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Public Space, Public Discussion and Social Computing

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Public Space, Public Discussion and Social Computing[*]

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Abstract: Computers and networks – the foundations of new media -- are now an important infrastructural element of public space and a substrate of public discussion. But, because these foundations were originally designed as tools and engines of calculation, and not as places of exchange and discussion, there is a mismatch between the needs of public discourse and the available computational means. This is a conceptual or theoretical mismatch as much as it is a concern of software design. For instance, conventionally, in computer science, we might say that a piece of code is better if it is faster or more efficient, but, inefficiency is often a virtue when "codes" are designed for democratic systems (cf., the "checks and balances" of government). Consequently, the old criteria of computer science no longer suffice for the evaluation of social software of this sort. This is an instance where new media theory must critically differentiate itself from older disciplines and, yet, simultaneously engage them deeply enough to question their foundational criteria of evaluation and critique; their presuppositions of aesthetics, ethics and functionality. This talk is a critique of older criteria of evaluation and newer proposals of the same for designing and judging new, social software for the facilitation of public discussion and exchange. An alternative set of critical criteria is advanced and illustrated with two arts research prototypes of social software: "Translation Map" (2003) and "Agonistics: A Language Game" (2005).

Here is the problem I want to discuss today: Public discussion now takes place online, but we lack the tools to critically evaluate the design of online discussion forums. This is a problem for my research. My work addresses these three questions: (1) What is a good public discussion? (2) What is a good public space? And, (3) What software can be designed to make online public space and public discussion better?

The first two questions can be answered in abbreviated form. (1) A good public discussion is democratic: all voices are heard and conflicting points of view are

tested against one another.   (2) A good public space is one that supports freedom of assembly and democratic discussion.

My answer to the third question is more difficult to abbreviate.   The most straightforward way to address this question would seem to be -- simply -- to apply our best thinking about the public and democracy to the design of social software that support our public discussions – like email, weblogs, and chat. The legal scholar, Larry Lessig, argues persuasively for this approach when he advocates that we build our constitutional values of free speech into the foundational architectures of social software.[1]   I agree with this approach. But, Lessig also touches on the main difficulty of this approach. It is this difficulty that I will elaborate on today.

Consider, for instance, the criteria used in computer science to determine if a piece of software is good or bad. If a piece of software is fast and efficient, then it is good. If it is slow or inefficient, then it is bad. Computer scientists all learn these criteria as undergraduates, right from the beginning, in the first course in the analysis of algorithms.

Now, compare these criteria with some of the most important evaluative criteria employed by the designers of the U.S. Constitution: checks and balances between the legislative, executive, and judicial branches insure that a certain amount of inefficiency is built into our structures of governance and so, therefore, things don't run away from the will of the people.

This is a sketch of a much bigger problem. Few have addressed the problem, but we all know it in the guise of dark humor; in, for example, the sardonic comment that in Fascist Italy under Mussolini, (quote) "at least the trains ran on time." In a democratic society do the trains have to run late and does all of the software have to be inefficient? Of course not! But, the bigger problem is this: the fundamental criteria of computer science and information theory are at cross-purposes with the democratic criteria we need. We need to employ democratic criteria in the design and evaluation of social software that will underpin civil society of the next century.

All I can do today is to illustrate an approach to this problem. This approach I will label *media genealogy* to underscore its Foucauldian inspiration and to both link

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[1] "The code of cyberspace – whether the Internet, or net within the Internet – the code of cyberspace defines that space. It constitutes that space. And as with any constitution, it builds within itself a set of values, and possibilities, that governs life there … I've been selling the idea that we should assure that our values get architected into this code. That if this code reflects values, then we should identify the values that come from our tradition – privacy, free speech, anonymity, access – and insist that this code embrace them if it is to embrace values at all. Or more specifically still: I've been arguing that we should look to the structure of our constitutional tradition, and extract from it the values that are constituted by it, and carry these values into the world of the Internet's governance – whether the governance is through code, or the governance is through people." Larry Lessig, "Open Code and Open Societies: Values of Internet Governance (Draft 3)," presented as the 1999 Sibley Lecture (Athens, GA: University of Georgia, February 1999).   See http://cyber.law.harvard.edu/works/lessig/kent.pdf

and distinguish it from what Erkki Huhtamo of UCLA's Design | Media Arts Department and others have called *media archaeology.*[2] There are two steps to an approach of media genealogy. In step one, effort is spent to excavate the political and cultural presuppositions of the foundational and pivotal documents of information theory and computer science. Step two entails addressing the shortcomings these presuppositions have introduced into contemporary media technology by both offering a theoretical alternative but also – and this is where I diverge from the archaeologists – by building a piece of software to ground the theoretical alternative in a working prototype.

Although I will touch on step two, today my emphasis will be on step one, in two parts. Part one is what I hope will be understood as a shredding of the founding document of information and communication theory, Warren Weaver's and Claude Shannon's 1948 paper entitled "A Mathematical Theory of Communication." Part two is more gentle, but – by necessity – equally as critical. I review some of the successes and failures of current thinking about how to design and evaluate software, specifically software for social and civic purposes. By historicizing Robert Putnam's and Paul Resnick's intertwined proposals that social software should be evaluated according to a measurement of social capital, I hope to convince you that social capital – as defined by social science – is also the wrong tool for the job of designing and critiquing social software for public discussions. Along the way I also touch on step two of my method by shortly describing two of my recent software prototypes that illustrate alternative possibilities.

My desire is to enact my method in a way that meets the challenge outlined by Trinh Minh-ha when, discussing film criticism, she stated "…to 'criticize' a work, you have to engage it on its own terms while creating new terms." (Trinh Minh-ha with Margaret Kelly, "The Veil-Image," in *Cinema Interval*, p. 77).

Let's begin by considering a piece of software that is a popular success. *Yahoo!* is a website that serves millions every day. Last fall I was living in New York. When I arrived at the JFK airport, at baggage carrousel 9B, I saw an ad for *Yahoo*! that encapsulates this view of success in one image.

