

Tracking the telepathic sublime as a phenomenon in a digital humanities archive

Isabel Pedersen <isabel_dot_pedersen_at_uoit_dot_ca>, University of Ontario Institute of Technology
Quinn DuPont <qdupont_at_uw_dot_edu>, University of Washington

Abstract

This paper discusses a digital humanities collection called “Contemporary Telepathics” housed within a larger archive, *The Fabric of Digital Life*. We argue that through a variety of multimedia representations, the rhetoric of contemporary telepathic devices invokes sublime predictive visions that become instantiated in popular media, news organizations, and disclosures of technology advancement. We discuss the theoretical grounds for a collection of technological forecasts, at a time when they are largely considered ephemera. We also discuss how tracking the *telepathic sublime* as a dynamically evolving popular communication phenomenon requires a unique, humanities-based metadata scheme and archival practice.

This paper explores a phenomenon that we term the *telepathic sublime* and it proposes a way to classify and display it through an archived digital collection. As digital participants, people are assailed with predictions of how we will *work*, *live* or *be* in the future. For instance, self-driving cars are proposed as technical feats, but the excitement lies in neo-futurist speculations that everyday lives will transform due to their use. In this vein, we are concerned with how the rhetoric surrounding contemporary telepathic devices evinces predictive visions that filter into popular media, news organizations, popular film, and public opinion through a variety of multimedia representations. We emphasize that it is characterized by descriptions that point to the sublime. We argue that tracking the *telepathic sublime* as a dynamically evolving rhetorical phenomenon requires a unique, humanities-based metadata scheme and archival practice. We use the term “tracking” to highlight the ways in which the archive follows discourse through the lifecycle of invention. In characterizing and tracking the telepathic sublime, we argue that technologic advancement ought not to be separated from the euphoria associated with it. The contribution we make in this article and the associated archive is to explore the notion of telepathic sublime: name it as a concept, digitally collect, co-locate and track it, display it aesthetically, and reveal how it influences scientific advancements and attitudes over time.

Surrogates of the telepathic sublime are collected, co-located, and archived for study within the “Contemporary Telepathics” (1999 to 2016) collection,^[1] a set of contemporary digital artifacts housed within a larger digital humanities archive called the *Fabric of Digital Life* at www.fabricofdigitallife.com (referred to as *Fabric*). *Fabric* tracks the emergence of present day personal digital technologies, inventions, and predictions (or “forecasts”) of futuristic innovations, most of which are popularized visions of the future.^[2] It focuses on platforms of human-computer interaction, mobile, wearable, and implanted technology as they undergo the processes of emergence in society.

We define *telepathy* (from “telepathics”) as direct communication of thoughts from one person’s mind to another person’s mind without using words, signals, gestures, or other traditional forms of communication. We use the Contemporary Telepathics collection to cluster related digital technologies that *appear* to work telepathically. *Digital telepathy* is defined as direct communication of thoughts from one person’s mind to a computer (or computer-like device) or another person through a digital medium rather than traditional (linguistic) media. A related concept is *digital telekinesis*, defined as movement of digital or material objects by the mind, and augmented by a computing device.

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Archiving the telepathic sublime

In 2000, researchers at Duke University affixed monkeys with experimental head caps to measure the brain's "raw electrical activity" to see if "action potential" could be sent along a wire to a nearby box [Nicoletis and Chapin 2008]. Called a "Harvey box" after its inventor Harvey Wiggins, the container amplified signals to distinguish between the monkey's myriad thoughts. More than just a mind reading device, researchers hoped to use the signals to remotely control a robotic arm six hundred miles away. The inventors recount their own amazement with the experiment: "We will always remember our sense of awe as we eavesdropped on the processes by which the primate brain generates a thought" [Nicoletis and Chapin 2008]. They hoped to create a device for telekinesis.

The article discussing the experiment in telekinesis appeared in a 2008 *Scientific American Reports* magazine under the cover headline "Your Future with Robots," which also included articles by futurists like Bill Gates, Hans Moravec and Ray Kurzweil. The discussion of the experiment within a broader thematic of the technological future fulfilled two purposes. First, it recounted a feat of technology in the creation of a brain-machine interface to serve as a historical record of the advancement. Second, it also expressed the speculative potential for the future of the technology as a forecast meant to garner excitement in its readership. This latter point, about the speculative potential and predictions of telepathic technologies, has a surprisingly long history. For example, Giambattista della Porta (1535-1615) claimed to harness subtle forms of magnetism through various contraptions to "express all the sentiments of your mind" to a "friend who is distant" [De Vries 2012, 103]. Where della Porta drew on the field of cryptography for his technological explanations, William Benjamin Carpenter (1813-1885) later argued that a "nerve-force" could extend "from a distance, so as to bring the Brain of one person into direct dynamical communication with that of another," drawing on the new technology of telegraphy [Puglionesi 2017]. Today, this kind of technological solutioneering is likely to arise in popular news broadcasts, research articles, start-up company concept videos, films, social media exchange, and military documents. Indeed, Dan Kaplan argues in a recent *Techcrunch* article called "Digital Telepathy Is The Future Of The Human Species" that "the prospect of digital telepathy will eventually stop being a prospect we can only attempt to imagine and start being a reality that some of us live" [Kaplan 2014]. Fascination with the invention of digital telepathy and similar technology continues with the same enthusiasm and grandeur as it did in the past.

