

Free to Know or Free to Own?

Convergence of Free and Slow Culture in Global Relocalisation

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Abstract

This paper argues that private property law is a human construction, not a law of nature. Along with copyright law, and patent law, it may need to be reinterpreted to ensure it keeps up with social change, and continues to serve its original function, to defend human freedom from concentrations of power. This will require free culture groups, inspired by free software, with their global thinking, and slow culture, catalysed by slow food, with their local action, to play a part. Example of this can be seen in the increasing use of free software, agile development, and permaculture design, in crisis relief and recovery. Because of oil dependence, industrial society is a long, slow disaster, which will require a massive relief effort for the human species to survive. Courts, patents, and property are all used to concentrate power, and for a transition to a post-oil economy to work, the freedom to know and the freedom to grow are going to have to take precedence over the freedom to own. This doesn't mean abandoning the concept of property entirely, just ensuring it functions to protect people's ability to supply their needs, not as a means to enslave others. The ground is being prepared for these relief efforts by creating resilient community structures, and resilient communication systems, and synergies between the two are becoming clear. The capacity for both humanity and the potential for advanced civilisation to survive the coming decades intact will be enhanced by slow culture and free culture working like the twin blades of a pair of scissors.

Introduction

"Heard you come in, through the back door, how did you get there, do I mind?" - Tadpole, 'Back Door'

In 2003, I began meeting with activists around the country to promote the citizen journalism website created by Aotearoa Independent Media (AIM), the local section of the global Indymedia network. I quickly realised that inviting people to read the website was not going to work. Activists were plugging into the internet in large numbers, and they were swimming in information overload. The last thing they needed was another website to read, particularly one with such a broad mission as being the collective mouthpiece of the movements against corporate globalisation.

However, it was just as obvious that they could see the power of the web as a form of speech, and they wanted to be able to speak in that form, without having to become programmers first. So, instead of asking activists to read the site, I encouraged them to publish news stories about their concerns and campaigns, and where possible, walked them through publishing their first story. While they were using the site to publish, they would also have a browse over the front page, might read some of the other articles, and perhaps comment.

When the first open-publishing Indymedia site was created in 1999, it was an alliance of activists from different movements, including free culture geeks, who wanted their free software tools to serve humanity, and slow culture greens, who saw open-publishing on the internet as a means of waking humanity up to the ways the dominant economic systems are reducing the carrying capacity of the biosphere, and involving them in alternatives. The lesson I took from my experiences with Indymedia is that it is possible for technophiles to become bright greens (environmentally-aware technologists), and dark greens to appreciate ethically-motivated uses of information technology, and for members of both to cross-collaborate on ground-breaking projects.

However, this is best achieved by creating projects that genuinely fit the values of both groups. This is far more motivating than being lectured about a perceived moral obligation to help information freedom, or environmental regeneration, or anything else. Perhaps this is why open source, with its focus on software quality benefits to developers and users, and organics, with its focus on the health benefits of eco-friendly farming, have been more effective at recruiting people than free software, and permaculture with their focus on ethics and principles.

In this paper, I investigate the ethics, principles, and activities of both geek and green communities of practice, and the practical and political issues they face. I hope to shed light on what the free culture and slow culture movements can learn from each other, and how they can work in synergy towards free, co-operative, and regenerative human cultures. In doing so, I hope to demonstrate why I believe there is a question of principle that is equally important to both camps. Which is more important way for humans to be free; free to know, or free to own?

(Please note, this paper includes some basic explanations of concepts in both slow culture and free culture, so as to be comprehensible and useful to activists from both movements, regardless of their level of knowledge about the other. I also think it's helpful to restate assumptions, so contested definitions within each movement can be explored by reference to proposed parallels in the other.)

Property is Theory

"In this ghost town where we live there's a wanted poster of you on every corner" - Supergroove, 'Sitting Inside My Head'

Hundreds of years worth of arguments over politics and economics have revolved around the meaning of two words: freedom, and property. The confusion in the history of western philosophy over the meanings of these words, and their relationship to one another, can be summed up in two contradictory quotes from the maverick economist Proudhon; "Property is theft", and, "Property is freedom" [1]. Both freedom and property are human constructs, not laws of nature, and Proudhon's point is that whether property serves freedom, or denies it, depends on what meaning is given to property. Yet this elastic understanding of property has been succeeded in general usage by a belief in property as a natural right, as fundamental as the right to life [2], resulting in all sorts of confusion in the debate between its opponents and defenders.

Nowhere is this confusion more apparent today than in the concept of "intellectual property". To its advocates this means the freedom to benefit from the intangible products of intellectual work by controlling them as an exclusive domain, which others may enter only under conditions imposed by the "owner". Opponents of "intellectual property" include the intellectual progeny of Proudhon, like Brian Martin [3], who reject it simply because they reject property rights in general as tools of enslavement. To quote the anarchist FAQ, "anarchists are against every form of property rights regime which results in the many working for the few" [4]. There are also libertarian theorists who believe that protection of property rights is a prerequisite for freedom, but do not believe organised information qualifies as property, such as Stephan Kinsella [5], and Boldrin and Levine [6]. Then there are those like Richard Stallman, who simply reject the phrase itself as "misleading", and an "overgeneralisation" [7]

Advocates of globalisation instruments like TRIPS [8] have defended the propertisation of cultural commons, for example as the Indonesian state's claim of perpetual ownership of all works "'commonly authored' or of 'unknown authorship'" [9]. They claim that the depletion and despoilation of shared resource pools is inevitable without an owner to take responsibility for their sustainability. This is an extension into the noosphere of a claim which was applied to the geosphere and the biosphere by Garrett Hardin in 1968, in the "tragedy of the commons" [10].