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[2] See Erkki Huhtamo (1996) "From Kaleidoscomaniac to Cybernerd: Towards an Archaeology of the Media" and Siegfried Zielinski (1996) "Media Archaeology." Both are available here: http://www.debalie.nl/dossierpagina.jsp?dossierid=10123.
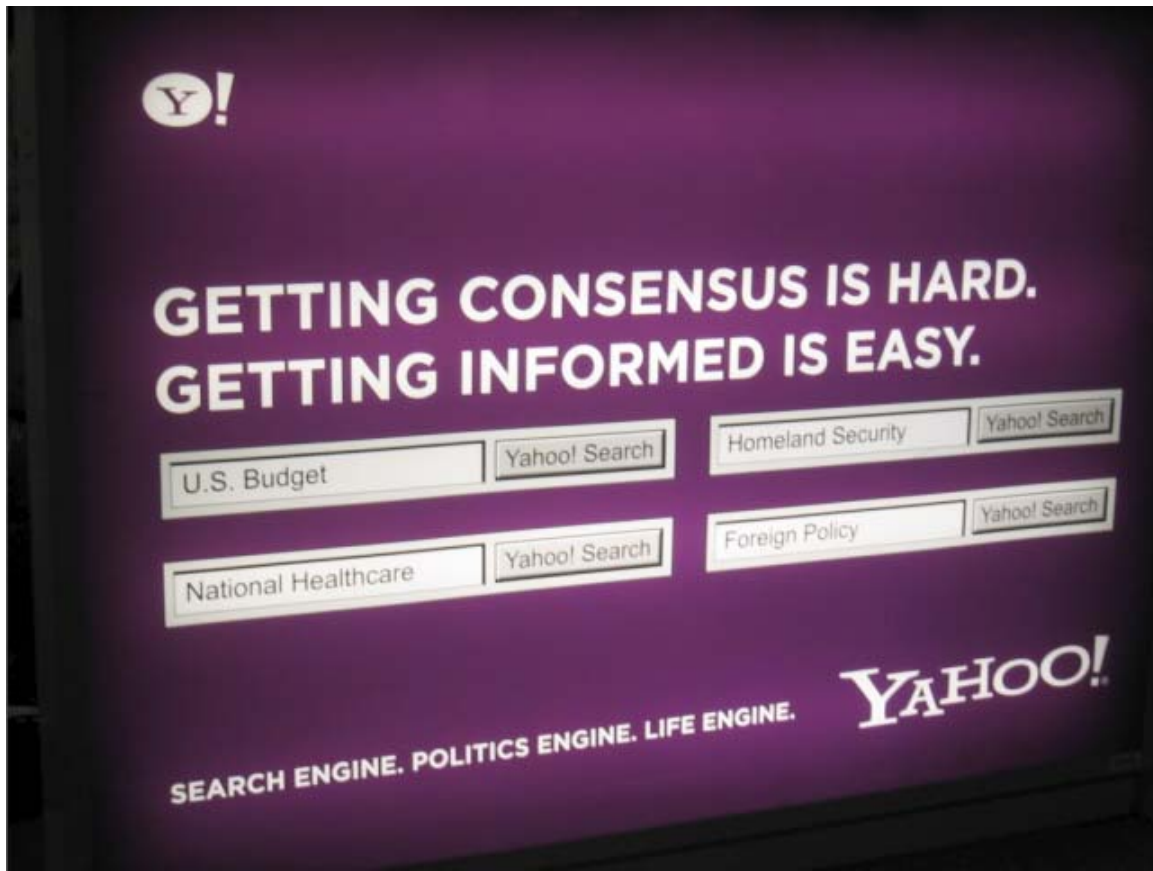
How are we to understand the second sentence: "Getting informed is easy." Presumably, it is *Yahoo!*'s service – a search engine – that makes information easy. Simply by pushing a button on a webpage one will have ready and accurate information about the U.S. Budget, Homeland Security, National Healthcare, and Foreign Policy. But, although information about these topics is easy to get at *Yahoo!*, "Getting consensus is hard," because, we – as a body politic – don't agree on what these terms should mean. In other words, even political information is a thing, *et ting*, a *res publicae*, a commodity, that can be "gotten" easily because it is independent of us – the people.

So, to understand this ad, we must understand that information is a thing-apart from people that, nevertheless, defines our political and social relationships. That this understanding of information is commensurate with Marx's definition of commodity fetishism is perhaps of no surprise. This diagnosis – that one of the pathologies of information networks – is a fetishism in which the importance of the body – the body politic – has been displaced by a commodity is not my primary concern. Rather, what I want to know is how did we get here, to this place in cyberspace, where successful information technologies, like search engines, are fetishes – by definition, by function, and by connotation?

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Tracking this down requires the use of another website, the *Oxford English Dictionary*. If one looks up the term "information" one finds the following as definition 1.a.:

"1.   a. The action of informing; formation or moulding of the mind or character, training, instruction, teaching; communication of instructive knowledge. *Now rare or Obs.*" (*OED*, entry for "information")

One of the examples following this obsolete definition in the *OED* is dated 1813 and is a citation from Thomas Jefferson's writings:

1813 JEFFERSON *Writ*. (1830) IV. 182 "The book I have read with extreme satisfaction and information."

This use of "information" – Jefferson's phrase "extreme information" – does, as the OED notes, seem rare, even obsolete. But, I don't watch a lot of television: perhaps ESPN follows its XGames with a series on "extreme information." Yes?

Watch what happens to the term "information" – starting in about 1928 – but then really kicking in about 1948. This concerns definitions 3.c. and 3.d. in the *OED*:

"3 c. Information: Separated from, or without the implication of, reference to a person informed: that which inheres in one of two or more alternative sequences, arrangements, etc., that produce different responses in something, and which is capable of being stored in, transferred by, and communicated to inanimate things."

This definition comes, of course, in response to the formulation of what Claude Shannon and Warren Weaver called "information theory." In Shannon and Weaver's theory, information is a thing between things and can exist even if it informs no one. Shannon and Weaver put the matter like this in their famous paper entitled the "A Mathematical Theory of Communication" (1949):

$$I(x;y) = \log(\ p(x,y)\ /\ p(x) * p(y)\ )$$

information?

"The word information, in this theory, is used in a special sense that must not be confused with its ordinary usage. In particular, information must not be confused with meaning. In fact, two messages, one of which is heavily loaded with meaning and the other of which is pure nonsense, can be exactly equivalent, from the present viewpoint, as regards information."

But, *Yahoo!*'s ad campaign clearly illustrates that, 56 years after the publication of their article, the "ordinary usage" of the term "information" is no longer Jefferson's, but Shannon's and Weaver's then-technical definition. Today, in ordinary usage, "information" is considered to be independent of sense and nonsense.

Shannon and Weaver continue their definition like this:

"Information in communication theory relates not so much to what you do say, as to what you could say. That is, information is a measure of one's freedom of choice when one selects a message."

So, "information" is a measure of possibility, not an reflection of empirical circumstances. Moreover, as Shannon explains, information has nothing to do with physical or conceptual embodiment, it is – in a word – *disembodied*:

"Frequently … messages have meaning; that is they refer to or are correlated according to some system with certain physical or conceptual entities. These semantic aspects of communication are irrelevant to the engineering problem."

Why engineers and scientists of the past half-century came to see the dematerialization of information – its loss of a body – as a merit rather than a minus is a part of N. Katherine Hayles' story that she tells in her book *How We*

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Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics (1999). But, the trajectory from Shannon and Weaver's technical article to the everyday usage of the cognate of "information" employed in *Yahoo!*'s ad copy might be best summarized as a trail to *commodification*.

Recall, again, that Shannon and Weaver insist that information is independent of its embodiment, its materiality; that it defines our – i.e., people's – freedom of choice – but, nevertheless exists independently of us, our meanings, and understandings. Compare this definition with Marx's definition of commodity fetishism:

"… commodities, have absolutely no connection with their physical properties and with the material relations arising therefrom. There it is a definite social relation between men, that assumes, in their eyes, the fantastic form of a relation between things. … This I call the Fetishism which attaches itself to the products of labour, so soon as they are produced as commodities,…" (Section 4. of Chapter 1 of *Capital*)

To understand our contemporary condition of politics and technology as overdetermined by an ideology of capitalism and commodification is in accordance with what James Carey wrote over 16 years ago:

"Computer information systems are not merely objective information-recording devices. They are emanations of attitudes and hopes. … The 'idea of information' is another way past the real political factors of class, status, and power, ..."
James Carey, *Communication as Culture*, 1989, p. 195

In other words, information and communication technologies – as they are designed, implemented and used today – are paradoxically not technologies of information and communication. In fact, oxymoronically, they are avoidance strategies, ways past and around the need to engage with the body politic.

