagel and John Seely Brown, for this deconstruction exercise because we found it to be a compelling example of management discourse on Web services, a highly touted IT innovation. The article presents a high-level vision, written by well-known and respected technology strategists, of how the Web services technical architecture will be applied in business practices. This vision is directed to executives, who are the target audience for *Harvard Business Review*. Although the article apparently is well known,¹ we chose this article based not on its influence among executives but because of the article’s assertion that “taking people out of the network” (p. 109) is a key element of the “next IT strategy.” This suggested that the text would provide an interesting source for themes of social inclusion and exclusion related to Web services.

To go about the deconstruction, we followed the process outlined by Beath and Orlikowski (1994), beginning with each author doing several close readings of the text to identify themes of interest. We focused on *différance*, that is, dichotomous relationships that underlie the text’s discursive structure, and *supplement*, the ways in which the subordinate element in a dichotomous relationship supplements or makes possible the privileged element. We shared our interpretations to refine our analytic focus on emerging themes of inclusion and exclusion. Table 2 summarizes themes we addressed and provides examples.

In the next iteration, we again examined the text line-for-line, reassessing each statement’s relevance to these themes. We utilized other analytic techniques, such as scrutinizing metaphors and identifying non sequiturs to examine how *différance* and *supplement* are represented. Table 3 summarizes the techniques that we employed and provides brief examples. The results of this analytic process are described in the following section.

¹A search of Google’s scholarly database (scholar.google.com) identified more than 90 citations to this paper in academic publications and a Web of Science search identified 16 citations (as of January 2006). A narrow search of Google’s full database (using the paper’s exact title and last name of authors) revealed over 9,500 mentions of the paper in other business publications, blogs, websites, and so on.

Table 2. Themes of *Différance* and *Supplement* in the Deconstruction Analysis

Différance	Supplement
CHANGE: “a steady stream of new, Internet-based services will come on-line...all your old assumptions about IT management will be overturned” (p. 106)	STATUS QUO: “In supplying these functions, traditional companies have an important advantage” (p. 113)
NEW: “The New Architecture” (p. 106)	OLD: “Build on your existing systems” (p. 110)
OPEN: “openness and modularity” (p. 106)	CLOSED: “existing application is left intact but is ‘exposed’” (p. 110)
OUTSOURCE: “shifting responsibility for maintaining systems to outside providers” (p. 108)	INSOURCE: “The distinction between users and suppliers of Web services will fade” (p. 113)
FREEDOM: “Companies will no longer find themselves stuck with outdated or mediocre applications and hardware” (p. 108)	CONSTRAINT: “A robust service grid is vital to accelerating and broadening the potential impact of Web services. Without it, Web services will remain relatively marginal to the enterprise” (p. 106)
AUTOMATION: “applications will be able to talk freely with other applications, without costly reprogramming” (p. 109)	HUMAN ACTIVITY: “Traditional distributors spend years learning the shades of meaning used by different buyers and sellers ...it is only then the distributor will have the knowledge and the authority to create a standard rating system” (p. 112)

4 A DECONSTRUCTIVE READING OF “YOUR NEXT IT STRATEGY”

The following sections present our analysis of this text. We organize our own text around the six themes outlined in Table 2. The first section considers each theme in terms of *différance*; the second section illustrates how *supplement* is present in the text.

4.1 Themes of *Différance*

The text of “Your Next IT Strategy” begins with an assertion that Web services are a new IT innovation that, unlike the innovations in the so-called “dot.com boom,” will change the way companies manage their IT resources, the types of business opportunities they will pursue, and the way their businesses will be organized. The *différance* of *change* and *status quo* presents a call to action and a warning to the reader that “your