These ideological conflicts over the relative merits of the owned and the commons affects a number of distinct, but increasingly overlapping, communities of hackers (by the Stallman definition, "Playfully doing something difficult, whether useful or not, that is hacking." [11]). As mentioned earlier, these can be roughly divided into two streams. The geeks; free software developers - the pioneers of free culture; and Agile developers - the 'loose forwards' of software design. The greens; the slow food movement - the catalysts of slow culture; permaculture designers - whose ecological principles weave together the threads of the counterculture; and the Transition activists, who come out of whose initiatives aim to prepare communities for energy descent.

Both free software, and Agile programmers are often professionals, who may code for both free and proprietary software at work. Similarly many slow food gurus, change agents involved in Transition, and permaculture designers, are people with day jobs, which might involve them working on projects for social or for private benefit. Most in these communities would not consider themselves opponents of property rights per se, but faced with aggressive propertisation by multinational corporations, they tend to come down on the 'free to know' side of the debate.

The Slow and the Free

"Fast technology made a problem and advertised its own solution. Buy the latest, speed it all up. Drive off into Science Fiction." - Citizen Fish, 'Faster'

Free culture is increasingly recognised as a social movement unifying a range of approaches which involve sharing and remixing of 'infostructure' (structured information) and defending the right to such expression, both intellectually, and legally (for example see Anna Nimus on the invention of authorship [1]), but what is slow culture? The slow ethos is perhaps best summed up by the statement on the lone page at slowculture.org [2], next to a photo of tomatoes ripening on the vine, "Soon there will be a web site here... But I'm taking my time.

There will be links and info relating to slow culture. Now turn off your computer and spend some quality time with someone you love".

Why slow? The slow food movement began as a reaction against 'fast food' - the industrialisation of eating - when a group in Rome started by Carlo Petrini [3] protested against the opening of a McDonalds in 1986; the same year the Free Software Foundation first published the Free Software Definition [4]. In 1989 Petrini founded Slow Food International as a membership organisation, which now has branches across the world, advocating for local and regional cuisine; more careful cultivation and preparation of ingredients; less bulk, and more flavour and nutrition; and more conviviality and enjoyment in eating [5].

In opposition to the perceived expectation in modern society for "bigger, better, faster, more" (to quote the 4 Non Blondes), slow culture is about increasing quality by reducing quantity, something any programmer understands [6]. Just as free culture is a rough consensus, uniting a clutch of projects, organisations, and networks, whose commonality is defined by generalising the theory and practice of free software, a range of slow culture projects and networks have emerged, which extend the use of the word slow by the slow food movement. Slow money advocates for investment in stable, local economies [7], as an alternative to globalised, state-corporate ones. Slow art [8] means the "suppression and realisation of art", as the situationist Guy Debord put it [9], a radical return to art as communal culture, created and recreated in the act of live participation and interpretation, rather than the fractured acts of production and consumption. The first Slow Art Day [10] was held in 2009, and could become the slow answer to Software Freedom Day [11].

What then, are the synergies between slow culture, which champions the local and the immediate, and free culture, which emphasises the global and the internetworked? Whereas free culture is about 'thinking globally', slow culture is about 'acting locally'. Indeed that famous slogan of the environmental movement (also originated by the situationists, according to Hakim Bey [12]), could be restated as 'think freely, act slowly'.

Look again at the description of slow art, and it starts to sound eerily familiar. Indeed, Lawrence Lessig's spirited defence of "read/write culture" fits the slow as well as it fits the free. Nor am I the first to intuit the implications of 'slow software'. Agile development trainer Jeff Patton calls for a "Focus on quality of delivery over speed of delivery" [13], and most tellingly, "Agile folks don't believe they can effectively predict the future, or estimate development time. Many agile folks believe in emergent architecture, and in growing software incrementally" [14]. This principle is summed up by one of 12 design principles distilled by one of the two founders of permaculture, David Holmgren, "use small and slow solutions" [15] (another set of 30 principles were laid out by co-founder Bill Mollison 16).

Returning to the slow food movement, it's this principle that drives their opposition to mass corporatisation of farms, and the tyranny of the warehouse supermarket, and the burger franchise. Arguably this industrialisation of food suppresses the freedom to grow in the same way that dumping surplus food in developing countries suppresses theirs, by keeping the price of the commercial product lower than the cost of cultivation. Does opposing this mean the slow food movement believe in food freedom, in the same way the free software movement believes in software freedom? To answer that, we first need to define what we mean by software freedom, which brings us to a discussion of values.

Values Added

"We've got to believe in the world that we live in, we've got to believe in the gifts that we're given, we got to stand up for the things we believe in" - Trinity Roots, 'All We Be'

Both slow food and free software are social movements, each intertwined in a systems dance (to paraphrase Donella Meadows [1]), gracefully revolving around their partners in the design philosophies of permaculture and Agile development. The strange attractor in each case is a creative, collaborative, and convivial shaping of technology, grounded in an explicit set of shared values, and integrating Ken Wilbur's "big three" of art, science, and ethics [2]. The three domains are often disastrously dissociated in modern industrial societies; governments and corporations investing in artless science; businesses and charities turning art into persuasion regardless of ethics; charites and politicians who don't test whether their results really measure up to their good intentions.