The Contemporary Telepathics collection we discuss here deliberately archives this aspect of prediction, forecast, and possibility by foregrounding representations that celebrate *imagination* as means and motivator for innovation, through texts that are usually considered ephemera. By using the word *telepathics*, rather than *telepathy*, we draw on the polyvalent meanings bound up in the word. *Telepathic* means relating to the characteristic of telepathy (e.g., mind-reading technology), but it also means a person who has the ability to read minds (e.g., she is a *telepathic*). As discussed below, the *Fabric* archive is devoted to personal technology, so, appropriately, the word *telepathic* implies identity or selfhood within the larger ontological space of the archive's themes.

The metaphor behind the archive's name, Fabric of Digital Life, references a famous prediction made in 1991 by Mark Weiser, Chief Scientist at Xerox PARC: "The most profound technologies are those that disappear. They weave themselves into the *fabric of everyday life* until they are indistinguishable from it" [Weiser 1991] [emphasis added]. As a slogan, the "fabric of everyday life" offers a way to reflect on Weiser's bold claim. Weiser's dream of technological disappearance is itself indebted to previous socio-technical scholars: he cites Martin Heidegger and Hans Georg Gadamer directly. However, the design of *Fabric* is also inspired by the writings of media, rhetoric, and communications scholars Marshall McLuhan, Jean Baudrillard, Walter Benjamin, and Kenneth Burke, which underpin our analysis of the telepathic sublime. The *Fabric* archive reflects the writings of these scholars to frame and contemplate how media shape attitudes, innovations, technologies, and culture.

The *Fabric* archive sits in relation to other similar examples of experimental technology innovation archives. For example, *Engineering at Home* (<http://engineeringathome.org/>) is an archived collection of hacked, reworked, and rewired "rehabilitation engineering" technology. The manifesto at *Engineering at Home* states, "We want to recover a nuanced understanding of engineering's history of invention that includes craft, assembly, and appropriation—right alongside advances in material sciences and innovative technique." *Fabric* also seeks to reveal advancements and technological appropriations. It archives the cultural valorization of so-called high tech innovation in order to

contextualize it as a humanities phenomenon. *Fabric* authorizes this approach in order to disclose dominant industry values and the popular journalism that circulates around innovation — which also oftentimes informs and misinforms — thereby driving it forward.

The *Fabric* archive, and the Contemporary Telepathics collection in particular, have been designed in dialogue with current digital humanities work on digital futures studies, and those that reflect on what “the digital” has come to signify. Mauro Carassai and Elisabet Takehana, in introducing a *Digital Humanities Quarterly* special issue devoted to the “Futures of Digital Studies,” foreground the notion of *the digital* as a “digital condition”:

As a condition, rather than as a technological prosthesis, the digital seems to function more and more as a true reality principle.... In these essays we see, more generally, an explicit awareness that life, subjects, culture, art, and technological production might mirror their digital technologies.
[Carassai and Takehana 2011]

Or, consider Jentry Sayer’s more recent analysis, in which he points out that “that a majority of the 2012 [Digital Humanities] Debates volume is anchored in discussions about the future” [Sayers 2016]. Accepting Carassai, Takehana, and Sayer’s propositions concerning the digital and its futures, we again point to Kaplan’s speculations concerning digital telepathy. Echoing a certain strain of Digital Humanities analysis, Kaplan argues that digital telepathy will stop being the stuff of imagination and will “start being a reality that some of us live” [Kaplan 2014].

We see one function of our archived collections as a counterpart or complement to the argument that the digital condition ought to be viewed as a lived reality. For example, Brian Greenspan argues that locative media, and their implied futures, “operationalize the spatial tension between conventionally sedentary modes of literary engagement and new modalities of mobility, a tension that is constitutive of our present mediality” [Greenspan 2011]. He concludes that locative narratives will encourage “more embodied, dynamic, collective and multiply contextualized applications” [Greenspan 2011]. Similarly, critical interrogations of Digital Humanities that highlight race, sex, globalization, and other embodied or lived experiences help recognize the lived reality of the digital [Liu 2013] [Wernimont 2013]. For our purposes, the archived collections contained within *Fabric* offer a means to chart how future imaginings unfold, overlap, conceal, inform, and celebrate the digital, contributing to the cultural horizon of digital futures. *Fabric* offers collections as tools for co-locating, displaying, and indexing cultural representations in novel ways to reflect this kind of scholarship. In short, *Fabric* contributes to the tracking of such a shift and its unfolding.

In designing the archive we also considered the ways that networked technologies enable new discourses. For example, John Unsworth lists a series of “scholarly primitives,” including what he calls “networked digital” systems of scholarship [Unsworth 2000]. Unsworth argues that a discoverable, annotated, and curated archive drawn from a selection of representative artifacts (across myriad discourses) is a basis for the “tool-building enterprise in humanities computing” [Unsworth 2000]. Similarly, the *Fabric* archive demonstrates ways that technology can form new critical discourses, as a “networked model” of scholarship that expands, contests, and enables new kinds of readers, collaborators, and participants [DuPont and Cattapan 2016].

