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Writing & artwork in Mute by Simon Worthington

Writing & artwork by Simon Worthington currently available on <http://metamute.org/> as of April 2006.

The End of Innocence (Global Hacking Conferences)

ByGoldfinger and Simon Worthington

Global Hacking Conferences

LIFESTYLE HACKING - Defcon 9, Las Vegas, USA

[IMAGE] Defcon is not what it used to be. Nine years on, it has lost most of its former glory. Perhaps this is more symptomatic of the general shift within the global computer scene: as it becomes more open, it gets more diluted. The feel of the event is more like a pool party with the real hacking happening in hotel rooms, the hackers armed with laptops, away from the crowds.

It bills itself as the 'largest underground security gathering on the planet', but now its underground status is in question. San Francisco hacker Gweeds made a statement about the commercial exploitation of Defcon by passing out leaflets urging attendees to refuse the \$50 door fee, to find himself escorted off the premises.

Events such as HAL and HIP pull in smaller crowds, but have a more hard-core following. What Defcon lacks in intensity it makes up for with the bizarre. Pete Shipley delivered his talk on 'war driving' – hacking wireless networks remotely at 40mph in a van – only to appear later at the bar in a cocktail dress.

Other notable events included the Social Engineering Contest, in which participants take turns to stand in an open phone booth on the stage and 'engineer' information or passwords from the 'victim' on the other end of the phone.

Goldfinger

DOWN TO THE METAL - Hackers At Large 2001, Enschede, NL

[IMAGE]

The word in the weeks building up to the HAL2001 conference was that this was going to be 'the last one', because hackers share the belief that the future will involve further intimidation, harsh jail sentences and Gov/Corp disinformation.

At the opening address of the conference, Emmanuel Goldstein, editor in chief of 2600: *The Hacker Quarterly*, described the predicament of a hacker community demonised by state/corporate controlled media. Over the next few days these 'old people' – a term from the HAL guide – presented an agenda of how to reshape the future of the Hacker movement accordingly.

With freedom of speech and information acting as the two ethical cornerstones of the Hacker Code, hackers share common ground with the anti-corporate-globalisation campaign groups and Indymedia producers. An organisation like ASCII, the Amsterdam based internet workspace running the Netherlands IMC tent, were actively pursuing this goal and looking for recruits. In some respects these two groups were made for each other: both enjoy unpicking secretive technocratic global systems,

dark spaces illuminated only by monitor glow, and can only sustain a very low Away From Keyboard (AFK) time.

This year's HAL felt like 'the last one' in a very real way. Since we are no longer in the 'innocent' era in which knowledge of technical systems was acquired for its own sake, the Hacker Ethic must now be updated. The hackers need to acquire knowledge of the cultural and political kind, to compile some log filez of Guy Debord or Deleuze & Guattari, and then synthesise a new kind of access key – one that opens up the Global Order Inc. by the back and front doors.

Simon Worthington

Simon Worthington <simon AT metamute.com>

Defcon [<http://www.defcon.org>], 13-15 July 2001, Las Vegas, USA

Dis.Org Crew [<http://www.dis.org>]

Wired News [<http://www.wired.com/news/culture/0,1284,45248,00.html>]

Hacking at Large [<http://www.HAL2001.org>], 10-12 August, Enschede, NL

ASCII [<http://www.squat.net/ascii>]

2600 The Hacker Quarterly [<http://www.2600.com>]

>> Photos

top - from [<http://www.sneakerz.org/defcon/>]

bottom - by Simon Worthington

Network the People

By Simon Worthington, James Stevens and Bruce M. Simpson

Have you noticed the strange sight of Parcelforce workers delivering bundles of copper wire, sheets of aluminum, plastic tubing and reels of cable to inauspicious looking buildings of late? Or have you noticed the empty Jolt cans and pizza boxes overflowing from bin bags all over the city? We can confirm that these seemingly unrelated phenomena are in fact connected: the wireless network community has been born! For several years now, enthusiasts – fuelled by pure idealism and junk food – have been building local area networks, operating over licensed 802.11 wireless technology, to provide communities with broadbandwidth connections for next to no money. Inspired to join in the fray, Mute has recently started building too. Here we present some of the results, as well as a few words from those that inspired us – on technical and other matters

YOUAREHERE

YouAreHere was initiated by Metamute, Mute's online presence. The project aims to resource local media practice in the East End of London through platforms for trade and debate. This area has a wide array of wireless network projects (such as free2air.org, ambienttv.net and consume.net) which YouAreHere aims to support by setting up workshops and contributing ideas to their development.

Although YouAreHere has many other components (a Twiki, email lists, screenings, talks, a trade show), one of its central objectives is to help build a wireless backbone from Limehouse to Hackney Central, and potentially beyond. The next step will be to use the wireless network to increase exchange between groups active in the local area. Users would be able to share files, keep each other informed about events, put out requests or stream live events.

Simon Worthington

Feel free to add any suggestions about this project on YouAreHere's website
[<http://youarehere.metamute.com>]

[IMAGE]

>> Photo: Simon Worthington

FREE NETWORKS

Free Networks – an international collective of IT network builders and enthusiasts – is undergoing a remarkable period of innovation and collaboration. As with so many social movements, this locally oriented and globally integrated initiative, might appear to have come from nowhere but actually has well-established roots. From the pre-internet BBSs to the more recent development of Independent Media Centres (IMCs), there has been a long history of those struggling to gain autonomy from prescriptive commercial markets and technologies. The setting is perfectly irresistible: a compressed economic environment with global capitalism under withering scrutiny. The information age has boiled down the magic of telecommunications into a set of modular components that any of us can adopt and explore. Recent wireless Local Area Network initiatives illustrate just the barest outline of this crude transformation of the topology of power by its users.

At a recent summit in Seattle organised by Wireless Seattle – a not-for-profit community project – leading protagonists from community area networks across the US and UK gathered to confer about establishing support structures and co-ordinating local networking needs. Now Free Network initiatives worldwide are creating prototypes in their communities, adapting and customising off-the-shelf components to their own ends. Throughout the UK, from the urban sprawl of major cities to the isolated pockets of rural hamlets, the light of new independence shines brightly through the actions of those with the insight to share what they have on terms that cut against the commercial grain and inspire. Trip the loop, make your switch, consume the net!

James Stevens

[<http://www.freenetworks.org/>]

[<http://www.consume.net/>]

PUSH PACKETS TO CONSUME

An often overlooked problem that needs to be solved in order to make the Consume wireless network project come together is that of routing. This is the art and science of getting packets from A to B – and there's far more to it than plugging in and turning on.

Consider trying to drive across the UK without a road atlas. Try getting anywhere. Without that atlas, you're lost. This is what a routing table is – an atlas of the network, from a packet-eye view. Now imagine if every motorway junction on the M25 could disappear at any time; a network is actually a living, breathing thing. Routing protocols enable routers to build the road map dynamically.

Now picture a road network with more one-way streets than dual carriageways. One of the challenges facing wireless networks is the prevalence of unidirectional links; you might be able to get a signal to your neighbour, but she might not be able to get one to you. Through sharing state, and Dijkstra's Algorithm, routers push packets in the right direction.

Building a network which can cope with these variables, and yet heal itself rapidly when connections break, is the highest form of network ninjitsu. The challenge faced by Consumers is the same one that every telephone company faces. Routers are smart packet pushers.

Bruce M. Simpson

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Patently Obvious

By Simon Worthington

The OpenMute project explains its approach to the public domain after four years of using and contributing to **FLOSSOnHorse**

As a sister project of *Mute*, and in the context of *Mute's* knowledge commons issue, *OpenMute* would like to clarify its position and relationship to FLOSS and the public domain. OpenMute involves different people from *Mute*, and the experiences, knowledge and day to day practices of those individuals bring a different and complimentary perspective to the issue of the 21st century commons.

The OpenMute project started in 2001 to provide FLOSS communications web tools to cultural and community groups, with an understanding of their shared circumstances: limited resources, mixed levels of computer skills, and often little experience of the networked communications that FLOSS facilitates. As an advocate of the public domain, OpenMute adopted FLOSS as a tactical media toolset for its ability to challenge the ongoing conversion of everyday knowledge into property. When shared conventions from daily life can be borrowed and patented just because they have been replicated in computer code, the office becomes the virtual office and CompuCorpX now own it. FLOSS and its associated strategies are a way of opposing these exploitative types of property and social relationships.

OpenMute's project now encompasses the following services: the free as in beer OM1 - a web CMS tool set now running over seven hundred individual web sites; the paid for OMXTRA; Web2POD print on demand, high quality low cost book production and distribution services; and recently, UserLand, a UK workshop tour with artists from across Europe advocating FLOSS cultural practice.

The public domain, which FLOSS is one method of contributing to, isn't a clear cut situation and is relatively new (as is the postNet world). OpenMute has taken the approach of being an active FLOSS user/participant/contributor, in order to help secure the public domain as a place of radical change and liberation alongside other groups. FLOSS is one component of what OpenMute terms the Free Technology Movement which also comprises; **Free networks** – community run and owned networks; **Free hardware standards** – non proprietary standards; **Peer2Peer networking** – such as Pirate Byran; **Open standards** – W3C; **Open content** – WikiPedia; **Open IP agreements** – Creative Commons.

Although many FLOSS practitioners might have stated their political agnosticism, it is this perceived neutrality that allows on the one hand the anti-Capitalist movement to adopt FLOSS so readily and, on the other hand, corporations like IBM to see FLOSS as a more agile strategy for developing software and gaining ground on competitors like Microsoft.

OpenMute is funded by the Arts Council of England for its CMS web services 0M1/OMXTRA and its UK FLOSS tour, UserLand. In a UK context OpenMute is in the same position as other FLOSS initiatives supported by the UK Government, whether it's in the area of education, the voluntary sector or community groups. The situation is one of accidental government involvement, with bottom up initiatives requesting support rather than the government having any policy or programmes which actively support FLOSS.

At a recent FLOSS voluntary groups event, SocialSource 2005, this situation was clearly underlined again and again as groups talked about their experiences. An example was Bristol Wireless which runs a scheme to provide primary school pupils with Linux installed laptops and a wireless connection to the school. The weak link is that the teachers are not trained in using Linux. Here a comparison can be made with Andalusia in the Iberian peninsular where there is an integrated FLOSS program by the government, and teachers are trained and supported in Linux. Another comparison is the ongoing support programme for the voluntary sector in the UK, called ChangeUp, where there is some FLOSS support. But again the initiative is piecemeal and only in its infancy, whereas in France local authorities run a local government SourceForge-like service, ADULLACT. If a government agency makes a FLOSS software package, for example to coordinate refuse collection, the software is put in a public repository for other government agencies to make use of.

Without integrated governmental support, initiatives face an uphill struggle. At last month's WSFII summit in London, which brought together players in the FTM, I overheard a conversation between two of the people attending, which sums up OpenMute's position on FLOSS: 'Why', a woman asked, 'are we having to build VOIP networks on a shoestring? Isn't this what the governments or the market should be up to?' And her friend replied, 'Yes, you would have thought so, but no they aren't, so it looks like it's DIY'.

OmCustomer

Image >OM user from Digital Media Studio - Beijing <http://dmsbeijing.omweb.org/>

URLS:

OpenMute - <http://openmute.org>

SocialSource - <http://www.socialsource.org.uk>

ADULLACT – software mutualisation - <http://www.adullact.org>

Bristol Wireless - <http://www.bristolwireless.net>

WSFII World Summit of Free Information Infrastructures - <http://wsfii.org>

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Blowin' Hot 'n' Cold

By Simon Worthington

Simon Worthington on Io, one of Jupiter's moons

Follow the links and you will come to a picture of the volcanic surface of Io, one of Jupiter's moons photographed by the Hubble telescope. [<http://www.stsci.edu>]

Io is peppered with fiery volcanoes, with geyser-like eruptions hundreds of kilometres high and temperatures the hottest in the solar system outside of the sun, yet most of the surface is bitterly cold. Io, the London-based orchestra, create music as dramatic as their lunar namesake.

Io, the orchestra, wander far and wide creating a landscape which ranges from the minimalism of Philip Glass to brass-led Latin Jazz, from Drum 'n' Bass to mesmeric jazz solo pieces. With so many players in the orchestra and the heady infusion of musical genres you might expect an audial M25 pile-up, a cacophony. But this is far from the case, instead the virtuoso qualities of the musicians leads to an astounding cohesion. It is not only in the arrangements that the orchestra works so well, it is in their very apparent control of their instruments and knowledge of their music which allows them to unashamedly do 'Bad' things to the music.

To see Io's next performance check out their website [<http://www.iospace.co.uk>], in the meantime a number of Io members are involved in creating the music for a theatre production of James Gleick's book FSTR at the Riverside Theatre this October. [<http://www.riversidestudios.co.uk>]

Simon Worthington <simon AT metamute.com> is co-editor of *Mute*.

