

## Information Feudalism in the Information Society

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*Storytelling about technology can be optimistic or pessimistic. This article tells a pessimistic story based on the assumption that a small number of states will dominate the emerging international regulatory order. The story takes the form of an imagined history of the information society to the year 2015. It is based on research work being undertaken by the author in relation to a funded project on international business regulation. This historical scenario is presented as a possible future, not an inevitable one. The conclusion draws some parallels between information society and the feudalism of the dark ages.*

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"Information revolution," "information society," "information age," and "information explosion" are popular terms to describe social transformations that are linked to technologies that have changed the way that we work, live, and communicate with others. Increasingly the shape of these social transformations is affected by the work of global regulatory institutions like, for example, the General Agreement on Tariffs and Trade (GATT),<sup>1</sup> the International Monetary Fund, and the World Bank. This article tells the story of how these institutions propelled information societies into a global feudal order.

One can tell optimistic or pessimistic stories about the social consequences of technology. Pessimistic stories have as their themes the loss of our capacity to control our technological creations, as in the case of Frankenstein's monster, or the increased capacity that technology gives to some powerful group to control the consciousness and lives of others, as in the case of Orwell's *1984*. Optimistic stories have as their principal theme liberation: Technologies of automation and robotics will free us from jobs that are dangerous or simply full of drudgery; communications technologies will enable us to work with others anywhere in the world; information technology will enable us to time shift

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our consumption of services and information; these same technologies will enable us to space shift, because, among other things, places of work can be accessed from home.

This article tells a pessimistic story. It tells it in the form of a historical sketch about how the information age reinforced old inequalities and invented some new ones. It tells the story of what is possible, not what will happen. There is no desire here to lend the story a Hobbesian certainty or confidence about the plot. Rather, the purpose is to use the scenario to stimulate some critical thought about important global policy initiatives in relation to information and its distribution. This is an issue worth exploring, because if it is not, if there is no lively debate about the options, the information society may turn out to be a more unequal place than we might have hoped.

This article tells of how the information age became more feudalistic than democratic. The story makes use of events that have already happened, like the launch of the U.S. National Information Infrastructure initiative (Information Infrastructure Task Force, September 15, 1993) and its metaphorical counterpart, the "information superhighway." It extrapolates from these events and suggests one kind of future. Much of the storytelling about technology assumes some kind of hard or soft technological determinism. Technological determinists, drawing much of their inspiration from the work of Ellul (1964), are those who believe that at base technological innovation is the causal driver of social change. This article does not assume technological determinism. Rather, it assumes that choices by individuals, groups, representatives of classes and organizations in political contexts, contexts that both set limits and offer possibilities, are what matter to the future.

The pessimism of this story derives from an assumption about who makes the policy choices about a global information infrastructure and under what conditions. I shall assume that the principal decision makers will be states and international business. Other players like the consumer movement or privacy groups, while influential opinion makers, will not have a voice in those institutions of the international regulatory order that actually make the crucial decisions. One other assumption needs to be specified. The global information order in my story comes to pass in circumstances where international economic relations are dominated by a hegemonic power, the United States. Views about U.S. hegemony or the lack of it are controversial (Kennedy, 1988; Calleo, 1987; cf. Gill, 1990; Nye, 1990). In my story the United States remains a powerful agenda-setting state. It has economic rivals but not superiors. The second part of this article suggests how an information society might be more feudal than we might like to think. Property rights in information, I argue, may help to bring about some surprising parallels between the two societies.

### A History of Information Feudalism

The year 1993 was important for the information age, for in that year the Clinton Administration launched the National Information Infrastructure (NII). The NII was part fulfillment of a promise. Many high-technology companies, especially those based in California, had thrown their lot in with the Clinton campaign for the simple reason that they thought that the Bush Administration simply lacked the imagination to understand their needs. Bush, when he took an interest in the national economy, seemed too close to the established industrial aristocracies like textiles and car manufacturing. Clinton was younger and more focused on issues of national economic strength. He committed his administration to doing something to help the information industries.

In any case high-tech industries were increasingly becoming a force to be reckoned with in Washington, D.C. Many of them like Microsoft, Apple, and Lotus had hit the

Washington lobby trail in a serious frame of mind. Industry associations like the Business Software Alliance and the International Intellectual Property Alliance were formed to articulate and protect the interests of these information giants. While the industry associations concentrated on strategic trade matters like the enforcement of intellectual property, other groups worked in more visionary ways. It was a time of opportunity. In the 1990s the United States reclaimed, if it had ever lost, its status of hegemonic leadership in the world. It was undergoing a profound economic transformation. Increasingly, it was making its economic living through the export of information. In 1991 U.S. suppliers captured 75% of the world market in prepackaged software (Siwek & Furchgott-Roth, 1993, p. 24). American movies and TV programs returned to the United States a \$3.5 billion in surplus balance of trade and had 40% of the Japanese market.<sup>2</sup>

The Computer Systems Policy Project (CSPP), which consisted of all the chief executive officers (CEOs) of the major U.S. computer companies, began to think about a high-technology policy that suited the global nature of their business. Much of the work of CSPP found its way into the Clinton Administration's policy on high technology and computers. This work was also picked up in the NII.

