Concealing screens: Consent, control and the desiring user / Kirsty Best

Abstract: This article traces the contemporary cultural history of consent to information control. It argues that in order to begin to understand why people consent to the loss of control over their digital devices we need to see users as desiring subjects positioned at a cultural moment where the digital information screen has been enlisted as a central driver of both utility and pleasure, but where its architectural ability for additional functional control remains obscured.

Digital devices and concealing screens

<1> In the post-9/11 world, we are regularly called upon to provide personal information in order to complete even the simplest of activities, our identity a pass-card in contemporary society. Most of us will already be aware of the extent to which digitization aids in recording, organizing, storing, retrieving, collating and merging information about individuals, social groups and populations. This information is often matched and patterned in ways to materialize evanescent and invisible correlations between either of the two constant topics of interest -- spending rituals or suspicious activity -- and anything else, including not only the good old stand-bys of race, gender, zip code and age, but also much more idiosyncratic information, such as car colour preference, baby name selection or length of time between moves. Many commentators have noted the problems this facility raises as surveillance capacities balloon and social groups are summoned, Hoodini-style, out of patterns of 0s and 1s and marginalized in one, digital swoop.

<2> Less well known is the way in which digital technologies are also often inscribed with layers of code which constrain use, but which are unreadable to the average user. For example, so-called spyware, surreptitiously downloaded to a user's computer during a visit to a website, modifies functionality of that user's computer environment while also enabling devices which tabulate information about his or her computer use. More broad-sweeping programs have been dubbed Digital Rights Management: systems which intend to tackle cultural trends of file swapping, sharing and copying head-on by coding fences, cages and barriers of prevention into the code. These strategies are attempting to bypass ongoing cultural struggles to define the public use of information -- or e-commons -- mounted by political groups and online subcultures concerned about digital use, including the open software movement, political hacking groups like the Cult of the Dead Cow, and civil liberties groups like the Electronic
Privacy Information Center (EPIC) and the Global Internet Liberty Campaign (GILC), to name just a few. Coding shuts down dialogue and bypasses democratic consent.

<3> At the same time, people appear to be consenting, if not in the public sphere, then in their everyday practices as they develop more familiar relationships with digital technologies. This has occurred as technologies have adopted more accessible forms of interface design. In particular, the screen has become a technology which has facilitated widespread integration of digital information technologies into cultural routines. For instance, as computers developed graphical user interfaces and the World Wide Web became visual, familiarity with this technology grew exponentially. Now computers and the Internet are firmly positioned as domestic, useful and friendly technologies in advertising and media discourses.

<4> But we're not just talking about desktop computers here. Screens are omnipresent elsewhere in everyday life. Personal digital assistants, laptops, and cell phones are becoming regular components of our body armor, while encounters with ATMs, automatic grocers and digital signatures are part of our daily wanderings through urban space. It is the smooth, lit surface of the screen which allows for a comfortable fit between users and their technological counterparts, and screens which play a part in wallpapering urban culture and bodily fashion with computer components.

<5> The comfortable and user-friendly interface offered by the screen makes the world of digital operations accessible and visible to users, allowing far greater interaction than was every possible with cursor-based systems like DOS. But paradoxically, users are increasingly less aware of how these digital systems operate, and particularly, how digital code works to constrain, shape and tabulate their interactions. The screen contributes both to the visible tactility of computers, but also to their obscurity. As screen-interfaced digital technologies become embedded in everyday life, their capacity for information control is likewise embedded. Greater usability appears to come at the expense of control over technology: control over understanding and manipulating technology and control over one's own information. Although some voices are rising in opposition to this loss of individual control, many technology users appear to accept greater usability as a trade-off for decreased control.

<6> This paper will not present empirical evidence, but will instead develop a theoretical framework which I will use to analyze an ongoing empirical study involving a program of in-depth interviews and policy analysis. I argue here that in order to begin to understand why people consent to the loss of control over their digital devices we need to see users as desiring subjects positioned at a cultural moment where the digital information screen has been enlisted as a central driver of both utility and pleasure, but where its architectural ability for additional functional control remains obscured.