Rhyme and Reason

By Simon Worthington

Simon Worthington sings the highlights, Totally Out Of Tune

I'm outside the new HTBA centre and Lone Twin are performing Ghost Dance. From 9am to 9pm this blindfolded pair of men, dressed as cowboys, perform a gruelling methodical step dance in a cobbled courtyard. Deprived of sight, the leather-chapped men use the sound of their hands slapping their chaps to map out the space and locate each other. Slowly but surely they circle around, never touching the walls or each other.

[IMAGE] [IMAGE]

>> Hayley Newman, Score for 10's 12lbs; Charlemagne Palestine. Photos: iD.8 Photography

At the Ferens Art Gallery Hayley Newman has started her performance Score for 10's 12lbs. Random objects – shoes, teapots, string, a paper plate and pumpkin – lie scattered on the floor. At the back of the room a laptop on a desk defines a line of symmetry. Two one meter-square digital weighing machines are positioned on either side of it. Newman is cavorting around the room gathering the objects and placing them on the scales, triggering a parallel world of sound shadows. Sometimes the cued sounds name objects; other times it's simply music or noise. There is a rhyme for every reason.

Elsewhere in the Ferens, Charlemagne Palestine entirely transforms his hallowed but ever so slightly stodgy museum corner. Playing various electronic instruments from a piano which is surrounded by an army of fluffy toys and bright fabrics, his esoteric music infuses the gallery. Slowly, the audience also slumps into a rag bag heap on the gallery floor.

[IMAGE]

>> Lone Twin, Ghost Dance. Photos: iD.8 Photography

After having your cultural memory chip reconfigured by Lone Twin, you are now ready to have it slowly drained. Charlemagne's performance makes you feel a bit like HAL in 2001: Dave is removing your chips and you start singing "Daisy, Daisy, give me your answer do..."

[www.timebase.org]

Simon Worthington
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Culture Clubs

By Anthony Davies and Simon Ford

New Labour orthodoxy maintains, in line with its predecessor, that public private partnerships are the only way forward economically. Transport, health and education have been the most controversial new enterprise zones, but is the cultural sector's restructuring any less absolute? Anthony Davies and Simon Ford report

Where corporations once sponsored art and culture, they now 'co-produce' it. Where their structures used to be rigidly hierarchical, they are now flexible and networked. These shifts render unworkable all sorts of categories we used to employ when distinguishing between the public and private spheres. In an effort to identify the often elusive architecture — and architects — of the new cultural economy, Anthony Davies and Simon Ford report on a representative sample of Third Way alliances.

[IMAGE]

>> Fig-1, Daniel Jackson and Simon Worthington

Today, a new variety of club is emerging: a type of club dedicated to the networking of culturepreneurs and the business community. Much of this activity has been in line with organisational and structural shifts occurring in the corporate sector — principally, the shift from centralised hierarchical structures to flat, networked forms of organisation. In this report we look at how these networks and 'new' economies are being formed, accessed and utilised, where they converge and where they disperse.

In the late 1990s the surge to merge culture with the economy was a key factor in London's bid to consolidate its position as the European centre of the global financial services industry. Culture was part of the marketing mix that, within the context of the European Union (EU), kept London ahead of its competitors, particularly Frankfurt.<1> This can be traced back to the UK's exit from the Exchange Rate Mechanism in 1992 and a range of economic initiatives aimed at attracting inward investment, or Foreign Direct Investment (FDI). During this period the UK accounted for 40 per cent of Japanese, US and Asian investment in the EU. 'Cool Britannia' may have been a media spectacle, but it was the need to attract FDI, combined with the co-ordinates of a new service-based economy, that underpinned London's spectacular emergence as the 'coolest city on the planet'. (This state of affairs could be about to change with the proposed link-up between Frankfurt's Deutsche Börse and the London Stock Exchange (i.e. the iX market) and the recent German tax reforms that will pave the way for a radical restructuring of its corporate landscape.<2> With higher international inward and portfolio investment and the combined iX market, Germany looks set to become the leading market destination for young companies, making Berlin's pitch to become the new cultural 'it location' look increasingly viable.<3>)

In London it was the cultural requirements of the 'new' economy that resulted in the emergence of culture brokers — intermediaries who sold services and traded knowledge and culture to a variety of clients outside the gallery system, from advertising companies and property developers to restaurateurs and upmarket retail outlets. Job descriptions such as artist, curator, critic and gallerist no longer reflected the range of activities these individuals were engaged in. For culture-brokers art production was just one element that, along with the music, drug, fashion, design, club and political scenes, could be brought together, mediated and repackaged in a range of formats, from exhibitions and websites to corporate parties and instore merchandising.<4> At the same point many companies were beginning to move away from sponsorship towards an integrated partnership or alliance strategy. This marked a further shift from the 'something for nothing' arm's-length philanthropic model to a 'something for something' contract in which marketing departments perceived cultural (and often environmental) programming as an integral part of ethical marketing strategies (the so-called Total Role in Society).<5>

Along with these new developments corporate strategists realised that, because of the emerging knowledge-based economy, a company or individual could be valued principally on 'intangible assets' (e.g. intellectual capital and access to networks). This brought about a revolution in the corporate sector.<6> The underlying trend has been to develop flatter, more flexible and intelligent forms of organisation. This, in turn, has put pressure on companies to form alliances and break down inflexible departmental structures and initiate cross-departmental project teams (increasingly staffed by short-term or outsourced contract workers). Indeed, we have recently witnessed the birth of an alliance culture that collapses the distinctions (or boundaries) between companies, nation states, governments, private individuals and even the protest movement, as we shall demonstrate later. This trend towards alliances and partnerships has resulted in what have been variously described as 'virtual' or 'boundary-less' organisations. It has also made it increasingly difficult to identify 'cores': as companies loosen their physical structures through outsourcing, concerns have also been raised about the danger that core activities are disappearing, leaving fragile shells or 'hollow' organisations.<7>

A number of corporate organisations are currently gauging the potential of extending their networks into strategic alliances with other sectors, particularly the public sector.<8> This new alliance culture between the public and private sectors can be seen within the context of the UK government's drive to establish a Third Way in which 'public' is no longer equated solely with 'the state', but with a combination of public/private agencies. With the private sector leading the way, public institutions are undergoing an ideological and structural transformation to make themselves more compatible with corporate alliance programmes. Like their corporate partners, many cultural institutions now perceive their role as 'hanging out with culture', interacting with and being part of it. In their drive to formalise informality, they provide what are essentially convergence zones for corporate and creative networks to interact, overlap with one another and form 'weak' ties. The prominence that events such as charity auctions, exhibition openings, talk programmes and award dinners have attained demonstrates how central face-to-face social interaction is to the functional capacity of these new alliances.

Some institutions go further. At London's Institute of Contemporary Art (ICA), for example, a networking club for cultural entrepreneurs and, initially at least, educationalists, arts administrators, television executives and business consultants has been set up in conjunction with Goldsmiths College, the National Endowment for Science, Technology and the Arts (NESTA), Channel 4, the Arts Council and Cap Gemini.<9> The Club is coordinated by Andrew Chetty and Sarah Duke at the ICA, Andrew Warren at Cap Gemini and Alan Phillogene at the Centre for Cultural Studies at Goldsmiths College. It is an invite-only monthly event that provides "a networking base for its members" and promises to introduce them to agencies from television companies to venture capitalists and private organisations who "may wish to support and commission them".

Through initiatives like The Club the ICA aims to become the leading institutional home for cultural entrepreneurs and perceives its role as a facilitator and "ideal forum for the cross fertilisation of ideas, and support base for these enterprises".<10> After the success of the first two meetings at the ICA, the third will reputedly take place at Channel Four in September. Such nomadism indicates that The Club itself has no fixed base or home and can move to any location within the network. This makes identifying the core organisation difficult and, in line with the complex and often hidden alliances that characterise the new corporate landscape, it raises serious questions of transparency, representation and accountability.

Given their foregrounding of The Club's 'development and growth' potential, its coordinators must be aware of the current sale talks surrounding First Tuesday, the market leader of match-making clubs for internet entrepreneurs and venture capitalists. With 100,000 members on its database and the claim to have raised \$150m in seed capital from its networking events, it is no surprise that its valuation of £33.5m was based principally on access to its "extensive database of the digital elite".<11>

A variety of means exist to finance these clubs. First Tuesday take a two per cent commission on deals, while other culture clubs generate capital through membership (The Fourth Room) or building the most "influential list of contacts in the world" (Free Thinking). With the creative industries generating £60bn a year (seven per cent of national gross domestic product) and estimated to increase at a rate of 5% per year, it is no surprise that The Club is endorsed by both government agencies (NESTA) and private companies.

At this stage it is difficult to locate the mutual bonds and orientation of The Club, but it is a good example of the emerging inter-organisational relationships that characterise the 'new' economy. With representatives from the corporate, state, media, educational and cultural sectors, it may also represent the initial stages of a corporatised future for UK cultural and educational institutions. This falls in line with the forthcoming DTI spending review, which aims to refocus its funds into promoting enterprise, small business and 'knowledge transfer' and to "concentrate on managing change rather than attempting to direct companies' activities".<12>

In the education sector 'knowledge transfer' translates into an £80m fund (the University Innovation Fund) to establish consultancies that will mediate between universities and businesses. With the ICA and Goldsmiths College stepping up contact with Cap Gemini and providing a "support base (and provider) for enterprise", the so-called revolutionary venture capital models proposed by companies like The Fourth Room come into the equation.

The Fourth Room was set up by former Chairman of The Research Business Wendy Gordon, founder of brand consultancy Wolff Olins Michael Wolff and former head of strategy at Interbrand Newell and Sorrell Piers Schmidt in 1998 as a hangout zone and creative bolt-hole for corporate executives and other 'leading individuals'. It has been variously described as a business development club, a networking club and a strategic marketing consultancy which aims to take the strain out of networking and "put together venture ideas and management teams and take them from the moment of thinking through to the patent or crystallised idea".<13>

The £10,000 per annum membership fee includes use of the clubhouse in central London and access to "focus groups comprising of [sic] 'ordinary' people and teenagers who will act as sounding boards for new ideas".<14> In addition to the clubhouse, members receive a weekly in-house publication and an opportunity to eavesdrop on "emerging cultural trends and monitor changing patterns and beliefs".<15> This is described by the company as a corporate early warning system. As with The Club at the ICA, very little information is publicly available, but we know that The Fourth Room is "dazzlingly white, with high ceilings, long windows and white painted floorboards" and that members

are encouraged to draw on the walls with coloured crayons to release their creativity.<16> As Piers Schmidt claims, "it's all about collaboration", and to this end the aim is to get CEOs mixing with eco-activists like Swampy to discuss environmental issues over breakfast.

The relationship between Cap Gemini and the ICA and Swampy's proposed breakfast with CEOs at the Fourth Room indicates that terms such as 'collaboration' can be utilised to mask a variety of vested interests. The recent shift in terminology regarding arts funding (i.e. away from 'sponsored by' towards 'co-production', 'in partnership with', 'in association with' and 'co-produced by') is also indicative of a new agenda based on alliances and an increased corporate decision-making role in cultural programming. A signal event in this diversification was the UK-based Association of Business Sponsorship of the Arts (ABSA) rebranding itself as Arts & Business (A&B), in the conviction that "the arts are the new secret weapon of business success". As a government funded organisation A&B have taken collaboration and alliances a step further through the Professional Development Programme and the NatWest Board Bank, which has placed 1500 young executives on the boards of arts companies.<17>

The Creative Forum members at A&B, who include American Express Europe, Arthur Andersen and Interbrand Newell and Sorrell, are seen as the 'shock troops' in the involvement of arts in companies and as a result A&B receive £5.05m a year from the government to run the Pairing Scheme. The arts organisations, it is claimed, gain from the decision making and entrepreneurial skills of the executives, while the executives gain valuable experience in creative processes through working with artists.

Other examples of recent collaborations follow an informal, networked and often hidden alliance-type arrangement between galleries, public institutions and corporations. An alliance-type project covered by this new lexicon is the Fig-1 website, project space and club founded by curator Mark Francis and gallerist Jay Jopling and financed by Bloomberg, the financial information company. Fig-1 aims to present 50 projects in 50 weeks; given such a collaboration, the claim to be simultaneously "in association with" Bloomberg and "independent, non-profit [and] free from institutional and commercial obligations" seems curiously paradoxical.<18> Rather, it appears that Fig-1 operates as a (principally new media) satellite organisation for White Cube and a cultural scratch-and-sniff site for Bloomberg.