Quoting again from Claude Shannon, I emphasis, in their conception and design, information and communication technologies (ICTs) are meant to perform meaningless repetition: to exactly reproduce that which was produced at the other end of the transmission line:

"The fundamental problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point."[3]

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[3] Cf., Jacques Derrida, "…the definition of writing … is to repeat without knowing." "Plato's Pharmacy," *Disseminations*, p. 75.
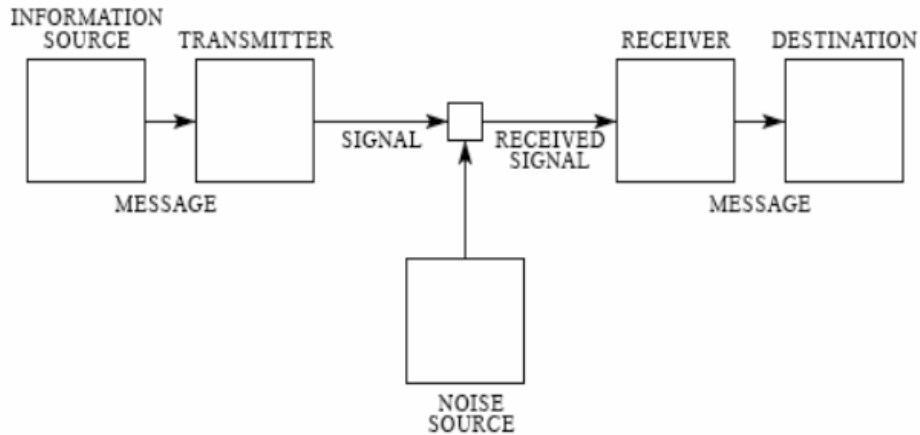
Fig. 1 — Schematic diagram of a general communication system.

communication?

In short, from an engineering perspective, what we are engaged in when we send email or use the web is a form of sophistry, a meaningless reproduction that pays no attention to its social and political environment. This, meaningless mimicry is, according to Shannon, <u>the fundamental problem of communication</u>.

Here then, in admittedly very ugly terms, is what might be referred to as the criteria of success for information and communication technologies: the success of a technology is evaluated according to its ability to losslessly push bits across a fixed-capacity channel repeating what was recorded at one end of the "wire" exactly, and without reference to environment on the other end of the "wire."

In classical philosophy there is a name for this kind of exact <u>replication</u> (cf., Whitney Davis' book, *Replications*). Replication without knowledge of meaning, context or association is called "imitation" or, more specifically, "mimicry," or "sophistry" in the writings of Plato. In his Socratic dialog entitled the "Sophist" Plato states: "Some mimics know the thing they are impersonating; others do not. … for the purposes of distinction let us call mimicry guided by opinion 'conceit mimicry,' and the sort guided by knowledge 'mimicry by acquaintance.' … The art of contradiction making, descended from an insincere kind of conceited mimicry, of the semblance-making breed, derived from image making, … -- such are the blood and lineage which can, with perfect truth, be assigned to the authentic Sophist." (extracts from the "Sophist" sections 267b, 267e, 268c, 268d). In other words, according to information and communication theory, the criteria of success are exactly Plato's criteria of the worst kind of ethical and aesthetic failure. They are, according to Plato, the worst behavior of sophistry taken as a

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virtue, indeed taken to be the fundamental virtue of a working technology (cf., Plato, *The Sophist*; Gilles Deleuze, *Plato and the Simulacrum*).[4]

Here then, I claim, is the intellectual "lineage," the genealogy, of the criteria used in information and communication technologies to determine the success or failure of a piece of work. This media genealogy leaves out alternative branches not pursued – or ones that died out early. For example, we know that the founders of information theory attended the influential series of conferences on cybernetics, sponsored by the Macy Foundation, and that – at these conferences -- alternative theories of information and communication were unsuccessfully advanced.[5]

But, I do not want to leave you with the impression that the genealogy I describe here is simply an idiosyncratic reading of one particular document. I argue that taking Plato's criteria of mimicry and opinion-based imitation as a virtue, rather than as a vice, is fundamental to many foundational documents of information and communication theory as well as those of computer science. Consider, for instance, the founding document of artificial intelligence in which Alan Turing provides the criteria for evaluating the intelligence of a machine. His criteria, articulated in his paper "Computing Machinery and Intelligence" published in the philosophy journal *Mind* in 1951, are based on a Wittgensteinian language game, that he calls "the imitation game," and thus exactly on the sort of behavior and thinking Plato so despised.[6]

So, what are the alternatives to these criteria of sophistry and dissimulation as the criteria of evaluation? First, let's consider a specific alternative, a specific case; then, then let's move on to a theoretically more general approach.

Here is a concrete case. We return to the year 1949. Warren Weaver writes and distributes another report to two hundred of his colleagues. The title of Weaver's report was "Translation." Its purpose was to explore the idea that one might

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[4] Information theory is a very specific place where, borrowing a phrase from Martin Jay, "the battle against Sophism, which defended rhetoric and the ear," was lost (see Martin Jay, *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought*, 1993, p. 26).

[5] For example, Donald MacKay argued persuasively, but ultimately unsuccessfully, for a theory of information that did take into account the meaning of a message and its influence on the receiver, or what we might now call, referencing speech act theory, the message's illocutionary force (see Donald M. MacKay, "In Search of Basic Symbols," in Cybernetics: Circular, Causal, and Feedback Mechanisms in Biological and Social Systems, Transactions of the Eighth Conference, March 15-16, 1951 (New York: Josiah Macy, Jr. Foundation, 1952), pp. 181-221; see, for instance, in his introductory paragraphs: "What I want to do first is to present a way of looking at the problem tackled by general information theory which finds a place for … concepts such as *meaning*,…" (p. 181)).

[6] In his 1951 article, Turing describes the imitation game like this: "It is played with three people, a man, a woman, and an interrogator who may be of either sex. The interrogator stays in a room apart from the other two. The object of the game for the interrogator is to determine which of the other two is the man and which is the woman. … It is [the man's] object in the game to try and cause [the interrogator] to make the wrong identification. … The object of the game for [the woman] is to help the interrogator. … We now ask the question, 'What will happen when a machine takes the part of [the man] in this game?' Will the interrogator decide wrongly as often when the game is played like this as he does when the game is played between a man and a woman? These questions replace our original [question], 'Can machines think?'"