The NII told an optimistic story about the impact of a supernetwork for the nation. The story was one of liberation and national empowerment in the global economy. People would be able to telecommute to work, the best teachers would be available to all, government would be more accessible and accountable, U.S. technological leadership would be assured, and more jobs would be created.

Even for optimists this was too much to swallow. Privately, in the future now to be described, some large U.S. companies like IBM expressed reservations, noting that the cost of the NII was to be borne by the private sector. Interest groups were also cautious. The consumer movement insisted that a foundation stone of any NII be universal service. It was in the telecommunications sector that they concentrated their energies. In doing so they missed the main game. Citizen groups fought the privacy issue. They were right to do so, for the capacity of the new technologies to collect, store, and manipulate data concerning individuals was unparalleled in history. The privacy issue turned into a debate about encryption standards. Once interest groups had familiarized themselves with the basic issues in cryptology, a fierce debate in the United States took place between them and the U.S. government. The government advocated the Escrowed Encryption Standard (EES). This would have allowed it to keep the keys to all EES encryption systems, thereby allowing law enforcers to access any encrypted transmission for a law enforcement purpose. Citizen groups organized against EES and ultimately won. They did so because by the end of the 1990s distrust of government had reached record levels in the United States. The revelations of large-scale human rights abuses of U.S. citizens by U.S. defense forces and intelligence agencies during the Cold War period deeply shocked the nation. Privacy groups won a great victory in establishing the availability of unbreakable encryption standards. But like the consumer movement, they had also miscalculated.

Despite the almost obligatory professional cynicism of the media, the NII had a great impact in several respects. The metaphorical counterpart of the NII, the information superhighway, began to be talked about within other countries. Within a short space of time all major western countries had a working committee of some kind developing an information superhighway initiative. Even the province of New Brunswick formed a task force to look at the issue (New Brunswick Task Force, 1994). It was a remarkable case of following the leader. The United States, simply by proposing the initiative, caused other countries to imitate it. Most countries were motivated by a fear that they would lose some competitive advantage if they did not make the switch to an NII. Of course, there were

some attempts by countries to distinguish themselves from the U.S. initiative. In Australia, for instance, when the Broadband Services Expert Group (1994) released its report on the superhighway it expressly refrained from using the metaphor on the grounds that it was misleading and somewhat imprecise.

But this was the beauty of the metaphor, for it created a kind of free space that awaited the development of new regulatory agendas and ideas. These were not long in coming. They turned out to be a continuation and extension of the agendas that certain global business elites had begun in the 1980s and now saw an opportunity to complete. In the 1980s those parts of U.S. business involved in the global trade of information, like the movie industry, the pharmaceutical industry, and the computer industry, had campaigned successfully to link intellectual property protection to trade.<sup>3</sup> Their efforts saw the inclusion in the GATT of a code on intellectual property, known as TRIPS.<sup>4</sup> TRIPS was in many ways a remarkable achievement, but it was not the main aim of the committee that had been responsible for some of the strategic thinking on the intellectual property issue. This committee, known as ACTN (Advisory Committee for Trade Negotiations), was staffed by CEOs of various U.S. companies like IBM, DuPont, and Pfizer. Its task was to provide the U.S. Trade Representative with advice on trade negotiations. During the 1980s ACTN had argued that the United States should in the forthcoming GATT negotiations strive toward getting an agreement on the liberalization of investment. One consequence of investment liberalization would be that intellectual property protection would have to be strengthened so that information-based industries could invest anywhere in the world. Somewhat unexpectedly, the United States in the Uruguay GATT round, despite some opposition from Third World countries, secured a strong intellectual property agreement, but did not make great progress on the issue of investment. TRIMS (Trade-Related Investment Measures) was by comparison to TRIPS a modest agreement.<sup>5</sup>

When in 1993 the NII initiative was proposed, the elite of U.S. business that had participated in the GATT negotiations saw an opportunity to finish some unfinished business. Their aspiration was an agreement on investment that would become the master category within a world liberal trading order.

The CEOs and senior management of U.S. business who understood the global regulatory game assessed the regulatory implications of the NII with a hard-edged pragmatism. Unlike national governments, they had made the jump to thinking globally. The nature of their businesses had forced them to do so. They understood that the NII had three basic levels. At one level it represented a system of converging technologies, at another level a series of information flows, and at a third level a set of services and applications. These three levels of the NII had regulatory implications for investment, telecommunications, competition, intellectual property, and trade. Regulatory ideas for each of these levels of the NII were articulated by leaders of business.

The information superhighway had to be built by somebody. No government was going to fund the cost of building it. The sums were too vast. The construction of mobile satellite services like Motorola's Iridium system could only be done through international financing. Billions were required to make it possible for businesspeople to have the option of placing a call on their mobiles from an airport lounge. The information superhighway became the perfect lever to push through a multilateral treaty on investment that suited international business. No state wanted to be bypassed by the information superhighway. With only a limited pool of investment capital to compete for, governments reasoned that they had to support an investment regime that was generous to business. By the late 1990s a multilateral treaty on investment that suited business was in place. States rushed eagerly to sign it.