Finally, the goals for *Fabric* are influenced by Johanna Drucker’s *SpecLab*, where Drucker and her collaborators pushed the bounds of artistic, critical, and practical forms of scholarship. Drucker distinguished her goals with *SpecLab* from the digital humanities more generally in describing *SpecLab* as moving beyond “the instrumental, well-formed, and increasingly standardized business of digital humanities” [Drucker 2009, 19]. Instead, she argued that *SpecLab* used “digital metatexts” to create “aesthesis” [Drucker 2009, 19]. According to Drucker, digital metatext is not merely a commentary on a set of texts (as might be envisioned within a “traditional” digital humanities project). Instead, digital metatexts contain features and functions that enable analysis, search, selection, and display, which (alongside their metadata schemes) are capable of structuring and grouping elements [Drucker 2009, 11]. Through these discursive instruments, metatexts “bring the object of their inquiry into being” while developing a sense of aesthesis — the partial, situated, and subjective knowledges that are as “ideological... as epistemological” [Drucker 2009, xiii]. The goal of *SpecLab*, therefore, is to challenge “the authority of... systematic rationality by questioning its founding assumptions, particularly its totalizing concepts of knowledge” [Drucker 2009, xiii]. Likewise, our Contemporary Telepathics collection

lays bare a phenomenon unfolding in public discourse. We make the telepathic sublime salient by bringing the object of inquiry “into being” through the metadata scheme and the public display of the work.

The remainder of this article is organized in two parts. First, we discuss how future visions of technology are rhetorically formulated by drawing on existing theoretical statements. Second, we contextualize how the Contemporary Telepathics collection reifies rhetorical figures that instantiate the telepathic sublime through new kinds of classificatory practices and structures in the archive.

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Technological forecasting and the digital sublime

Many of the artifacts in the Contemporary Telepathics collection promise, predict, or forecast a time when it will be normal to move objects with only a mind or to make choices just by thinking of them (e.g., *Turn on the lights*, *Play some Mozart on my sound system*, *Call the police*). These forecasts usually involve hyped speculation about the future. Moreover, many of the innovations are discussed as *if* they will emerge and be adopted, even though many will not. Nonetheless, the cultural work (and ephemera) that they instigate is significant. *Fabric* deliberately preserves and tracks this kind of rhetoric.

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Many writers have looked at the rhetorical strategies associated with forecasting the future, the technological sublime, and technocultural myths. According to Daniel Bell, in *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (1976), forecasting is a critical part of the “post-industrial” society. Forecasts typically involve concrete facts and constraints about the world, but they are often framed axiomatically, and in some cases are buttressed by statistical extrapolations. For example, engineers often forecast industrial design in aluminum with predictive assessments. Statements concerning maximum compositional strength of aluminum will dictate design decisions and visions about how something will end up looking — that is, how thin and light the end result can be. The compositional strength of aluminum is therefore a constraint, which is then coordinated with axioms of design (how it *will* look), alongside existing scientific and market knowledge and sometimes mathematical modelling. Taken together, these aspects become a form of predictive and persuasive reasoning. Once the predictive and persuasive reasoning stabilizes, the forecast will often take the rhetorical form of scientific fact.

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Carolyn Miller (1994), identifies the rhetoric of forecasting in technological discourse, grounding her claims on the term “Kairos” [Miller 1994, 82]. Miller defines “the phenomenon of ‘technological forecasting’” as a unique discourse “in which the characterization and construction of moments in the present are crucial to the projection of the future” [Miller 1994, 82]. Kairos, then, is an active rhetorical process whereby forecasts leverage the inventor or rhetor’s will, as acts of opportunism. A rhetor will “look for the particular opportunity in a given moment, to find — or construct — an opening in the here and now, in order to achieve something there and then” [Miller 1994, 83].

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Consider, also, the rhetoric of forecasting taken up by Isabel Pedersen (2013), who argues in the context of the recent emergence of personal digital devices that the desire for human digital enhancement is driven by hype and predictive discourses, which frame future inventions as assumed inevitabilities. Pedersen uses Kenneth Burke’s “Terms for Order” [Burke 1950, 189] as a model to explain how predictive discourses require rhetorics of inevitability. She makes the point that such predictive discourses are grounded on a rhetorical construction of imminence—an “ultimate order”—which makes them appear logical, necessary, and unretractable [Pedersen 2013, 27]. Pedersen describes the “imminence” of the rhetoric of technological forecasting as such:

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[They] exhibit a progression across the rhetorical triad in the language that informs them. They signal fantastical thoughts and ambitions, which generate rhetorical “What if?” momentum. However, to counter utopian visions, all of these technologies undergo emergence through scientists who both leverage fantasy and dismiss it while justifying the technology, often under the guise of dehumanizing language. Most powerfully, though, the technology often mysteriously appears as inevitable, as utterly imminent. [Pedersen 2013, 25]

In this formulation, utopic claims about inventions are utilized by scientists, and then grounded by the assumption of imminence for their emergence.

Shock and amazement are other instrumental rhetorical strategies that help constitute the allure of new technologies, together resulting in the feeling of sublime. Throughout history, discussions surrounding telepathic devices have usually been met with feelings of enthusiastic amazement combined with shock. In fact, this response is typical of the initial emergence of most modern technologies, which is why these technologies have been described as sublime. Emily Rohrbach describes the sublime as a propensity to imagine the present in its relation to futurity [Rohrbach 2016]. Historically, and most famously articulated by Edmund Burke and Immanuel Kant, the sublime is an aesthetic experience related to but ultimately distinct from feelings of beauty. Unlike beauty, the sublime so fully fills the mind (usually with terror or awe), that other feelings and reasoning are excluded. The classic case of sublime is found in the work of the Victorian painter Joseph Turner, whose dramatic shipwrecks were the typical subjects of sublimity, evoking transcendent terror.^[3] However, as James Carey and John Quirk, Leo Marx, David Nye, and Vincent Mosco have identified, it is modern technologies and not natural landscapes like Turner's that are typically associated with feelings of the sublime today [Carey and Quirk 1970] [Marx 2000] [Nye 1996] [Mosco 2004] [Mosco 2014].