From disciplinary to architectural control

<7> There is a growing body of work responding to issues around surveillance and privacy in relation to information technologies. Earlier work includes the comprehensive overviews of those such as Lyon (1994), Rochlin (1997) and Garfinkel (2000); more recent studies address the pressing nature of these issues since 9/11 (e.g., Staples 2002, Lyon 2003a, Parenti 2003). Although all aspects of this work are significant in addressing democratic questions, Lyon's
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(2003b) recently edited book is particularly important in this regard, exploring how surveillance is geared toward social sorting and hence more than merely an issue for individual privacy. There is also a well-established literature in sociology and philosophy which addresses general social conditions of information control in relation to modernity. Work which considers the history and development of information control technologies includes that of Weber (1947), Beniger (1986), Giddens (1990), Webster and Robins (1989), Miller and Rose (1990), and Foucault (1979, 1981). Deleuze (1990) has pushed Foucault's theory of a disciplinary society to the next level with his ideas about a society of control, which have been taken up by others (e.g., Galloway 2004, Hardt and Negri 2000, Lyon 2001, Urry 2002).

Although theoretical and empirical work has well addressed the possibilities for surveillance afforded by digital technologies, information control issues are much broader than those of surveillance. Information control takes several forms. It implies not only information tabulation but also the constriction of possible uses of a technology, or the shaping of use within particular parameters.

Digital devices are increasingly coated in technological coding which shapes, constrains and otherwise controls possible use of technologies. Crippleware is one example: digital hardware sold with reduced functionality in order to short-circuit attempts at piracy. Other less well-known cases include the infiltration and modification of settings on American Online users' private computers, new forms of spam which display ads with a graphic file in order to circumvent verbal filtering systems, and internal coding of Adobe's Photoshop which prevents users from copying banknotes. All of these forms of information control operate through visually interfaced technologies, but obscure their own traces at the level of code. Research on information control has tended to overlook the broader context of these tactics, although two notable exceptions are Lawrence Lessig (1999) and Alexander Galloway (2004), whom I will discuss below.

Information control at our fingertips

At the core of the interface between a culture of user-friendliness and a culture of consent to digital information manipulation is the issue of control. Greater control is the goal of strategies to make digital code more compliant to surveillance and to impose restrictions on use. We need to describe the cultural and material environment of communication technologies in order to understand the ways in which these technologies implicate control, but also how and why information control has become such a subject of concern. Control is also at issue for user consent, and in more ways than one. We need to understand not only if and how users experience any loss of control in terms of limited functionality, but also if and how users experience greater control over digital technologies as they interface with increasingly user-friendly systems.

That control is key to this puzzle is unsurprising, given that control appears to be central to technology itself, and is a long-standing concern in the philosophy of technology. J. McGregor Wise (1997) makes the compelling case that many theories of technology fall into one of two camps. Those which stress the power of technology to control us, characteristic of Jacques Ellul and Marshall McLuhan and others, emphasize if not technological determinism, then technological constructivism. Those which stress our power to control technology, characteristic of Donald MacKenzie and Wiebe Bijker emphasize if not social determinism then social...
constructivism, or the social construction of technology. The battle rages on, apparently indefinitely, but Wise points to a third approach which skirts the issue altogether by reframing the question of control. This is the approach characteristic of Bruno Latour (1988, 1990), Michel Callon (1986), John Law (1992) and many others associated with the once-named actor-network theory (I will use the acronym ANT here to cover work related to these theorists, both during and after the heyday of so-called actor-network theory). ANT complicates control by suggesting that the real issue is not control over (i.e. human control over technology or technological control over humanity) but control and. The actors which play a part in control are many, varied and dispersed; include both human and technological actors; and need to be marshaled, channeled, and otherwise organized into vectors of control. As actors are mobilized in different ways, control is translated from one form to another -- say from a human police officer to a robot police officer to a sign to a speed bump (Latour 1988).