Table 3. Analytic Strategies for Deconstruction

Analytic Strategy	Examples from "Your Next IT Strategy"
Dismantling a dichotomy	"The Web services architecture is completely different" (p. 106) (This new and completely different architecture depends on existing architectures and IT capabilities to be realized.)
Attending to disruptions and contradictions	"Taking the people out of the network, the architecture will enable connections between applications—both within and across enterprises—to be managed automatically" (p. 109) (Humans create and operate the standards, protocols and applications that permit automation.)
Scrutinizing naturalness claims or arguments	"Shared meaning will naturally increase as the use of the Web services architecture expands" (p. 113) ("Meaning" is synonymous with standardized definitions that must be "hashed out" through human effort.)
Examining silences	"big staffs to keep everything up and running" (p. 106) (Workers who create IT capabilities are referred to only as burdens to be shed.)
Focusing on marginalized elements	"Big Changes for your IT Department" (p. 108) (Implications for IT professionals are put in a "sidebar" panel; only the CIO's role is considered.)
Interpreting metaphors for multiple meanings	"restrictive enterprise silos" (p. 106) (ERP and other integrated systems are "silos" that prohibit interaction.)
Analyzing double-entendres	"In the process, many companies will find themselves turned inside out, with their formally well-guarded core capabilities visible and accessible to all" (p. 113) (Turning inside out is both "desirable" and threatening.)

Adapted from Martin (1990, p. 355, Figure 1) and Beath and Orlikowski (1994, p. 356, Table 2).

old assumptions about IT management will be overturned" (p. 106). At the same time, there are promises that change will "create substantial benefits... without high-risk, big-bang approaches," and offers instead "immediate efficiency gains" (p. 106). The benefits of change are so "compelling" (p. 112) that resistance appears to be futile.

The change to Web services depends on *différance* of the *new* IT architecture and the *old* IT architecture. *Old* IT is referred to as a "mishmash of disparate systems," "data silos," "massively complex," "hodgepodge," "inflexible," and "fiendishly difficult to change," all in one paragraph (p. 106). Even relatively recent systems are characterized as "restrictive enterprise silos." In contrast, the *new* IT (Web services) is "open," "modular," "less risky," "efficient," "easy," and provides the "best tool for the job at hand" (p. 108).

The *new* IT architecture will be realized through *open* rather than *closed* technology, through an array of open standards. An "open standard" is a contradiction in terms, because a standard defines the normal, expected, permissible, and thus is closed

to other possibilities. In the case of Web services and other Internet protocols, *open* could mean open to inspection and use by all IT vendors and business organizations, in contrast to the *old*, proprietary IT architectures that were “sealed” from other systems and users (customers, suppliers, competitors, or the merely curious). Despite important and pronounced social and organization change resulting from the technology, the *open* architecture of Web service standards is explained very briefly in the text, then set aside in a colorful diagram (“An Overview of Web Services,” p. 107). The section presents a very high-level description composed of acronyms and unexplained terms. The high-level nature of this description leaves the *open* architecture *closed* to the reader, suggesting the reader need only *look over* rather than *look into* the architecture.

The text proclaims that the *openness* of the *new* IT architecture makes possible major *changes* by turning “IT assets,” and ultimately the organization, “inside out.” Again, the *différance* of *out-sourcing* and *in-sourcing* is dramatic. What are *in-sourced* are “rigid business processes” that lock a company in “unit silos” and “enterprise silos” (p. 106), preventing the company from adjusting to change, and burdening the company with unnecessary investments in humans and computers. *Outsourcing*, on the other hand, reduces the need to invest in internal assets by making it possible to lease the *new* and abandon the *old*.

The leasing of IT processing capability (and ultimately business process capability) is possible through the *new* and *open* market that Web services will provide. The metaphor of the Swiss Army knife (p. 108) is perplexing here. The *in-sourced* IT application, like the Swiss Army knife, “does a lot of things, but it may not do any of them particularly well” (p. 108). In the case of Web services, highly specialized applications will be leased as needed. However, the Swiss Army knife is a handy little tool, much lighter and easier to carry than hammers, corkscrews, scissors, and so on, as campers or soldiers might agree. Equating the burdensome *old, closed* IT application with a small, flexible, and handy tool—the quintessential definition of a Web service application—appears as a contradiction that disrupts the text’s logic.

The *change* that the *new, open, out-source-able* IT architecture will bring also gives the company *freedom* from the *constraint* of the *old* architecture. The language here implies a type of interorganizational promiscuity and youth. The firm engages in flexible, changeable “loose couplings” (p. 109) with outside service providers with little risk or commitment and dismisses the *old* as “out of date or mediocre” (p. 108). Instead, the firm can “plug-and-play” with the most up-to-date technology available to remain flexible and competitive (p. 108).