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Mosco traces the lineage of technological, electric, and scientific sublimities to describe a new *digital* sublime, which is the tendency for digital technologies “to take up a transcendent role in the world beyond the banality of its role in everyday life” [Mosco 2014, 5]. According to Mosco, the sublime so fully fills the mind with its object that it can entertain no other [Mosco 2004, 23]. The digital sublime functions through myth, in the sense that digital technologies (“cyberspace” first among them) are oriented towards this common belief, which therefore guides social determinations and justifications. In other words, the sublime informs how manifold inventions are perceived and taken up in society, and therefore, how such inventions work to subsequently shape attitudes toward future inventions. The digital sublime informs future digital conditions.

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An extreme version of Mosco's digital sublime is described by Anne C. McCarthy (2017), which she calls the “Red Bull sublime.” Referencing the popular energy drink and media company, the Red Bull sublime fully rejects the ideology of nature as other, or as a distinct site of sublime experience. The Red Bull sublime is in essence a digital sublime, as it takes advantage of social media sharing and digital distribution to *pull* viewers into sublime experiences. These sublime experiences are usually already-mediated feats of daredevil action, both natural and technical, made possible by wing suits, so as to fly down mountain canyons, and high-tech balloons to jump from space [McCarthy 2017].

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The role of myth in the digital sublime is especially important for turning the common practices of speculation and forecasting into “facts.” Barthes, for example, argues that the “depoliticized speech” of myth produces an important naturalizing effect, writing, “myth has the task of giving an historical intention a natural justification, and making contingency appear eternal” [Barthes 1972, 142]. Just as Bell believed forecasting was an important agent in the post-industrial society, Barthes believed that the mythic process of making contingency appear eternal was a reflection of bourgeois (or capitalist) ideology. This process is seen most clearly when inventions are developed, commercialized, and adopted, then subsequently, change in response to the latent circulation of commercial myths. Once myth becomes ossified and stable these commitments become history, or “facts.” Myth progresses not through true or false claims, but instead, as a transformation from productive and predictive desires, on the one hand, and ossified and stable commitments, on the other. Finally, productive and predictive myths project a view of the world, which entails the collective beliefs of its community.

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As our examples of telepathic technology will make clear (below), predictions of the future often start as mythic, which over time stabilize into fact. Facts, just because they are stabilized, do not lack efficacy, rather, they are myths turned invisible, and usually become powerful through this reconfiguration. Electricity offers an example of this dynamic of myth, and the subsequent increase in causal power. Mosco writes, “electricity achieved its real power when it left mythology and entered banality” [Mosco 2004, 19–20]. Of course, facts can be overturned and changed, but this takes considerable effort. The infrastructures and institutions built up around facts are slow to change or fade, and true innovation, as Latour [Latour 1999] often describes, requires putting your reputation on the line, and fighting against the structuring forces already in place. In the end, when a myth has accreted sufficient “rationality” it becomes fact, just as forecasting transforms into science and the scientific sublime.

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The following section describes the design and development choices of *Fabric*, and how it attempts to capture and trace

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the movement of the telepathic sublime through forecasting and sublimity in the Contemporary Telepathics collection.

Fabric of Digital Life Artifacts and Archival Representations

Fabric is an open-access digital humanities archive that collects and classifies the rhetoric surrounding the emergence of platforms of human-computer interaction, or personal technologies, through digital multimedia objects, publically available at fabricofdigitallife.com (see Figure 1) [Pedersen and Baarbé 2013]. The concept of personal technology is here understood as broadly as possible, which includes technologies that are worn on the body, but also those that are ingested, implanted or embedded. Wearable technologies usually augment embodied actions, but they also sometimes replace body parts, such as limbs or eyes, pointing to the terms “embedded” and bionic, which sit on the fringe of this collection, with some entries characterizing it. At the time of writing, *Fabric* contains over two thousand digital artifacts about personal technology (and is constantly growing), ranging from images, film clips, academic research articles, video marketing materials, and collected ephemera. The archive is implemented on the CollectiveAccess platform, an open-source content management and description system developed commercially by Whirl-i-Gig.^[4]

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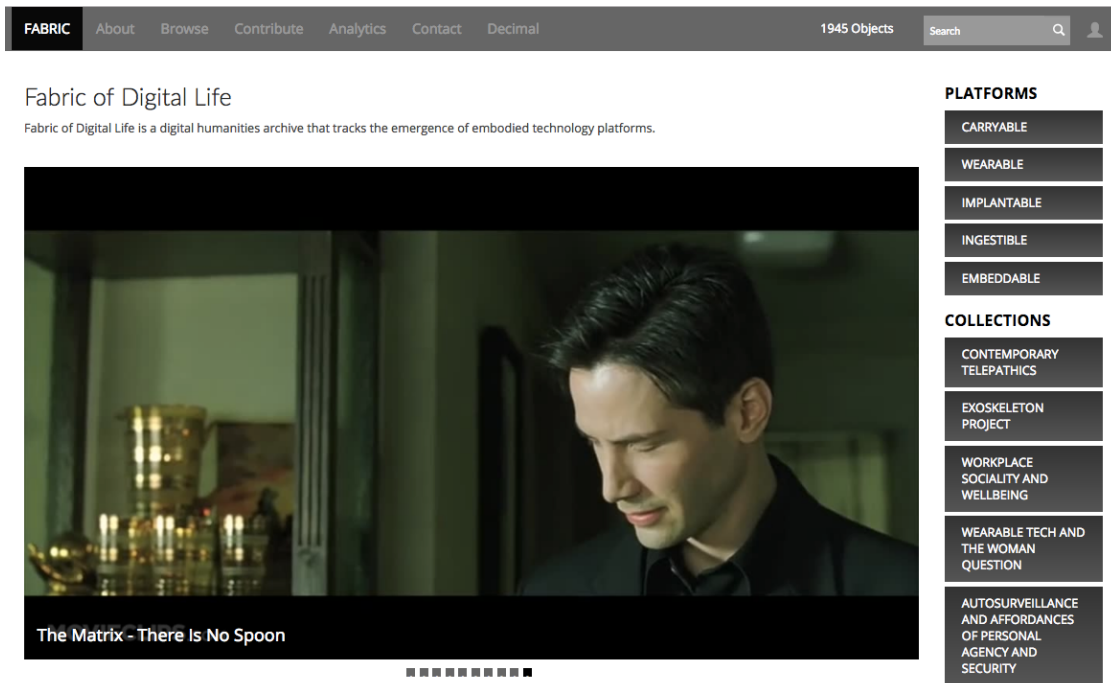