This vision of control bears a number of similarities to that offered by Lawrence Lessig (1999) in his well-quoted work *Code and other laws of cyberspace*, in which he asks the question "what things regulate?" He comes up with four such things: law, norms, the market and architecture. The simplicity of Lessig's schemata is powerful, although somewhat limited. But the real impact of his theory comes from two elements, which in their own way reproduce many of the insights of ANT. First of all, when Lessig speaks of architecture, he refers to anything which tends to use material structure to regulate: walls, speed bumps, and importantly for our contemporary world, digital code. Secondly, Lessig's contention is that each kind of regulator can be translated into another kind -- and a strong trend he identifies is that control is increasingly being exercised through programming software rather than in the courts.

Thus both ANT and Lessig suggest a way for us to consider control as a series of translations between different modes of regulating. Here I would point out that although Lessig's "architecture" regulator would seem to be another word for technology or technological actor, and indeed this may be what he intends, this reading has the problem of reproducing the dichotomy between human and technology that ANT has been so good at overcoming. Instead, it is important to consider each regulator as a combination of technological, semiotic and human elements. For instance, laws, which can broadly be interpreted to mean the type of discursive production of rules, practices and institutional structures associated with government, courts, police and even bureaucracies, rely not merely on systematically agreed-on protocol. As Foucault has been so good at showing us, these forms of discipline also rely on material technologies to reproduce themselves, organize, and be effective. Similarly, any form of architecture, be it a speed bump, prison or computer program, integrates semiotic vocabularies as well as material parts. Obviously I am extending Lessig substantially here, for there are limitations in the simplicity of his schema; however, his perspective is important for highlighting changes to democratic policy, as regulation migrates to digital code. Lessig's four regulators can be taken to be particularly successful modes of organizing, accumulated over long periods of time -- the institutionalization of rules that we call law, the cultural patterns that get sedimented into norms, the transactions of value and economic resources known as the market, the capacity to shape and mould material substance we call architecture -- that is, into long-standing machines of control.
The "machine" is Deleuze and Guattari's (e.g., 1987) method of understanding these patterns of control. Their contribution is important not only for supplying a complementary language to much of ANT and an alternative form of post-structural analysis of organizing, but also for theorizing two crucial missing elements in the actor-network approach. The first is the issue of affect: the desiring, emotional, cultural, meaningful components to the emergence of patterns of control. These are framed by Deleuze and Guattari's conception of the territorializing machine. The second is the question of how the resources which fuel these vectors of control -- material, symbolic and affective -- are distributed, which they describe as the distributing machine.

These theoretical contributions to technology and control allow us to move beyond the question of whether society or technology takes precedence, and concentrate instead on the way in which control is managed, organized, and brought into being, as well as the types of power these patterns both imply and evoke. Further, they suggest that control does not exist pre-discursively. There is no set of issues and things we need to be concerned about controlling which we progressively tend to. Nor is there a series of resources that will allow us to control these things, waiting to be taken up and used. The desire to control has to be created, and the resources made meaningful and convincing.

Digital screen technologies, those PDAs, laptops, cell phones and ATMs that we encounter daily in our cultural environs, had to be made meaningful as potential objects of control -- before they could be used as corporate and state forms of information control, as well as user-friendly means to empowerment. Callon and Latour have described a similar process when it comes to the formation of scientific knowledge. There needs to be a problematization, as the object of concern is made meaningful, interessement where people are made to be concerned, and enrolment and mobilization of various human and technological actors, particularly through the formation and distribution of inscriptions, linguistic and visual displays of codified information. Other theoretical approaches have suggested similar insights, but emphasize the cultural aspects of the struggle, where discourse and practice intertwine at various levels, rather than the intentional approach suggested by ANT. The most influential of these has been Michel Foucault's (1979, 1981a, 1981b) discussion of the formation of discourse, where language, practices and material resources combine to define subjects (e.g., the insane, prisoners), and human relations (e.g., sexuality). Cultural theorists have developed similar insights, arguing that ongoing struggles to signify (Stuart Hall, e.g., 1981) and language wars (Jeff Lewis, e.g., 2000) mark the terrain of contemporary culture, as cultural competition takes place to define reality.