Freedom from the *constraint* of the *old* IT architecture implies that the firm is also free from the *constraints* of *human activity* the *old* IT entailed. In fact, flesh-and-blood humans are largely absent from the text. The *automation* of the *new, open, outsourced* market of Web services “reduces the need for manual work” and “the need for hiring numerous IT specialists” (p. 108). This is desirable, because human systems are “inefficient, slow, and mistake ridden” (p. 109). *Automation*, in contrast, is efficient, flexible, and simple. Automated applications will “talk freely with other applications” (p. 109) and the company can avoid the pitfalls of human activity, as the Web services architecture takes “people out of the network” (p. 109).

What *human activity* will be involved in the new IT architecture? Individual humans have no articulated role to play in the Web services architecture in the text,

except as customers whose needs will be fulfilled. (We suppose the *automation* process will be complete when the customer is also a Web service.) The firm's senior managers appear to be needed to oversee leasing Web service applications from the "best" third-party providers or to direct development of the firm's own Web service applications. These managers will only need to ask questions about the firm's implementation of the Web services architecture (p. 109). However, the people available to provide responses are absent from the text. The only IT professional mentioned is the CIO (p. 108), who will be too occupied as a "strategist," "entrepreneur," "knowledge broker," "relationship manager," and "negotiator" to do any planning, designing, or coding of Web Service applications. (Perhaps the senior managers will have to question the Web services applications directly, assuming that these questions can be rendered meaningful in XML.)

Despite this absence of humans, we do see in the text a continued and heightened role for large IT vendors: the "new singers" of the "chorus of promises" about Web services are the "big providers of computer hardware, software and services" (p. 105). These vendors and large firms like GM are developing the standards and protocols (see Table 1) and leading the call to action that *change* requires: "The early movers like Merrill Lynch, GM, Dell play key roles by providing their business partners with compelling reasons to use Web services" (p. 112). That is, Web services will apparently be imposed on smaller firms by these dominant firms. "Traditional companies have an important advantage" (p. 113), not only because they have the resources to invest in Web services and the market power to compel other firms, but they also have the name recognition and legitimacy to supplement the "trust" promised by the Web services "service grid." Citibank is cited as an example on page 113 of how an established firm used its name recognition to establish dominance in online financial transactions.

4.2 Themes of Supplement

Having seen how *différance* excludes *old*, *closed*, *in-sourcing*, *constraint*, and *human activity*, we now consider how *supplement* reintroduces these subordinated elements back into the text, augmenting and sometimes replacing the naturalized and dominating elements.

First, the dramatic *change* in IT infrastructure depends on the power and influence of the major IT vendors and the cadre of large, powerful firms that compel others to switch to Web services, as we note above. That is, it appears that the *changed* world depends on the *status quo*. The *new* IT architecture itself is too immature and will require "years of investment and refinement... before a mature, stable architecture is in place" (p. 109). To transition to this *new* world, the *old* IT applications—inefficient, inflexible, and burdensome as they may be—will be renewed through a process called "node enablement," which "is often as simple as creating an explicit record of the connection specifications of an application... along with the application's name, its Internet location, and procedures for connecting with it" (p. 110). In computer science parlance, Web services become simply a standardized interface "wrapper" around a proprietary software module, allowing what has been hopelessly *closed* to become delightfully *open*: "the existing application is left intact but is 'exposed' so that it can be found and accessed by other applications in the Web services architecture" (p. 110).

Despite an urgency to *outsource*, in order to move not only IT applications but business functions to “the edge,” firms are advised to move cautiously, learning “what works and what doesn’t” and resisting the urge to “engage with too many partners too fast” (p. 111). As a result, the strategies for implementing Web services are incremental, involving “edge” systems that are already connected to outside customers and suppliers (p. 110). Eventually, distinctions between *in-sourcing* and *out-sourcing* disappear, as “the distinctions between users and suppliers of Web services will fade” and “over time, the location of particular capabilities—whether inside or outside the walls of any company—will become less important” (p. 113).