Figure 1. *Fabric of Digital Life* home screen

As each artifact is entered into the archive, it is classified and described using a customized schema. Most of the categories draw on the original Dublin Core set of metadata elements. However, early on in the development of the archive, the decision was made to customize a few of the standard Dublin Core elements, to better reflect the specialized nature of the technologies being archived, and to implicitly make an argument about the ways that such objects, and the archival practices that surround them, are to be understood. In addition to metadata attached to each artifact, the archive also features a number of collections of artifacts, organized by curators with the goal to highlight certain technologies, to explore research themes, or to disclose ideologies embedded in the texts (e.g., transhumanism or surveillance culture). Visitors access *Fabric* through a web frontend that enables searching, browsing, and ways to variously compare artifacts. Other more specialized research tools include user-specified virtual “briefcases” for saving collections, object viewers, and the ability to automatically create timelines of objects.

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Artifacts

As discussed above, for the purposes of this article we are concerned with the telepathic sublime in the Contemporary Telepathics collection, a phenomenon about the response of awe, terror, or amazement over technological inventions

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that augment or replace the power, distance, or effect of existing human capacities. These sentiments tap into an individual's or culture's experience of the future — that is, using telepathic devices often feels *futuristic*.

Perhaps most pragmatically, the archive also collects and tracks digital materials related to an invention through its various stages of development and public promotion or public response. As such, the archive follows discourses over time by tracking cross-references and keyword designations. One design intent for the archive is to reflect how an artefact is positioned according to a function or human motivation. Discourses about telepathic devices (and more broadly, “wearables”), concentrate on how these devices will be used *for* something — they have a “for-ness” — rather than just being *about* something (“aboutness”). *Fabric* distinguishes itself from technology indexes such as the ACM Computing Classification System in this regard, which implicitly focus on “aboutness.”^[5] Instead, it sets out to problematize this orientation, strategically tracking how wearables can be understood in terms of their social *use*. As a result, the effect can sometimes blur optimal pathways for searching, browsing, and information retrieval.

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Fabric has multiple entry points that facilitate browsing through categories, images, timelines, and index terms, as well as full-text and keyword search. One of the ways users view the archive is by entering through a specific *Collection*; each collection is a curated set of documents that have been specifically selected by curators. Each focus on a particular topic, theme, or argument. At the time of writing, the Contemporary Telepathics collection holds 62 artifacts across 14 different media types ranging from 1999 to 2017.

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There are also other collections, which reveal different rhetorical motivations and arguments. In one such collection, the goal is to reveal how commercial exoskeletons are developed by military industrial complex producers in close partnership with global Hollywood film franchises (e.g., Iron Man).^[6] In this collection, video game play has also been archived to reveal how fictional exoskeletons influence real world innovation, and vice versa. Another collection concentrates on the evolving story of inventor/filmmaker Rob Spence and his journey to create a digital prosthetic eye for himself.^[7] His persona, sometimes the subject of a CNN clip, other times a portrayal of himself trying to improve his life after a childhood gun accident, is especially compelling when collected under a single banner. Ultimately, each collection performs a specific task and offers a curatorial argument, set out by the curator (or a number of curators) responsible for its construction.

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Collections are dynamic and grow over time with new artifacts added as the arguments evolve, as classification adapts, and as contributors and curators come and go on the project. This design prefigures what Miguel Escobar Varela describes as the transience of archives: “[t]raditional archivists could assert that digital archives are not really built to endure the passage of time and constitute a repository for future historical research” [Varela 2016]. Addressing this challenge, Takhteyev and DuPont point to the spirit of “remix” in suggesting that collection and preservation are “living, ongoing practice[s]” [Takhteyev and DuPont 2013, 362]. We embrace this state of flux and try to overcome the challenges wrought by the passage of time by inviting new people to the archiving team, who then create new archival practices and advocate for new ideas. Varela argues that digital archives should be considered performance in part because “[o]ften the archives are not impersonal, but highly modified by the interests of the participants” [Varela 2016]. As such, since its inception in 2012, the archive includes contributions by more than thirty people, even before it was opened for public display.