"Whether gods exist or not, there is no way to get absolute certainty about ethics," writes Stallman. "Without absolute certainty, what do we do? We do the best we can." [3] As the founder of free software, Stallman defines

it as a technical expression of what he calls "the four essential freedoms" of software users; to run, customise, redistribute, and share improvements [4]. For Stallman, the difference between free software and proprietary software is the degree to which it respects the freedom of the software user. Free software is a libertarian tradition, which like the USA Declaration of Independence, starts with a statement of freedoms [5]. However, if we look at the content of those freedoms, we see that two of these four freedoms are about being empowered to co-operate and share, and that the first two freedoms are essential to enabling that.

So what about the defining values of slow food? [6] Slow food must be good to eat, which correlates nicely with the freedom to run - fit for purpose. It must be clean, organic, cultivated by growers who can keep their own seed, and experiment with varieties, which fits with the freedom to customise. It must be fair, rewarding the growers and distributors properly for their labour and skills, which gels with the ethic behind the freedom to redistribute - the ability to "help your neighbour". Finally, it must involve the eaters as co-producers, rather than disconnected consumers, which is analagous to the freedom to share improvements, and its goal of benefiting the community at large. Does slow food value freedom? I think so.

Permaculture is similarly grounded in a matrix of values. The permaculture ethics are usually stated as: earth care, people care, fair share [7]. The WikiVersity Department of Permaculture expands the third ethic into two: distribute surplus, reduce consumption [8]. Permaculture ethics then, emerge from a socialist tradition - Marx himself expressed the 'fair share' ethic in his famous phrase "From each according to his ability, to each according to his need(s)" [9] - but this is combined with the systems thinking inspired by ecology and computer science, to produce an understanding that people can only act as freely as the system in which they live is optimised to allow. No human freedom can exist without a living planet, a nurturing society, access to resources, and arguably an understanding of how to maximise their utility.

The Agile Development mission statement also offers four points to consider [10]. The first is "Individuals and interactions over processes and tools - which clearly involves people care, as does the last, "Responding to change over following a plan". If we broaden earth care to environment care, then the second point, "Working software over comprehensive documentation", could be analagous to regenerative human systems over money, and ideology. Finally, "Customer collaboration over contract negotiation" site quite nicely with fair share.

Obviously both slow food, and permaculture, are about a lot more than just where food is sourced from, and how it's grown. Farmer Julian Rose's passion for these deeper principles of locally centred cultivation, and fair supply, have led him to criticise the business-friendly focus on 'organic source' health food being transported huge distances for well-to-do customers [11]. Journalist Michael Pollan's book 'The Omnivore's Dilemma' traces 4 meals back to source; standard supermarket; corporate organic; "beyond organic"; and wild food; and comes to the conclusion that only the 'beyond organic' meal is sustainable long term. Working with permaculture style practives which mimic natural processes, like parking a chicken tractor in fields recently vacated by cows to let hem scatter the dung in search of worms, Joel Salatin refused to freight his products cross-country, and made Pollan come to him [12].

The relationship between open source and free software is similarly problematic. Open source was coined a small group including Eric Raymond, and Bruce Perens, in an attempt to avoid the common misinterpretation that free software is the opposite of commercial software, rather than the opposite of proprietary software, in order to make it more friendly to business. However, the phrase creates its own problems. In a 2009 article on LinuxInsider, 'Open Core Debate: The Battle for a Business Model' [13], Ingres CEO Tom Berquist says, "There are very few purist open source companies of any meaningful size. The concept is almost a religion for some instead of focusing on the money angle". Substitute 'free worker' for 'open source'. Would Berquist accuse people of religious puritanism for defending the employment of free workers, rather than slaves, as a non-negotiable principle? Or would he advocate "focusing on the money angle", and treating workers as free or slaves according to whoever business model is most efficient or profitable? Open source sounds like something you can condiment your company with, or not, whereas there's less ambiguity about what a free software company means.

"At the same time, you essentially cede control of the platform to the community, so that the actual direction of your product is no longer under your control and therefore not predictable. That's where pure open source falls short of being a truly valid business model, which we're seeing with Red Hat," says "marketing developer" Michael Krotscheck. Why would enabling developers and users to drive decision-making on architecture and priorities, a key part of Agile Development practice, make a business model invalid? Unless being successful in business is somehow incompatible with democracy?

Ricardo Semler, founder and CEO of Semco SA, would beg to differ, having built one of Brazil's biggest companies on principles of internal democracy, saying "only the respect of the led creates a leader". His company has embraced ethics of freedom and people care, and thrived in a competitive market despite it, or even because of it.

These quotes illustrate the woolly thinking made possible by substituting the term open source for free software. Just as talking about 'health food' sheds little light on the different ethical implications of organic source and slow food, It becomes clear that blurring the distinctions between open source and free software for the sake of superficial unity doesn't solve the problem.

As an alternative to broad brush acronyms (FOSS/ FLOSS), or obscure phrases like 'libre software', I have adopted the phrase 'free code software', which fulfills both Stallman's condition that freedom be emphasised over a more malleable concept of openness, and the need to distinguish between "free-as-in-beer", and "free-as-in-speech". However, I still happily use open source when discussing the community-driven process that grew up around free code development as the internet emerged, with its ethics of decentralisation, interoperability, and "rough consensus". From ethics, principles emerge, especially among conceptual designers, but what could the guiding principles of geek and green communities possibly have in common?

