Regulation and Deregulation of
the Internet

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Why the Internet will be regulated

Will the Internet be regulated? Many Internet enthusiasts discuss the question as irrelevant.

They believe the myth which is going around, and which has been elevated to the status of

platitude: "you cannot regulate the Internet." There is a related myth, that "a bit is a bit,"

meaning no bit can be treated differently from any other, and attempts at control are

therefore doomed to fail. Both claims originate with technologists who seem to believe in

technological determinism. But they are wrong even as a matter of technology: a bit is a bit

with a certain probability, which can be made to vary. A bit is a bit with a certain priority,

which can be-- indeed, must be-- made to vary. In most computer communication, a bit does

not travel naked but in an envelope, a packet. A packet is identified by its destination and

sender. And once one can differentiate, one can control.

Also, communication is not just a matter of signals but of people and institutions. For

"Virtuality," is an appealing notion. But one should not forget that physical reality is alive

and well. Senders, recipients, and intermediaries are living, breathing people, or they are legally organized institutions with physical domiciles and physical hardware. The arm of the law can reach them. It may be possible to evade such law, but the same is true when it comes to tax regulations. Just because a law cannot fully stop an activity does not prove that such law is ineffective or undesirable.

This, most emphatically, does not mean that we *should* regulate cyberspace (whatever it is). But that is a normative question of values, not one of technological determinism. We should choose freedom because we *want* to, not because we *have* to. And that choice will not be materially different from those which societies generally apply to the panoply of activities. Why should computer communications be different? As the Internet moves from being in the main a nerd-preserve and an office park, and becomes a shopping mall and community center, it is sheer fantasy to expect that its uses and users will be beyond the law. This would seem obvious. Just consider what will happen when the cooperative spirit of the Internet is broken by software programs deliberately set to lie, cheat, and harm others. Yet, many deny the obvious, that the Internet will be dealt with like the rest of the society. It seems that the new medium is like a Rorschach test, an electronic blob into which everyone projects their own fantasies, desires and fears for society. As the Russians say: Same bed, different dreams. Traditionalists find the dark forces of degeneracy. Libertarians find the heavy hand of government. Leftists find a new community, devoid of the material avarice of private business. This kind of dreaming is common for new and fundamental technology,

and it is usually wrong.

Today, for better or worse, each society will apply its own accumulated wisdom, prejudices, self-interests and misconceptions to the rules governing cyberspace. For better or worse, new situations lead to more rules, not less. More rules, because new problems will emerge. And more also, because there will also be an entirely new layer of rules, those of the various electronically defined communities that are indeed now forming. Rules on who can do what, when, and how, or else -- "or else" meaning to lose your access code and be electronically banished.

The techniques for control vary depending on the target. Transmission backbones can be set and controlled. Interconnection and traffic hand-off points can be regulated. ISPs can be held liable for content, and they could be licensed. Hardware can be required to have a screening chip. Content providers can have their servers traced and licensed. Organizations can be held liable for content on their computers, available to employees. Routing tables can be controlled. Taxes and tariffs can be levied. Anonymous remailers could be outlawed.

This is not to say that such rules, or similar ones, are desirable. But they are unavoidable. China is building an Internet backbone that is connected to the world through only set control points. Arab nations are not allowing their citizens full Internet access and are censoring the WWW. Singapore, has laws against "improper" usage of the net, and controls all ISPs.

Societal Risk Taking in the US

A society's choice of rules will depend, among other things, on its willingness to accept risk. The Internet is new and uncharted territory. The term "electronic frontier" is quite apt. As it happens, America has been in the frontier business for a long time. It's good at it. It's its defining characteristic, together with liberty and free enterprise. Its identity is not fundamentally threatened to change. No wonder then that America is at the leading edge of the information age.

Certainly, the US has seen risk taking by investors and entrepreneurs. But one must also take note of the societal risk taking in the information field. The decision to split up AT&T, the world's largest company, was a major risk. The decision to open telecommunications to competition was similarly a major risk, flying into the face of conventional wisdom of "natural monopoly" and the need for a monopoly to preserve universal service financing. Europeans, not so long ago, were almost united in their support of the state monopoly system. Today, of course, it is hard to find anybody who admits to ever having held that view. The decision by the National Science Foundation to fund the Internet was a risk. The decision to introduce local telecommunications competition, together with recent fairly radical rules on interconnection and network unbundling, is a risk. And it was risky to proclaim a costly national commitment to wire up all classrooms in the country, and to follow it up with a funding scheme that is, in effect, a telephone tax, way ahead of public pressures to do so.