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design a computer program to translate texts from one language to another. Those familiar with Shannon's and Weaver's mathematical theory of communication will not find the following too surprising. But, anyone who has done the work of a translator is likely to find Weaver's understanding of translation fantastical. Weaver wrote

"When I look at an article in Russian, I say, 'This is really written in English, but it has been coded in some strange symbols. I will now proceed to decode'." (Weaver, 1949)

Remember, Weaver wrote this shortly after the World War II when the computer was first applied -- with great success -- to the problem of breaking Germany's military communication codes. In short, for Weaver, it was clear that computers were good for the tasks of decryption and so if a problem could be reconceptualized to look like a decryption problem, then it was probably something a computer could do. Despite skepticism voiced by scientific luminaries of the day, Weaver's "Translation" essay was enormously influential and, arguable, still informs computer scientists' approaches to translation. For example, the statistical approach to decoding Weaver outlined in his essay constitutes the core of the most successful work in contemporary machine translation.

But, even the most successful work of automatic translation is not very good, as can be easily witnessed by anyone with a connection to the web. After half a century of sustained work on Weaver's translation-as-decoding problem, how much progress has been made? When measured against the enormous amount of money that has been spent on computer programs written to "decrypt" novels, newspapers, technical reports and other sorts of texts, has the small amount of progress achieved been worth the budgets -- indeed careers -- expended? Perhaps, fifty years later, it's finally time to admit Weaver's folly: translation is not a task of decryption.   It is a collaborative work of interpretation between an author, a translator, and an audience or set of readers.[7]

To explore this alternative, Sawad Brooks and I began our *Translation Map* (2003) project with the idea that computers and networks should be used to facilitate collaborative work between people, rather than as a magic black box that Weaver's translation-as-decoding problem implies.   What we built and exhibited as an art project, curated by Steve Dietz at the Walker Art Center, was, consequently, an attempt to show how one might begin to break from the presuppositions of information theory and build an alternative computer technology for translation.

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[7] Compare Warren Weaver's position with that of Jacques Derrida, following Walter Benjamin ("The Task of the Translator"): "We never will have, and in fact never have had, a 'transport' of pure signifieds from one language to another, or within one and the same language, that the signifying instrument would leave virgin and untouched." (Derrida, *Positions*, 1981, p. 20 as cited in Mark Wigley, "The Translation of Architecture, the Production of Babel," 1988).

translation map

[32_north + 110_west]

‹click to list messages›

COUNTRIES

Mexico
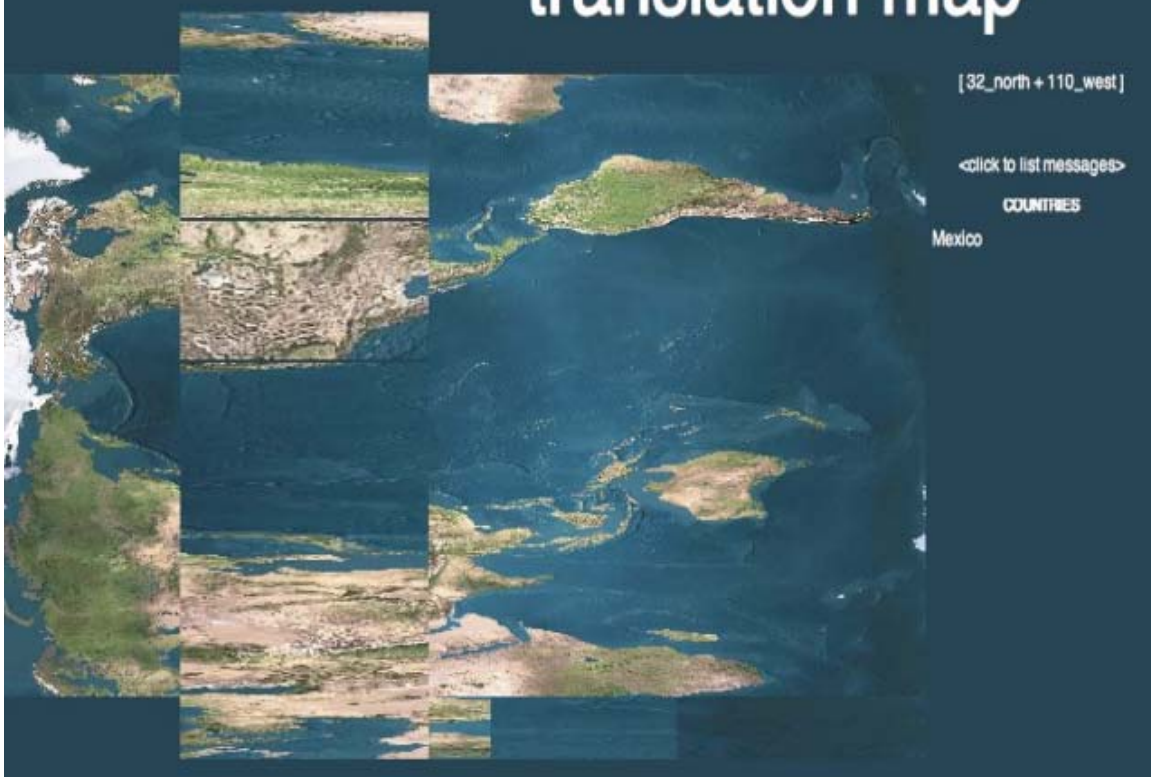
Give your message a subject line and then compose your message into the sixteen boxes that follow.

translation-of:

in-reply-to:

subject: **After Mobutu**

message:

In the United States, especial via	f use in reducing violence in the region?
nizations such as Amnesty International,	Would an increase in U.N. security
we know something about the aftermath	rces be welcomed? Or, is it too problem
of the Mobutu regime. But, can you say	that Mobutu's two major supporters --
omething about current conditions of life	the U.S. and France -- are too influential
in the Kasai provinces? Has mining for	in the direction and command of U.N.
itan and gold helped or hurt you? Would	forces?
ational prohibition on "conflict minerals"	-Warren
	route message

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Address the envelop of your message:
To which country is this message being
sent? Into which language do you want
this message translated?

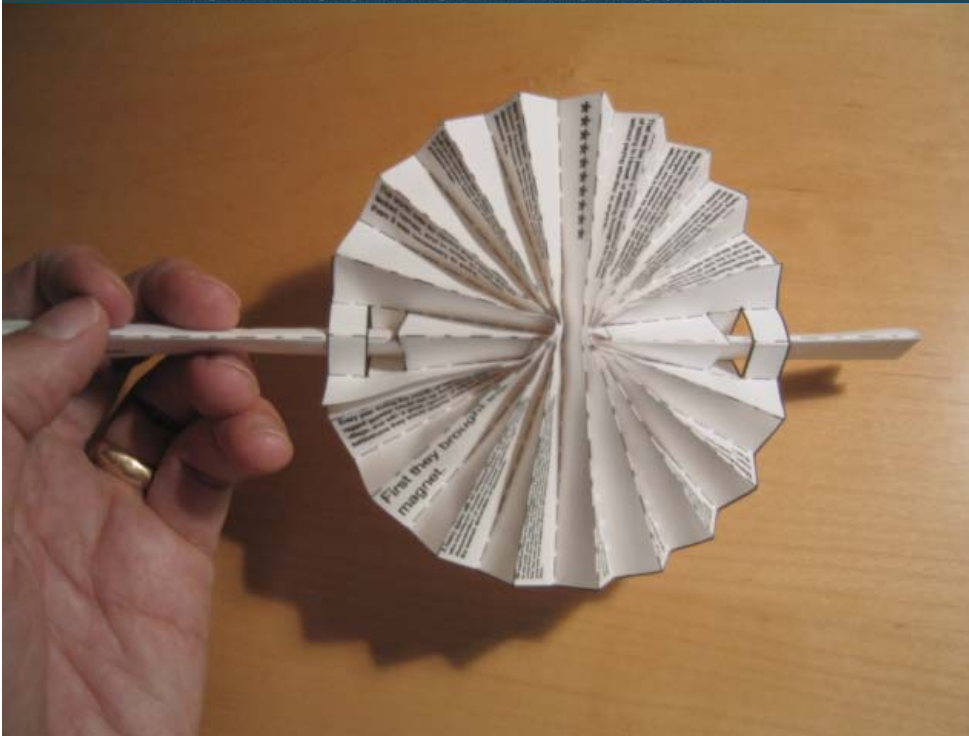country: Democratic Republic of the Congo ▼