Enlisting information

The cultural trend for digitally-aided information control from technologies sporting user-friendly screens which are imagined to satisfy the needs of corporations, state actors and consumers alike, is the result of one such ongoing struggle. It is brought about through the construction of desire and lack, and the definition of technological and human identities. Perhaps the most obvious identity which is constructed and enlisted in this language war is information itself, defined as an object for control, and one which can be controlled. It may appear to us, so firmly ensconced in our (post)modern world that more information quite obviously leads to control. (Although as
academics perhaps we are loath to admit that anything is obvious). Information manipulation is what makes modern discipline modern. It is also what makes it postmodern. But information first needs to be constructed as a good, and hence become an object of desire. Lack of information is then cause for concern, breeding the need for control. As Chris Hables Gray (2000) argues, even though contemporary forms of control such as warfare rely ever more on information, we are beset by "an astounding ignorance about information's basic structure and functions." If we weren't, we would see that "we don't really know what information is." Simon Cooper agrees, and argues that "the analogy between control and ownership of information is a false one" and "the sheer proliferation of information threatens to undermine any claim to security or even truth" (2003: 107).

This does not mean that does information does not have real effects. The piles and piles of data archives and traces we are assembling continue to effectuate new relationships of power. But power is not the same as control. Power is the distribution of resources and meanings. Control is the perception of vectors of influence. Others have traced out moments in the construction of a desire for information control. Ian Hacking (1986) has analyzed the contemporary number fetish, which he traces to the 19th century. Latour (1988, 1990) has theorized the influence accorded to inscriptions in contemporary culture. In a recent empirical study, Brian Bloomfield (1991) has examined the persuasive tactics used to introduce computer information systems in Britain to convince doctors to manage expenses better. Bloomfield's research demonstrates the cyclical and reinforcing nature of this cultural construction. Here, an existing desire for information control already underpinned the rationale for the system's introduction, but it was also a desire which was fanned into ever larger flames as doctors and staff came on board to adopt the system. And finally, it was used as a means, through inscriptions provided by the system itself and displayed gloriously on computer screens, to validate and justify the original desire.

Enter the screen

Alongside the enlistment of information, there need to be ideas about a correct and effective means of achieving this object of desire and concern. Here is where digital screen technologies come in more directly. That is, if digital screen technologies are going to be mobilized for this task, what is the rationale? It is not immediately intuitive that control is possible either through computer code, or through a screenic interface with that code. As Ellen Rose (2003) argues, computer programs are notoriously buggy, incomplete and frustrating, and screen-centric graphic interfaces do little to live up to the constructed promise of user-friendliness. More generally, how did computer screens proliferate in our lives, and how did we come to believe we are more in charge of our information than we were with our address books, telephone numbers and appointments chiseled onto paper?

The user-friendly screen as we know it is in no way intuitively user-friendly. As Rose describes it, the nomenclature "user-friendly" itself, as it refers more broadly to computer programs, was originally intended as a slur against the much maligned computer user by more expert programmers. But what is interesting is how this concept has not only been taken up by corporations to market their goods, but seems to have been particularly successful at attaching itself specifically to the graphic user interface (GUI) we have come to know. We have absorbed the idea that the visual
screen display is indeed friendly and imparts greater control to the user. Much of our world, now surrounded by such screens, has become immersed in a culture of user-friendliness.

<21> If we trace the history of the computer screen display, this trajectory is not obvious. Indeed, it has relied on the unlinking of particular associations between computers and information control, and the forging of others. Associations of control, which in the 1980s were firmly attached to the command line (the very language is suggestive), the no-nonsense interface, and the manipulation and calculation of data, have been weakened. As Steven Johnson explains, business magazines mocked the Macintosh interface initially, and for reasons specifically associated with control. A graphic user interface was considered to be good for the artistic world of design, but far too frivolous for "the average middle manager" who "has little need for the graphics capability of MacPaint. Most managers have a hard enough time writing reports, without having to worry about designing them as well." (Forbes, Feb 13 1984, quoted Johnson 1997: 55). This editorial in Forbes was typical of the time, but a far cry from the current craze for PowerPoint everything, and the mandated crash course in the Microsoft Office suite needed for these very same business managers. Visual displays are no longer associated with graphic design of reports, but simply, obviously, with the writing of these reports, the finding of information to fill them with, and the sending of them in a speedy and urgent manner via the networks at our fingertips: all functions afforded to us by our screens. New associations, or articulations (Hall), have been created between visual display and control.