The term "risk-taking" seems more appropriate than "deregulation." First, because the US system has not been truly deregulatory: there are more rules than ever. One of them gives Internet Service Providers (ISPs) access to the local phone networks at terms better than what the market would. Second, because the formation of the Internet involved government as a venture capitalist of sorts, fronting the money. Of course, Europeans also support high tech ventures. But their money tends to go to tried-and-true firms such as defense contractors and PTT suppliers. Third, because the US is instituting a new entitlement program ($2.25 billion for educational Internet access) that will grow in size over time. None of these policies are deregulatory. But they all advance the viability of an advanced communications and transactions medium.

The US policies were risks for several reasons: first, because the policies could go wrong. There was no real precedent, after all, at the time. It is much easier now to be the eighteenth country to liberalize its telecommunications, and to do so in harmony with one's regional neighbors.

Second, because the politics could have gone wrong. Liberalization was unpopular with the public. It was especially unpopular with the major economic stake-holders. Twenty years ago, the American communications industry was dominated by a handful of firms: AT&T owned telecommunications; IBM controlled computers; and ABC, CBS, and NBC ran television. In most cases, the new policies went against the interests of the dominant firms

and in favor of "unborn generations" of technology that had no political clout. This is not supposed to happen in an interest-group driven democracy.

Losers of the Information Age

Third and relatedly, the policies are risky because the changes they initiate will fundamentally transform most established institutions in society. Governments are rarely in the business of initiating revolutions. They are usually firmly on the other side.

It would be naive to expect the changes to be merely those of added personal convenience. The horse-less carriage changed much more than the cleanliness of streets. It transformed the way we live work, and interact. The wireless telegraph eventually became television and changed politics, entertainment, and education.

In communications, one should take cognizance of a simple but basic principle: every time one makes a communications flow relatively more convenient, powerful, and cheap, one also makes a traditional communications flow relatively less convenient, less powerful, and more expensive. If one develops new routes of communication, old ones atrophy. When Columbus and Vasco de Gama opened up new trade routes, Venice became a museum. When highways were built, cities emptied. When airplanes speeded up intercontinental travel, sports teams could relocate, and Brooklyn lost the Dodgers.

Electronic communications are no different. Let us look at two examples of how two types of traditional institutions will be affected by the change of flows of electronic information; one is commercial, the other, non-profit.

1) The Decline of Banks

Bill Gates described banks as dinosaurs. Banks are not strictly about money but about information. In fulfilling their functions, banks, like all institutions, are based on a particular set of information technology and economics. If the technology and the economics change, the institutions must adjust, too.

Take automatic teller machines. ATMs were introduced by banks to cut costs. More than 10,000 bank branches were closed. Today, most American ATMs are not located at banks anymore. Like God, ATMs are everywhere, except at banks. Customers deal with machines interlinked by networks and care little about who is behind the machine -- a bank, a near-bank, a distant bank or a non-bank. Over 13,000 ATMs are already operated by non-banks. And this is just the beginning. When ATMs migrate to PCs and one can download and upload cybercash onto smartcards, banks will lose much of their traditional locational advantage. Quite possibly, they will give way to vast electronic financial shopping malls owned by investors from Bahrain and managed out of Singapore.

Even more radical will be the change in the nature of money. Technology will lead to new

types of money -- e-money, digital cash, cyber-dollars. This creates "open money," stateless currencies that compete with each other, that may be accepted around the globe, but are responsible to no one. Money that pays interest; or money that is restricted to certain uses. Governments will lose control over the money supply and monetary policy. This is doubly ironic, because it coincides with efforts in Europe to create an elaborate official Euro super-currency--- just when the whole concept of an state-controlled currency beginning its transformation into competitive private monies.

In short, the entire traditional banking system will be turned upside down.

2) The Decline of Universities

The second example is higher education. It is generally believed that universities will benefit from the new tools of communication. But the opposite is more likely.

Most branches of science show an exponential growth of about 4-8 percent annually, with a doubling period of 10-15 years. The resultant inexorable specialization of scholars means that universities cannot maintain a coverage of all subject areas in the face of the expanding universe of knowledge, unless their research staff grows more or less at the same rate as scholarly output, doubling every 5-10 years. This is neither sustainable economically nor organizationally, and leads to specialization. Specialized scholars therefore find fewer similarly specialized colleagues on their own campus for purposes of complementarily of

work. Instead, interaction increasingly takes place in electronic communities with distant specialists i.e. in the professional rather than the physical realm.

