



Reflections

Knowledge: economy or community?

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At the end of World War II, Western civilisation put engineers on a pedestal after seeing how well the US military could manage matériel and logistics. This led to a stockpile of consumer goods. Marketers became the heroes as they created mass-consumer markets. Following the mastery of distribution, promotion and sales, accountants came to prominence. They estimated costs and counted the profits, until money itself became a commodity passing the dominance to the financial managers.

The information age emerged as all these fields demanded better computing. Perhaps it should have been called the IT-industry age. After all, hardware and software may have generated far more profits than the savings supposed to flow from managing information. Today, information has been ‘value-added’ to enfold a more fashionable package called knowledge. It wraps up information and application know-how from various fields, and is more than what is usually found on the Internet.

A notable context, today, in which knowledge is fast attracting capital moves us far beyond matériel towards the essence of life itself. In fact we see in biotechnology how knowledge is being turned into capital—knowledge capital. As capital, knowledge is now being accumulated and tightly controlled rather than widely shared. We have a knowledge economy rather than a knowledge community. Is knowledge economy yet another neoliberal utopia?

Corporate interests already well endowed with power and money are amassing knowledge capital at the verge of the human spirit. The emerging biotech industry, driven by a new science, deals in the engineering of living organisms, including human tissue. By invading this sacred space, and taking upon itself the mantle of universal creator, knowledge capital has found yet another commodity to sell to the highest bidder in the so-called global free market.

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Not surprisingly, given this fiscal ethic, biotech is well funded. Why do we lack the same levels of investment in social technologies [9] such as alleviating poverty, enabling community learning and trying new forms of governance? Why so much hunger when we have licked the problems of large-scale production? Have we got our priorities right when hunger is more tied to the politics of pricing and the global economics of distribution?

1. Food in a knowledge economy

No wonder there is public distrust of biotech inventions such as the genetic modification (GM) of organisms. George Monbiot [6] explains how GM technology is being touted as a miracle cure for human hunger. He points to two particular projects often quoted as examples of the goodness of GM. One is a sweet potato being grown in Kenya to resist viruses. The second is a vitamin A-enhanced rice. The Kenya scheme has collapsed. After massive investment by Monsanto, the World Bank and the United States, it turns out there has been no improvement in resisting viruses.

In neighbouring Uganda, a far cheaper conventional breeding program has almost doubled sweet potato yields. As for the rice, it now appears that malnourished people are not able to absorb vitamin A.

Now, these are only two examples. And they do not necessarily disprove the long-term potential for GM. But there are enough problems to make us careful about how we research and develop GM, as a biotechnology, at least until we know more about the complex process of evolution. And, perhaps, until we learn how to share the new knowledge tied up in food as a human necessity.

Monbiot argues that biotechnology is out to capture and monopolise the sources of wealth and the means of production. GM technology hands the industry the potential to own everything we eat by locking up the patents to GM and other biotechnologies. Further, GM crops cannot be grown without the chemicals patented by the industry owning the GM seeds.

2. Loss of community learning

Fast fading are the days, at least in Australia, when agricultural extension officers were freely available with the latest knowledge in agronomy to show farmers how to boost crop production. The public institutions employing such officers also kept libraries where their knowledge was available to anyone at no charge, even to the dirt-poorest farmers who knew where to ask. These were the days of a knowledge community, when knowledge and learning were more willingly shared. We had yet to hear about the knowledge economy.

Just who has access to new knowledge capital, today? Certainly not people on low or modest incomes. Obviously, it is mainly the global corporations which have commercial-in-confidence partnerships with universities, public and private. At last count, 97 percent of the patents worldwide were held in industrialised countries [3].

The free flow of scientific knowledge 'largely remains in utopia'. For researchers in developing countries there are obstacles to joining international networks and

collaborative projects. And access to the most valuable information—even when published—has become increasingly expensive [2].

Transnational corporations and research laboratories from pharmacy to agriculture are exploiting traditional communities. Local knowledge gained from analysis of plants and other biological samples is either provided by ethnic communities or obtained from observing traditional practices. This is knowledge about their own habitats accumulated by ethnic communities over the centuries. But not even voluntary agreements between the big corporations and local communities ensure that the benefits are equitably shared [12].