The superhighway meant that trade in information could take place as never before. Goods and services in digitalized form could be sent to consumers in all parts of the world. The trade in information affected two areas of regulation: telecommunications and intellectual property.

Once states had liberalized the rules on investment, direct foreign investment dramatically speeded up the liberalization of national telecommunication sectors. By the end of the century telecommunications had gone from being the quintessential natural public monopoly to a market dominated by private players.

International business continued to press for stronger and stronger intellectual property rights. The intellectual property issue that had in the 1980s been tied to trade was now tied to the global communications infrastructure. The United States quickly came up with proposals to adjust intellectual property protection (Working Group on Intellectual Property Rights, 1994). Other countries continued to play follow the leader. Consumer groups, which by now had caught up with the issue, resisted the extension to TRIPS on the ground that these rights were really monopoly privileges and thus imposed great costs on consumers. They lost, primarily because investment was by now the master category in the global economy. Business argued that good intellectual property protection was essential to investment, and governments, anxious not to lose investment, supported all initiatives to strengthen intellectual property regimes. Some governments did not need any persuading. In 1994 Australia, led by its Prime Minister, announced a cultural policy that, among other things, committed Australia to a reform of its copyright law so that the country might take advantage of the CD ROM market. No one had thought to look at the trade statistics, which showed that in the previous decade by far the largest contributor to Australian imports was the electronics area (Industry Commission, 1991-1992, p. 68). The copyright amendments simply meant that Australia paid more for that importation.

By the end of the century the patent term had climbed to 30 years and copyright to the life of the author plus 80 years. Copyright acts around the world replaced traditional narrow exclusive rights with general rights of communication and distribution. Despite some opposition from the environmental movement, life forms of all kinds had become patentable. Plant variety protection had been strengthened to the point where even unexpected mutations of seeds could be claimed by the owner of the seed rights and not the grower of the plant. Compulsory licensing of intellectual property had all but been eliminated.

Competition policy also turned out to be affected by the NII. There had been suggestions in the mid 1990s that in a global economy anticompetitive practices might be better dealt with by means of an international competition authority.<sup>6</sup> This never eventuated. A series of "megamergers" between telephone, cable, film, telecommunications, and computer companies did eventuate. National competition authorities were always faced with the same arguments. Permitting the merger would help nurture a country's multimedia and communications markets and offer consumers diversity and choice. More often than not regulators permitted these mergers to go ahead. The sheer complexity of the proposed mergers, the political pressures coupled with their apparent public interest benefits, inclined many national authorities to allow them. The result was that by the time the 1990s drew to a close, many of the giants of the various information industries stood as one.

What was life like in the era of the information superhighway? The answer, of course, depended on where one was. Not much had changed in Africa where the majority of the population did not live within walking distance of a telephone. Consumers in developed societies seemed better off. Where there had once been only 50 television stations there were 500. For fans of television entertainment the choice seemed boundless. Interactive game shows in which viewers matched wits with contestants were all the rage.

Home shopping proved to be a boon especially for busy dual-career families and the disabled. Consumption of all kinds had been made easier and faster, because it could be done electronically from the comfort of the home.

Some countries were much better off economically. Singapore, which had seen the great information technology revolution coming sooner than most, had trained its small population in preparation for the new age. It became one of the great electronic clearing houses of the 21st century. Some countries did less well. Much to everyone's surprise this was true of Japan. Its language continued to isolate it. More importantly, though, Japanese science had not kept up. The failure of Japan's fifth-generation computer project in the 1990s had been symbolic of a deeper malaise. Japan's higher education sector had not nurtured basic science. This, coupled with the fact that scientific research itself was increasingly bottled up in patents, trade secrets, and confidentiality agreements, meant that Japan found itself increasingly isolated from the flows of information so vital to scientific innovation. Slowly but surely, this manufacturing giant of the late 20th century began to fade in the global information age.

Despite the many positive advantages of the information society, it turned out not to be like the democratic dream that had been used to sell it. The NII document had spoken of a well-informed citizenry, educated citizens, lifelong learning, community access networks, citizen empowerment, civic networking, and more responsive government. The information superhighway would be the road to freedom. No one thought it would be the road to serfdom.

The problem did not lie in the failure of the NII to make government more open and responsive. In fact this happened. Governments around the world placed information on electronic bulletin boards and delivered their services more quickly and cheaply by electronic means. But at the same time as governments had become more open and accountable they had also become less relevant to the needs of their citizens. While they provided services more efficiently they provided fewer services. They provided fewer public works and less public education. Governments were badly weakened by the superhighway. The size, speed, and complexity of information flows on the highway meant that many state regulatory activities could be easily dodged. Money laundering was much easier in a global electronic financial world with many entry and exit points.<sup>7</sup> Tax evasion thrived because of the disappearing trails that electronic transactions permitted. Ironically, the power of states to engage in law enforcement on the highway had been weakened by the presence of strong encryption standards that privacy groups had fought for and won. That this might have turned out otherwise was illustrated by securities market enforcement. Here U.S. institutional investors worried about insider trading in East Asian markets insisted that all electronic trading leave electronic traces. Application of clever computer software to sifting through billions of transactions each day improved enforcement against insider trading.