And on the teaching function of the university it is hard to imagine that the present low-tech, high-cost system will survive. If alternative instructional technologies and credentialing system can be devised, there will be an out-migration from classic campus-based higher education. The point is not that electronic instruction is superior to face-to face teaching. It is not--though the latter is often romanticized. Rather, it can be provided at dramatically lower cost.

We may therefore have in the future a "McGraw-Hill University" giving out degrees or certificates. If these programs are valued by employers and society for their quality of admitted students, the knowledge they gain, and the requirements that they must pass, they will be able to compete with traditional universities, yet without bearing the substantial overhead of physical institutions.

The question is not whether universities are important to society, to knowledge, or to their members -- they are -- but rather whether the economic foundation of the present system can be maintained and sustained in the face of the changed flow of information due to electronic communications. It is not research and teaching that will be under pressure -- they will be more important than ever -- but rather their present main instructional setting, the university

system.

The Counter-Revolution

Similar changes will affect every single one of society's institutions, just as the industrial

revolution changed every one of the feudal structures. But for every revolution there is a

counter-revolution. And just as the industrial revolution of the Nineteenth Century led to the

romantic movement as a reaction, so does the information age lead to a neo-romantic longing

for the lost golden age. Because the revolution is farthest along in America, the counter-

revolution is likely to emerge here, too. This reaction is now marshaling forces in America.

Today, a Cassandra industry is in full force, and an avalanche of anti-technology and

neo-luddite literature is rolling in. Today's fears are the usual suspects in new garb:

Impressionable children. Sex. Violence. Crime. Alienation. Extremist potential. Isolation.

Information poverty. Trade Deficits. Cultural Deficits.

Where once lowest common denominator programming was decried for TV, we now mourn

the loss of the national dialogue and of the common hearth. Where once youngsters were said

not to communicate enough with each other and the world, they now are said to

communicate excessively, obsessively, and sloppily.

The leading edge, as always, is the protection of children. The Computer Decency Act was

adapted as part of 1996 Telecommunications Reform Act. There are similar laws in several states. Such laws will be overturned because the US has a very strong free speech protection in its Constitution. But for other of conduct, and transactions where less Constitutional protections exist, the restrictions will be more enduring.

One should not belittle the concerns and fears of traditionalists. The question is how to deal with the problems. Regulation is possible. But is it necessary?

Suppose that no CDA had been passed. What would happen? Would we experience a rampant use by children of pornography, beyond the usual adolescent titillation? Not really. Parentally controlled software agents could act as electronic censors. Filtering agents would maintain a list of obscene web sites, and block them. Content ratings could be embedded in web information. Rating recommendations could be offered or sold by organizations such as the TV Guide; the Baptist Christian parents association, or the anarchist league. In other words, the problem could have largely solved itself by technology, parental control, and market transactions. But the political system, in an election year, could not let things just happen. It chose the risk-reducing regulatory approach. The approach now also chosen in parts of Europe with much less hesitation.

Contrasting Perspectives on Reaching the Information Age.

The American political system has been most effective where it trusted in the emergence of

order without direction. This is a very optimistic concept. It believes that problems resolve themselves by action and transaction. This is not a specifically American idea. The French physiocrats and the Scottish enlightenment had it first. Adam Smith and John Locke believed in spontaneous order arising in decentralized fashion. This is truly a powerful idea, and one with which continental Europeans have by and large been uncomfortable. Two examples: computers, and information privacy.

1.) Computers

Take France, in particular. France approached computer communications. Energetically, centrally, and unsuccessfully.

First, it commissioned a beautiful official study, the Nora-Minc report, still the most literate report about the information economy, even 20 years later. With the study identifying the strategic-geopolitical need to fight IBM, which compared to such past global powers such as the Roman Catholic Church and the Communist International (just at the time that Steve Jobs and Bill Gates began their successful assaults on IBM), the French government proceeded in a well-planned fashion. It poured money into computer hardware development and micro-managed the computer industry. It even owned parts of it. Such approach had worked magnificently for French railroads, but it failed for computers. Today, there is no French presence in micro-computers, the heart of the information revolution. What industry there is, is largely becoming (outside the defense sector) a subcontractor in return for market

access.

Next, the French government created the Minitel system, controlled and financed by the state telecom monopoly. It even gave away the terminals for free. All state organizations contributed content. As a result, France became the undisputed world leader in videotex. It got wonderful PR. The problem was only that videotex was leapfrogged by the hardware and software that flowed, in a largely unplanned way, from a bunch of upstart American and European institutions, with much sharing, giving away, and stealing. Total chaos. How can one expect a phone company to manage such a process? Today, the Minitel is a technologically backward system, slow and crude, held aloft by subsidies. Its usefulness rests on its convenience as a billing system. As soon as the Internet overcomes the billing hurdle of secure micro-payments, Minitel will slide into a secondary status. Today, Internet penetration is low, ISPs are unfavored, and public debate centers on the absence of French on the web. President Jacques Chirac, who saw his first computer mouse only in December of 1996, dismissed the Internet as "an Anglo-Saxon network."