3. Converging technologies

Knowledge is now interdependent with technology; the line between content and carriage has blurred. And such a relationship can only strengthen as new knowledge, outside community ownership, both creates and is created by the convergence of technologies. A high-level expert group, reporting to the European Commission [7] on the implications of converging technologies, illustrated its report with a self-referencing loop: ‘Nano-Bio-Cogno-Socio-Anthro-Philo-Geo-Eco-Urbo-Orbo-Macro-Micro-Nano’.

The report reminds us that information and communications technologies helped profoundly transform daily life in the 20th Century. Now, biotechnology is transforming agriculture, medical diagnosis and treatment, and human and animal reproduction. Nanotechnology dreams of engineering at the molecular level. Cognitive and neuroscience challenge how we think of ourselves, while the rise of the social sciences parallels that of bureaucracies and modern forms of governance.

In short, the experts maintain, the convergence of these technologies and technology-enabling sciences is the first major research initiative of the 21st Century. If each of these technologies has created controversy and anxiety on its own, then their convergence is a major challenge to the research community, and to policy makers and European societies. Each presents an opportunity to solve societal problems, to benefit individuals, and to generate wealth. Yet, each poses threats to culture and tradition, to human integrity and autonomy, perhaps to political and economic stability.

The report comes when knowledge about new technologies is being tied up tighter than ever by intellectual property rights.

4. Culture as commodity

Even in our cultural life the big corporate players, the global media systems, have found a new commodity. Where they used to be responsible for enriching our sense of the world, the third estate and its freedom of the press are dissolving before our eyes. The media are ever less independent of both government and business, two institutions now closely aligned. Remember, Thomas Jefferson: in a free-enterprise nation, independence of government is more important than government itself.

The Australian Broadcasting Corporation (ABC) was set up by a conservative government in 1932 to nourish Australian culture and to satisfy the public’s diverse tastes.

By its charter it still must ensure balanced presentation of information, although it is no longer called a commission. Following the heat of the war in Iraq, Richard Alston, when a cabinet minister responsible for broadcasting, set up an inquisition into the ABC. He had accused it of being anti-American and not independent, although an internal examination by the ABC denied his accusations.

Is there any formal investigation into Rupert Murdoch's empire for the way it promoted the war in Iraq? The Fox/NewsCorp oligopoly has been highly selective in disseminating news of the war, both by what it chooses to deliver and what it withholds. In 1975, Murdoch's local network allegedly withheld early inside knowledge of a plot to remove the socialist, Gough Whitlam, as Australian prime minister. This is control of a public commodity, news, for corporate profit.

5. Buying the Internet

Now, Murdoch's media empire is one of the corporate players rushing to control cyberspace, just the way it seeks to control publishing, cinema and broadcasting in various parts of the world, including China.

Trevor Barr [1] once argued that the new digital medium, the Internet, is immune to control by institutions. But why are Murdoch and other big-media enterprises working so feverishly to bring the Internet into the service of the market?

As the digital networks become more codified and structured, they become open to control. As with China, governments have shown how they can centralise control over many aspects of a digital system once hailed as a boon to democracy. Commercial interests can and do use their alliances with government to exert political influence. Witness how the music industry is outlawing the swapping of files on the Internet.

New technologies always lead to new laws. Lawrence Lessig [4] has shown how the cultural monopolists are using advances in technology, especially the Internet, for shrinking the public domain, controlling what we can and cannot do with the culture around us. At stake is people's freedom—freedom to create, freedom to build, and, ultimately, freedom to imagine.

Until recently, Lessig [5] argues, the law had no concern for the ordinary ways that ordinary people share and transform their culture, for example, by telling stories, reenacting scenes from plays and TV, participating in fan clubs and sharing music. The law used to focus on commercial activity. Increasingly the law has protected the incentives of creators by granting them exclusive rights to their creative work, so they can sell those exclusive rights in a commercial marketplace. Now, the rough divide between the free and the controlled has been erased. To build upon or critique the culture around us one must ask for permission first.