We turn finally to a consideration of what might be termed 'political engagement'. In order to meet the challenge posed by these new alliances and networked global businesses, new forms of flexible and subversive organisation have emerged that can disperse and re-form anywhere, at any time.<19> These strategic movements also take into account the fact that company networks and hollow organisations actively solicit and harness counter discourses to service the illusion of dissent and dialogue.<20> In a networked culture, the topographical metaphor of 'inside' and 'outside' has become increasingly untenable. As all sectors loosen their physical structures, flatten out, form alliances and dispense with tangible centres, the oppositionality that has characterised previous forms of protest and resistance is finished as a useful model.

In the cultural sector (particularly the 'cutting edge' art world), with so many brokers acting as corporate-friendly conduits to an artificially constructed 'outside', 'marginal' and 'socially engaged' culture, it should come as no surprise that these oppositional metaphors, for some, are difficult to dispense with.<21> Yet in contrast to such attitudes, more astute activists and agitators who once spoke of critical distance now recognise that their challenge lies in the forms and quality of access and connection. Fittingly, a useful new metaphor for this challenge comes from the world of digital systems. In a networked society individuals and groups are constantly alternating between 'on' and 'off'. As a result we can expect to see emerging new forms of 'engagement' which exercise border controls on networks, withhold, filter and restrict access to information and disable 'eavesdropping'

strategies and ‘early warning systems’ employed by business consultancies, corporations and public institutions.<22> The extent and nature of these forms is still to be determined and will be examined more closely at a later date. But it can already be asserted that informal networks have become extremely effective forms of counter organisation in the sense that — just as with corporate alliances — it is extremely difficult to define their boundaries and identify who belongs to them. Informal networks are also replacing older political groups based on formal rules and fixed organisational structures and chains of command. The emergence of a decentralised transnational network-based protest movement represents a significant threat to those sectors that are slow in transforming themselves from local and centralised hierarchical bureaucracies into flat, networked organisations.

These developments are taking place against a backdrop of waning confidence and belief in the ability of governments to regulate the growing power of global corporations and their networks of influence. But thanks to corporate restructuring and the access it provides to global networks, new forms of knowledge-based political engagement promise possibilities and scales of effect previously unimaginable.

Anthony Davies and Simon Ford <sford AT metamute.com>

FOOTNOTES:

<1> Graham, George, ‘Overseas banks warned on London’ and Graham, George and Timewell, Stephen, ‘City confident of keeping status’, *The Banker* supplement, *Financial Times*, 27 November 1997.

<2> Grass, Doris and Boland, Vincent, ‘Deutsche Börse board split on link up with the LSE’, *Financial Times*, 13 July 2000; and Simonian, Haig, ‘German tax reforms set to aid investors’, *Financial Times*, 15 July 2000.

<3> Powell, Nicholas, ‘Avant-garde flock to Berlin’, *Financial Times Weekend*, 3/4 October 1998.

<4> For a fuller discussion of these developments see Ford, Simon and Davies, Anthony, ‘Art Futures’, *Art Monthly*, no. 223, February 1999.

<5> For a discussion of this concept see Law, Andy, *Open Minds*, London: Orion Business, 1999; and Alburty, Stephen, ‘The Ad Agency to End All Ad Agencies’, *Fast Company*, no. 6, December 1996.

<6> The INNFORM research programme found widespread initiatives in almost all new forms of corporate organisation in the period 1992-1996. See Whittington, Richard et al, ‘New notions of organisational fit’, *Financial Times*, 29 November 1999.

<7> Centre for Research in Strategic Purchasing and Supply (CRISPS). *Returning to core or creating a hollow?* Bath: Bath University, 1999.

<8> See Capital Strategies, the city corporate finance house, ‘Education News’ at [<http://www.capitalstrategies.co.uk>]

<9> Cap Gemini Ernst & Young is one of the world’s largest management consulting and computer services firms and has collaborated with the ICA on previous occasions, most notably Imaginaria ’99. The ICA’s definition of ‘cultural entrepreneur’ is derived from an earlier collaboration with Demos. See Leadbeater, Charles and Oakley, Kate, *The Independents*, Demos: London, November 1999.

- <10> Duke, Sarah, The Club press release, 14 June 2000.
- <11> Daniel, Caroline, 'First Tuesday in sale talks', *Financial Times*, 20 July 2000.
- <12> Brown, Kevin, 'DTI allocated funds to boost enterprise', *Financial Times*, 17 July 2000.
- <13> Schmidt, Piers, 'Me and My Partner: Michael Wolff and Piers Schmidt', *The Independent*, 7 April 1999.
- <14> Jones, Helen, 'Help is at hand to make the right contacts', *Financial Times*, 12 February 1999.
- <15> The Fourth Room, *Invitation booklet*, London: The Fourth Room, 2000.
- <16> Deeble, Sandra, 'Fourth Room opens the doors of perception', *Financial Times*, 30 December 1999.
- <17> See the Arts & Business website [<http://www.absa.org.uk>]; and Thorncroft, Antony, 'From a cosy warm glow to hot support', *Financial Times*, 6 September 1999.
- <18> See its website [<http://www.fig-1.com>]
- <19> See, for example, Vidal, John, 'The World@War', *The Guardian*, Society Section, 19 January 2000.
- <20> See Knight, Philip 'A forum for improving globalisation', *Financial Times*, August 1 2000, and Tomkins, Richard, 'Global chief thinks locally (Douglas Daft is persuading protestors to drink cans of Coke, not smash them)', *Financial Times*, August 1 2000.
- <21> See *Art Monthly*, Editorial, February 2000, No 233: "It is hard to resist the lure of direct action, particularly for those of us frustrated by the inexorable process of commodification of even the most critical art practices, and by the marginal position occupied by art in our society as a whole." And exhibitions: 'Unconvention', Centre for the Visual Arts in Cardiff, November 1999 - Jan 2000, and 'Crash', Institute of Contemporary Arts, November 1999.
- <22> See Carpenter, Merlin and Davies, Anthony, 'The protest had already impacted on London in the form of its absence', from the catalogue *As a painter I call myself the estate of*, Secession, Vienna, 2000.

Work Harder Dude, or You Won't Get Paid!

By Simon Worthington

Richard Donkin's *Blood, Sweat and Tears: The Evolution of Work* is a revealing genealogy of the inner workings of the corporate system. With its examination of work's histories in serfdom, slavery, forced and waged labour, this is a real page-turner for anyone with an interest in capitalism and/or globalisation.

In the book's foreword, Warren Dennis of USC Business states that "one of the secret scandals of contemporary organisations is the ahistoricity of its managers"; by the end of Donkin's book you grasp why this may be no accident. Its historical examination of work is broad, starting with the use of rudimentary tools 2.5 million years ago and ending with present day management systems of single status workplaces such as the dot com. Throughout this mapping process, Donkin's primary project is an attempt to point to a day political program of 'social capitalism' (which one loosely interprets as

something like The Third Way).

Donkin's use of the evolutionary metaphor is thankfully not based on an upward curve of progress (which is a model he seeks to dispel), as much as on the principle of unremitting change. To illustrate structural sophistication, for example, he lifts one example from the work of the late archaeologist Marija Gimbutas. Here an apparently matriarchal, pan-European civilisation, which Gimbutas claimed flourished from 6500 to 3500BC, demonstrates the erstwhile primacy of anti-hierarchical organisations. It is one of many moments in the book where Donkin refers to work that proved relevant to feminist practices being sidelined.

The 'Protestant work ethic' and the manner in which this set of values has been transformed into present day capitalism is central to Blood, Sweat and Tears; closest to his heart though is the corporate adoption of a social agenda at a structural level (for example where management is shared among workers). However, he acknowledges that many of such practices have been cynically used to cut costs and, based on their past record, doesn't hold out for either the private or public sector delivering. Somewhere in this tug between profit and ethics sits a job description for what must be the toughest work ever.

Simon Worthington <simon AT metamute.com> is Boss and founding editor of *Mute*. We're not sure what Simon is exactly, but he has a penchant for anything with wires and disks in it - preferably generated by the street.

Blood, Sweat & Tears: the evolution of work // Richard Donkin // Texere Publishing Limited // 2001 // ISBN 1-58799-076-8
[<http://www.etexere.co.uk>]

How low can you go? 5k?

By Simon Worthington

Entrants to the 5k web design competition had to design a complete web site in 5120 bytes (1k=1024 bytes). The challenge of turning around a design within such tight parameters seems to have tickled the fancy of the web community: the judges were swamped with entrants. Among the winners was the Web's smallest art museum, displaying a Barnett Newman, a Rothko and a Mondrian. To view the other winners under the categories of Function, Aesthetics and Concept & Originality point your browser at the address below.

<http://www.sylloge.com:8080/5k/home.html>

Simon Worthington

Greenpepper

By Simon Worthington

The Netherlands based magazine *greenpepper* is the antithesis of a standard industrial media product. A collectively run publication with a ten year history, it proudly declares that it carries no advertising, is copyleft and even uses a fair trade currency (the eco). It also makes clear that it has no 'professional' writers, despite the evident professionalism with which the texts are edited. This editorial policy of not having privileged or expert voices is appropriate when addressing such a monolithic and purposefully deceptive process as the FTAA (Free Trade Agreement of the Americas), in that it shows the

sophistication of ‘oppositional groups’ to this ominous trade agreement.

Following in the footsteps of NAFTA, the FTAA threatens to unleash a nightmare on a par with the worst excesses of the Americas’ long history of colonial exploitation. What qualifies this trade agreement as a waking nightmare is the scale of exploitation and its cynical use of humanitarian rhetoric. The FTAA will cover the entire western hemisphere (34 nations, 650 million people, \$9 trillion in capital) and operate in the relatively unique political context of Latin America where there are no other major political bodies to oppose it and civil society has been systematically crushed.

The policy was hatched in the USA and is now being regurgitated by other governments and incorporated into their development strategies. An example of this is the Mexican government’s Plan Puebla Panama (PPP), which covers the eight nations of Central America, for which they intend to borrow from foreign banks to build the commercial infrastructures by which the region will be exploited by local elites and multinationals.

Backed by foreign investment, the governments will build six dry canals similar to the Panama canal, along which will be located numerous ‘plantas maquiladoras’ (sweatshops). These will be fed by even cheaper labour rates than Mexico’s, (wage comparison: if US=100% then MX=40% and Guatemala=10%), and promoted by Plan South which intends to push the USA’s immigration border to just south of Mexico City, thereby keeping Mexico’s lowest paid labour force in the south. The PPP exploits the region on many fronts: Central America has the world’s second largest bio-genetic resource (the biodiversity of its rainforests) which will be ring-fenced and patented in addition to the bio-pirating of indigenous peoples’ medicinal preparations. In the arena of energy, Mexico’s oil reserves will be pumped to the USA and damaging hydroelectrical dams will supply electricity to North America. The scheme is capped off by Operation New Horizon, in which troops stationed ostensibly to cope with natural disasters will in fact provide the US with the military muscle to protect these assets.

All of these policies have the desired effect of driving people from their land and undermining political opposition. But it is the stories, such as those supplied by *greenpepper*, of Latin Americans actively opposing these measures that gives some hope that the plan will be capsized before the FTAA’s completion date in 2005.

greenpepper // Summer ’02 // 5 ecos (ecorate monetary system) // UK Subscription rate: 16.41 eco // *greenpepper*: [<http://squat.net/cia/gp/greenpepper.htm>]

Official FTAA site: Summit of the Americas – Plan of Action
[http://www.ftaa-alca.org/ministerials/plan_e.asp]

Overview of the FTAA Process: [http://www.ftaa-alca.org/View_e.asp]

FTAA – Free Trade Area of the Americas – Draft Agreement:
[http://www.ftaaalca.org/FTAADraft/Eng/draft_e.asp]

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Freemasons Of The Future

BySaul Albert, Simon Worthington, and Fabian Thompsett, with help from Ben Russell, Jo Walsh and Asim

The Semantic Web, a machine readable representation of everything, is a future that has already started to arrive. The University of Openess’ Faculty of Cartography looks at its dual potential to flatten and diversify the relations between data and existence. By Saul Albert, Simon Worthington,

and Fabian Thompsett, with help from Ben Russell, Jo Walsh and Asim Butt

At the Next 5 Minutes hacktivist conference, September 2003, an interest group formed around the topic of cartography. We organised a series of meetings and presentations to discuss developments in collaborative cartography, location-based services, information visualisation and the Semantic Web. As a contribution to this work, the University of Openess' Faculty of Cartography wrote the following text to introduce some of the problems and potentials posed by the Semantic Web for the Free Information movement.

The first and most salient fact about the Freemasons of the Future is that they do not exist. However they are sentient beings trying to struggle into existence. From their perspective they are involved in a life and death struggle to ensure their own past, some of which we perceive as the present. Located in the distant future after time travel has become commonplace they endeavour to sojourn into what they regard as history to create the conditions which they consider as necessary for their own existence. But this does not mean they are going to be successful.