As *change* is built upon the *status quo*, *old* supplements *new*, *closed* become *open*, and *in-sourcing* and *out-sourcing* coexist, we see that the *freedom* promised by the Web services chorus (p. 105) depends on a surrender to the *constraints* of the service grid: “the importance of the service grid will become increasingly apparent...without the security, reliability, and performance auditing that service grid utilities can provide to their customers, few enterprises will be willing to offer, much less subscribe to, such mission-critical services” (p. 113). In the depiction of the Web services architecture (p. 107), the service grid is a governing and autonomous system to which companies submit: it facilitates, orchestrates, determines correct ways of interacting, ensures reliability, monitors performance to ascertain conformance, “assures users of Web services that they will obtain agreed-upon levels of performance and will be compensated for damages if performance falls below these levels” (p. 107), as well as bills and ensures prompt and full payment. It is the legislative, executive, and judicial functions combined, and all, we are to assume, highly automated.

The text is largely silent about where this governing function will reside and who will control it, noting only that third-party vendors (the big IT suppliers) will provide the service grid and thus control the Web services infrastructure, further consolidating their power and that of their close partners. The text is also silent about how these governmental functions will be carried out by automated agents. Will these automated programs have programmed features that allow them to punish other automated programs for noncompliance, or will they reach out from the technical infrastructure to sanction the offending program’s human counterpart?

Given these disruptions and unanswered questions in the text, Web services *automation* appears to depend entirely on *humans* to enable the Web services architecture and to imbue it with human-like capabilities of language, meaning, and communication. Table 1 attests to the number of people in primarily large and powerful organizations who are involved in the specification of the Web services architecture. What is not evident in the table is the extensive work required by human actors (IT and business professionals) to translate their human meaning into a language for computers. Just as humans in the “swivel chair network” integrate the “primitive patchwork” of previous automation to create the illusion of a “single, streamlined system” (p. 109), *human activity* will be extensively involved in creating the shared terminology that will enable computers to talk to computers: “Subtleties of meaning have to be hashed out before business can be conducted in all its inevitable complexity” (p. 111) and *automation* can take over.

Surfacing the *human* supplement to *automation*, we see a conundrum: humans communicate with humans (over standards) so that computers can communicate with

computers (in day-to-day business processes) so that humans don't have to communicate with humans. We imagine that if "shared meaning will naturally increase as the use of the Web services architecture expands" (p. 112), computers may eventually be taught (by humans) to negotiate their own standards, creating their own language to substitute automated "meaning" (i.e., standard definitions) for human meaning, and by doing so, advance the *différance* of automation over human activity toward the realms of science fiction.

5 DISCUSSION AND IMPLICATIONS

Through our deconstruction of the text "Your Next IT Strategy," we explored underlying themes of inclusion and exclusion related to an IT innovation (Web services) that many expect will shape IT and non-IT work in the future. These inclusion-exclusion logics suggest an antipathy for human activity, particularly the contributions of IT workers who develop and support IT in organizations, a veneration of automation that ignores the technical limitations of automation, and a conservative agenda that builds on and extends the status quo of powerful actors in the IT sector, masked by the appearance of change and freedom.

Our interpretation of the text is no more correct than other readers' interpretations. Nor do we claim that we have interpreted the authors' explicit or implicit intentions. We also note that our own text, including the following reconstruction of a passage from the article, is itself open to deconstruction. Instead, we suggest that the value of our deconstruction comes from exploring the declarative and performative possibilities that could arise from this text. Through this deliberate "play," as described by Derrida (Royle 2003), excluded possibilities for the development and use of Web services might be surfaced and thus included in the discussion of social practices and ethical choices related to this IT innovation.

Moreover, we suggest, as others do, that deconstruction attempts to finish the unfinished project of modernity (Norris 2000). It does so by exposing the "conditions of possibility" for interpretation (Norris 2000, p. 81). We find this approach consistent with Andrew Feenberg's work on technical potentiality. Feenberg (2002) suggests that there is much confusion about the effects of technologies because writers mix primary (i.e., embodied in technology) and secondary (i.e., revealed in specific contexts) instrumentalization. Primary instrumentalization occurs when technical objects are isolated from their original context, analyzed in terms of their utility, and transformed into a technically universal and useful form. Often, primary instrumentalization serves the interests of managers, who wish to control workers and work practices. Secondary instrumentalization arises during the inevitable social construction of technologies in concrete settings. Through a process of systematization, technical objects are combined and re-embedded in a social context. Systemization is mediated to a large degree by ethical and aesthetic concerns, and thus outcomes are indeterminate, subject to human agency and initiative.