language:
Cocos (Keeling) Islands
Colombia
Comoros
Congo (Brazzaville)
Cook Islands
Coral Sea Islands
Costa Rica
Cote d'Ivoire
Croatia
Cuba
Cyprus
Czech Republic
Democratic Republic of the Congo
Denmark
Djibouti
Dominica
Dominican Republic
East Timor
Ecuador
Egypt

Address the envelop of your message:
To which country is this message being
sent? Into which language do you want
this message translated?

country: Democratic Republic of the Congo ▼

language: Luba-Kasai ▼
Loppit
Lorediakarkar
Lorung, Northern
Lorung, Southern
Lote
Lou
Louisiana Creole French
Lozi
Lua'
Luba-Kasai
Luba-Katanga
Luchazi
Lucumi
Lufu
Luganda
Lugbara
Lui
Luimbi
Luiseño
Lukep

The following 30 possible routes were found for your message. Choose the route that looks like the best way to send your message.

- No country was found in which both English and Luba-Kasai are commonly spoken. But, English, French are spoken in Egypt and Luba-Kasai, French are spoken in Democratic Republic of the Congo So, to find a sequence of translators, your message will be routed through Egypt and Democratic Republic of the Congo. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. Your message will be sent to the following discussion groups: fido7.ru.egypt

- No country was found in which both English and Luba-Kasai are commonly spoken. But, English, French are spoken in Brazil and Luba-Kasai, French are spoken in Democratic Republic of the Congo So, to find a sequence of translators, your message will be routed through Brazil and Democratic Republic of the Congo. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. Your message will be sent to the following discussion groups: br.piadas brasil.esportes br.bbs-net

- No country was found in which both English and Luba-Kasai are commonly spoken. But, English, French are spoken in Greece and Luba-Kasai, French are spoken in Democratic Republic of the Congo So, to find a sequence of translators, your message will be routed through Greece and Democratic Republic of the Congo. However, no online forums for Greece were found. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium.

- No country was found in which both English and Luba-Kasai are commonly spoken. But, English, French are spoken in Navassa Island and Luba-Kasai, French are spoken in Democratic Republic of the Congo So, to find a sequence of translators, your message will be routed through Navassa Island and Democratic Republic of the Congo. However, no online forums for Navassa Island were found. United States controls Navassa Island. Forums for United States were found. To find a possible translator in Navassa Island, your message will be routed through United States. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. Your message will be sent to the following discussion groups: us.taxes us.military

- No country was found in which both English and Luba-Kasai are commonly spoken. But, English, Kele, Kele, Lele are spoken in Papua New Guinea and Luba-Kasai, Kele, Kele, Lele are spoken in Democratic Republic of the Congo So, to find a sequence of translators, your message will be routed through Papua New Guinea and Democratic Republic of the Congo. However, no online forums for Papua New Guinea were found. Papua New Guinea is a former colony of Australia. Forums for Australia were found. To find a possible translator in Papua New Guinea, your message will be routed through Australia. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. However, no online forums for Democratic Republic of the Congo were found. Democratic Republic of the Congo is a former colony of Belgium. Forums for Belgium were found. To find a possible translator in Democratic Republic of the Congo, your message will be routed through Belgium. Your message will be sent to the following discussion groups: alt.visa.australia

We got a great review in the *New York Times* arts section. The critic Matt Mirapaul wrote

"The best work in 'Translocations,' an online exhibition of nine new Internet-based artworks presented by the Walker Art Center in Minneapolis, succeeds aesthetically because it is destined to fail electronically. 'Translation Map,' one of the works, allows viewers to write and send e-mail to any of 250 countries. There is just one small problem: the Internet is considered a global village that inspires free-flowing conversations, but few of these messages will ever be received. 'Translation Map,' by Warren Sack and Sawad Brooks, argues against the Internet's utopian promise. The work's achievement is to show just how disconnected parts of the online world still are."
(Matt Mirapaul, *New York Times*, Arts Section, "Cross-Cultural Ventures With Digital Artworks," Monday, February 17, 2003, page B3).

I was very excited when the review came out. There was my work in the *New York Times* with a big picture and everything! But, after the excitement subsided, Mirapaul's words began to haunt my thoughts: *the Translation Map "succeeds aesthetically because it is destined to fail electronically*." What does it mean for something to succeed aesthetically and fail electronically? Ideally, I would like my work to succeed both aesthetically and electronically. But, as I thought more about this, I began to realize that Mirapaul's appraisal raises a much larger issue: How should social software be evaluated? How do we decide – what critical and evaluative criteria do we apply – to determine if a piece of software succeeds electronically? Or, succeeds aesthetically? And, are these two sets of criteria for

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success in electronics and aesthetics polar opposites, as Mirapaul's commentary imply?

This then is my departure point to more general grounds: how might these questions of criteria be addressed in a more general and theoretically rigorous manner? Over the past decade, computers and networks have become common media for the general public. In short, information and communication technologies are no longer simply technologies or tools, they are <u>media</u> because they now mediate the relationships of huge numbers of people: they both connect and separate people. The old design ideals, of information and communication theory or what Mirapaul refers to as "electronic success," i.e., those of sophistry, amputation and commodity fetishism are not ideals but rather an unfortunate mixture.

Perhaps, taken individually, these criteria might be design ideals for online discussion forums. For example, according to Hanna Arendt,[8] Gilles Deleuze,[9] and others, Plato's hero Socrates was a sophist and his "Socratic method" simply a version of the Sophist's rhetorical technique of *elenchus*.[10] I pursue this line of thought in another paper I authored with Joseph Dumit entitled "Artificial Participation" wherein we investigate the therapeutic or public figure who, like Socrates' claims to know nothing or who, as stated by psychoanalyst Jacques Lacan, does not <u>necessarily</u> know, but is suppose to know; i.e., is the *sujet suppose savoir*.[11] But, it is the peculiar mixture of sophistry, disembodiment and commodity fetishism that I want to unbundle here. In what follows I will point out how commodity fetishism – or perhaps you might prefer a "market logic" – haunts even the most contemporary analyses of new media for public discourse.

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[8] "If the quintessence of the Sophist's teaching consisted in the dyo logoi, in the insistence that each matter can be talked about in two different ways, then Socrates was the greatest Sophist of them all. For he thought that there are, or should be, as many different logoi as there are men, and that all these logoi together form the human world, insofar as men live together in the manner of speech."Hanna Arendt. "Philosophy and Politics", *Social Researc*h, 57, no. 1 (Spring 1990), pp. 73-103 [p. 85]

[9] "Difference Itself," in *Difference and Repetition*, p. 68.