2.) Privacy

A similar divergence of the US and European approach exists in privacy.

Privacy is important, and information technology keeps raising new threats. In the past, if remedies were considered, the primary strategy has been to manage risk by regulation.

Within that position there were two major directions -- centralized general protection and decentralized ad-hoc protection. West European countries, in particular, pursued the former and passed comprehensive (omnibus) data protection laws and established institutionalized boards with fairly rigorous rules, and coordinated internationally on information collection and data flows. The United States, in contrast, dealt with specific problems as they emerged, and with different approaches across the country. This led to a less systematic approach than in Europe.

The practice for the state to control and protect privacy is a natural response in the telecommunications field, given its history as a state-controlled monopoly. It led to a view of privacy problems largely as an issue of rights, and the question is how to create such rights in the political, regulatory and legal sphere. Such a view is appropriate in the context of privacy rights of the individual against the state. But the same cannot be said for the privacy claims of individuals against other individuals. The allocation of rights is only the beginning of a much more complex interaction. Some people may want and need more privacy than others. Privacy, by definition, is an interaction in which the informational rights of different parties collide. This would suggest that interactive negotiation over privacy would have a place in establishing and protecting privacy.

Take the example of intrusion into privacy by telemarketing calls. Both of the parties to a

telephone solicitation call attribute a certain utility to their preference to call or to be left alone. Because privacy and access are of value to parties in a telemarketing transaction, exchange transactions will emerge if they become technically feasible. On a practical level, one could envision a **Personal-900 Service,** in which the calling party pays a fee to the called party. The caller would be automatically informed that the customer charges telemarketers for his time and attention.

Individual customers could set different price schedules for themselves based on their privacy value, time constraints, and even the time of day. They would establish a "personal access charge" account with their phone or an enhanced services provider, or a credit card company. By proceeding, the telemarketer enters into a contractual agreement. The billing service provider would then automatically credit and debit the accounts in question.

Of course, efficiency is not the only value to be concerned about. But one must recognize that right is merely an initial allocation, and it is in the nature of humans to have varying preferences and needs, and to exchange what they have for what they want. In doing so they exercise another fundamental right, the right of free choice.

The Long Term

It is a fallacy is to believe that the market approach to privacy protection is overly generous to business violators of personal privacy. On the contrary, the tools of access control will

shift the balance of power to individuals and to the protection of privacy. Indeed, it will be the business users of personal information who will end up objecting to transactions. But what can they do about it? Right now, individuals do not yet have effective means to make those desiring personal information compensate them. But the tools to change this, such as encryption or caller identification, are here or near. And when they emerge, the question will be whether the US system of privacy protection will move in a regulatory direction, like in Europe, or to a transaction-based system.

It is a common fallacy to over-estimate the short term but to under-estimate the long term. The long-term leads to entirely new concepts of political community. Just as traditional banks and traditional universities will decline, so will traditional forms of political community. A few years ago, it became fashionable to speak of communications creating the "global village."-- communal and peaceful. But there is nothing village-like in the unfolding reality. Instead, groups with shared economic interests are extending national group pluralism through the opportunity to create global interconnection with each other into the international sphere. The new group networks do not create a global village, they create instead the world as a series of electronic neighborhoods.

In time, these electronic committees are likely to become quasi-jurisdictions. They have to mediate the conflicting interests of their members. They have to establish cost shares,

sometimes creating their own de-facto taxing mechanism as well as redistribution. They have to determine major investments, to set standards, to decide whom to admit and whom to expel. Control over management becomes fought over. Elections may take place. Constitutions, bylaws and regulations are passed. Arbitration mechanisms are set up. Financial assessment of members takes place.

Today we worry about the nature of Internet regulation in America and Europe, and in the asymmetry among them. But in the future, the most interesting questions will be the nature, dynamics, law, and politics of the new types of self-selected communities. Communications define communities, and communities define politics. We are barely at the beginning of this evolution, and the forces of resistance are only beginning to fathom the impacts. We will hear from them, in America and in Europe, and the nature of the response will determine societies' path for a long time--as China's rejection of the scientific revolution, or Spain's rejection of the industrial revolution did centuries ago. Today, the choice is ours again.