They justify their existence upon their existence, which they consider self-evident. The current conditions of life are to be extrapolated into the future until every quanta of human activity has been commodified: from genetic engineering to nanotechnology, the search for profitability is projected in every conceivable way. A world where sentient scraps of human biology exist as islands of wetware within the framework of vast cathedrals of computerised electronics. The distinction between human, animal and machine is dissolved as these products of bio-engineering are installed to fulfil operative functions within a nauseous system developed to do nothing but to manifest continuously expanding value. Whether we can regard such creatures as our offspring, or whether they are simply genetically engineered mutant beings created out of this or that strand of DNA is perhaps beside the point. This is the nightmare world to which we are heading, and which would provide the sort of massive bio-computer needed by the Freemasons of the Future to realise their greatest desire: unequivocal existence.

Faced with this onslaught which we can see around us, as all barriers to genetic engineering and the conversion of existence into docile information are torn down one by one, how can we respond? The class struggle now manifests itself in dimensions which have recently been invaded by the process of industrialisation: from the industrialisation of the imagination, through television, to the industrialisation of knowledge through the internet, the information age continues to build on the 'achievements' of the Age of Steam, the Age of Petrol and the Atomic Age. The current episode we are living through is rattling asunder as the ripples of the Quantum Time Bomb¹ penetrate the deepest recesses of human activity.

– Harry Potter², Extract from the announcement of the Limehouse TimeTravel Rally³

It has become inaccurate to discuss the 'the web' as a single entity since this use of a definite article belies the increasingly electrical interconnectedness of a plethora of devices, processes, information and indices. 'The web' is inadequate because it implies a coherence that is not evident in the use of many incompatible formats, private networks, and non-indexed sections of network. This incoherent, frayed mess of networks is like an expanding and obscure territory for which there are no maps, or at least, no maps with standard keys, scales or control coordinates. In some ways 'surfing' or 'browsing' are increasingly appropriate metaphors for the superficial and indiscriminate ways our browsers allow us to use the web. These limited research excursions are almost entirely dependent on the indices of one of the major search engines (Google in most cases) which has become the limit of the network; everything else is uncharted, unconnected and therefore largely inaccessible. By attempting to develop an extensible and syntactically coherent language to describe networks and information resources, the Semantic Web Project promises (or threatens) to help map this lost world of data. 'The Semantic

Web', Tim Berners-Lee explains, 'is an extension of the current web in which information is given welldefined meaning, better enabling computers and people to work in cooperation.'⁴ Using computer readable data formats and programmable agents with which to collect and categorise them, the object is to produce a schema from which to build a local description of local data formats, network topographies and information resources. This local description, fitting into the logical framework of the Semantic Web, can then be transposed into other contexts, linked to similar or related descriptions of other resources and networks, understood and used by human and software agents; put on the map. To expedite the growth of colonial empire, admirals Cook and Vancouver pioneered new forms of cartography in the late 18th century, a period sometimes referred to as the 'cartographic reformation'. Where they had no empirical, controlled data for their maps, they simply left large blank sections rather than filling in the gaps with supposition, thematic motifs or 'here be dragons'. This was the origin of a powerful set of scientific norms entailing representations of the world that are largely still intact, keyed into subsequent cartographic and spatial technologies. The initial impact of the cartographic reformation is comparable to that of the Semantic Web, with both working to reveal enormous blank spaces in our maps and the limited uses of our networks. In turn, they set out a framework by which these topographies might be described, understood, and mapped.

In the mid '90s computer scientist Ramanathan V. Guha went to work for Apple, where he developed a metadata format called Meta Content Framework which described websites, files, filesystems and relationships between them. The intention was that, using Apple's 'Hotsauce' browser, users could fly through a 3-dimensional representation of that content. However, it was only when Guha moved to Netscape in '97 and Extensible Markup Language (XML) became a common standard for the exchange of structured, computer-readable data that his ideas about representing semantic associations between bits of data began to gain influence. At that time the World Wide Web Consortium (W3C), the international web standards body founded by Tim Berners-Lee, began a general-purpose metadata project, loosely termed the 'Semantic Web', to develop ways of representing data on the web. Based on the Resource Description Framework (RDF), the basic idea is that resources are named with Uniform Resource Locators (URLs or web addresses) and described by the links between them using machine readable XML as a syntax. The framework is general enough that it is not limited to describing data on the web and, crucially, it can also be used to describe and interrelate things in the world: people, places, objects, abstract concepts – the largest blank spaces on the semantic map. If we can assign a URL to a physical object, person, or idea, this URL can in turn be linked to other URLs referring to other people, objects, ideas or links. Someone (or something) looking at this association can then make inferences about what is being represented from its associations, which can be further described and qualified by more links. The 'namespaces' – machine-readable XML documents that group together the vocabularies used in these descriptions – can also be seen as nodes in this semantic network and linked to, extended, re-written and re-defined. Hence these representations are always contingent and nonoriginary; there is no start or end point, and no point of observation that can be outside them, just new nodes in the network.

The totalising rhetoric of the Semantic Web project was very evident in one of its key predecessors, the CYC corporations' proprietary 'common sense' knowledgebase. This 'big AI' project was Guha's first job out of university, and involved the collation of a huge database of so-called 'common sense' statements. These statements were machine-readable so that software agents would be able to search through and make inferences based on them. A typical example is a CYC-based search engine that could respond to the question 'what is bravery?' by looking through its knowledgebase, finding an assertion that a property of 'brave' is 'danger', finding another saying that rock climbing is dangerous, and then retrieving a picture of a rock climber.

The notion of collating all ‘common sense’ (or ‘consensual reality’ as CYC corporation sometimes put it) as a basis for artificial intelligence is a genuinely totalising and largely discredited idea. This problem, and the fact that the format of the knowledgebase and the modes and methods used to describe its contents were fixed, prescribed by CYC’s designers and their proprietary legal structures, frustrated Guha and gave him and his collaborators the impetus to break with CYC and attempt to formulate a more malleable framework. The development of the Semantic Web – a machinereadable representation of everything, and its relationship to everything else – does sound like a step towards the kind of universal dataveillance exemplified by DARPA’s discredited ‘Total Information Awareness’ program. It is true that the enriched and extensible vocabularies that the Semantic Web uses to describe relationships will hasten morally dubious activities such as surveillance, unsolicited direct marketing and military operations. These technologies will refine existing authoritarian systems for associating and describing things and people (such as consumer profiling systems) which are usually imposed without negotiation or consent, and, since they are limited to a definition of the person as a consumer, remain very unsophisticated.

However, the extensibility of the Semantic Web, the fact that the person doing the describing can define the terms, the ‘vocabulary’ of that description, suggests a less totalising, more heterogeneous ‘information awareness’. This is both promising and potentially dangerous. Augmented by many more layers of information and description voluntarily supplied by the person being represented, the ‘consumer profile’ becomes infinitely more insidious and detailed. At the same time, the greater sophistication of the Semantic Web’s descriptive language enables someone to consciously and deliberately allow or deny access to specific data that they produce. Using cryptography, and ‘friend of a friend’ testimonial systems (sometimes called ‘trust’ networks) at least offers some degree of control over and awareness of the data being exchanged about us. On a more structural level, the development of many divergent, even antagonistic descriptions of the world and the people in it moves away from the idea of any imposed ‘consensual reality’ and suggests a mode of representation that can be multiply subjective.

RDF was developed as an open framework from philosophical inquiries by W3C about creating universal categorising systems, with the understanding that such a framework can never be comprehensive, hence the ability to add and modify the vocabularies used to describe and categorise things.

The Semantic Web’s use of the RDF common framework allows the data used in each description to be fully distributed in terms of storage and authorship. Not only can groups collate and share their own data, but also automate the aggregation and inclusion of publicly accessible data sources such as company profits, IMF trade data, names and connections between regulatory board members etc.

RDF’s more widely-known derivative is Rich Site Summary (RSS), a format often used to syndicate news stories and blog postings between websites. Both RDF and RSS are machine readable web standards for expressing metadata (data about data) but whereas RSS has a predetermined and fixed vocabulary specifically for reading news, RDF is an extensible common framework for vocabularies, and their namespaces. Using the framework of RDF you can create an ordered list about a category of things (a namespace). For example, the Foaf Corp namespace which came about as a vocabulary to convert the They Rule [<http://theyrule.net>] project into a Semantic Webcompatible format, started with the original vocabulary below:

- * fc (foaf corp)
- * fc: Company
- * fc: Committee
- * fc: Board
- * fc: Member

* fc: Stock code

* fc: Filings

Later, at the Cartographic Congress held in London's Limehouse Town Hall in June 2003 (see Mute 26), the MCC (Mapping Contemporary Capitalism) project proposed the following additions and extensions:

* fc: Owns – internal, external

* fc: Shareholders – list of shareholders, number of shares on each market, percentage of shares

* fc: Company employs – (this is a crude category which will display multiple categories: business management, investment banking, marketing, personnel etc)

* fc: Company is funding – (this data may be unavailable but we can draw many inferences from its patchiness)

* fc: Company affiliation – company member affiliation (e.g. Gate Foundation).

* fc: Company's geographical locations ONTOLOGIES

Once web content has been formatted using an RDF vocabulary from a namespace, such as FoafCorp, then it becomes possible to infer meaning from the associations between the things it describes. To make those inferences, the Semantic Web uses 'Web Ontology Language (OWL)', a language for asking logical questions about metadata, to ask questions about the assertions in RDF documents.

'An ontology defines the terms used to describe and represent an area of knowledge. Ontologies are used by people, databases, and applications that need to share domain information (a domain is just a specific subject area or area of knowledge, like medicine, tool manufacturing, real estate, automobile repair, financial management, etc.). Ontologies include computer-usable definitions of basic concepts in the domain and the relationships among them (note that here and throughout this document, definition is not used in the technical sense understood by logicians). They encode knowledge in a domain and also knowledge that spans domains. In this way, they make that knowledge reusable' – 'W3C Working Draft' 3 February 2003, [<http://www.w3.org/TR/2003/WD-webont-req-20030203/#onto-def>]

A set of OWL ontology code could include a namespace and an initial set of URLs to visit, then call on a number of logical declarations. Because the Semantic Web deals with web content, it is inherently distributed, so expect OWL ontologies to also be distributed. One consequence of this is that OWL generally makes an 'open world assumption' allowing it to move across networks, finding new bits of RDF metadata, new assertions and new questions, and adding them to the initial ontology.

OWL would be employed in the form of a 'bot, spider or scutter', a set of code sent out onto the web to gather and interpret RDF data. For example, technology writer Ed Dumbill's 'FOAFBot' sits on an IRC channel, listening for snippets of the conversation that it is programmed to understand:

'<edd> foafbot, edd's name

<foafbot> edd's name is 'Edd Dumbill', according to Dan Brickley, Anon35, Niel Bornstein, Jo Walsh, Dave Beckett, Edd Dumbill, Matt Biddulph, Paul Ford' The FOAFbot is invoked when Edd calls its name in the IRC channel, and then responds to his command 'edd's name' by searching through the statements in the FOAF files of Dan Brickley, Anon35, Niel Bornstien etc. and inferring from those that the nickname 'edd' refers to 'Edd Dumbill'. It can retrieve any information about Edd that is available in the statements in those FOAF files, such as links to pictures of 'Edd' or lists of the people that Edd says he knows in his FOAF file.⁵ This simple functionality can then be re-used by other bots, built on and re-purposed to create hugely complex and nuanced systems of distributed information storage and retrieval.

FREE ASSOCIATION

Prior to the invention of the printing press, there was no such thing as an index. Books copied by hand would have different pagination, so the idea of correlating specific sections in the book with certain ideas, and collating them in an index at the back never occurred. Similarly, without standardised grammar, spellings or spacings between words, hand-written script tended to run into long, unbroken lines of letters that needed to be read out and understood aurally for meaning to emerge. The visual comprehension of words on a page without a spoken and heard intermediate stage was, again, a development of the printing press. These two developments made possible access to, and use of information with formerly unimaginable speed and sophistication. The Semantic Web promises a similar acceleration and transformation in our relationship with information. The vision of computers and people, working in ‘co-operation’ as Berners-Lee puts it, casts aside superficial metaphors of ‘pages’ to be ‘explored’ or ‘navigated’ and instead proposes the web as a growing network of prosthetic comprehension and, potentially, a treacherous one.

‘The third wave of network attacks is semantic attacks: attacks that target the way we, as humans, assign meaning to content.’