[10] In the early dialogues especially, behind dialectic and leading up to it, there is the prominent technique of argument known as the *elenchus*, which constitutes the most striking aspect of the behavior of Socrates. Elenchus consists typically of eliciting an answer to a question, such as what is Courage, and then securing assent to further statements which are visibly inconsistent with the answer given to the first question. On rare occasions this leads to something approaching an acceptable modification of the first answer. But far more often the Dialogue closes with the participants in a state of Aporia, unable to see anyway forward or any escape from the contradictory views in which they are enmeshed. This is clearly an application of antilogic. G.B. Kerferd, *The sophistic movement* (New York: Cambridge University Press, 1981), pp. 65-66.

[11] Joseph Dumit, "Artificial Participation: An Interview with Warren Sack," in *Zeroing in on the Year 2000: The Final Edition* (Late Editions, 8) George E. Marcus, Editor (Chicago: University of Chicago Press, 2000).

The new, publicly-accessible media are primarily *social software*. Social computing, as an area of research and development, encompasses the media of email, weblogs, chat, SMS, webpages, search engines, social networking software (like friendster.com and meetup.com).

We need to devise and implement new criteria and methodologies to design and evaluate software for these new public media. Borrowing from sociology, Paul Resnick has proposed an evaluative framework based on "social capital." Usage of new computing technologies designed for social and collaborative domains should, according to Resnick, increase a group's "social capital."[12] Resnick's definition of social capital is borrowed from Robert Putnam's book *Bowling Alone* (2000) and is meant to be a measure of a group's ability to work and/or play together. Like other forms of capital (e.g., physical, human, etc.), a group's measure of social capital is closely correlated to the group's physical health, the crime rate in a community, and the ability of the group to organize and participate in politics. So, Resnick and others have proposed that new computing technologies might be evaluated according to how well they facilitate the generation of social capital.

While this proposal to evaluate software according to social capital is significantly different than traditional computer science methods of evaluation, it is a difference of species not a difference of genus. Traditional computer science criteria of evaluation – i.e., speed and efficiency – are applied to measure savings of another type of capital, money. In a culture where time is considered to be money, faster more efficient machines are seen as saving money. Even

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[12] Paul Resnick, "Beyond Bowling Together: SocioTechnical Capital," appears as Chapter 29 in *HCI in the New Millennium*, edited by John M. Carroll. Addison-Wesley. 2002, pages 247-272.

the relatively new criterion of Computer-Human Interaction – i.e., the criterion of "user friendliness" or "ease of use" – is an analysis of capital savings, specifically savings in human capital. The bottom line is that – according to these older criteria of evaluation – computers should be designed so that they do not waste our time or our money.

Admittedly, when existing computer science problems are evaluated with the criteria of social capital -- rather than the standard criteria -- new answers to old problems can be found. For example, information retrieval has developed various methods of indexing and searching large collections. For decades the answer to the question of efficient search was presupposed to be in faster machines and more efficient algorithms. But, posed as a question of social computing, the issue of search is no longer how can an isolated user find the desired information with a machine. The question becomes who might the user ask to help them find what they need? Or, what are the most popular responses to the user's query?

We know social computing solutions to this question in at least two forms. One is the recommender system like that incorporated into the amazon.com site. This feature appears to the user as a suggestion: "Customers who bought this book also bought: [this list of other books]" and is computed by keeping track of customers' purchase histories.

Google Web Images Groups News Froogle Local^New more »
"Social Capital" Search | Advanced Search Preferences

Web   Results 1 - 10 of about 1,320,000 for "Social Capital" [definition]. (0.10 seconds)

Bowling Alone, by Robert Putnam
Social Capital: What is it? What does "social capital" mean? The central premise of social
capital is that social networks have value. ...
www.bowlingalone.com/socialcapital.php3 - 7k - Cached - Similar pages

Social Capital Partners
Social Capital Partners will invest in revenue generating social enterprises that employ
populations outside the economic mainstream in Canada. ...
www.socialcapitalpartners.ca/ - 20k - Cached - Similar pages

social capital: civic community, organization and education
The notion of social capital is a useful way of entering into debates about civil society – and
it is central to the arguments of Robert Putnam and others ...
www.infed.org/biblio/social_capital.htm - 43k - Cached - Similar pages

MBSpring Syllabi
IS 3937: Advanced Topics, Systems and Technology. Developing Social Capital. IS 3937
January, 1997 Tuesdays, 12:00-3:00 Room 501. ... Social Capital. Introduction. ...
www.sis.pitt.edu/~spring/courses/ds_soc_cap.html - 14k - Cached - Similar pages

The Social Capital Community Benchmark Survey
... level. These connections - our Social Capital - are the glue that hold us together and
enable us to build bridges to others. This ...
www.cfsv.org/communitysurvey/ - 24k - Cached - Similar pages

Social Capital and Civil Society - Francis Fukuyama - Prepared for ...
This paper will define social capital, explore its economic and political functions, as well as
its origins, and make some suggestions for how it can be ...
www.imf.org/external/pubs/ ft/seminar/1999/reforms/fukuyama.htm - 59k - Feb 16, 2005 -
Cached - Similar pages

Social Capital, Paul Bullen
The resources and links here provide an introduction to social capital and its measurement,
particularly from an Australian perspective, and are grouped into ...
www.mapl.com.au/A13.htm - 54k - Cached - Similar pages

Sponsored Links

Social Capital
Article in BusinessWeek
Read it online. Free Trial!
www.KeepMedia.com

Social Capital
Complete Nonprofit Portal. Feature
Articles, Definitions, & Directory.
www.nonprofithub.com

A second form of this appears in search engines, like Google, that use computable measures of social capital to find the most popular websites associated with the user's search terms. These measures of social capital were originally invented by social scientists for the analysis of social networks and they are applied by Google to webpages by keeping track of the number of links that point to each webpage indexed. Wow! Who might have imagined that the answer to search technology problems was simply to ask someone for directions?

Successes like Amazon and Google make it clear that it is worthwhile to re-examine longstanding, computer science problems – like the problem of search – with the new criteria of social capital. Of course money, human capital and social capital are not the only kinds of capital one might use to measure the savings, losses and investments created by computer technologies. Contemporary social science offers a smorgasbord of kinds of capital to consider. For example, for decades sociologist Pierre Bourdieu explored a theory of the relations between cultural, economic, social and symbolic capital in class reproduction. And, to be more precise, Paul Resnick asks us to consider not simply social capital, but what he calls *sociotechnical capital*, as the basis for designing and evaluating new technologies. According to Resnick social capital "is a residual or side effect of social interactions, and an enabler of future interactions" (Resnick, p. 2). And, sociotechnical capital is a subset of social capital that concerns "productive combinations of social relations and information and communication technology" (Resnick, pp. 2-3).

Even though we know that different forms of capital can be in conflict with one another, it is oftentimes the case that one form of capital is correlated with

another form. So, for instance, the World Bank tells us that economic development is closely correlated with the development of social capital (http://www.worldbank.org/poverty/scapital/whatsc.htm). But, commonsense tells us that money can't buy everything. So, what gets lost when one insists on measuring everything using one or another type of capital?