The 12 Disciplines

"You got to learn to connect, and bring change" - Shapeshifter, 'Bring Change'

"Do the simplest thing that could possibly work", says Patton [1], and it's a curious coincidence that the Agile Manifesto development principles [2], Holmgren's permaculture design principles [3], and Rob Hopkins' ingredients of Transition [4], all break down to 12 key points. It would be no surprise to find correspondence between the Transition and permaculture principles. After all, Transition began as a community-driven response to peak oil and climate change by activists and permaculture teachers like Rob Hopkins [5]. What if we compare either Transition or permaculture with Agile? The agile and permaculture principles potentially link up in a few different ways, but I have laid out what I think are the strongest correspondences (see Appendix A). I did the same with the Transition ingredients and the agile principles (see Appendix B). In both cases, I was excited by how easy it was to line them up. Then, fearing a confirmation bias, I wondered, "am I the first person to see these correlations?". Apparently not.

A blog post by "edible landscape" designer Ethan Roland generalises the Agile principles, "pulling the most-useful for ecological and social landscape design to the top" [6]. Roland makes some of the same connections I did, matching principles on 'change', and 'self-regulation and feedback', but he sees some of the parallels differently. For example, whereas I paired Holmgren's "produce no waste" with the Agile 'simplicity' principle of "maximizing the amount of work not done", Roland linked it with "LEVERAGE your work to do the greatest good for the greatest number of beings for the longest amount of time", a principle from his own 'Directives for Architects' [7]. While I put Agile's "working software is the primary measure of progress" together with Holmgren's "catch and store energy", Roland saw it as "obtain a yield", a principle I matched with Agile's "satisfy the customer". My suspicion is that a programmer would think of the working software the same way a permaculturist thinks of a designed ecosystem, as a means to an end, and in a commercial software project the end is user satisfaction.

Another set of comparisons was made by Robert Dober, a contributor to a Ruby forum on FLOSSPlanet [8]. He highlights the reference to sustainability of development, "The sponsors, developers, and users should be able to maintain a constant pace indefinitely", as being akin to permaculture. This goes against the grain of the biological principle that has more recently become part of permaculture thinking, that ecosystems, like organisms, have a 'pulse', and the pace of emergence is never constant. However, it does point out the need for the development process to sustain the energies of all of its participants in the longer term, and watch out for collective habits that are self-exhausting, as do the other two Agile principles he mentions about iteration ("slow and small solutions" in my correlations), and "reflects, tunes and adjusts" ("feedback and self-regulation" in my table).

Since the internet is one big global pond, it makes sense that the ripples from two pebbles like permaculture and Agile being dropped into it would eventually touch, overlap, and start to create interference patterns. So what about Agile and Transition? Being 'in transition' is often discussion in Agile writings, such as Patrick Wilson-Welsh's article on adoption of Agile development practices [9], and the different transition strategies been used

in different companies. Similarly references to agility are scattered through Transition writings, but it seems these two sets of ripples have yet to consciously overlap.

Even so, Wilson-Welsh's article could easily be generalised in a way that would apply to the iterative progress made by a Transition initiatives, and the strategies that have been tried in different communities. For example, transition is a journey not a destination; get endorsement from management (local government); start with a team who are in regular in-person contact; let team members stick with their pet projects; identify way the community lacks resilience, and deal with those first; decide on methods for measuring the success of a project before you start organising it; simplify systems at every opportunity; ask your community whether they are ready to transition together, or whether to start with a small proof-of-concept project. His conclusion sounds exactly like Transition at work, an example: "Work to assuage fears, to celebrate positive results. Be patient if things get sticky. When all else fails, return to ways to create even more community. Do anything else you can to bring people closer. Celebrate every small success with food."

So are these correspondences mere coincidence? The result of the same creative interpretation that sees dragons in clouds, and faces in tree trunks? Or is there a unifying pattern lurking beneath all these examples? One answer is that permaculture, Transition, and Agile, are all applications of systems thinking; to human habitat design, community planning, and software development, respectively. Both Meadows [10], and Kevin Kelly [11] offer us a sets of emergent principles they claim can apply to any dynamic system, but arguably, it's possible to identify common principles between any two things if you abstract them enough.

Bodies of theory are all very well, but to be of any use, they have to be applied. The strengths of all these adaptive design practices become clearer when they focus the wisdom of crowds [12]; and organise 'barn-raising' - community mutual aid exercises - to solve problems under the most chaotic and stressful of circumstances.

Hacking for Resilience

"Try to think international... You should feel guilty if you're just watching!" - Atari TeenageRiot, 'Destroy 2000 Years of Culture'

Given the choice, both geeks and greens projects lean away from 'crownsourcing' - "public" support via government departments, and state funding, which can have strings attached, and towards 'crowdsourcing' - public support via volunteer participation and direct donations. Crowdsourcing involves people in self-managing teams and networks, working together locally to help themselves, and collaborating with others from afar. Pragmatically, it enables experimental and unplannable projects, which could not happen if everyone involved was an employee on a wage, but it also connects with an intrinsic human desire to connect, and make a difference.