– Bruce Schneier, Semantic Attacks, ‘The Third Wave of Network Attacks’, Crypto-gram Newsletter, October 2000.6

Although here Bruce Schneier is talking about the imminent threat of a catastrophic hacker assault on computer security systems, he could just as well be referring to the standard operation of certain search engines. Although Google currently maintains a fairly clean track-record with regards to how it indexes, ranks and displays its search results, the potential for massaging and manipulating those operations is huge. Dependence on a single system of information association, particularly an unaccountable commercial system whose ownership may change at any moment, makes our use of the web very vulnerable to abuse. The enclosure of a potential ‘information commons’ by an anarchistic elite of corporate/state bodies is well underway. Alongside this enclosure, strong and vibrant hobbyist movements are flourishing. Free software activists, free hardware geeks and free networkers – natives of the information commons – are continuing to fiddle, peeking under the bonnet of their technologies, creating and manipulating their information environment as they see fit. Despite the problematic heritage of the Semantic Web project, it still has the potential to be used and developed into an important element within the Free Information movement. The three strands of this movement mentioned above share the SemWeb’s dubious origins, but are pursuing a difficult and tortuous course that avoids compliance with authoritarian and profitdriven exploitation. As it is, these movements are disparate, unconnected, resembling the state of the net itself; an incoherent mess of networks. Worse, the connections between these networks are almost always proprietary at some point. When you download free software, it will almost certainly be passing over a proprietary network and, somewhere in that transaction, there is a dependency on the permission and profit- margin of a corporation, a media owner, an ISP, the DNS system. You might not even have found out about the software if Google hadn’t permitted it to be indexed and returned in your search results.

Without the associations and indices that allow access to information, that information is inaccessible, valueless. As the density and quality of Semantic Web meta-content grows, that meta-content will become an extremely valuable asset in itself. To protect the integrity and trustworthiness of their meta-content, Semantic Web developers and meta-content producers will need to cooperate with and adopt similar legal defence strategies to the Free Software groups, asserting the intellectual property rights of an author to allow their works to be maintained in the public domain.

But here is the most treacherous part. Asserting intellectual property rights over associations, vocabularies, descriptions, the relationships between things in the world, as much as data on the web, is premised on the assumption that this kind of information must be seen as property. As the Semantic Web stretches over more and more areas of knowledge production, encompassing histories, identities, interpersonal relationships, and language, this assumption feeds nauseous system of selfindustrialisation and commodification, the process by which we are transforming ourselves into the Freemasons of the future.

Glossary and Links

Semantic Web: The web of data with meaning in the sense that a computer program can learn enough about what the data means to process it

RDF – Resource Description Framework: Designed for expressing metadata about things in the form of ‘triples’, using vocabularies that are published on the web. See Mute Map vocabularies (above). An introductory (business-oriented) slideshow by Tim Berners- Lee has some interesting visualisations and talks about using an ‘RDF Integration Bus’ like the Mute Map Infomesh for applications [<http://www.w3.org/2003/Talks/03-pcforum-tbl/slide15-4.html>]

W3C RDF primer: [<http://www.w3.org/TR/rdf-primer/>]

History of RDF by Tim Bray: [<http://www.tbray.org/ongoing/When/200x/2003/05/21/RDFNet>] **RSS – Rich Site Summary:** An RDF vocabulary and RDF/XML format for distributing news, increasingly popular with websites. There are many newsreaders available, for example: [<http://amphetadesk.com>] for Windows, and [<http://www.netnewswire.com>] for Macs. There are also many RSS aggregation services like [<http://syndic8.com>]. Easy to write ‘crawlers’ and ‘scrapers’ can convert HTML, email, irc, nntp etc. to RSS format

FOAF – FriendOfAFriend: A vocabulary for describing people and networks of people in RDF

[<http://rdfweb.org/foaf>] **Friends of Corporate Friends (FOAFCorp):** [<http://rdfweb.org/foaf/corp>]

FoafNaut: A visual tool for navigating the FOAF network done in SVG : [<http://foafnaut.org>] A bug in FOAF, explaining the difficulties of modelling groups of people:

[http://rdfweb.org/issues/show_bug.cgi?id=8] **OWL – Web Ontology Language:** A language (expressed in RDF) that allows us to apply logical and taxonomic constraints to RDF data and the things expressed in RDF vocabularies. Still in development

[<http://www.w3.org/TR/2002/WD-owl-guide-20021104/>] **SVG – Scalable Vector Graphics:** An XML format for describing vector graphics with SMIL and javascript. It can do Flash-like things; it also does lovely scalable static images

An SVG organisational chart demo: [<http://swordfish.rdfweb.org/discovery/2003/03/6deg.svg>]

Carto.net, cartography and SVG: [<http://www.carto.net>] **SVG London tube map:**

[<http://space.frot.org/rdf/tubemap.svg>] **XML (Extensible Markup Language):** A simplified successor to SGML, W3C’s generic language for creating new markup languages. Markup languages (such as HTML) are used to represent documents with a nested, treelike structure. XML is a product of W3C and a trademark of MIT

Scutter, spider, bot: In the Semantic Web context this would be a set of code containing logical instructions, that is then sent to a number of URIs to apply the code to RDF data it finds at these addresses **Namespace:** Repository for Semantic Web vocabulary

URI – Uniform Resource Identifier: The generic set of all names/addresses that are short strings which refer to resources

URL – Uniform Resource Locator: An informal term (no longer used in technical specifications) associated with popular URI schemes: http, ftp, mailto, etc.

W3C (World Wide Web Consortium): A neutral meeting point of those to whom the web is important, with the mission of leading the web to its full potential. If you are interested in taking part in Semantic Web or cartography projects, you are welcome to join the University of Openess Faculty of Cartography: [<http://uo.theops.net/FacultyCartography>], or find more information at one of the key resources listed below:

RDFweb and FOAF development: [<http://rdfweb.org/>]

Geowanking – An important mapping list

[<http://lists.burri.to/mailman/listinfo/geowanking>]

TheMuteMap – Semantic Web/ SVG development space

[<http://themutemap.3d.openmute.org>] & Mapping Contemporary Capitalism

[<http://themutemap.3d.openmute.org/modules/wakka/McC>] The Locative Media Lab:

[<http://locative.org/>]

Footnotes

1 The Quantum Time Bomb is an expression which refers to the whole range of anomalies which will occur when a Quantum Computer is linked to the internet. Perhaps this has already happened on August 14th, when much of North America experienced a power cut.

2 For more information about this author, see [http://www.wikipedia.org/wiki/User:Harry_Potter] 3

The Voodoo Science Club and the London Psychogeographical Society Historification Committee, Friday 22nd August 2003, announced overnight a cycle trip from Limehouse, London, to the Cave of the Illuminati, Royston, Herts [<http://uo.theops.net/LimehouseTimeTravelRally>]

4 Tim Berners-Lee, James Hendler, Ora Lassila, 'The Semantic Web', Scientific American, May 2001

5 Download source code and find more information about Edd Dumbill's FOAFbot at

[<http://usefulinc.com/foaf/foafbot/>] 6 See [<http://www.schneier.com/crypto-gram-0010.html>]

The Wiki Way (Quick Collaboration on the Web, Bo Leuf, Ward Cunningham)

By Simon Worthington

Wiki is an easy to use collaborative web tool, which is able to capture some of the qualities of spoken language. The Wiki Way book is a manifesto and a software manual in one, with the essentials for Wiki installation attached on CD.

The authors have written this book with an almost mystical sense of wonderment at the achievements and ideals embodied in the Wiki concept, a web site where anyone can edit anything. With the Wiki there is never a 'error 404' warning telling you that the page cannot be found, instead there is an invitation to add the information yourself.

The authors are also in awe at the simplicity of the Wiki's code, relying on the GET (request data) and POST (request to submit data) commands of HTTP protocol underlying structure of the WWW. Big respect!

The attached CD allows you to install a Wiki on most Os's, even Windows, and then you too will be able to keep the flame burning for those early ideals of the WWW: empowerment, learning and collaboration.

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[<http://www.aw.com/cseng/>]

[<http://Wiki.org>]

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Addison-Wesley

City Fringe

By Simon Worthington

Following in the footsteps of the Viennese ‘silverserver’ (which set up a low cost network of leased lines, ADSL and wireless systems to allow a cheaper internet access in Austria) Consume.net is setting up a wireless ethernet on the City fringes of London.

As the rest of the world is trying to get on the Net, Consume’s net pioneers are looking to get out of the costly local loop to provide broadband network services without the prohibitive prices. A point they might be bearing in mind is one recently highlighted in the financial press, namely that ISPs are the ones benefitting from freeware enthusiasts like Napster users, since their infinite surfer hours are a net traffic carrier’s version of a pot of gold.

Simon Worthington <simonATmetamute.com>

[<http://www.consume.net>]

D.I.Y. Rules

By Simon Worthington

At this, the first revamped and DiY-themed ‘Transmediale .01’, the zeitgeisty subjects of user collaboration and social software enjoyed top billing. Under the aegis that “the DiY approach is now increasingly assuming the form of a cultural movement”, the conference cast a net around a zillion different activities. Subjects for panels, workshops and screenings ranged from the empowering (How to Build your own robot), the romantic (Love in the age of digital nomadism) to the ever-present (‘Music and Internet’, ‘New forms of distribution’). Awards with categories like ‘video’, ‘interactive’ and ‘software’ provided another way into the movement. In the latter category, artistic software, Netochka Nezvanova and Adrian Ward ended up sharing the award. Interestingly, the panel’s remit here was to choose them on the merits of their algorithm – as opposed to their code’s ‘outputs’ (i.e. what you see, hear or feel).

In a sense, these ‘two’ winners (Nezvanova not quite fitting the criteria for individuality!) represent different genres of computer code-based creators: respectively, the collective identity of an anonymous ‘hacker’ network and the maverick programmer. At Transmediale, Netochka Nezvanova was represented by a paid human ‘avatar’ (in code jargon – otherwise known as an actress). The collective she ‘embodied’ for this occasion produce a software application named *Nebula.M81 – Autonomous*, an aesthetic processor of html code. Co-winner Adrian Ward has created a software package in the style of Adobe Illustrator or Corel Draw which works in tandem with you, mimicking features such as those of Microsoft Word where the application attempts to pre-empt your action, but takes even more liberties – corrupting you, making decisions of its and employing generative algorithms to make you both work towards your finished ‘artwork’. What both encapsulated for the panel was a rejection of the utility function of computer code in favour of something more frictious and exploratory.

Tour de Fence

By Simon Worthington

This summer, artist Heath Bunting is embarking on a project to cross all 28 borders within the EU. As he will be avoiding conventional checkpoints, this will involve a lot of unusual climbing activity. In late April, in the West Coast city of Bristol, a large group of urban climbers met for the prelude to this project: a weekend of what was initially referred to as ‘fence climbing.’

Fence climbing is a form of urban climbing whose better known practitioners scale Parisian monuments and are of a macho torso-flexing variety. Bristol’s contingent (a bunch of artists, culture phreakers, kids and others) made the focus very different, demonstrating commonality with subtly different Parisian traditions like the Situationist *dérive*. For the curious, the urban stroll functions simply through an enjoyment of the pleasures that the modern city throws up.

Where fence climbing adds to the *dérive* is in the feedback loops it creates between the sensually and intellectually unpicked culture of the streets. The culture phreakers’ intensely physical *dérive* is full of minute techniques and repetitive moves that are required to build up a ‘body memory’ of the city. Bridging, for example, is important in this palette as it involves re-combining discordant urban micro-elements for the purposes of a journey (scaling a high wall, a steel-spiked fence, a tree, the tightrope act of walking along a railing). Climbers’ opposition to urban control mechanisms quite obviously reside in their disregard for imposed boundaries and temporary reconfiguration of city systems. But it is also important to recognise that urban climbing purposefully resists the control exerted over people’s lives in the form of ‘leisure based’ recreational consumerism: there is no special equipment needed, there are no brands and no merchandise.

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The West Coast urban climbers are planning some larger events later this year. For more information on these and the European borders project, see [<http://www.irational.org/fence>]

Festival Mania

By Simon Worthington, Zoe Young, Damian Jaques, Alessandro Ludovico and James Flint

We asked a select few to tell us what they did on their holidays. The results are Simon Worthington’s report on the No Border international camp at Strasbourg; Zoe Young’s visit to the Big Green Gathering in Cheddar; Alessandro Ludovico participation in Hackmeeting 2002 in Bologna; Damian Jaques’ fact-finding tour of the Farnborough air show; and James Flint’s rave-up at the corporate rock world extravaganzas Glastonbury and Sonar

Green Cheddar

Zoe Young visits this summer’s Big Green Gathering at Cheddar and finds it afflicted by growing pains, but still worth the trip

[IMAGE]

> Video Still by Oli Hodge

With Glastonbury sanitised this year, the Big Green Gathering (BGG) drew on party people in search of Avalon's freer spirit. They found a sorted little festival in Cheddar, Somerset – run mostly on wind and solar power – with music, info, art, permaculture, workshops and films. But organisation and self-control started to break down after dark. It was only afterwards that I discovered it was meant to be 'alcohol free'.