Capitalists and communists all have a hard time imagining that anything exists outside of relations to capital, but what I am asking is essentially this: What can't be measured using some form of capital? I will argue that the quality of public space and public discussion cannot be evaluated with a measure of capital. If I am correct, this poses a big problem. International, national and local governments and communities are hoping that the powers of computers and Internet will improve government and enhance democracy. But most of the criteria available for evaluating computer systems are based on one form of capital or another. So, how can we design and evaluate computer systems for public discussion? I will argue that we should do this by shifting our attention away from capital to the criteria of democracy, specifically the processes of argumentation and negotiation that underpin any new means to produce a shared consensus.

To explain why I think no capital-based form of measurement is adequate to the task of evaluating systems designed to facilitate online, public discussion, I need to reference a short history of "society" originally told by the philosopher Hanna Arendt. According to Arendt, social life is a relatively recent invention. She states "The distinction between a private and a public sphere of life corresponds to the household and the political realms, which have existed as distinct, separate entities at least since the rise of the ancient city-state; but the emergence of the social realm which is neither private nor public, strictly speaking, is a relatively new phenomenon whose origin coincided with the emergence of the modern age and which found its political form in the nation state." (Hanna Arendt, *The Human Condition*, p. 28).

In the ancient Greek world discussed by Arendt, space was divided in two. Public space, the space of politics was the *polis*. Private space was the household – or in Greek, the *oikas*; it was the place where an individual's immediate human, familial and bodily needs were met: to eat, to sleep, to have sex, to reproduce. Public space, by contrast, was not governed by the immediate needs of individuals but was, rather, a collective place for accomplishing things beyond the powers of individuals and that, moreover, were things that were designed to outlive the lifetime of any given person. In short, in the Roman world these things were the *res*, the things, of the public. *Res* means "thing" in Latin and so *res publica* – that is "republic," in English – is literally the "thing of the public." The thing of the public is the immortal and the transcendental, while the principal of a debt – the *caput,* the etymological root of "capital" (Arendt, p. 68) -- was the means to meet immediate needs.

I am relying on etymologies to abbreviate Arendt's history of the private, the public and the social. So, to continue along these lines, it is worthwhile to note that meeting one's immediate needs required one to properly manage one's household. The Greek *oikas* means house and the Greek *nomos* means to manage or control. Thus, *oikonomos* – or, in English "economics" -- means "household management" and was, obviously, a private practice. In ancient Greek "home economics" would have been a redundant phrase and "political economics" a contradiction in terms.

Economics becomes a public practice at the birth of the social world when the care of private property becomes a public concern. This moment is also the birth date of the nation-state. We understand our contemporary political organization to run like a family household when we talk of things like the "gross domestic product." In fact this thinking goes much deeper than the terms of political economics. In his book *Moral Politics* (1994), linguist George Lakoff points out how the political platforms of American Republicans and Democrats on issues as diverse as abortion and foreign relations can be understood as metaphorical extensions of family dynamics and household management practices. For example, many countries are considered by American politicians to be "undeveloped" and when they get too loud or violent they are said to be in need of "punishment" or, conversely, "reward." Thus, "undeveloped" nations are treated like children by the world's "advanced" nations.

International relations and economics of this sort only become possible when wealth becomes capital. Wealth, in the ancient world, was something to be used and consumed for the benefit of the individual's needs. When wealth becomes capital, "whose chief function is to generate more capital," (Arendt, p. 68), then the means of the private realm becomes sustainable beyond a single lifetime and property holders begin to organize politically to make more money with the money they already have. This is the advent of the so-called "commonwealth." This is when a social world is invented that melts the boundary between the public and the private with the solvent of capital.

So, Resnick's and Putnam's proposal, to evaluate new media according to its abilities to produce social capital for public, civic engagement is untenable because it confuses the necessary differences between what is social and what is public. Social capital for public life is oxymoronic because its very definition melts the public into the private, as does any sort of capital. As an illustration of this confusion, consider this sentence from Robert Putnam's book *Bowling Alone*: "In the language of economics, social capital lowers transaction costs and eases dilemmas of collective action" (p. 346). This is tautological. It doesn't cost me anything to talk with my neighbors and thus the so-called "transaction costs" to be lowered can only be explained by presupposing the costs as costs of social capital; i.e., one needs to presuppose the very currency – social capital – before I talk to my neighbors that will suddenly come into being after I talk to my

neighbors.   This is a tautology of neoliberalism[13] in which all relations are supposed to submit to a market logic; i.e., exactly the logic that excludes the public.

But, if social capital is not a way for us to evaluate or critique these new media so essential to contemporary public life, then what alternatives do we have?

Since we are at a point in history where half a century has been devoted to evaluating the success or failure of software and hardware on grounds that classically would have been considered unethical and aesthetically ugly can we be surprised that information and communication technologies (ICTs) are neither? How does this pathology infect others? Even if the designers of ICTs use sophistry, the amputation of the body, and capital or commodity fetishism as design ideals we know, from at least the last twenty years of – especially feminist -- media studies, that the uses and receptions of new media are not determined by the construction of their respective apparatuses (e.g., Constance Penley, "Feminism, Film Theory, and the Bachelor Machines," 1985). In other words, despite the homonymic relationship, the "users" of computers, and new media in general, are not at all like the audience members media scholar Harold Lasswell pictured when he proposed that media could act on an audience like drugs injected with a hypodermic needle into a body (see Harold Lasswell, Propaganda Techniques in the World War (New York: Knopf, 1927)). Rather, a more nuanced approach must be sought and can be found in Bruno Latour's catchy title "Technology is Society Made Durable" (1991). In other words, one can understand the importance of design ideals by reading technology and media – *not* as a pathogenic vector – but rather as a socio-cultural symptom.

I would like us to return to the Yahoo! ad to further consider some of the specifics of this socio-cultural symptom.

Since information is – according to Shannon and Weaver's definition -- a thing apart from people, a commodity in Marx's terms, it is, therefore "easy to get." According to Plato, one reason to despise the Sophist is because sophistry makes of knowledge something that can be exchanged, traded and merchandised (Plato, the "Sophist," section 224d).   *Yahoo!*'s product is information and it is "successful" (in quotes) because it practices commodity fetishism and sophistry.   But, consider the rest of the ad: Why is "Getting consensus hard"?

Consensus is hard, I venture, because – unlike information – consensus involves us, the people. Consensus concerns public opinion and its convergence or divergence animated by debate and exchange. The *Yahoo!* ad distinguishes "information" – a thing apart from people that can be gotten just as any thing can be gotten; from, "consensus," a socially and politically produced outcome.

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[13] Pierre Bourdieu, "The Essence Of Neoliberalism," *Le Monde*, December 1998.