Permission is, of course, often granted. But it is seldom granted to the critical or the independent. Lessig believes we are building a kind of cultural nobility. Those within the noble class live easily. Those outside it do not. He finds it amazing how powerful the idea of intellectual property has become, as has the idea of using it to lock out dissent and to disable critical thinking. According to Lessig, there has never been a time in American history when more of its 'culture' was as 'owned' as it is now. And yet there has never

been a time when the concentration of power to control the uses of culture has been as unquestioningly accepted as it is now.

The media—all of them—are driven by mass entertainment more than the need to inform. Much of the entertainment is becoming globally more uniform in content and style. And entertainment, in turn, is controlled through the media magnates by the power of the advertising dollar, by the so-called free market. In fact, global entertainment is the crusader of the globalised free-market that has formed around global capital.

6. 20th century ideas

All this bears out Peter Watson, who in reviewing the 20th century, concluded that three powerful ideas [10] came to prominence in the last part of that century [10] to push us into the future. They are science, free-market economics and the mass media.

All three have put us in the knowledge economy. And they are still intended to pull us further into the future, to chase the utopia of free-market ideology. These converging concepts can be repackaged as:

- globalisation of capital, which has been enabled by mass media and more recently the Internet;
- free market—the dominant ideology that is fast going global; and
- technology—as the application of science often in the cause of global capital.

Assuming we want to, how can we build a knowledge community, for sharing and learning, when these factors are driving the global knowledge economy?

7. Towards knowledge community

Part of the answer may lie in a struggle that peaked in 2001 when about 30,000 researchers in medicine, science and technology began boycotting the big publishers. The publishers were about to impose the charges they now demand for reading articles in their journals on the Internet. Yet the researchers, whose work was publicly funded, had always offered their research papers free of charge to these publishers for their peer-review journals.

The dissident researchers have since launched the new Public Library of Science which offers their research papers online free of charge. We are seeing the semblance of a struggle against knowledge capital.

Do we go with the flow? Or should libraries and other public learning institutions be championing more open community access to knowledge?

8. Crisis in meaning

But there is not only a crisis in community knowledge. There is a crisis of meaning—the way we make sense of our world. Corporate jargon and political double-speak obscure

clarity, while the underlying values often are in conflict with personal values. Francis Wheen's recent collection of anecdotes shows the delusory power of mumbo-jumbo [11].

Research on what young people think of the future shows how confused they are [8]. They fear for the future, as portrayed publicly, yet yearn for a simpler, safer life embedded in traditional communal values of compassion and sharing. They hear the US and Europe demanding free trade from developing countries while subsidising their own agricultural produce. The same countries demand fiscal rectitude of developing countries when some of their own business entities fall to corruption and mismanagement. Political leaders lie about reasons for invading Iraq.

By colonising meaning and privatising knowledge, today's knowledge professional could be passing dominance to the engineers of life. In little more than half a century, we have moved far from the engineering of matériel and logistics. Biotech seems awfully close to the knowledge needed to create a new species that could challenge *homo sapiens*. Would a post-human species be a participant or a commodity in the global marketplace? After all, many citizens have been excluded from the global marketplace and elements of natural ecosystems have become mere commodities.

9. Rethinking knowledge markets

An alternative future for new knowledge is that it becomes widely accessible for rethinking governance, community and learning. This could help reinvent our libraries and other learning systems to look something like multimedia hubs, in space and cyberspace, that:

- uphold the freedom of the press, and restore the role of media to inform, as well as entertain;
- enable access to a diversity of information and knowledge—and culture—that encourages critical questioning, reflective thinking and human imagination;
- immerse communities in narratives of our heritage, and its local and global cultures and traditional wisdoms, while helping invent new cultures;
- facilitate informed choices about people's future lives and landscapes;
- value ideas as social inventions and enable new processes as social technologies; and
- develop a clear, robust set of ethics for knowledge access and learning that promotes participation in the local community and the global economy.

Should a new knowledge community become the preferred utopia?

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