At a site meeting, some deep greens and old timers lamented that the BGG is changing. Too big now to be the intimate 'gathering' of old, it attracts people who may be 'green' but whose immediate priority is getting wasted in fresh air and good company. After the usual complaints about noise (organisers of one late night bar were threatened with a thrashing by neighbours in the 'healing' area ...), discussion turned to the stalls selling crystals mined by reprobate multinationals – while the police and security guards in jeeps emitted diesel fumes and macho attitude. Others wondered about the venue: in the grounds of a leisure centre, it lacked compost toilets (the Council feared contaminating a high water table) and a massive Sunday car boot sale encroached onto the site. Muddy fish ponds and thickets of reeds lay at the centre, making parents nervous, routes meander, teepees bunch in a line, and exclude certain zones (e.g. permaculture, spirit, the green party) and hence campaigns from the main action. I heard the site compared to an octopus where the old venue, Pertwood Farm in Wiltshire, had held the zones together with its gentle central mound as 'village green'.

But Pertwood farmers are tired of the inevitable litter and disruption to farming timetables, so Cheddar was a compromise site found at the last minute by an organising crew aware that the Welsh Green Gathering had been banned by hostile council and police. Luckily the BGG is not the sole survivor: intensive leafletting advertised an Eastern Green Gathering, and the Northern Green continues to offer temporary space to learn, think and make friends while sitting on top of a live-in vehicle, drinking beer as the sun goes down to the pounding beat of funk or techno.

With free raves and festivals acting as a magnet for truncheon-wielding police, people – especially those with kids – need safe spaces to party. Not all those with green interests are fundamentalists, and demand is strong for more gatherings which at least feel free, and offer more than corporate acts or nosebleed gabba in a field of litter. But the green category includes people who rise with the dawn, and others who make noisy fun all night. If it could be made to work, double-ended sites (one end sleepy, the other wild after dark) would prevent much bitterness – as would persuading police and security to patrol on foot or run necessary vehicles on bio-diesel. People are right to want the BGG to be a gathering of actively green people sharing skills and thoughts in a country setting, and they are also justified in enjoying a growing festival of expanding psyches in a bacchanalian tent town. Handled well, the various green gatherings could continue to be both.

Zoe Young <zoe AT esemplastic.net> is a researcher, writer, and film-maker with Conscious Cinema. Her book *A New Green Order? The World Bank and the Politics of the Global Environment Facility*, is published by Pluto Press in October 2002, see [www.newgreenorder.info]

It's An Airshow Jim, But Not As We Know It

Damian Jaques watches the skies at the Farnborough Airshow, 2002.

[IMAGE]

> US Airforce personnel, Farnborough 2002, photo by Damian Jaques

'In Hertford, Hereford, and Hampshire, hurricanes hardly ever happen.' Well, they do every two years in, or rather above, the commuterville and defense research town of Farnborough. In July 2002, the military and aerospace industries landed on the airfield aprons of the Defense Evaluation and Research Agency (DERA) – as they do every second year – to tout their wares. Acres of exhibition halls are crammed with stuff, from planes for cut-price airlines to the weapons we aim at others costing squillions of taxpayers ...(please fill in currency of your choice as long as it's dollars).

Mixing in with the likes of Boeing and Lockheed Martin are the little engineering firms based in smalltown trading estates producing jewel-like aluminium sprockets for landing gear assemblies or missile tail-fin correction servos. On the two public days, 'the great unwashed' are allowed in to race around trying to find the stand giving away baseball caps or mugs. They are the enthusiasts, the official public that are battle hardened enough not to ask awkward questions but awkward enough to ask questions. Interestingly, the only commercial exhibitor I saw actually being friendly to anyone was Airbus Industrie who seemed to be stealing the thunder from the Americans in the civil sector and especially the cut-price airline market. They are also involved in an exercise of enlarging brand awareness – linking the act of flying with the hardware, something that with the anonymity of the airport umbilical mall experience we have been sheltered from.

Although the military hold centre stage there was an air of what I can only describe as confused desperation. The certainties of the previous show had been hijacked and hidden by recent events, with the military aerospace industry not knowing whether to look inside or out, up or down. This is somehow exacerbated at Farnborough by the very temporary nature of the chalets and exhibition halls, where rubbish is ineffectively hidden and fences covered in crisp packets.

The Russian delegation was a very unhappy bunch. Their aircraft always perform well for the crowds, but this year they were not able to bring any of them over due to a Swiss financier who allegedly could have impounded them to cover a bad debt. They also fell foul of the UK's employment laws by having fifty asylum seekers working on their corporate chalet and then, to cap it all, on the second Friday there was news of the Ukraine air show crash.

This year I was left with a feeling that, sure, it was an enthralling, compelling though distasteful affair but wouldn't it be interesting if visitors would start to ask some more awkward questions.

SOME NUMBERS

1,260 – the number of exhibitors

32 – the number of countries represented

290,000 – the number of visitors to the show over the five trade and two public days

\$9 billion – the value of orders announced

188,000kg – the weight of the heaviest aircraft at the show, the equivalent of 38 fully grown elephants

100km – the length of electricity cabling laid for the show

60,000 – the number of light fittings

40,000 – the number of power points

250km – the length of telephone cables laid by BT data from [<http://www.farnborough.com>]

Damian Jaques <damian AT aant.co.uk> is the designer of Mute magazine and a self-confessed aircraft aficionado

Hackmeeting 2002

Alessandro Ludovico visited this year's Hackmeeting in Bologna and discovered you don't need institutional backing and corporate sponsorship to start changing the world

[IMAGE]

What makes three hundred people sit in silence in a room – in heat of 40°C and unbelievably high humidity – listening to the founder of the GNU Project and Free Software Foundation, Richard Stallman? It's the 'Hackmeeting effect' in 2002 flavour; the fifth Italian annual hackers' meeting, this year staged in Bologna. Every year several thousand people gather, sharing hundreds of metres of cables, and connecting dozens of PCs and laptops in a big local network with just a small gateway for checking email. The PCs are intended as bridges to connect with other peers, a sort of interface between similar humans, a cultural prosthesis essential for the exchanging of feelings and information. It's a live gathering of friends and comrades, bringing together people that regularly meet online (from high school and college students to workers in both the smaller and larger dotcoms), but it's very different from other European gatherings. First, the Hackmeeting doesn't have any sponsor, either institutional or private. Everything is done on a voluntary basis, including the organisation of the event and its funding which comes through donations from attendees. Second, it doesn't take place in an official conference centre, but is instead hosted in a squatted social centre, at little cost and with less chance of police or fascist infiltration. Thirdly, Hackmeeting is conceived and planned through a public mailing list on which everyone can propose seminar topics or volunteer particular services. Even the logo, different at each event – a kind of Ante litteram no-logo gesture – was discussed and approved on the list before being adopted.

The temporary infrastructure built especially for the event is particularly stunning, especially considering it lasts for just a few days. People want to participate in its building because they are totally free to shape it; they can follow their instincts and desires, dealing with problems in a collaborative spirit with few pressures. Moreover, the essential hardware is offered for free by dozens of owners. Mutual aid is a key concept for the Hackmeeting, with participants networking their knowledge in a 'samaritan hacker' spirit. But Italian hackers are far from helpless. They are very conscious of their privacy and work rights, and have back-up in the form of active lawyers. These provide support for netstrikes (virtual sit-ins that try to block a server by massively reloading its home page), free software use, computer education aimed at reducing the digital divide and helping, amongst others, African, East European and Asian immigrants, and providing union representation for recently fired new economy workers. Do-It-Yourself media is another keenly debated issue, with practical contributions provided in the form of Radio Cybernet, an online station that streamed the seminars and turned every PC and laptop in the local network into a potential radio. Even fine art is welcomed, especially when it represents a conceptual hack. The installation Exit by the Sicilian artist Aldo Cesar Fagà consisted of a stroboscopic light that appeared to freeze water droplets as they fell through the air. For just a few days, hacking in Italy showed the promise of a different way of life; a way of acting, being conscious and shaping the human network to its best potential, until the next edition in 2003.

Hackmeeting 2002 [<http://www.hackmeeting.org>]

Hackmeeting Mailing List [<http://www.ecn.org/lists/hackit99/>]

Radio Cybernet [www.kyuzz.org/radiocybernet]

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Battle Of The Urban Spaces

James Flint compares and contrasts fortress Glastonbury and zonal Sonar

[IMAGE]

> Radioboy on stage, Sonar 2002, photo by James Flint

The fence has changed Glastonbury. Twenty feet of solid metal, it rings the camp like a giant steel ribbon, an absolute line of demarcation. There's no clambering over this one, not with the metal overhang capping-off the top and the secondary fence of barbed wire awaiting you inside. Once a bunch of hippies getting folksy in the woods, the festival is now a fully realised urban space, with densely packed tent suburbs, a proper street plan, and an impressive infrastructure. If Glastonbury's a festival that's become a city, Sonar's a festival within a city. It's where you go if you want to get up to speed on the hippest fringes of electronic music. One half – Sonar by Day – happens in Barcelona's Centre of Contemporary Culture; the other – Sonar by Night – takes place in an Earls Court-style complex of indoor arenas about 20 minutes drive away by taxi or complementary bus.

In terms of relaxation, cultural input, drug-taking, logistical hassle and all round enjoyment, Sonar and Glastonbury rank about the same. In terms of branding, too: in order to pay for its fence, Glastonbury has sold its beer license to a single company, and now the only places you can get a drink are the handful of monster-sized red and white tents that flog that beer and that beer alone. In response to criticism that last year's event had become too overtly corporate, Sonar toned down its branding in 2002. Still, it's hard to believe that music can carry any kind of political message when the marquee in which you're listening to it is draped with bunting provided by a jeans company that is one of the worst exploiters of the developing world's Special Economic Zones. On the other hand, when it's a choice of having some compromising branding or having no music event at all... I'm sure that every one of the people working their guts off to stage these things would've preferred it if this was a compromise they didn't have to make.

The compromise means, though, that any political and economic challenge to the status quo (if any) that these festivals now make is very different to the challenges they made in the past. It's at Glastonbury that this change is most marked; the prevailing atmosphere is no longer one of freedom and release, of ekstasis, anti-capitalism, primitivism, but of being a responsible citizen in a participatory community. People wander round respecting each other's space without being afraid of telling strangers off for pissing in the streams or otherwise polluting the place. It's a bit like being a stakeholder, if you like – an experience that for all the rhetoric is sadly missing from the very different experience of living in Blair's Britain.

Cultural theme parks of a particularly sophisticated kind, Sonar and Glastonbury are now both in the business of compensating for this acutely contemporary brand of lack. Here we gather in large numbers, relax, retune our dopamine systems with the aid of various more-or-less effective drugs, update our fashion and music files, and treat each other with respect. Then we get in our cars and planes and trains, and go back to battling our way onwards and upwards through the real city, the one that's very far from being a quiet, participatory, petit-bourgeois town, the one that stretches pretty much unbroken now from Pilton to Barcelona, the one within which Glastonbury and Sonar are popular and pleasant blips.

A longer version of this article is available as 'Welcome To The City' in the *Web Exclusives* section.

James Flint <jim AT metamute.com> is the author of the novels *Habitus* and *52 Ways to Magic America*, both of which are published by Fourth Estate

Use the force dude

By Simon Worthington

Star Dudes is a five minute version of the original Star Wars, created in flash animation on the web, in which every character is renamed 'Dude'. So the big bad Dude hisses that "the force is strong in this Dude", while the princess Dude implores: "You're my only help, Dude". Look out for the sequel The Bad Dudes Strike Back, due for release soon.

<http://www.dudestudio.com>

Simon Worthington

Peak Oil and National Security: A Critique of Energy Alternatives

By George Caffentzis

George Caffentzis analyses contemporary energy politics: is US national energy independence enough?

The notion that global oil production is about to reach its peak before entering irreversible decline the 'Peak Oil' hypothesis is cited by some significant anti-Bush groups as a major driver for US military imperialism in the Middle East. But is the world's supply of oil really about to run out? And is the anti-Bush campaigners' call for US energy independence as the solution to national and global energy problems as progressive as it might seem? George Caffentzis and the Midnight Notes collective have offered a reading of the two Gulf Wars as being about more than just oil, stressing the role of ongoing US military campaigns in enforcing the profit-driven imperatives of neoliberal globalisation at the expense of an increasingly immiserated and unruly global proletariat. Here, Caffentzis gives a detailed analysis of contemporary energy politics and argues that a politically alternative project of national energy independence that does not challenge the neoliberal order is not alternative enough

[IMAGE]

> Illustration: Simon Worthington and Richard Dawson of Happy Retouching

The discussion of energy politics in the US is now dominated by two competing paradigms. One is promoted by the Bush Administration and its corporate allies and the other by a wide assortment of liberal and left-wing NGOs and analysts (and occasionally by the corporate supporters of the 'Gore-wing' of the Democratic Party which includes, from time to time, John Kerry). The Bush paradigm is all too familiar: the 'real' energy crisis has nothing to do with the natural limits on energy resources, but is due to the constraints on energy production imposed by government regulation and the OPEC cartel. Once energy production is liberalised and the corrupt, dictatorial and terrorist-friendly OPEC cartel is dissolved by US-backed coups (Venezuela) or invasions (Iraq), according to the Bush folk, the free market can finally impose realistic prices on the energy commodities (which ought to be about half of the present ones), and stimulate the production of adequate supplies and a new round of spectacular growth of profits and wages.