<22> These re-articulations were the result of a broad cultural shift which cannot be explained by the minimal threat Macintosh and its small but loyal user base posed to IBM or Microsoft. Instead, they need to be seen as a long sweep toward a visually delivered, information-rich, networked and consumer-driven landscape. It is a long trend which has attempted to affix itself to a variety of cultural objects, with different degrees of success. What the computer has morphed into, in conjunction with the Internet, is not the apogee of a move toward user-friendliness, but the most recent rendition of a technological narrative that has become increasingly dominant, a narrative that enlists visual display, computer memory and networking to the task of the greater provision of information control. This mobilization seems to have worked, even caught on like wildfire, but to look back even a couple of decades ago when another technology was enrolled unsuccessfully makes us realize the constructed nature of the enterprise.

<23> In the sixties, as Kenneth Lipartito relates, the Picturephone had similar intentions, but as we know, never caught on. Rather than tell the tale as one of failure, Lipartito urges us to consider the way the Picturephone was a moment in a cultural framework which has only strengthened, told in new ways and with new technological and human actors. Not simply a phone with an image, the Picturephone was conceived as "the user interface to a vast new architecture of information conveyance":

Data communications and other informational uses, as much or more than video telephony, were part of Picturephone's justification from the start. Bell engineers saw themselves at work on a "technological marriage between the computer and the Picturephone" that would permit households to receive local weather reports, watch the stock
market, and make airline reservations [. . .] Video capacity would provide a way of displaying data, sending text and graphical images, selling products, and conducting classes.

Sound familiar? Lipartito's point is that so-called technological failures have strong cultural impacts: they are both the product of social interactions and imagination, and the source of future modes of imagining. My point is that this mode of imagining was, at its core, a belief that a visual display of information could and would lead to more effective information control. Visual displays were enrolled as actors in this imagining, associated to communication networks by being affixed to telephones. This association was unreliable, and visual displays de-inscribed themselves from their telephonic counterparts. By the early eighties, new delegates had already been enlisted. Digital watches were taking up the same banner, integrating thermometers, translation equipment and TV screens as early as 1982. Since then, mobile phones, Palm Pilots and now cameras have each proceeded in the same manner. Each of these new delegates reinforces the articulation between information, digital screens and user control in its own way, another step in a broader cultural narrative.

The pleasure and ease of consent

Communicating screenic relationships

Somewhere along the way, then, graphical screens came to be experienced by users as user-friendly. And they continue to be experienced that way on a daily basis. The cultural narrative has been taken up and reproduced; we have enlisted ourselves alongside our technological delegates. How has this taken place? How have do we experience a culture of mobile, user-friendly visual technology, and how does our experience translate into forms of consent to information control inscribed within these very systems?

Researchers interested in human-technological interaction stress the importance of interface design in enabling users to understand and master their digital devices. Donald Norman's notion of affordance has been particularly useful. An affordance is a technological capacity which allows a user to accomplish something. Rex Hartson usefully extends Norman's analysis by suggesting a convenient taxonomy of different types of affordance. Functional affordances are the ways in which the technology allows us to manipulate the world. Physical affordances enable that manipulation by providing things like levers, dials, gears, or buttons. Cognitive affordances allow us to understand how the levers and buttons operate, and how we should use them. Sensory affordances affect both physical and cognitive affordances by appealing directly to our senses and allowing us to see the dial, or perceive the inscription that indicates which way to turn it. Much current writing in human-interface design concentrates on how programmers and designers should design technology in such a way as to optimize all these types of affordance: to maximize ease of use. A visual display is already well ahead of the game, by this logic, because it makes good use of the sensory affordance of sight, thereby easing our understanding (cognitive affordance) and ability to manipulate (physical affordance) the computer.