At the same time as the power of the state faded there grew a private power of a global kind. There were two main reasons. The technology of the information society allowed for private forms of coordination of information that gave rise to great power. Global stock markets were one spectacular form of this power. In the days of the 19th century when stock exchanges like the London Stock exchange relied on pigeons to communicate price information and arbitrage opportunities, the power of the stock markets was contained within the state. The pigeons, for example, refused to fly in the winter (Michie, 1987, p. 39). Communications technology improved the flow of information between markets with the result that by the end of the 20th century the financial markets were truly global (Ayling, 1986). States operating democratically found that their long-

term economic planning was subject to the discipline of these markets. A fundamental shift had taken place. The libertarian ideologies of earlier times had defended markets on the assumption that they operated to coordinate individual action within free societies. The information age saw something else. Global markets, which by definition operated outside of the state, were coordinated by large institutional investors to pass judgment on states. The signing of the Trade-Related Investment Agreement at the Rupert Murdoch-owned Windsor Castle in 1998 made it impossible for states to fight any kind of rear-guard action against international capital. This agreement forbade weaker states from negotiating with transnational corporations to insist on some transfer of technology and local job creation in return for access to their markets (as they had done until the mid 1990s). It also forbade them from imposing any conditions on media investments through media regulations. The days when states could limit foreign ownership of their media, could limit the number of outlets controlled by one media baron, could prevent those who controlled the print media from also controlling the electronic media, were over.

Another and in some ways more profound source of private power was the proprietorial control of abstract objects. This source of power was based not on the coordination of information but on coercive control through law. During the 1980s and 1990s there had been a rapid extension in the scope of intellectual property rights. The result was that many abstract objects like algorithms, generic chemical formulas, strips of DNA, and so on were, at the beginning of the 21st century, in private hands. Abstract objects lay right at the heart of the industries of the 21st century—algorithms were the lifeblood of software, biotechnology was dependent on the engineering of DNA, and the pharmaceutical and chemical industries were at the end of the day just purveyors of chemical compounds. In the closing years of the 20th century giant legal battles had raged over the control of these abstract objects. These objects were the most important kind of capital one could own. After the end of the legal wars, roughly the year 2015, most of the world's important abstract objects had transnational proprietors. When new abstract objects were created or discovered they fell into the ownership of this rather small group of companies. The reason was simple. These companies either funded or did most of the research. Governments had all but stopped funding basic research. Transnational elites acquired the intellectual property rights in abstract objects by contract or employment law, which on the question of intellectual property rights favored employers.

It was not just abstract objects that fell out of common ownership. Vast amounts of information, which in the 20th century had been a public good, had by the beginning of the 21st century fallen into private hands. Library systems for centuries had been major disseminators of information. Toward the end of the 20th century there had been a dramatic increase in the creation of private databases. The owners of these databases had been given special rights of protection.<sup>8</sup> Much of the material stored in public libraries, which had been created at public expense, now found its way into these private data silos. Individuals had no problem with access provided they paid the necessary fee. The technology that many publishers had initially thought threatened their very existence created boom times for them. Anyone wishing to make a copy of an article had to do so by downloading from the data silo. Electronic billing systems automatically sent on the required fee to various owners. The information society turned out to be a pay per communication society (Mosco, 1988, Chap. 1).

There had been great fears by intellectual property owners that the information superhighway would turn out to be one giant copying machine. But these fears too turned out to be groundless. Raising public consciousness about the evils of piracy had achieved a lot. So had good-old-fashioned deterrence. Intellectual property infringement had gone

from being a civil matter to a criminal one. Judges were encouraged to hand out heavy sentences. In China there was a typically overenthusiastic response once the decision to support intellectual property owners had been made. Pirates were executed.<sup>9</sup> In Russia, where a criminalized vulgar form of capitalism had taken root, companies hired the indigenous mafia to control the piracy problem. This proved effective. No one felt like sticking a designer label on a pair of jeans or anything else if it meant a visit from a group of former KGB men.<sup>10</sup>

Then the very strong encryption standards that citizen groups had fought for and won in the privacy context also helped to make information excludable. Initially, many of the services and forms of entertainment on the highway had been available for free. Over time, as a dependence was created, these became encrypted. Access had to be paid for. There were only a small number of companies in the world producing encryption technology, and they formed part of the vertically integrated structures of information transnationals. There were some brave hackers who saw these encryption standards as a personal challenge, but the rest of the population simply accepted them. After all, they reminded themselves, these technologies prevented their bosses from eavesdropping on their e-mail conversations.

Somewhat paradoxically, citizens found that life in an information-rich society was more uncertain. In the 1990s Boeing had designed a plane using teams of engineers in different parts of the world. The teams had collaborated over the superhighway's predecessor, the Internet. While one team slept the other worked. The success of this project inspired other companies to assemble 24-hour professional teams. Life for many professionals of all kinds became more anxious, for now they had to compete in a global labor market. While companies through intellectual property law had managed to secure monopoly privileges in the new capital of abstract objects, the monopoly power of organized labor, whether professional or otherwise, had been largely destroyed.