Consensus, etymologically, comes from the verb "to consent," i.e., the Latin verb "consentire" that means "to feel together." That we might feel together, that is to have a common sense – a *sensus communus* -- was, of course Immanuel Kant's hope and the basis on which he founded both his theory of aesthetics and the possibility of a cosmopolitan political subject. Kant's *sensus communus* is some <u>thing</u> that precedes us as specific individuals; it is *a priori.*

This Kantian perspective, that common sense is a thing we all have, but a thing nonetheless, provides an approach to consensus that has been extensively explored in computer science, especially in the area of artificial intelligence. It underlies John McCarthy's 1958 proposal for an "advice-taking" computer program that could eventually incorporate all of human common sense in coded form.[14] It is the hope that sustains Doug Lenat's now-20-year endeavor to code all of common sense into a database called Cyc.[15] It is the only way to make sense of what Tim Berners-Lee, the inventor of the World Wide Web, now calls the "semantic web."[16] This approach essentially insists that consensus, like information, is a thing that has no necessary relation to a person or a group of people. It assumes that common sense can be coded and deployed on a machine. But -- need I interject? -- I don't think this is such a good idea. It suffers the same shortcomings we have already seen in the commodification of information and the capitalization of social relations. If you don't believe me, read Hubert Dreyfus' book, *What Computers Can't Do.*

Instead, I would suggest that we examine consensus in a way well-known to media studies; i.e., as a collective accomplishment contingent on constant negotiation and contestation. This idea of consensus, or common sense, is due to the early-twentieth century, Italian, political theorist Antonio Gramsci. In a paper on common sense, ideology and the media, Stuart Hall cites this section of Gramsci's writings:

"Every social stratum has its own 'common sense' and its own 'good sense,' which are basically the most widespread conception of life and of men. Every philosophical current leaves behind a sedimentation of 'common sense': this is the document of its historical effectiveness. Common sense is not something rigid and immobile, but is continually transforming itself, enriching itself with scientific ideas and with philosophical opinions which have entered ordinary life... Common sense creates the folklore of the future, that is as a relatively rigid phase of popular knowledge at a given place and time."[17]

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[14] McCarthy, John. "Programs with Common Sense." In *Proceedings of the Symposium on the Mechanization of Thought Processes*, National Physical Laboratory, Teddington, England, 1958.

[15] Lenat, Douglas B. and Guha, R. V., *Building Large Knowledge-Based Systems: Representation and Inference in the Cyc Project.* Reading, MA: Addison-Wesley Publishing Company, Inc., 1990.

[16] See Berners-Lee's comments on the "semantic web" in this transcript: http://www.w3.org/1999/04/13-tbl.html

[17] Antonio Gramsci. *Selections from the Prison Notebooks* (London: Lawrence and Wishart, 1971), 326; as cited in Stuart Hall. "The rediscovery of 'ideology': return of the repressed in media studies," in *Culture, Society, and the Media*, edited by Michael Gurevitch, Tony Bennett, James Curran, and Janet Woollacott (New York: Routledge, 1982), 73.

In other words, what we need to evaluate is whether or not our new media support new methods, new conditions, produce new spaces for public debate and contestation of a public consensus, a shared, mutable common sense. We know very well what these criteria are. We know them from the history of media studies that illuminates struggles of agenda setting in the news media and in the measurement of audiences and of public opinion. We know them from science studies that illustrate how controversy in science incites struggle over what is and is not factual and that, eventually, results in the production of a scientific consensus. We know these methods of evaluation from political theory, agonistic pluralism, and models of democracy that show how consensus is simply a temporary, hegemonic control that can give way to the forces of oppositional politics and new social movements.

If these alternative means of evaluating or critiquing new media sound intriguing, I would encourage you to look at the forthcoming art show entitled *Making Things Public: Atmospheres of Democracy*, which will be held from March 19th through August of 2005 at the ZKM, Germany's Center for Art and Media Technology. The catalog for the exhibition, curated by Bruno Latour, Peter Weibel and Steve Dietz, will be published by MIT Press and contains the following opening comments written by Latour and Weibel:

"…the focus [of the exhibition] will be on the methods and tools used to draw the public together, present themes, create opinions and make decisions possible. The exhibition, …, reflects the history of the representation of public concerns as well as its present forms, shaped by new media technologies." (Latour and Weibel, forthcoming)

The point of departure for my contribution to the exhibition, "Agonistics: A Language Game," is a Gramscian interpretation of common sense. The political theorist, Chantal Mouffe has articulated a vision of democratic discussion as a competition for control of political common sense. This is akin to George Lakoff's understanding of political discussion as a competition to frame the issues or the candidates (Lakoff, *Don't think of an elephant*, 2004). Since online, political discussions are, usually, heated shouting matches and not rational exchanges, Mouffe's theoretical foundations provide a more realistic departure point than the Habermasian ideals assumed by most technologists working in this area and provide us an alternative to the framework of social capital.

Why would someone engage in a competition over common sense? Of course there is the power thing. Those who win these engagements win elections and win public sentiment. But why do people who are not going to be big winners play nevertheless?   As Arendt points out in her history, people have long participated in the public to take part in something larger than themselves that will, hopefully, also live on after they die. It is a means to limited immortality and transcendence. A means to contribute to the foundations on which we all live. One loses something from the private and social worlds in order to add to the public, but by so doing, one becomes linked to something much bigger than oneself.

So, my proposal is rather simple. If we hope to critically evaluate new media technologies, new sorts of social software, designed to strengthen public space and promote public discussion, then we need to start by articulating – or at least choosing – a theory of the public and a theory of democracy to use as normative standards against which our software productions can be measured.   And, specifically, I advocate that the theoretical framework selected should highlight the mechanisms and the means of collective – possibly competitive – production of public goods, like common sense. Finally, we need to abstain from the odd cocktail of commodity fetishism, amputation, and sophistry that inebriates our existing information and communication technologies.

Or, at the very least we need to find criteria that are not overdetermined by the logic of the market place. It is clear to see that a market logic dictated by flows of capital does not work to serve the public good any better than it has served the public good in older media.   Recent work by, for instance, Introna and

Nissenbaum in their paper "Why the Politics of Search Engines Matter" (2000) explains the imbrications of market logic and the technicalities of for-profit search engines and how the mix does no good for the public.

If we can't find our way out of the current paradigms for evaluating social software, the future looks bleak. The alternatives are two, but they are both depressing. Either we continue to use the old criteria of information and communication theory, computer science, or more-recent, but equally-compromised constructs like "user friendliness" and social capital. Or, we follow the road to nowhere that has been increasingly well-paved by good-intentioned reports like the recent United Nations World Public Sector Report entitled "Deepening Democracy via E-Governance." Harvard political scientist Pippa Norris and her colleagues performed a content analysis of national government departmental websites from 191 nations for a chapter of the report. Norris summarizes these findings like this:

"…many commentators suggest that e-governance has succeeded mostly in its managerial technocratic functions of improved service delivery for routine matters such as registering for transportation permits, access to land registries, or tax payments, delivering efficiency gains by streamlining labor-intensive bureaucratic transactions, but that it has largely failed in its participatory or consultative functions." (Norris, 2003, p. 3).

These findings can be understood in at least two ways: (1) computer technologies will never be capable of supporting the demands of democracy and participatory, public discussion; or, (2) the current state of the art has not measured up to the needs of democracy, but that a future technology might address those needs. I say we choose number 2 and use, among others, Chantal Mouffe and Hanna Arendt as guides in our explorations of the future of social computing.