But affordances do not merely inhere in the technology: they are relational. Practices -- looking at a screen, moving a mouse, pressing a key -- are materially structured in terms of what can and cannot be done, and with how much stickiness
or ease, but they are also habits that we incorporate into our being. As habits, practices are "contractions of thought and movement" (Wise, 1997). They are not only incorporated into and breed new routines, but are incorporated into and breed new discourses. With digital screen technologies, even those whose affordances seem to be approaching greater ease of use, the experience of user-friendliness is mutable. What is interesting is not so much that people resist the idea of user-friendliness, but that they don't. For all the talk of user-friendliness, computer interfaces tend much more toward stickiness than ease of use. And yet, to look around, we do appear to be in a culture that is convinced it relies on user-friendly digital technologies for daily tasks. Now that digital devices are everywhere, and the cultural norm appears to be that electronic records available for visual call-up are necessary forms of personal information management, to experience the technology in a different way marks you as the sticking point, not the technology. As Ellen Rose (2003) argues, people tend to blame themselves for their frustration with user-friendly interfaces.

Belief in greater information control does not only guide our direct interaction with the interface (which helps us to overlook frustrations over cognitive and physical affordances), but also our experiences of digital screen technologies as empowering elements in our personal information management. The screen has been delegated in contemporary culture as a communication tool adapted to our continual need to monitor our technologically mediated worlds. As a communication device, it is the screen which allows continual feedback on the results of manipulations provided by keyboards and other input devices which are intended to bring about appropriate functions from the attached microprocessing device. And today's digital devices are dedicated to functions which are highly suited to the screen as an output mechanism. Indeed, much of what we do with our digital screen devices is monitor various worlds. For instance, the screen on my stove allows for monitoring of the technological world constructed within the appliance itself. The screen I use to measure indoor and outdoor temperature monitors a technologically mediated external world. The screen I use to write this paper monitors a technologically constructed communication world. We experience information control when we interface with our digital screen technologies, then, not only because we read them through our cultural filters as user-friendly, but because we read them also as functional, useful and necessary. Incorporation into the practice and idea of information empowerment -- control over our technologically mediated worlds -- is enacted at this level as well.

This incorporation includes what has been described as participatory surveillance by Poster (1991), and correlates with Foucault's idea of governmentality, or the conduct of conduct, where we are interpellated into our own discipline. It could be understood in ANT's language as subscription or enrolment, as we take up the part offered to us by the technology—but not only the technology itself. We see ourselves as participant -- users in the broader culture of user-friendly digital devices. This is Gramsci's (1971) operation of hegemony, fueled by the kind of persuasive consent that allows us to see ourselves benefiting from the control scenario. For instance, the doctors using the resource management computer systems in Bloomfield's study saw benefits for their own idea of personal information management, even as it allowed for greater regulation and monitoring of their previously more fluid workday.

These theories all touch on the idea of the pleasure of
consent that we garner through our self-involvement in technological culture. The systems of digital screens become something we value. But we need to probe this idea further. How does this value develop? How is it distributed? What are the territorializing and distributing machines at work here?

Cultivating and distributing electronic pleasures

<30> Pleasurable and consensual interactions with communication technology happen because of affective resources at our disposal. As Bourdieu (1984) has shown, taste is a matter of having access to various kind of knowledge, dispositions, practices and beliefs. These forms of capital allow us to interact with screens and digital technologies more broadly. As we interact with our digital screen technologies, we develop abilities, vocabularies, rituals and relationships with the technology, like familiar ways of organizing icons on our screens, or displaying multiple windows. We also have access to an accumulating discourse about information management and computer effectiveness, as we watch a growing torrent of ads for digital technologies, like the ubiquitous AOL ads that illustrate the shield of protection around the user's home, bouncing off nasty hackers, viruses and spyware, or the Expedia.com ads which show a busy mother managing her trip in a flash online. These ads are compounded in our social interactions at work or with friends, who might even act as "warm experts" for us (Bakardjieva), sharing insights into their technological experiences.