Potentialities are the possible secondary instrumentalizations that could emerge as technologies are implemented in particular settings. A potentiality is a particular set of secondary qualities that are possible in a given situation, but are as yet unrealized within

that situation. Feenburg suggests a philosophy of technology based on potentiality that “exposes the obstacles to the release of technology’s integrative potential and thus serves as the link between political and technical discourse” (p. 177).

Here, the text of “Your Next IT Strategy” emphasizes the primary qualities of Web services and proposes a set of secondary qualities that will shape every context, regardless of ethical, social, or human influences. The result is an organizing vision that largely excludes consideration of the social contexts in which IT innovations are deployed. Context includes the specific actions of and the social, economic, political, and economic implications for human actors. Such a context-free vision inhibits the reader from examining political choices during secondary instrumentalization and creates obstacles to the realization of democratic practices in socio-technical design.

We suggest that alternative potentialities can be surfaced by de-centering the dominant interpretations of a text through deconstruction. In the previous section, we de-centered the dominant interpretation of the text through our deconstructive reading and analysis, exposing issues of social exclusion and inclusion. We now continue to de-center the text to highlight alternative potentialities for the Web services architecture, using the analytic technique of reconstruction (Martin 1990). This technique involves further play with the text, as words and phrases are altered so as to produce a new text, one that brings to the foreground political assumptions and social tensions. Here, we reconstruct the brief passage from “Your Next IT Strategy” that inspired our deconstruction, to point to potentialities for building Web services infrastructure in socially accountable and ethical ways.

The passage begins with the story of Merrill Lynch (a large, powerful firm) and its struggle with old, closed, and inflexible IT systems. The chief technology officer is quoted as comparing these systems to a Potemkin village in czarist Russia. The metaphor of a Potemkin village refers to Grigori Potemkin, who was believed to have painted the exteriors of impoverished villages to impress Catherine the Great.² Thus, a “Potemkin village” is a false front or construct, which hides a damaged and unseemly reality.³ The story explains that employees of Merrill Lynch (embodied as a “swivel chair network”) have been creating the “illusion of a single, streamlined system” from a “primitive patchwork” of internal systems (p. 109). Rather than celebrating the achievements of these human heroes, the Web services architecture is poised to remove them from the network so that true automation can take over, and the false front can become a true front:

The Web services architecture promises to solve this problem. By taking the people out of the network, the architecture will enable connections between applications—both within and across enterprises—to be managed automatically (p. 109).

²See Bartleby.com (<http://www.bartleby.com/61/0/P0480000.html>).

³See Wikipedia.org (http://en.wikipedia.org/wiki/Potemkin_village). Ironically, some historians now believe that Potemkin did in fact help improve socio-economic conditions in these villages rather than merely put on an appearance.

This statement reveals the tension between *automation* and *human activity* evident throughout the text. If the humans in the “swivel chair network” compensate for the limitations of the automated system (*supplement*), removing the people from the network will cause the system to collapse. Perhaps it is not people who are to blame for the false front but automation, and thus it is automation that should be removed. In our first reconstructive step, we therefore switch “people” and “automation”:

The Web services architecture promises to solve this problem. By taking ***automation*** out of the network, the architecture will enable connections between applications—both within and across the enterprises—to be managed by ***people***.

Although this phrasing is more human-centered, it suggests a return to yesteryear that is politically (if not objectively) naive. It is difficult to deny the benefits of appropriate automation, despite the inevitable loss of jobs and expertise due to any automation. For example, the automation of the telephone switch eliminated telephone operators from the phone network but allowed for reliable, inexpensive global communications. It would be reactionary and politically difficult to completely dismiss automation and is thus an unrealistic potentiality. However, by focusing exclusively on “taking out” human activity, the text produces an impossible and ethically irresponsible outcome—a weak potentiality. As a second attempt at reconstruction, we suggest that the preference for taking things *out* be reconsidered, and instead, something needs to be put *in* to business processes, that is, automation. Thus we replace “taking out” with “putting in”:

The Web services architecture promises to solve this problem. By ***putting automation into*** the network, the architecture will enable connections between applications—both within and across the enterprises—to be managed by people.