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Viewed as a timeline (see Figure 2), comparisons between different media and sometimes heteroclitic artifacts are possible. The earliest artifact in the collection is a scene from the film *The Matrix* (1999), depicting the character Neo learning about telekinesis.^[8] This film clip was included when one of the authors discovered a blog article that directly referred to the film when describing a technological innovation. This serendipitous discovery offers a powerful rhetorical explanation about how a technology might eventually evolve — a forecast. Therefore, multimedia representations such as films form an important part of the discourse and analytical terrain.

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Taken together, the artifacts displayed in the collection enable a visitor to track the telepathic sublime, which is a keyword. One recent item in the collection is a 2016 article that discusses the same university group who used monkeys wearing brain interfaces back in 2000 [Olewitz 2016]. It reports on implanting a monkey with a chip to move wheelchairs through the powers of telekinesis. In the 2016 article, the final sentence concludes, “[w]e hope to begin trying this on

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humans soon” — pointing to a vision of the future, and exhibiting the mythic “hope” of telepathic sublime, which is never questioned, but simply assumed [Olewitz 2016]. In tracking the telepathic sublime through the metadata schema and collected artifacts, the classificatory approach focuses attention on particular technologies’ “for-ness,” rather than as static and inert technologies. Indeed, since it is often the case that the machinery of telepathic devices becomes obsolete so quickly, tracking motive or intent becomes a foundational critical practice.

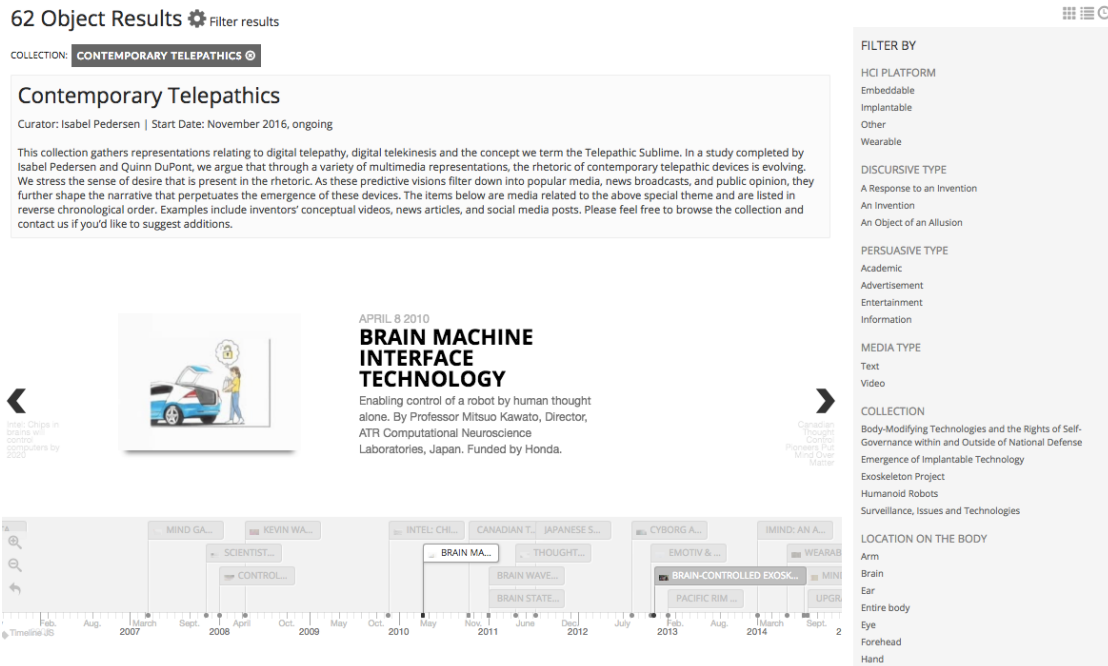


Figure 2. Timeline view of Contemporary Telepathics Collection, September 2016.

Moving from monkey to “human,” the “Mind Control Your TV” artifact (Figure 3) illustrates the unique archival practices necessary to document the technology as well as the complex rhetorical motivators bound up in this collection, and how they evolve over time.^[9] The item, a video clip, promotes the idea of using a wireless wearable technology to select television shows to watch, simply through the power of thought [Alred et al. 2015]. In the video, human participants (or maybe actors) wear a headset that reads brainwave fluctuations, which, with suitable control and training of the mind, allows one to telepathically change TV channels. The video is a 4-minute segment from a BBC blog, which discusses how the BBC collaborated with the company “This Place” to create the technology prototype for TV viewers [Alred et al. 2015]. As such, the video combines executives and developers passionately celebrating their innovative mind-control technology and BBC insiders reacting with shock and awe over how television will evolve in the future. To open the clip, Head of Business Development, BBC Digital, Cyrus Saihan says:

What we have developed here is a very experimental proof-of-concept that hopefully gives an idea as to how audiences of the future might be able to control devices, such as TVs, just using their brainwaves. So, seeing colleagues using it first-hand has been an interesting experience. [Alred et al. 2015]

The video reports on future promises as much as it does on current developments. While This Place wants to sell its technological abilities (e.g., writing software code, re-engineering of consumer devices, etc.), the BBC wants to appear future-focused and on the cusp of emergent ideas. On the whole, the technology itself is clunky, with awkward brain-computer interaction (BCI) headsets and slow interactions as the television receives the signal. However, the point of the video is not to market a product, rather, the point is to position the BBC as forecasting a future for its consumers. The video is compelling to watch because the participants are awestruck when describing their desire to achieve telekinetics. The visual rhetorical markers from participants, such as excited expressions, gleeful remarks, and the sense that one has witnessed magic, aligns well with the heritage of telepathic invention disclosures. One person in the

video says: “[t]his is telekinesis... I am literally controlling it with my mind,” as if he witnessed phenomena deemed extraordinary [Alred et al. 2015].