Ethan Zuckerman, blogging about the Hurricane Katrina PeopleFinder project says:

"I got dozens of emails thanking me for an opportunity to help out. I suspect a huge number of people were sitting at home in front of the TV this weekend, feeling helpless and were grateful for something they could do above and beyond writing a check that made them feel hopeful." [1]

The Humanitarian FOSS Project has been created to facilitate the involvement of computer science students in socially useful free code projects [2], and geeks across the planet have been using crowdsourcing strategies like this to respond to the needs of communities hit by natural disasters. Hours have been spent on code, and data management; from the Sahana (Sinhalese for 'relief') software, written by Sri Lankan hackers after the 2004 Tsunami hit [3]; to the Ushahidi ('witness' in Swahili) platform, based on a website set up to monitor the post-election disturbances in Kenya in 2008 [4]; to the convening of the CrisisMappers Network [5] in 2009. The CrisisCommons was also founded in 2009, and their low-carbon 'remote aid' CrisisCamps began in January 2010 with the Haiti earthquake [6]. The 'camps' were inspired by the Hackfests, which came out of Linux User Groups (LUGs), and Barcamps, which also emerged from the free code software movement [7].

Greens are also becoming more involved in disaster relief and recovery. At the same time as Sahana was bring created, Earthship architect Michael Reynolds and his 'Bioteecture' crews were helping people rebuild their Tsunami-flattened villages on the Andaman Islands [8]. Permaculture-inspired relief efforts go back at least as far as 1999, with permaculture designers and their crews helping communities across the world rebuild human habitats in crisis situations, including Alice Harrison in Palestine [9], Geoff Lawton in Macedonia, Robyn

Francis in Cuba, and a team who added their skills to a village rebuild after the 2003 hurricane, initiated by architect Eric Davenport, and Peace Corp worker David Docherty [10].

More recently in Haiti, following the devastating earthquake there in 2010, both the geeks and the greens have been involved in relief and rebuilding efforts. CrisisCommons set up their CrisiWiki, hosted by National Public Radio [11]. An instance of Sahana was deployed [12], "including a Situation Map, an Organizations Registry, and an Activities Report" [13]. CrisisMappers set up an Ushahidi implementation, using data from the Open Street Map project, where groups like InSTEDD helped them aggregate and map help requests SMS texted to 4636. Missing persons were tracked using a system based on the PeopleFinder code developed after Katrina [14]. Meanwhile, both PermaCorps International [15] and the Biotope Institute [16] began to help survivors rebuild their homes and become more self-sufficient in the process.

There were also a number of case studies in the wake of the recent earthquake in Waitaha/ Canterbury [17], which destroyed a number of homes and businesses, especially in the city of Ootautahi/ Christchurch. CrisisCommons volunteers monitored the situation from afar, collecting information on a dedicated CrisiWiki page [18], and debriefing their response using PiratePad, a service run by the Swedish Pirate Party using the free code Etherpad software [19]. The regional council, Environment Canterbury, set up a site using the free code blogging engine Wordpress, to publish information on the quake and relief efforts as it came to hand [20]. A number of stories about the quake appeared on Aotearoa Indymedia (AIM), which runs on the free code Content Management System (CMS) Drupal, mainly focusing on the examples of spontaneous mutual aid in communities around the city, and the plight of workers who faced loss of pay or loss of employment as a result of the quake [21].

Rebuilding after the earthquake comes with both risks and opportunities. Some of the stories on AIM, including one by the author, comment on a new Act of Parliament, which gives one government minister the power to make or suspend regulations, supposedly in the pursuit of rapid rebuilding. Reference is made to 'the Shock Doctrine', a book by Naomi Klein which documents the use of crisis situations by politicians to ram through unpopular pro-corporate reforms, and the risk of further deregulation and privatisation of the city's infrastructure under the Act. However, the work of the permaculture and biotope designers shows that crisis situations can also be an opportunity to refactor, to borrow an Agile phrase, rebuilding with the benefit of experience of what works and does not work in the current built environment. As Richard Grevers puts it in his post on the Permaculture in New Zealand website, "If I were still living there, I think I would be asking myself how I could be less dependent upon fragile infrastructure." [22]

So how can more independent community structures help in the response to disasters? One example in Ootautahi was The Lyttelton Timebank, which helped to co-ordinate relief efforts in the part of the city surrounding the port, one of the city's essential supply lines [23]. The website of Lyttelton Timebank is hosted by a Transition-style initiative called Project Lyttelton, who describe their server as "...an e-commons project built using an Open Source Content Management System on a Virtual Server in Christchurch, all specifically designed to support Community IT." [24]

The rationale of Time Banking is a variation on the idea of Local Exchange Trading Systems (LETS) [25], also known as 'green dollars'. According to Global Ideas Bank, "The LETS system is really only an information exchange, which uses a computer to keep track of account holders' green dollar trading transactions. Its objective is to stimulate trade, local economic activity, community relationships and personal self-confidence." [26] Whereas LETS currencies usually use units ('green dollars') of negotiable value to quantify transactions, Time Banking uses the work hour as a fixed unit. Essentially, it allows volunteers to 'bank' the hours they spend helping their neighbours, and exchange them for hours of other people's help when they need it, using the Time Banking member database to match up skills with needs. Community currencies are often the initiative of permaculturists and Transition groups, with the same goals as Slow Money; to increase exchange of goods and services within a neighbourhood or village, build relationships and resilience [27].