This Presidentially-approved paradigm is receiving decisive practical criticism from millions of pro-Chavez demonstrators and voters in the streets of Caracas and from thousands of resistance fighters in Falluja and Najaf. I will leave its fate in their hands.

In this article I examine the other, more sympathetic energy paradigm in the field. Its key components are: (a) the claim that the time when oil production permanently outpaces discovery of 'new' oil is nearing (often called 'the Peak Oil hypothesis'); (b) a view of the United States as being a powerful nation state whose government is moved by 'national security' imperatives in its energy politics. This paradigm is politically problematic for those opposed to the Bush Administration's imperialist energy policy, not because its component parts are completely false, but because these parts come together to form a misleading and disarming totality.

In order to make good on my criticism, let me review the paradigm's component parts. Oil consumption is growing, old oil fields are drying up, and new fields objectively rare are expensive to find and exploit. A price hike of dramatic proportions looms

PEAK OIL

Up until early modern times, miners, natural philosophers and other 'experts' believed that gold, silver and other minerals (like coal) were vegetable-like in that when mined they would literally grow back like a snipped rose bush. This insight in the case of coal and its other hydrocarbon cousins in gaseous and liquid form was not wrong in principle (they are the residue of ancient organisms), but it was mistaken as a practical maxim, for the time it would take normal geological processes to transform organic matter into coal, natural gas and petroleum is in the order of millions of years. Consequently, these fuels are, for all intents and purposes, finite, non-renewable energy resources.

[IMAGE] This finitude forms the theoretical basis of modern geology. But it has often haunted capitalists extracting profits from the production of the major energy-producing hydrocarbons (e.g., in the late 19th century there was a fear that coal supplies would soon run out), since the extent of this finitude was difficult to gauge. Is the exhaustion of coal, oil and natural gas near (a couple of decades) or far off (a couple of centuries)? The energy industry in the past tended to put the actual total exhaustion of coal, natural gas and oil reserves as far into the future as plausibly possible. But the industry's deferral of its death has recently been abandoned. (This was, perhaps, signalled by British Petroleum's retagging of its acronym as 'Beyond Petroleum'). For it is increasingly recognised that the decisive question posed by the finitude of, for example, oil is not the static one: how much time there is from the present to the pumping of the last drop of oil out of the last extant field on the planet. The important question is *dynamic*: when will oil production *permanently* outpace new finds, begin to deplete the world's reserves and to *tendentially* decline? This inflection point, of course, will occur much earlier than the complete depletion of oil, gas and coal. It is often called 'peak oil', since it is the point when production definitively outpaces the replacement of exhausted fields by newly discovered ones. Once this 'peak oil' point is reached and passed, geology and economics dictate a new era of expensive oil.

Oil companies are now desperately trying to position themselves to be able to stake out and possess the remaining oil areas on the planet. According to the widely recognised reasoning, if the companies do not make their claims now, they will be left out of the price boom in the first half of the 21st century caused by a decline in production and an increase in demand. This consensus is based on the work of M. King Hubbert in the 1950s who accurately predicted that US non-Alaskan oil production would peak around 1969 (the actual peak was in 1972). Extrapolating Hubbert's work on the US to the whole planet, geologists like Colin Campbell, Jean H. Laherrere and Craig Bond Hatfield have noted that the number and size of new oil discoveries have been falling since the 1960s and are rapidly heading to zero. They also note that the larger fields are usually found first, while there are diminishing returns on new exploratory wells recently.

Since oil consumption is growing at approximately two percent per year, while the old oil fields are drying up and new fields are expensive to find and exploit as well as being objectively rare, a price hike of dramatic proportions looms.

[IMAGE] It follows that the owners of large quantities of 'old' oil still in the ground (mostly the governments of Middle East OPEC nations) are becoming notionally richer by each coming year even if they do not extract any oil during that year and that all the profit to be made out of the production of 'new' oil now lies in the hitherto neglected geographical 'margins' of the planet. Both invite scenarios licensing imperialist interventions. On the one side, the Middle East's governments' nationalised 'banks of "old" oil' are becoming even more desirable objects of control and possession as the local 'peak oil' points are met and passed outside the region. Thus the US government's sudden interest in invading Iraq and Iran and occupying them as its troops are already stationed in Saudi Arabia, Kuwait, and Bahrain is immediately understandable. On the other side, it is exactly in the drive to the margins to find 'new' oil that all the horrors of the primitive period of the oil industry are returning. Indigenous people must be driven from their lands; previously uncontaminated waters and lands must be polluted; cultures, peoples and ecologies must be exterminated. But these peoples from the Chiapans to the U'wa to the Ogonis to the West Papuans are resisting their own extinction by stalling the oil industry's self-proclaimed final advance through threatening to commit collective suicide (the U'wa in Columbia) or through armed confrontations (the Ijaws on the oil platforms in the Niger Delta).

THE US AS A NATION STATE AND NATIONAL ENERGY SECURITY

The second basis of this anti-Bush paradigm is simple: the US is a nation state with recognised territorial borders and its government is presumably primarily interested in satisfying its constitutional injunction: 'form a more perfect Union, establish Justice, insure domestic Tranquillity, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty.' The state and citizenry are presumably put into danger when vitally necessary goods are imported from outside its territory, especially from states that are either ideologically or economically hostile to it. National security would therefore be increased by an import substitution policy that would produce these necessary goods at 'home.' In so doing, of course, the need for engaging in foreign military adventures diminishes.

This argument (a sort of pacific mercantilism) holds good for energy in general and oil in particular. There is hardly any natural stuff more vital for social and capitalist reproduction in the US than oil. But beginning in the early 1970s oil production in the 'lower 48' has fallen to the point that more than 50 percent of the oil burned in the US is now imported. Since oil reserves are increasingly concentrated in OPEC nations, especially in the Middle East, and these nations are becoming hostile to the US, the US faces a national energy security crisis.

Given these principles and facts, the supporters of this paradigm argue, the solution to national insecurity created by energy dependency is a strategy of import substitution, i.e., the US government should invest in an effort to derive most of the nation's energy required for socio-economic reproduction from domestic sources. Such a result would eliminate the need for invading and occupying Iraq (and other belligerent OPEC countries) to directly control the oil fields there.

The paradigm's supporters emphasise the urgency of implementing such an import strategy with the approach of 'Peak Oil'. As the actual hydrocarbon 'stuff' in the planet's subsoil decreases, there is even more temptation for energy-importing countries (like China) to aggressively (and desperately) insure themselves a continuous supply. If the US continues on its path of increasing energy dependency, it too will be competing with other nuclear-armed states for the final pools of subterranean petroleum with delirious consequences.

CRITIQUE OF THE PEAK OIL/NATIONAL SECURITY PARADIGM

This anti-Bush paradigm, though correctly appealing to anti-imperialist fervour and ecological anxieties, is problematic since it

poses the question as a matter of 'oil dependency' and not of the inevitable consequences of the present system of commodity production. It does not recognise that: oil is a commodity (not a thing); the oil industry is devoted to making money profits (and not producing oil); the US government is essentially involved in guaranteeing the functioning of the world market (and not in the energy 'security' of its citizens); and energy politics involves classes in conflict (and not only competing corporations and conflicting nation states). In brief, it leaves out the central players of contemporary life: capitalists and workers. Somehow, when it comes to writing the history of petroleum, capitalism, working class, and class conflict are frequently forgotten in a way that never happens with oil's earthy hydrocarbon cousin, coal. Once we put capitalism and working class conflict into the oil story, the plausibility of the Peak Oil/National Security paradigm lessens. Let me breakdown my points of criticism:

(a) oil is a commodity

Oil in a capitalist society is not produced to satisfy human needs and desires (although as a commodity it must satisfy some desire, real or fancied). It is produced to make profit and to increase control over and accumulate human labour (which requires the creation of a universe of misery)! Even if oil was the elixir of life, as long as it could not make a profit on sale, it could just as well be sewer water as far as capitalism is concerned (or perhaps it would be even less valued, since sewer water can be sold to fertilise fields!)

In other words, oil must be a commodity to have a value, but oil is not just like any other commodity. It creates even more mysteries and metaphysics than its average cousins. First, it is a basic commodity, since it is involved directly or indirectly in the production of most other commodities. Its price changes affect the prices of almost all other commodities and hence wages and profits throughout the world. Also, its production process has a *high organic composition*, i.e., it involves large amounts of machines and equipment and relatively little direct labour. Finally, it has a *rent* component in its cost. All of these elements together make of oil a special commodity from the point of view of political economy and they undermine the Peak Oil/National Security paradigm.

Basic commodity. Surely, the price of oil can influence the rest of the capitalist system in the way interest rates can. Oil prices ultimately have a power much more general and diffused than it immediately appears simply because oil is involved in the production of most other commodities. The many economic models since 1973 that have correlated world and regional recessions with oil price hikes empirically express this connection. Consequently, those who control the nationalised oil companies of the OPEC nations are crucial to the functioning of contemporary capitalist production not only because of the importance of oil for actual production of plastics and transport of steel, but also because of the larger economic consequences of any change in oil prices they charge. When government and corporate officials in NY, Washington and London look at the composition of the OPEC leaders and see only Islamic terrorists and nationalist revolutionaries this clearly poses not only a political and military threat, it is most immediately an economic one for them.

Transferred value. Most commodities do not sell at their values, otherwise highly demanded commodities like oil would not be produced, since their almost labour-less production would not generate enough surplus value directly. Consequently, some value from branches of production which require less investment in machinery and plant (e.g., textiles) must be transferred through market competition into the branches like the oil industry which require much more investment in technology.

This means that oil is a commodity that is the object of the collective interest of capitalists around the planet. Any attempt to run such an industry that would be detrimental to the general capitalist interest will face opposition from a vast assembly of individual capitalists around the world. (As Kissinger said in the early 1970s: 'Oil is too important to leave it to the Arabs.')

Thus oil companies are closely monitored (and regulated) by capitalists and their governments domestically and internationally. It is not only the US oil companies that are vitally interested in the fate of the oil reserves of Iraq, there are behind them many other kinds of corporations in the US, Europe and Japan whose profits will depend upon that fate as well.

Indeed, there is such a collective (almost communal) capitalist concern for industries that (a) produce commodities with high levels of machinery and little direct labour and that (b) are important to the production of commodities, they can easily be the object of political and military action by a capitalist class domestically and internationally. Sometimes this action can be legislative. For example, Rockefeller's oil operations were the initial target of the 'anti-trust' movement in the late 19th and early 20th century US. But sometimes this action can be violent and prompt wars (as can be seen from the British attack on the Ottoman Iraq in WWI to the 2003 US/UK invasion of Iraq.)

Rent. Rent is one of the categories of political economy that is clearly relevant to the oil industry. There is a rent that goes to the owners of the oil fields due to the fact that not all underground oil is the same. Some is 'sweet' (i.e., it has a low sulphur content), some is not; some is deep, some is not; some is on land, some is not; some requires a lot of technology to find, some does not. Clearly, if the price of oil is roughly the same throughout the world, then the owner of the territory where the oil has positive characteristics can charge rent (and expect to be paid it). Indeed, there is probably some 'Absolute Rent' in the rental costs of oil that is paid simply as tribute to the regime of private property even when a company is producing in the worst oil areas. All this rental value comes from the transferred value from the rest of the capitalist system. Again, there is a collective capitalist interest in its part of the cost of oil.

Indeed, there has been a capitalist critique of 'rent-seeking' throughout the history of political economy. Rent is presumably the epitome of unproductive income. This critique still goes on today in the text books and among the ideologues of both Keynesianism and neoliberalism. However, for all the critique of the rentier, rent still is a decisive form of income in a capitalist society, as any New Yorker will attest to! But the productivist ideology that has its roots in John Locke's defence of English colonialism in the late 17th century is always waiting on the horizon to be brought in to justify attacks on the rights of the rentier. If the rentier, through his/her right of exclusion, disrupts the productive development of a profitable industry, then there is a right of the 'more productive' to lay claim to the right of exclusion. Therefore, war is always on the wings of all rental claims.

Since oil is a 'peculiar' commodity in all these dimensions and is crucial to the functioning of the world capitalist production, the considerations appropriate to understanding its role in world economics and politics are not merely technical or scientific. US capitalists and the US government are vitally involved in the fate of the world oil industry independently of whether corporations based in the US import oil or not.