<31> Not only do our present abilities create value for us, then, but also our ties with others: our ability to communicate and reinforce those values. Our social networking, both real and virtual, intensifies our experiences. Our communication with technologically mediated worlds -- the mediaworld -- does likewise. And finally, our communication with technology draws us in as well, seducing us with the familiarity of its rhythms.

<32> Territorializing machines work to create patterns of intensity and affect. Distributing machines distribute access to technology, skills, and exposure to discourse unevenly across culture. Those who receive education and hands-on practice, or are part of technologically motivated subcultures, develop strong bonds with the technology which reinforce their experiences of control. Those who don't have access to these things are still enveloped in a media discourse which validates these experiences of control as the norm. In many ways, then, we are drawn into consent, but unevenly, and with different effects.

Toward ever-expanding embedded functionality?

<33> Consenting to the experience of information control is, at the same time, not merely an intensification and validation of a functional relationship with technology. We also open ourselves up to a variety of other modes of potential information control enabled by digital delegation caught up in corporate and state vectors of control. The technological specificity of a computer means that it can replicate the functions of most other machines. Its ability for functional affordance, in other words, is unmatched. There is no one specific task designed for a computer: it can take on anything that can be programmed. As microprocessing capacity increases, digital devices not only multiply their "applications" -- or modes of functional affordance -- but they also have greater and greater capacity to include additional functions not limited to these applications.
<34> Code is already a complex architectural structure that works by shaping user interaction with the computer as much as computer manipulation of the world. Think of a child-proof lighter: the only way to light the lighter is to activate the extra part (useless to the lighting itself) by pressing down on it. This is an architectural solution to control. Now think of how code has the intrinsic ability to layer in multiple child-proofing devices -- or, more likely, copyright protections, disabling mechanisms, tallying devices. Then you can see how the possibilities for architectural control in our contemporary world are expanding exponentially, given the pervasiveness of microprocessors.

<35> Of course we can tear off that little black strip on the lighter, if we know how, have the ability, and care enough to do it. The same is true of consent to information control. Let's talk just briefly about some of the ways in which resistance to control can be manifest. Affect and incorporation, so important to our continual valuing of information control, are themselves unstable materials. The desire for information control can become a force which is not contained by the software and hardware delegates intended to marshal it. As users are more and more engaged by the relations they experience with worlds to which digital screen technologies construct, particularly media worlds, we can see people's affective attachments increase. The proliferating practices of downloading music, games, and movies, validated within a wide variety of youth subcultures indicates this spread and growth of attachment to the control we have been accustomed to receiving from our digital technologies. Other counter-trends include hacking subcultures which have the skill and desire to counter unobtrusive coding, draw on counter-discourses and a strong sense of historical attachment to digital technology, and feed these downloading practices. In the first case, the desire to download feeds directly off the desire for information control, showing that the technological narrative does not stop with the creation of a popular and effective system like the combination of computer-Internet, but continues to mutate, stretch and be struggled over by changing rhythms of desire. The second case illustrates that the struggle continues to define and shape these narratives, and that language wars battle over the meaning and material practice of technology.

<36> These trends are not to be taken lightly, but I suggest that a more substantial and widespread engagement with change needs to occur for real cultural struggle against the elephant of information control. Various interventions have been suggested by critics of technology. Feenberg (1991, 1995, 1999) argues that critical discourses about technology and technological policy need to become a priority. Barnes points out that alternative interfaces which afford the user more direct control over the functional affordances (better levers if you will) were part of the original vision of the initiators of the GUI like Alan Kay -- perhaps these designs could be revisited. Rose suggests that the user could take more responsibility for choice about when and how to succumb to the tempting discourse of total empowerment by making small, daily choices.

<37> For any of these to happen, we need a better understanding of two things. First we need to look at the technology and the policy. We need to understand what is happening, how these technologies are being coded, what they have in common with each other. And we need to look at the users. We need a better understanding of why we consent, why we don't. Are Rose's piecemeal forms of user responsibility feasible? How can they become a powerful cultural countertext? In these two areas, empirical work needs to be
Works Cited