Education in many ways was far more exciting in the era of the superhighway. Students could access materials around the world and participate in video conferences. But in other respects it was less positive. Many universities took advantage of the export opportunities that the superhighway had created for their intellectual products. The problem was that in the status-hungry environment of higher education, consumers wanted brand names like Harvard and Oxford. Elite university names assumed the status of trademarks like Coke and Pepsi. They attracted tremendous following power in the global education market. The intellectual fashions minted in these strategic ideology factories exercised a wider, more pervasive influence than ever before.

The saddest failure of the information superhighway was its failure to become a force for democracy. The idea that the highway would be a major democratizing force had been strongly pushed by media barons. It didn't work out in this way. Citizens found that their freedom of expression was limited by those who owned property in expression. The superhighway and its industries produced more information, but the cost was fewer sources of information. Those with deregulatory agendas used the superhighway concept to fracture existing public controls on the ownership of media. Around the world the trend was the same. In the face of technological convergence and pressured by arguments based on deregulation and trade liberalization, countries dramatically relaxed the regulation of vital areas like cross media ownership. Joint ventures, mergers, takeovers, cooperative agreements, and other forms of corporate reshaping took place between companies in the media, telecommunications, software, computer, TV, and film industries. The result was that by the beginning of the 21st century the communications industry turned out to be an industry that was in terms of its global reach and concentration of ownership

without precedent in history. More information than ever before was being delivered in more spectacular "gee whizz" ways. Unfortunately, it was being delivered from far fewer sources. The potential for manufacturing public opinion had never been greater. Citizens were awash with information. Governments put thousands of pages of new information on the superhighway everyday. But citizen sovereignty required a capacity to sift and analyze this information that citizens did not have. The media barons who produced the best marketed packaging of the information possibilities continued to decide what people attended to. If citizens wanted to, for a fee they could have accessed on their television screens the full 800-page text of the TRIMS agreement of 1998. But few knew how to steer their way through the superhighway to find it, fewer still had the time to read it, and everyone found it cheaper to get the summary for free on a CNN that was bundled in with the information servicing package provided by Murdoch's News Limited.

The idea that the circulation of more information would make for better democracies turned out to go wrong in another way. The Internet had demonstrated that individuals around the world could form interest groups to debate, criticize, and exchange information on lots of topics. The astonishing growth of the Internet had occurred because institutions rather than individual users had paid the cost. The users of it, primarily research communities, had used it to generate work-related discussions. Internet had been very much about participation and critical exchange. The superhighway went a different way. The cost of building it had been met by private enterprise. The companies that had put up billions of dollars in investment had done their costing very carefully. They realized that entertainment would pay for the building of the highway. Their main interest was in encouraging the consumption of interactive entertainment. Aiding the formation of critical discussion groups was hardly a priority for them. Among other things, text was too cheap. Images and music were where the real profits were to be made. The highway ended up reinforcing passive patterns of consumption. Where there should have been citizen networks there were entertainment networks.

The highway also helped to contribute to a well-established trend—the increasing inequality in the distribution of wealth in the world. The superhighway had cost a fortune to build. States that feared a loss of competitive advantage if they did not participate in this large-scale remodeling of their communications infrastructure competed among one another to attract superhighway money. Those states that did not or could not compete through the offer of investment incentives found themselves part of an archipelago of the information poor. The massive proprietization of information that had accompanied the building of the highway saw income directed from the poor to the rich. The increase in the patent term meant that farmers in poor countries had to pay more for access to plant and animal genetic material. Farmers began to ask questions about the power of those who owned the genetic information in seeds. At least serfdom in the Dark Ages meant that farmers could put aside seeds from last year's crop to plant next season. But under information feudalism they could not do this, at least not for those seeds that dominated the markets, without paying a fee to the seed barons. Consumers all over the world found that they paid more for services and products that had become the subject of intellectual property protection. The promise of universal service simply amounted to the provision of some basic hardware in the home. This hardware, unlike the telephone, was not a low-skill technology. Yet universal service never embraced the idea that something had to be done to improve the capability of citizens to process the volumes of information arriving in their homes. Universal service remained an idea that was tied to hardware and the passive consumption of information. The information society turned out to be a place where the information rich had thought of many new ways to rob the information poor.

### Information Feudalism in the Information Society

The concluding section of this article suggests how in some ways information society may amount to a return to a feudal pattern of society. Clearly, the plausibility of this conclusion depends on the plausibility of the assumptions I have used to underpin my imagined history. Furthermore, its somewhat provocative nature leads to questions about the kinds of steps we might take to avoid the possibility of the envisioned history. Is it simply a matter of the careful design of intellectual property rights? The design of property rights is, of course, of fundamental importance. We must strive to get right the balance between the private interest that authors and inventors have in obtaining a reward for their labors and the public interest we all have in the existence of a rich and accessible intellectual commons. But the imagined societal evolution presented here raises deeper questions about the nature of decision making in the emerging international regulatory order. My envisioned history comes about because decision making in this regulatory order is dominated by elites pursuing their global business interests. Perhaps one step to make in avoiding the history I depict is to think about ways in which to democratize the international regulatory structures that exert an ever-increasing influence on the future of information societies. While law and the design of property rights will be important to the possibility of achieving a pluralist regulatory order, they are by no means sufficient.