Looking into the future, our oil dependent industrial society is a long, slow disaster which will require massive relief efforts for the human species to survive. This disaster is made up of a strangling net of problems; fossil fuel dependence; climate change (anthropogenic or otherwise); overshoot of Earth's carrying-capacity; massive loss of biodiversity; toxic pollution; monetisation and proprietarisation of everything; overproduction and under-distribution; commercialisation of governance and education; expertisation of everyday life. Many of these problems are avoidable, but so far we have failed to avoid them. Chetan Dhruve argues that this is because we find ourselves enmeshed in workplace dictatorships that suppress both initiative and honesty about bad news [28]. Also, where a free flow of information that could help us to better adapt both our behaviour and our social

systems to the changing world around us, we find ourselves in a "read-only society", to quote Lawrence Lessig [29], which is desperately damming up that flow, in the defence of out-dated and maladaptive economic models.

To the degree that the internet is a glowing, grandiose, virtual Dubai, dependent on this unsustainable society, the information revolution is part of the problem. A poignant posting by Christophe McKeon to a forum for developers of the Ruby language summed this up by saying, "I am writing today to say my goodbyes to Ruby but also to computers and everything else which we know is destroying our planet, yet which we continue doing in our denial and madness towards inevitable annihilation." [30]

Primitivists like Kirkpatrick Sale, author of *Rebels Against the Future*, also lament the expansion of the internet and the growing ubiquity of the computer [31]. However, the Luddites he valorises were not opposed to technology per se, but implementations of that forced freemen back into a state of serfdom, via micro-division of labour, and mechanisation of the workforce. Neither were pre-industrial societies models of ecological stewardship, as illustrated by his discussion of the clearing of forests for sheep farming, hundreds of years before the Luddites [32].

As Ken Wilber writes, "... the startling fact is that ecological wisdom does not consist in understanding how to live in accord with nature; it consists in understanding how to get humans to agree on how to live in accord with nature" [33]. The ability to democratically determine how the land they depend on is used, and how the tools they work with are shaped, distinguishes the freeman from the serf, and potentially, the ecological from the ecocidal. Similarly, whether activists against oil dependence must oppose the information revolution, or join in, depends entirely on how digital technologies are configured, and with whose interests at heart.

Boundary Issues

"When I was an alien/ Cultures weren't opinions" - Nirvana, 'Territorial Pissings'

As the internet and related technologies are becoming increasingly embedded our everyday lives, will they be configured to serve the common good, or corporate profit? This will be determined, in many ways, by the outcome of the battle between those who call copying sharing, and those who call it stealing. Protection of "intellectual property" is being used as an excuse for all manner of enforcement tools, such as denying people an internet connection if they are accused of file-sharing copyright material, which is in leaked drafts of The Anti-Counterfeiting Trade Agreement [1].

Regulations also limits what kinds of software can be written. In some countries, including the US, patenting laws have been bent to treat software as an invention, allowing the patenting of programming ideas on top of the existing copyright protection of source code. Companies can then charge royalties from other programmers implementing a similar idea even if they write new code from scratch [2].

If this had been allowed in the early days of the personal computer Microsoft might have used the threat of legal action to get license fees out of anyone who developed software with a graphical user interface - even though they originally copied the idea from the Macintosh, adding Windows to DOS under a licensing deal with Apple. Ironically Microsoft was taken to court by Apple, who were pushing for recognition of their ownership of the implementation of 'windows'. Apple lost [3]. In 2003, SCO Group undertook a more ambitious lawsuit, suing IBM, and Novell over their support for the Linux kernel. They also threatened hundreds of corporations with law suits if they used operating systems including the Linux kernel, without a license for SCO's proprietary version of UNIX. In 2007, Novell was found to actually own the Unix in question, and with no legitimate business income to keep them afloat, SCO declared bankruptcy [4].

Both of these cases were taken under copyright law, but in 2004 Microsoft launched a similar strategy against the free software community, this time using patent law. They claim GNU/ Linux violates 235 of their patents, although they won't reveal which ones, preventing their validity as patents from being challenged. While the GNU GPL (General Public Licence) prevents distributors of GNU/ Linux from paying patent licenses, Microsoft's patent lawyer started approaching corporate end users with their hand out [5].

The justification that copyright serves the public good, and patents supports innovation, are hard to swallow in face of the parasitic way SCO and Microsoft have used their freedom to own. This staking of ownership claims extends beyond software, and into genomes, with similar implications for freedom. This Biotechnology corporations who have genetically modified food crops to be resistant to pesticide chemicals (Monsanto

'RoundUp-Ready' soy beans), or to secrete pesticide (Aventis 'Starlink Corn'), claim these 'innovations' deserve patent protection. In many countries, notably the USA, they have been granted.

The idea of patenting plants is abhorrent to many social justice campaigners who have warned that life patents threaten the ability of ordinary people to freely grow plants for their own needs. Commenting on a Patent Ordinance being introduced by the government of India in the wake of the 2004 tsunami, scientist and food sovereignty campaigner Vandana Shiva said "it threatens to tear down the entire fabric of food security and health security we had built carefully and democratically since independence, by creating patent monopolies for seeds and medicines" [6].

As an example, when RoundUp Ready genes found their way into his Canola crop, Canadian farmer Percy Schmeiser was sued by Monsanto. They demanded a \$15/acre license fee for the use of their technology, even though Schmeiser doesn't use RoundUp, and would gain no advantage even if he had "pirated" the seed. Says Schmeiser, "It was a very frightening thing, because [Monsanto] said it does not matter how it gets into a farmer's field; it's their property" [7]. Eventually Monsanto settled out of court, but as with the SCO/ Microsoft strategy, it's clear their goal is to create a respectable cover for highway robbery; making end users pay again for things they have legitimately obtained.