Like most web content, the BBC broadcasted this video on multiple media outlets (which the archive tracks), and included a complementary blog story that was written to further explain the original video [Saihan 2015].^[10] Saihan writes:

A subject popular in works of fiction is the ability to control things just by using your mind. The idea of being able to simply think about something and then magically make it happen has fascinated people for many years. Whether it’s using ‘the Force’ in *Star Wars*, spoon bending on stage or *The Matrix*, controlling objects simply with your brain has a unique appeal and could open up a whole world of possibilities. So when we learnt that new technologies were now available in the market that allowed you to control electronic devices by measuring the brain’s electrical activity, we wanted to experiment with the technology to see what types of audience experiences this might result in. [Saihan 2015]

This sublime language glorifies and romanticizes telekinesis, but it also argues for the utility of telekinesis, a fantasy-turned-utility rhetoric. Rhetorical allusions to *Star Wars* and *The Matrix* ground the fantasy within a familiar context (blockbuster film franchises), but they also make the argument open-ended and seemingly otherworldly — “a whole world of possibilities,” writes Saihan. Strikingly, this combination makes telekinesis sound reasonable. Audiences are swayed not only with the shock and awe of seeing this invention work, they are also swayed by the familiarity of film culture contextualizing it. *Fabric of Digital Life* archives these kinds of allusions as cross-references to films through specially-designed metadata that makes such connections and allusions clear.

The screenshot shows the Fabric of Digital Life archive interface. On the left is a video player with a black background and white text: "CAN YOU CONTROL YOUR TV WITH YOUR MIND?". Below the video are social media share icons and a "SHARE" button. On the right is a metadata sidebar for the item "Mind Control Your TV". The sidebar lists various metadata fields: PUBLICATION TITLE (BBC), PUBLICATION DATE (June 18 2015), CREATORS/CONTRIBUTORS (Ben Aldred, Toby Mildon, Russell Plunkett, Cyrus Saihan, This Place), MEDIA TYPE (News Broadcast), PERSUASIVE INTENT (Advertisement), DESCRIPTION (The BBC, in collaboration with tech company This Place, has developed a way people can select programmes using a cheap, brainwave-reading headset...), HCI PLATFORM (Wearables), DISCURSIVE TYPE (Inventions), LOCATION ON BODY (Brain), AUGMENTS (Thinking, Controlling, Watching, Hearing, Choosing, Wanting), TECHNOLOGY KEYWORDS (Television, Electrical Activity, Electroencephalography (EEG), NeuroSky MindWave Mobile Headset, Telekinesis, Brain-Computer Interface (BCI)), KEYWORDS (Pre-Release, Brain Wave Activity, Meditation, Disabilities, Futurism, Forecast, Telepathic Sublime), MARKETING KEYWORDS (BBC, This Place, iPlayer, Neurosky, Mind Control TV Experiment), and RELATED OBJECTS.

Figure 3. Mind Control Your TV, archived in Fabric of Digital Life, “Location on the body” and “Augmenting” categories

Archival Representations

The *Fabric* archive uses its metadata scheme tactically. Highlighting our interest in rhetorical framings, one goal of the archive is to make salient each artifact’s persuasive intent. For example: what is the artifact *for*? What is it doing in terms of changing attitudes? Is there an audience shaped by the genre? Or, returning to a point made earlier, how might the artifact inform the digital as a cultural condition [Carassai and Takehana 2011]?

Similarly, Melanie Feinberg has argued that classification as communication frees system designers from charges of bias [Feinberg 2008]. In *Fabric*, each artifact is designated a classification with one persuasive intent: *academic*, *advertisement*, *art*, *entertainment*, or *information*. Therefore, by its very nature, *Fabric* is designed to *preserve* bias, feature it, and display its connection to scientific advancement.

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Another goal of the archive is to track how a technology and its persuasive intent emerges over time. News of a single piece of technology may go through several stages, each with an intentional and rhetorical shift according to the genre and content producer. For example, a brain interface may transform from its representation in an academic conference paper (*academic*), to a news broadcast celebrating an innovative R&D discovery (*information*), to a commercial product (*advertisement*), and finally, to a novel that interrogates its dystopic implications (*art*). According to Diana Taylor, this process of tracking across media and temporal stages is “what makes an object archival” in the sense that “it is selected, classified, and presented for analysis” [Taylor 2003, 19]. In this hypothetical example, these shifts in media would be captured in *Fabric* by each artifact’s metadata: shifting classification from *academic*, *information*, *advertisement*, to *art*.

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Similarly, *Fabric* tracks how technology is carried near, on, or in a body, which is recorded in the metadata schema. The metadata category “location on the body” lets a user select a body part in order to find associated technologies, ideas, or products. For example, one can select *wrist* to reveal all wrist-worn wearables, and then compare how artifacts and their representations change over time. In the Contemporary Telepathics collection, nearly all items are associated with *brain*, but several are also indexed with another body part. For example, inventor Kevin Warwick achieves telekinesis with an arm implant, and so the artifacts describing his work also include *arm* in their metadata. To help facilitate high-level comparisons, *Fabric* also includes a body analytics visualization.^[11] In this way, *Fabric* enables multi-dimensional and multi-temporal exploration.