One final word of warning before I describe the feudal characteristics of future information society. The analogy between information and feudal society could easily be overplayed.<sup>11</sup> One might see some parallels, for instance, in the use of confidentiality agreements by modern corporations to tie down their employees and the feudal institution of servitude. I have no wish to pursue these kinds of detailed analogies at the level of class organization. Rather, I shall draw some parallels between the basic characteristics of feudal society and my historical version of information society.

A discussion of the nature of feudalism could involve a long digression. To progress matters I shall adopt Bloch's characterization of European feudalism in his now classic study *Feudal Society*. Two key features of European feudal society identified by Bloch are relevant for present purposes. First, feudalism was linked to "a profound weakening of the State, particularly in its protective capacity" (Bloch, 1961, p. 443). Second, the economic arrangement of feudal society "meant the rigorous economic subjection of a host of humble folk to a few powerful men" (Bloch, 1961, p. 443). Feudalism was an unequal society in which private power based on the control of land led the holders of that private power to have control over many aspects of economic and social life.

In my imagined evolution of the superhighway and information society the state cedes authority over the control of information to the market and private players. The capacity of the state in the information age to protect its citizens, as in the case of the feudal age, becomes severely limited. States continually complain of a loss of sovereignty but seem powerless to prevent it. The consequence of a weakened state is that important areas of social and economic life are exposed to global forces. Culture is but one form of tradeable information in the information society. This suits those that have the most transmission and programming power. Ironically, the justification for trade in culture is in part founded on freedom of expression principles. Information must be allowed to flow freely in all parts of the world. The consequence of this is a loss of cultural diversity in the world. Issues such as local television content rules and the regulation of pornography, which had been the subject of rigorous public debate until the mid 1990s, become an irrelevance. In practical terms, it is the metropolitan standards of good taste of the media barons that determine what forms of commodification of women's bodies they will exploit globally. Until the mid-20th cen-

tury our bodies were our most tightly held property. In the new order, media barons could select bodies off beaches, from nightclubs, even from brothels, and decide to sell the images to the whole world without the owner's permission. Even the bodies of the old aristocracy, like that of Prince Charles, were subject to exploitation, more so because the bodies of the declining aristocracy could still command a higher price in the market.

Most sectors of the economy that have to do with information industries have been deregulated and integrated into the global economy. Those states with a low buildup of human capital find it difficult to find a comparative advantage that allows them to participate in the global economy. The problem for many states is that investment is needed to build human capital, but investment only follows those economies that already have high levels of human capital. Over time it becomes apparent that in the global economy there is a permanent underclass of nations. Deregulation and market liberalization mean that they can do little to protect their citizens against the hardships of adjusting to the global marketplace. This is true for all states. In certain areas like communications the state loses regulatory authority. Large private global players emerge as de facto authorities over the most important sectors of the information economy.

An even more striking parallel between the information society and feudalism is the growth in private power. The basis of this power lies in the ownership and control of abstract objects through intellectual property rights. The term right is misleading in this context. The right is really a privilege created by the state, which allows owners of abstract objects to interfere in the negative liberties of others. In order to see why this is so we need to examine how intellectual property rights align with negative rights.

A list of rights defended by classical liberals like Locke includes at least the rights of life, liberty, and property. These rights we can think of as negative rights (Berlin, 1969, p. 123; Campbell, 1983, pp. 29-30). They imply that others owe the right bearer an obligation not to interfere by killing him, depriving him of his freedom, or taking his property. In Hohfeld's (1978) jural scheme these classical rights are claim rights—they have as their correlatives duties. Intellectual property rights are one form of negative right. A right of property that relates to land is a right among other things to prevent others from entering that land, selling it, or interfering in some other way that is consistent with the property right. A right of copyright in a book is the right to prevent others from copying, translating, or publishing the book. Whether the right of property relates to a book, an invention, land, or a car, the right is a right to stop others from interfering in a way determined by the content of the right.

While intellectual property rights are, like other kinds of property rights, negative rights, there are also important differences that flow from the connection between intellectual property rights and abstract objects. Abstract objects by their very nature are capable of being universally accessed. In theory at least every person on the planet could simultaneously use the same algorithm. That could not be said of a block of land or a car. One consequence of this is that the pattern of interference that intellectual property rights set up in the lives of others is far greater than in the case of other kinds of rights. Rights of all kinds create patterns of interference. The fact that all individuals within a group have rights necessarily means that the action of any one individual is limited by the presence of other individuals with rights. Rights create zones of freedom by establishing a social basis on which to prevent freedom-threatening action by others. Preventing others from acting can be seen as a form of interference in the freedom of others. X's ownership of a block of land prevents others from owning it (assuming X does not want to sell it). But the limitations that negative rights place on freedom is a price that X and others are willing to pay for roughly the kinds of reasons that Hobbes identifies. The alternative to a stable rule-governed association is, at least on Hobbes' account, one in which all have

privileges to do what they like. The price for this anarchy of privilege is that its exercise is contingent upon the desires and powers of others. And, as Hobbes argues, no one wants to pay this price. The Leviathan is a preferable alternative.