Now we see the potentiality of automation supplementing human activity, rather than humans supplementing automation, at least for those humans doing the managing. We are still disturbed by the non sequitur of the Web services architecture promising anything to anyone. It is humans who make promises. We have seen that development and maintenance of the Web services architecture depends on humans, particularly the humans in charge of large IT vendors and other firms that will compel use of this IT innovation. Acknowledging that all technologies result from human endeavors, and that the reference to “Web services architecture” masks substantial human effort and agency involved in its construction, maintenance, and implementation, we attribute responsibility for promises and actions related to the IT innovation to the humans who create and utilize the technology:

The ***people who are developing and promoting the Web services architecture*** promise to solve this problem. By putting automation into the network, these ***people*** will enable connections between applications—both within and across the enterprises—to be managed ***by people who implement and utilize the architecture.***

Our reconstruction of this passage of text has removed some of the obstacles to acknowledging human participation and agency in the Web services architecture by recognizing their hidden and subordinate role in the text, and we can begin the discussion of where human responsibility, accountability and benefits might accrue. In doing so, we can explore various potentialities in Web services technology by acknowledging the pragmatic and ethical choices in who develops, who controls, who is accountable for, and who benefits from this IT innovation. Deconstruction and reconstruction could continue *ad infinitum*, and our text is itself open to these processes. We end here, having put the subordinated and absented “people” back into the network.

6 CONCLUDING REMARKS

Our deconstruction of a well-known management article promoting the Web services architecture highlights an organizing vision in which human activity defers to automation and the technical changes made possible through this IT innovation reinforce and consolidate the status quo of powerful social actors. By promoting an organizing vision focused on primary instrumentalization of technical features and a universal set of secondary qualities, this vision excludes consideration of alternative social and ethical implications of this IT innovation, which might be possible through secondary instrumentalization. Our reconstructions of one segment of the text attempts to reintroduce human agency and accountability into the design and management of this IT innovation and suggests the possibility that people should not be taken out of this socio-technical network but instead be put in charge of and held accountable for it. By doing so, we open the discussion to questions of social, political, and ethical choices in the design, management, and implementation of the innovation. Our critique does not mean that we are in opposition to Web services and automation. However, we recognize that technologies are the product of human creativity, agency, and intention, thus they are open to alternative designs and effects—including those that privilege human activity and choice over automation and that include rather than exclude the human actors who produce, operate, and utilize automated business processes such as IT professionals and technology users.

An implication for practice from our study involves our role as IT educators. Through our own deconstructive readings of management texts on IT innovation, we can bring insights that challenge our students to critique organizing visions for IT innovations on social and ethical grounds as well as on economic and technical grounds. We might also encourage and instruct students on how to do deconstructive readings themselves. If students develop a greater appreciation of alternative scenarios about the future effects of IT innovation, deconstruction achieves a degree of criticality (Golden-Biddle and Locke 1993).

As researchers, deconstruction can help us to think critically about the unspoken texts within the texts of IT innovation. By closely examining the organizing visions for IT innovations that others produce, and that we ourselves develop or to which we contribute, we can explore the tensions inside and outside the text about the social, economic, political, and ethical implications of IT innovations. As scholars, we tend to focus on what has been or is happening with information technology and to limit our

future projections to the development of the technical in technical systems. We could also assert a role and assume a responsibility to consider the numerous social possibilities that could emerge from technical systems, not only as they apparently exist today but also as they could exist in the future. The potentialities of IT innovations such as Web services are many. It will be through the purposeful exploration of these possibilities that social practices will evolve. In the hurry-up world of academic publishing, we could use Derrida's advice: slow down and carefully construct and deconstruct our texts, in order to develop an expanded awareness of the topics to which we wish to speak. Only then can we speak intelligently and responsibly about the potentialities of IT and organizational practice.

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