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One of the more experimental metadata categories of the archive is the “augmenting” field. It is meant to serve as an experiential classification. All artifacts are archived according to an action associated with human activities, which may be physical (e.g., moving, placing, killing), cognitive (e.g., thinking, choosing) or existential (e.g., living, adoring, reminiscing).^[12] Manifesting the archive’s experimental and unorthodox approach, the grammatical structure is always a gerund, as gerunds better suggest activity and “for-ness” (see Table 1).

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In requiring archivists to capture the ways that wearables augment a body, the archivist must imagine what the technology is augmenting for a seemingly, essentialized, pre-technologic human. This formulation deliberately requires the archivist to cast a narrative about the implied subject of an artifact, that is: if technology were *not* available, how would the implied action be performed? Or, what would it be replaced with, if at all? For example, surveillance technologies augment *watching*, eldercare devices augment *caring* (or perhaps *ignoring*), and military exoskeletons might augment *killing* or *protecting*. Interestingly, new archivists often misidentify this category by choosing technologic activities (e.g., “heart-monitoring” instead of “living” or “healing”). Resolving this mistake requires a tacit exploration of posthuman identity through the acts prescribed by these technologies. The archivist must therefore ask, “can we imagine activities without machines?” The archival goal is to explore how personal technologies augment constructions of human identity and human action, and to understand how they adapt to a technological world.

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acting, being, choosing, communicating, concentrating, connecting, controlling, desiring, evolving, existing, experiencing, feeling, fighting, finding, flying, focusing, gaming, gazing, healing, hearing, imagining, interacting, knowing, living, looking, manipulating, moving, playing, recognizing, reconnecting, remembering, scanning, searching, sending, seeing, sensing, sharing, socializing, storing, thinking, touching, treating, understanding, viewing, walking, wanting, watching, working

Table 1. Augmenting keywords from Contemporary Telepathics collection

Conclusion

Most new technology is popularized as a commercial product through mass media that dictate the ebb and flow of

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business trends. As such, devices, costs, and market-share dominate the moment — the implied present. By erasing history, this inclination also valorizes the future — a mythic facade that justifies technology through forecasting (because the future demands it). While the machinery that fulfills this forecast may become woefully obsolete in the future, the idea and the desire might not. The rhetorical framing continues and evolves, and therefore is tracked by the *Fabric* archive.

Fabric is a growing digital humanities archive that exposes the rhetoric of personal technologies (through acts of emergence, forecasting, and myth-making), which invites visitors to explore artifacts across multiple media at different times and locations. *Fabric* has been designed on humanistic principles [Drucker 2012] [Unsworth 2000] to provide unusual and interesting foils to the ways technology is often displayed, explored, and preserved. Fictional artifacts appear alongside seemingly real ones, inviting comparison without privileging either representation as more valid than the other. The metadata categories focusing on embodied dimensions (“location on the body” and “augmenting”) deliberately attempt to problematize typical formulations that privilege commercial information over an experiential one.

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We described the Contemporary Telepathics collection and argued for its analytical and exploratory utility. We did so because telepathic capabilities are not yet fully realized as commercial products — in fact, they are partly fictional and constituted by what we term the telepathic sublime. We argued for the necessity of a metadata schema oriented towards tracking this kind of complex phenomenon, which enables us to better preserve and experience the sublime feelings associated with the technology. Our classification schema is deliberately persuasive in that it maintains the archival bias felt and realized as the sublime, rather than seeking objectivity. In this way, *Fabric* displays its artifacts in a manner intended to be exploratory and investigative.

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Notes

[1] The collection is available at the following URL:

http://fabricofdigitallife.com/index.php/Browse/objects/facet/collection_facet/id/7/view/images/key/e7ea7a9363bf62768d1a37a4a0c78efa.

[2] Where available, references to rhetorical depictions of telepathic devices will include URLs to the *Fabric of Digital Life* archive, rather than the original artifact.

[3] The word “sublime” has a long history of theorization and scholarly attention in the humanities, and specifically across the visual arts. We use the term to characterize the sense of intense inspiration framed in representations that promote these technologies, which claim to alter human cognition and thinking as a subjective practice. The emphasis lies in how sublime constructions facilitate this shift in digital conditions, discussed earlier.

[4] The process to choose a suitable content management system for the archive involved input from software developers, students, librarians and online discussion. We also considered Omeka (<https://omeka.org/>) and DSpace (<http://www.dspace.org/>). Currently, we hire developers at Whirl-i-gig to customize the CollectiveAccess platform for Fabric, while students archive materials.

[5] See <https://www.acm.org/publications/class-2012>.

[6] See:

http://fabricofdigitallife.com/index.php/Browse/objects/key/ecc7411b22d8481e480b6140ebe83778/facet/collection_facet/id/4/view/images.

[7] See:

http://fabricofdigitallife.com/index.php/Browse/objects/key/ecc7411b22d8481e480b6140ebe83778/facet/collection_facet/id/9/view/images.

[8] See: <http://fabricofdigitallife.com/index.php/Browse/objects/view/timeline/key/769590c77f06a1af0831e5877373fd>.

[9] See: <http://www.fabricofdigitallife.com/index.php/Detail/objects/1089>.

[10] See also: <http://www.fabricofdigitallife.com/index.php/Detail/objects/1768>.

[11] See <http://fabricofdigitallife.com/index.php/Analytics/Index>.

[12] We acknowledge that most actions defy this triadic reduction. Killing might be physical, cognitive, or existential. However, considering this complexity helps the archival practice. If we consider inventions as an aspect of lived experience, this field helps us identify technical innovation in a manner that reveals its purpose in terms of society or persons.

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