Intellectual property rights create large patterns of interference in the freedom of others because abstract objects are a crucial kind of resource. Abstract objects are vital to all kinds of social, cultural, and economic projects. Intellectual property rights differ in the reach of the pattern of interference they set up. The analogy between intellectual property rights and other kinds of property rights is only superficial. True it is that they both remain negative rights and so can be said to confer a right to prevent other persons from doing things. But this analysis of intellectual property rights remains incomplete because it does not take into account the systemic effects that occur because of the nature of the object to which the rights relate. Property rights in abstract objects have a dual character. They are negative rights, but they are also rights to interfere in the activities of others. The claim I am making can best be illustrated by an analogy between abstract objects and the ownership of all the land of a state by one individual. English feudalism is probably the best example of where, through a system of vassalage, one individual, the king, was the ultimate owner of all the land. One might say of such a situation that the king enjoyed a right of property, a right not to be interfered with. But clearly such a characterization would hardly capture the extent to which the king could, based on his ownership of the land and the complex social structure that such ownership supported, interfere in the lives of all those who were connected with the system of land tenure. Drawing an analogy between the ownership of the abstract object and a king's feudal holdings is appropriate because in both cases the owner has control over a form of capital on which many others inescapably depend. In the case of the abstract object, that dependence may be global rather than just territorial.

The privilege that lies at the heart of all intellectual property is a rule-governed intrusion on the negative liberties of others. Not all privileges are like this. The more usual kind are created through the grant of an exemption from a common disadvantage (e.g., the grant of a tax exemption) or confer a status beyond the common advantage of others (e.g., the dean's own car space). Intellectual property rights are a distinctive form of privilege that rely on the creation of a common disadvantage. Historically, intellectual property rights were not thought of as property rights in the sense of claim rights but rather temporary privileges granted by the state for instrumental purposes. One of the reasons why intellectual property rights are no longer seen in this way is because they are continually referred to as rights and have, through that process of reference, become deeply entrenched in the discourse of private property rights. Their relocation in the language of private property has obscured their origins and function as a form of privilege that operates, albeit temporarily, to the common disadvantage of others.

Feudalism was a social order that institutionalized and tolerated arbitrary interference by lords in the lives of ordinary folk. The following passage from Bloch captures the bleakness of this society:

Undoubtedly the lot of the serf was very hard. Behind the bare texts, we must envisage a crude and primitive world with its moments of tragedy. A genealogy of a family of serfs, prepared in eleventh-century Anjou for the purpose of a trial, ends with this item: "Nive, who had his throat cut but (sic) Vial, his lord." The lord was apt to lay claim, even in defiance of custom, to the exercise of an arbitrary authority: "he is mine from the soles of his feet to the crown of his head," an abbot of Vezelay said of one his serfs. (Bloch, 1961, pp. 264-265)

It is unimaginable that the information society of the 21st century could be like this. And yet if abstract objects fall out of the intellectual commons and are enclosed by private owners, private, arbitrary, unchecked global power will become a part of life in the information society. A world in which seed rights, algorithms, DNA, and chemical formulas are owned by a few, a world in which information flows can be coordinated by information-media barons, might indeed be an information feudalism.

## Notes

1. Now known as the World Trade Organization.
2. Testimony by Jack Valenti, President and Chief Executive Officer, Motion Picture Association of America, before the U.S. Senate Finance Committee, March 6, 1992.
3. Particularly influential was the work of the Intellectual Property Committee (IPC). It was formed in 1986 with the specific purpose of improving intellectual property protection. Its members were Bristol-Myers Squib, Digital Equipment Corporation, FMC, General Electric, Hewlett-Packard, IBM, Johnson & Johnson, Merck, Pfizer, Procter & Gamble, Rockwell International, and Time Warner.
4. See the Agreement on Trade-Related Aspects of Intellectual Property Rights in the Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Marrakesh, 15 April 1994. The IPC was central in the drafting of a policy document that heavily influenced intellectual property negotiations at the GATT. See Intellectual Property Committee (1988).
5. See the Agreement on Trade-Related Investment Measures in the Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Marrakesh, 15 April 1994.
6. For some arguments in favor of an international competition code see the Draft International Antitrust Code prepared by the International Antitrust Code Working Group, July 10, 1993, Munich, Germany. The proposal is not without precedent. The Havana Charter (the name given to the Final Act issued in Havana in March 1948 at the United Nations Conference on Trade and Employment) contained a chapter on restrictive business practices.
7. The problem is being considered in international forums. See the Report on Money Laundering by Working Party No. 4 of the International Organization of Securities Commissions.
8. An early model of protection was the European Commission's Proposal for a Council Directive on the legal protection of databases (92/C 156/03).
9. This, in fact, is already happening. See the report of the execution of trademark pirates in China in the *Sydney Morning Herald*, Monday 23 May 1994, p. 25.
10. This, also, is already happening. See the fieldwork notes of interviews with business informants, "Global Property: World Hegemony" project (in collaboration with John Braithwaite), NSF grant SES-9113267.
11. The use of the term also leads to some complex questions about its relationship to "information capitalism," a system in which profit extraction takes place from the recycling of information rather than physical commodities (see R. Kling et al., 1995). It may be in fact that information societies are a complex mix of types like information feudalism, information capitalism, information slavery, and so on.