Another well publicized Monsanto biotechnology program was the Terminator Seeds, a technology now known by the euphemism Genetic Use Restriction Technologies (GURT). Their aim was to use genetic modification techniques to protect their patented genes, by producing infertile food plants [8].

Like the breeding of sterile hybrids, this would have the effect of forcing farmers, community growers, and home gardeners to buy seeds every season if they want to grow food. However, hybrid plants often still produce seed, even if plants grown from them do not always have the same carefully selected characteristics as the parent plant. Growers can still save seed and many organics enthusiasts carry out their own experimental breeding programs. The risks is that these Terminator genes would spread through wind-blown pollen, insects, or horizontal gene-transfer. This could prevent seed sovereignty, and worse, attack the natural ability of wild plants to copy themselves, all for the sake of protecting Monsanto's freedom to own.

Analogous to this, the greatest threat against the viability of free software lies in the changes occurring in the design of computing equipment. Traditionally the open architecture standards of the PC platform allows any company to produce pieces of equipment for with PCs. It was this openness that drove the widespread adoption of PCs by office and home users over competitors like Apple, giving Windows its current dominance, but ironically it was this same openness which allowed GNU/ Linux and other free code operating systems to start competing, first on servers, then on the desktop.

As the PC has become more of an internet terminal and as more people access the internet through portable devices including Palmtops and mobile phones, content industry associations like the RIAA and the MPAA are pressuring hardware manufacturers to cripple their hardware to prevent copying of media, a practice they call DRM ("Digital Rights Management"). The FSF have termed this practice 'Defective by Design', as it limits customers' freedom to use the hardware they have paid for to run free software [9].

The Trusted Computer Group standard (sometimes known by the Microsoft codename Palladium) is an example which "...provides a computing platform on which you can't tamper with the application software, and where these applications can communicate securely with their authors and with each other." according to Ross Anderson, a Professor of Computer Security at Cambridge University [10]. This type of system is now being referred to by the euphemism 'Technological Protection Mechanisms', and the draft of ACTA proposes criminal sanctions against programmers whose software circumvents them.

It is these questions of freedom which are crucial to understanding neo-Luddism. It is not technology they oppose, but the use of technology to deny freedom. Keeping in mind that law is a technology, like Stallman, they reject the imposition of property laws that are incompatible with the human freedom to create, to express, to share, and to help a neighbour.

The debate between proponents and opponents of "intellectual property" can thus be stated: which freedom is more important for the future of humanity; to be free to know, or free to own? Proceeding from this is another question, applying to geological and biological natural resources which cannot be created by human labour. Is state enforcement of monopolies over soil, water, or minerals, as "property", any more sacrosanct than in the

case of more intangible resources like physically possible methods (patents), sequences of the words of a natural language (copyright), or strings of the natural numbers of mathematics (proprietary software)?

Especially in the case of land ownership, which like the various monopolies aggregated under "intellectual property", amounts to a bundle of state-enforced rights of exclusion and control [11], one might paraphrase the first question and ask: free to grow, or free to own? However, as the ability to grow is increasingly tied to the fruits of intellectual labour, in the form of gardening and farming knowledge, and in the packets of DNA we call seeds, 'free to grow' becomes increasingly indistinguishable from 'free to know'.

Arguably, the transition to a combination of slow, community-scale economies, and a free, global infostructure, offers the best chance of not only surviving the coming ecological changes, but adapting and thriving. For this transition to work, the freedom to know is going to have to take precedence over the freedom to own, and the state-granted monopoly of "intellectual property" is going to have to take a back seat to "intellectual freedom". It may even be that the freedom to grow have to take precedence over other forms of exclusive property, in land and other natural resources. Fortunately, this transition is well underway around the world, and there are numerous opportunities for geeks and greens to work together to define wicked problems, and create new possibilities for humanity.

For example, like Stallman's subversion of copyright in the GPL, there are people are creatively reinterpreting property to make it once again serve human freedom, by planting fruit and nut trees in public spaces. Free Food New Zealand's initiatives on the ground are supported by online propagation advice, and fruit tree mapping projects, using Google Maps [12]. Free culture advocates could help by migrating these maps to a system using Open Street Map data, and building on the OSM mapping features to make them more conducive to food mapping.

The permaculture movement was founded on the training of designers, and the sharing of teaching materials is already common practice. Developing course materials online, under a libre license, would be highly beneficial to both trainers and learners of permaculture design. One thing free culture advocates could offer is a concerted effort to teach more permaculture trainers how to use wiki, and introduce them to collaboration sites like WikiVersity, and WikiEducator, who already host materials from a short permaculture course at Otago Polytech. [13]

Conclusion

"Hope for a generation, just beyond my reach, not beyond my sight" - Fat Freddy's Drop, 'Hope'

Make no mistake, geeks and greens are different subcultures, despite the overlaps that increasingly exist. Geeks tend to be futurists, welcoming new technology, optimistic that its benefits will outweigh its costs. Greens tend to be more conservative, cleaving to the precautionary principle, and demanding proof of both safety and benefits before they embrace the synthetic. Geeks tend to be nonconformists, suspicious of the perceived social conservatism of neighbourhood politics, despite the entrenched social norms they co-operate under as part of online communities. Greens tend to be communalists, disapproving of competition, and despite their energetic collective competition for global moral leadership.

Despite all this, the communities of practice around both slow culture and free culture have nothing to lose by supporting each others work, and a just, free, and sustainable world to gain. With the global adoption of infostructure which integrates the ethics and principles of free culture, especially free software, we can ensure the universal freedom to contribute to, and draw from the shared human knowledge base, which will assist "slow and small" community development around the world. With a worldwide adoption of human habitat design practices which integrate the ethics and principles of slow culture, especially permaculture, we can be more certain of sustaining the capacity of the biosphere to support complex life forms like ourselves, and societies which can support free culture.

Free software, open source development, and libre knowledge systems, offer the hope of every person on the planet having access to the knowledge they need to help people make their communities self-sustaining, and defend their freedoms. Permaculture, with its practices of regenerative production, incremental design, and renewable energy, offers the hope of making information technology sustainable, by embedding it in self-sustaining intentional communities of free people. By supporting the defence and collaborative development of commons (eg seed banks, ConservationCommons, CreativeCommons), both slow culture and free culture show

themselves to be neo-luddite movements - working to humanise technology, rather than mechanise/ automate humans. To achieve this, we need to value the freedoms to know, and to grow, over the freedom to own.

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Appendix A

Table 1

The 12 Principles of Agile Software as ordered in the Agile Manifesto, with Holmgren's permaculture principles re-ordered to illustrate correspondences and reveal underlying systems thinking.

12 principles of Agile Software - 'Agile Manifesto'	Holmgren's 12 permaculture principles - 'Principles and Pathways Beyond Sustainability'
Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.	Obtain a yield - Ensure that you are getting truly useful rewards as part of the work that you are doing.
Welcome changing requirements, even late in development.	Creatively use and respond to change - We can have a positive impact on inevitable change by carefully observing, and then intervening at the right time
Agile processes harness change for the customer's competitive advantage.	Use small and slow solutions - Small and slow systems are easier to maintain than big ones, making better use of local resources and producing more sustainable outcomes.
Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.	Use edges and value the marginal - The interface between things is where the most interesting events take place. These are often the most valuable, diverse and productive elements in the system.
Business people and developers must work together daily throughout the project.	Use edges and value the marginal - The interface between things is where the most interesting events take place. These are often the most valuable, diverse and productive elements in the system.
Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.	Integrate rather than segregate - By putting the right things in the right place, relationships develop between those things and they work together to support each other.
The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.	Observe and interact - By taking time to engage with nature we can design solutions that suit our particular situation.
Working software is the primary measure of progress.	Catch and store energy - By developing systems that collect resources at peak abundance, we can use them in times of need.
Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.	Use and value renewable resources and services - Make the best use of nature's abundance to reduce our consumptive behaviour and dependence on non-renewable resources.
Continuous attention to technical excellence and good design enhances agility.	Design from patterns to details - By stepping back, we can observe patterns in nature and society. These can form the backbone of our designs, with the details filled in as we go.
Simplicity--the art of maximizing the amount of work not done--is essential.	Produce no waste - By valuing and making use of all the resources that are available to us, nothing goes to waste.
The best architectures, requirements, and designs emerge from self-organizing teams.	Use and value diversity - Diversity reduces vulnerability to a variety of threats and takes advantage of the unique nature of the environment in which it resides.
At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.	Apply self-regulation and accept feedback - We need to discourage inappropriate activity to ensure that systems can continue to function well.

Appendix B

Table 2

The 12 Steps from the original Transition Handbook, with the 12 Agile Software principles re-ordered to illustrate correspondences and reveal underlying systems thinking.

Rob Hopkins' 12 Steps of Transition - from the Transition Handbook 1.0	12 principles of agile software - 'Agile Manifesto'
#1. Set up a steering group and design its demise from the outset This stage puts a core team in place to drive the project forward during the initial phases.	The best architectures, requirements, and designs emerge from self-organizing teams.
#2. Awareness raising Build crucial networks and prepare the community in general for the launch of your Transition initiative.	At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.
#3. Lay the foundations This stage is about networking with existing groups and activists.	Simplicity--the art of maximizing the amount of work not done--is essential.
#4. Organise a Great Unleashing This stage creates a memorable milestone to mark the project's "coming of age."	Working software is the primary measure of progress.
#5. Form sub groups Tapping into the collective genius of the community, for solutions that will form the backbone of the Energy Descent Action Plan.	Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
#6. Use Open Space We've found Open Space Technology to be a highly effective approach to running meetings for Transition Town initiatives.	The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
#7 Develop visible practical manifestations of the project It is essential that you avoid any sense that your project is just a talking shop where people sit around and draw up wish lists.	Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
#8. Facilitate the Great Reskilling Give people a powerful realisation of their own ability to solve problems, to achieve practical results and to work cooperatively alongside other people.	Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
#9 Build a bridge to Local Government Your Energy Descent Plan will not progress too far unless you have cultivated a positive and productive relationship with your local authority.	Business people and developers must work together daily throughout the project.
#10 Honour the elders Engage with those who directly remember the transition to the age of cheap oil.	Continuous attention to technical excellence and good design enhances agility.
#11 Let it go where it wants to go... If you try and hold onto a rigid vision, it will begin to sap your energy and appear to stall.	Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
#12 Create an Energy Descent Plan Each subgroup will have been focusing on practical actions to increase community resilience and reduce the carbon footprint.	Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.