## References

- Ayling, D. E. 1986. *The internationalisation of stock markets*. Brookfield, Vt.: Gower.
- Berlin, I. 1969. *Four essays on liberty*. London: Oxford University Press.
- Bloch, M. 1961. *Feudal society*, trans. L. A. Manyon. London: Routledge & Kegan Paul.
- Broadband Services Expert Group. 1994. *Networking Australia's future*. The interim report of the Broadband Services Expert Group. Commonwealth of Australia. July.
- Callo, D. P. 1987. *Beyond American hegemony: The future of the western alliance*. Brighton: Wheatsheaf Books.

- Campbell, T. 1983. *The Left and rights*. London: Routledge & Kegan Paul.
- Ellul, J. 1964. *The technological society*. trans. J. Wilkinson. New York: Knopf.
- European Commission. 1992. Proposal for a Council Directive on the legal protection of databases (92/C 156/03).
- Gill, S. 1990. *American hegemony and the Trilateral Commission*. Cambridge: Cambridge University Press.
- Hohfeld, W. N. 1978. *Fundamental legal conceptions as applied in judicial reasoning*, ed. W. W. Wheeler Cook. Westport, Conn.: Greenwood Press.
- Industry Commission. 1991-1992. Industry Commission, Annual Report 1991-92. Canberra: Australian Government Publishing Service.
- Information Infrastructure Task Force. 1993. *The National Information Infrastructure: Agenda for Action*. September 15.
- Intellectual Property Committee (USA), Keidanren (Japan), UNICE (Europe). 1988. Basic framework of GATT provisions on intellectual property. Statement of views of the European, Japanese and United States Business Communities.
- International Antitrust Code Working Group. 1993. Draft International Antitrust Code. Munich, Germany. July.
- Kennedy, P. 1988. *The rise and decline of the great powers: Economic change and military conflict from 1500 to 2000*. London: Unwin Hyman.
- Kling, R., M. S. Ackerman, and J. P. Allen. 1995. Information entrepreneurialism, information technologies and the continuing vulnerability to privacy. In *Computerization and controversy: Value conflicts and social choices*, 2nd ed., ed. R. Kling. San Diego: Academic Press. (forthcoming).
- Michie, R. C. 1987. *The London and New York Stock Exchanges 1850-1914*. London: Allen & Unwin.
- Mosco, V. 1988. Introduction: Information in the pay-per society. In *The political economy of information*, eds. V. Mosco and J. Wasco, pp. 3-26. Madison, Wis.: University of Wisconsin Press.
- New Brunswick Task Force on the Electronic Information Highway. 1994. *Driving the information highway*. March.
- Nye, J. S., Jr. 1990. *Bound to lead: The changing nature of American power*. New York: Basic Books.
- Siwek, S. E., and H. W. Furchtgott-Roth. 1993. The U.S. software industry: Economic contribution in the U.S. and world markets. Report prepared for the Business Software Alliance, Washington, DC.
- Working Group on Intellectual Property Rights. 1994. Intellectual property and the National Information Infrastructure. Green Paper. A Preliminary Draft of the Report of the Working Group on Intellectual Property Rights. July.
- Working Party No. 4 of the International Organization of Securities Commissions. Report on money laundering.

## Ethics and the Privacy of Electronic Mail

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*After reviewing legal and philosophical definitions of privacy, and their justifications, we consider whether electronic mail (e-mail) should be private. Currently, most universities treat e-mail as private, and most corporations do not. Federal and state laws protect the privacy of e-mail only in public networks. We conclude by arguing why e-mail should be private everywhere, for ethical reasons.*

**Keywords** electronic mail, e-mail, ethics, privacy

Electronic mail (e-mail) is a popular method of communication today. In the United States alone, more than 19 million e-mail users send and receive 15 billion messages a year (Rothfeder, 1993). Electronic mail offers several advantages over telephones, fax machines, and postal mail. First, e-mail is inexpensive. For example, a one-page e-mail message sent from California to New York costs only about 16 cents, compared with \$1.86 if sent by fax, and \$13 if sent via overnight express mail (Rothfeder, 1993). Second, e-mail is quick. An e-mail message can cross the continent in seconds. Third, e-mail is convenient. In contrast with the telephone, the recipient of an e-mail message need not be available when the sender initiates the message.

E-mail may have disadvantages for users, however, because unlike phone conversations and letters, e-mail may not be considered private. In *United States v. Poindexter*, a federal judge ruled that e-mail sent by John Poindexter to Oliver North could be used as evidence in court against Poindexter if it explicitly told of illegal activities (Eskow, 1993).

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