(b) The US is not a nation state any more, if it ever was

The primary function of the contemporary US government as far as energy policy is concerned is not defined in the Constitution's famous preamble. Indeed, *even if the US economy was completely self-sufficient in energy production and no longer dependent on imports from OPEC countries, the US government would still be instigating 'oil wars'* for at least two reasons. First, the US government would still need to guarantee the profits of the major energy corporations that are involved in 'foreign' production and often need US military assistance (cf. from the Iranian coup in 1954 to the Iraq

invasion of 2003). Second, the US government (in both its Democratic and Republican embodiments) is 'responsible' for the survival of the neoliberalism/globalisation project as a whole. For profit making is now (and has always been) dependent on the world market and today this market's rules are determined by the WTO, the World Bank and IMF, institutions that are committed to a neoliberal doctrine.

The main problem with neoliberal/globalisation is that for it to 'work' the system must be global and the participating nations and corporations must follow the 'rules of trade' (including trade in services, patents and copyrights) even when participation goes against their immediate self-interest. In a time of crisis, however, there is a great temptation for many participants to drop out of or bend the rules of the game, especially if they perceive themselves to be chronic losers. What force is going to keep the recalcitrants (both old those who refused to be part of the game and new those who dropped out) from proliferating? Up until the 1997 'Asian Financial Crisis' most of the heavy work of control was done by the IMF and World Bank through the power of money. Since then it is becoming clear that there are countries that will not be controlled by structural adjustment programs (SAPs) and the fear of being exiled from the world credit market if they do not follow the instructions of the IMF and the World Bank.

The most illustrious recalcitrants are the Bush-baptised 'axis of evil' nations Baathist Iraq (one of the last of the national socialist states), Iran (one of the last fundamentalist states after the demise of the Taliban) and North Korea (one of the last of the communist states) but there are many other Islamic, national socialist and communist governments that have not transformed their economies into neoliberal form. This list will undoubtedly grow unless there is a check, in the form of a world police officer that will increase the costs of an exit.

The neoliberal order needs the equivalent of the role Britain played for the liberal capitalist system of the 19th century in order to function properly. Bill Clinton and his colleagues believed that the UN could eventually be used by the US government as such a force. The Bush Administration disagrees and concludes that the US will have to act in its own name to enforce the rules of the neoliberal order (even though many of its adherents are unwilling to do so) and that action must at times be military. In the end, it is only with the construction of a terrifying US Leviathan that the crisis of neoliberalism will be overcome and the regime of free trade and total commodification will finally be established for its Millennium.

The invasion of Iraq is a crucial step in this construction process. It is seen by Bush as a sacrifice of US human and capital resources for the greater capitalist good (hence, perhaps, the continual evocation of 'God' in the administration's rhetoric). There is some truth in the Bush Administration's claim that the present war on Iraq (and future wars on the remaining problematic OPEC countries, if the more 'extreme' elements of the Administration have their way) is not about oil per se. It is about imposing a uniformly neoliberal structure on countries that, because of their ability to receive transferred value through their oil sales, have been able to evade the rules of the global market. Indeed, oil is the main internationally traded commodity that is not regulated by WTO rules to this day.

The Bush Administration's project of policing the neoliberal order might have been possible, if there promised to be but a few recalcitrants to and migrants from the neoliberal order. However, this is not likely. For neoliberalism does not seem to be able to deliver on the 'sustained growth' that raises all ships even in its halcyon days in the late 1980s. On the contrary, experience shows that it does not even raise 20 percent of the 'ships' it had claimed to do in its inception. This means that many millions in the Third World who aspired to membership in the local ruling class and the many billions who simply wanted an increased wage have been devastated by the course of neoliberal globalisation and have become its implacable enemies in the 1990s and early 21st century.

Consequently, there will be wars fought by US troops aplenty in the years to come, if the US continues to play the British Empire of 21st century neoliberalism. For what started out in the 19th century as a tragedy, will be repeated, not as farce, but as catastrophe in the 21st. At the same time, it is not possible for the US government to 'retreat' from its role, without jeopardising the neoliberal/globalisation project itself. Thus the supporters of the Peak Oil/National Security paradigm are offering up a questionable connection between energy import substitution and the path of imperialism. As logicians would say, energy dependence might be a sufficient condition of imperialist oil politics, but it is not a necessary one.

(c) Peak Oil?

Are we actually witnessing the oil industry's 'final advance' because the moment of 'Peak Oil' is nigh? We should be as sceptical of the early 21st century Hubbertian version of 'the end of oil' as we were of the Club of Rome's 'limits to growth' scenarios of the late 1960s, for oil is inevitably surrounded by an ideological aura. It is impossible to read the lineaments of history from the limits and constraints of nature, especially not in a capitalist society where 'nature' is often playing surrogate for the commands of a ruling class (cf. the long, continually revived career of 'Social Darwinism'). The problem with the debate concerning the hypothesis is simply that although the geological reasoning Hubbert used is compelling for predicting oil use, the class consequences of such reasoning are far less compelling.

For the 'Peak Oil' hypothesis is now becoming an early 21st century justification for an attack on pensions, wages and workers' guarantees in the so-called advanced capitalist countries. Presumably, the increased cost of finding new fields and their increased rent in an era of Peak Oil will force an increase in the transferred value into the oil industry that would require an increase in the mass of exploited labour. The permanently increased energy costs presaged by the 'Peak Oil' hypothesis are now a convenient way for capitalists to invoke the need for 'austerity' (for their workers) long before the actual exhaustion of oil, natural gas and coal is on the horizon. Thus this hypothesis is an even more pernicious tool in class struggle than the energy limitation ideology of the 1970s. But the apparently logical connection between the 'end of cheap oil' and reduced wages and working class expectations is simply a mirage. The hidden assumption of Peak Oil ideologists is that increased energy prices (for corporations) inevitably require a reduction of the wage rate instead of a reduction in the profit rate. In other words, Peak Oil politics assumes that the working class will finance the transition from cheap to expensive oil come what may. Given the present configuration of class forces in the US, this assumption is perhaps a good bet, but it is a far from necessary outcome.

CONCLUSION

Given our critique of the Peak Oil/National Security paradigm, one can understand why the Bush Administration's paradigm is appealing to many in the US working class. First, it has a much more plausible account of the US's government's general role in the world economy and its specific role in controlling the average price of oil. No one seriously believes that the US capitalist class is going to abandon its 'global reach' or its profit making just for the sake of providing a reliable, domestically produced energy supply to US workers. Second, it offers to members of the US working class an understandable role in the future division of labour, i.e., as well-paid mercenaries and managers of the world market in energy. The horrible deaths of the four 'contractors' in Falluja in April of this year are increasingly to be seen as 'work accidents' that go with the territory, and not as exceptional circumstances. Third, it seems to imply that the US's presumed military dominance will be applied in the service of the working class' need for oil energy.

Thus, the key oil issue in contemporary class politics in the US is not the one addressed by the Peak Oil/National Security paradigm, *viz.*, US corporations and workers are economically dependent on an imported commodity that is increasingly becoming more 'expensive' and that the political project of our era is to have a US economy self-sufficient in energy. The problem is that a significant minority of US workers see their only future in a neoliberal/globalised world with its main recalcitrants the OPEC countries policed by a military recruited from the US working class. One cannot explode this enclosing vision of the future by offering a logically and politically alternative project of national energy independence that does not challenge the neoliberal order.

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The Tomorrow People

By Hari Kunzru

For a good few years before the NASDAQ began to crash, a certain synchronicity existed between where California's tech companies said they were going and where their share price went. Did they know something the rest of us didn't? Or did they have better kit? One popular tool they might have used is 'futurecasting', a cybernetically enhanced mode of storytelling. Last summer **Hari Kunzru** went to California to meet the Global Business Network, an eclectic cabal of futurecasters, and its founder Peter Schwartz. One year on, how bright does the futurecasters' future look?

[IMAGE]

Last summer, just before the dot com bubble burst, I visited San Francisco. The Bay Area local press was already running nervous articles on high burn rates in the new tech sector, and noting the advent of 'pink slip parties' held by sacked dot com employees, which were starting to replace the lavish corporate launches of the previous three years. Nevertheless the atmosphere at the Webby Awards, a glitzy ceremony for the beneficiaries of the technology boom, was upbeat and self-congratulatory. Limos pulled up to the Masonic auditorium on Nob Hill, disgorging twenty-something CEOs and their highly-styled partners. Outside the ceremony, activists protested about the destruction of the working class community in the Mission District, which was being pushed out by spiralling property prices. No one took much notice of them. They were yesterday. Inside the auditorium, standing on the shoulders of the workers from Adobe, C|Net and Google trying to out-cheer each other like rival fans at a sports event, was tomorrow.

In retrospect, no one seemed aware of what was on the horizon. The crash was neither predicted nor planned for. This has an irony to it, since prediction and control of the future were the cornerstones of the ideology driving the dot com bubble. Much has been written (a lot of it by Californians) about California's 'future-orientated' society, with its focus on envisioning, creating and profiting from new trends and technologies. From the 1849 gold rush to the space race (orchestrated by West Coast aerospace companies), California's history has been driven by a sort of techno-economic transcendentalism, a yearning for a New Jerusalem on the temporal (Tomorrow!) and physical (The West!) frontier; dot com was simply the latest incarnation of an established trend.

For a period in the 1990s confidence in the future and in the possibilities of prediction and control was exemplified by *Wired* magazine and by the Global Business Network, a strategic consultancy specialising in 'scenario planning' a technique of futurism with its origins in cybernetics. Both *Wired* and GBN became associated with a visionary teleology, an account of a near future in which the accelerated deployment of new technologies of computer networking would lead to an exponential rise in economic prosperity and an attendant social and cultural renaissance. This rhetoric was instrumental in selling dot com to a techno-illiterate (and initially techno-indifferent) public. Its millenarian quality ("Everything You Know Is Wrong" was the poorly-judged slogan for the publicity campaign which launched *Wired UK* – a doomed venture in which I played a role) appalled and excited people in equal measure, and arguably it was the cascade of this rhetoric through the mediasphere that inflated the bubble in the first place.

The high-water mark came with the publication in *Wired* in 1997 of an article by a group of GBN affiliates entitled 'The Long Boom'. "The world" they wrote, "is faced with a historic opportunity". In a book-length expansion of the article, GBN co-founder Peter Schwartz argues that computers and telecommunications are increasing the productive capacity of the economy and that big companies are becoming more flexible and responsible. Soon a whole new generation of technologies will provide clean energy, better health and massively-increased longevity. Schwartz states his belief that "with the right choices" the economic boom which the US and Europe is enjoying "has the potential to pull the whole world into it, allowing literally billions of people to move into middle-class lifestyles. And that spreading prosperity will help bring about beneficial changes far beyond the economy, changes that could truly make this a better world."

By the time of my visit, a body of criticism of this position, mainly from writers in Europe, had emerged. In this view Schwartz and his organisation are not 'objective' futurists, but proponents of a particular free-market libertarian political position which has the not-coincidental effect of reinforcing America's global hegemony. GBN is proud of the network of experts they use to provide insights for their clients. Economists, business theorists and financial bigwigs like Robert Hormats, vice-chair of Goldman Sachs, are mixed with politicians, including the odd former US Undersecretary of State. There are technologists – a very A-list crowd – including the founders of Sun Microsystems, Broderbund Software and Thinking Machines, neurobiologists, anthropologists, complexity theorists and even a paleontologist. There are writers and musicians – Peter Gabriel, Laurie Anderson, Brian Eno, Douglas Coupland, William Gibson and beat poet Gary Snyder are all on the books. There is even an Apollo 9 astronaut. To the European critics this list has a quasi-masonic quality, reading like a roll of Californian illuminati.

The Long Boom is what GBN calls a 'scenario', a form of structured story-telling about the future. It is an example of a style of futurism which stems from cybernetics, the creation of Norbert Wiener, who dreamed of a science of rational prediction and control. During the Cold War cybernetics was hugely influential on both sides of the iron curtain. In the USSR Wiener's books were at first banned (a 1954 Concise Dictionary of Philosophy defines cybernetics as a "reactionary pseudo-science"), but during the fifties the climate thawed and in 1960 a decision was taken to found the USSR's first cybernetic

institute at the Novosibirsk academic village, Siberia. During the latter part of the Khrushchev era and into the Brezhnev period, cybernetics became increasingly integrated into the running of the Soviet state, and was applied particularly intensively in the grand plan of centrally managing the economy. Economic data was collected and fed into Moscow mainframes, which determined 'rational' price and production levels that were then imposed on the regions – with disastrous results.

The USA made its own gargantuan command-control blunders, notably with the RAND corporation's attempt to cybernetically manage the Vietnam war. RAND conducted a vast information-gathering enterprise, with every patrol, every engagement being recorded on standardised forms whose impersonal mathematical language of 'contacts' and 'kill ratios' became part of the popular jargon of the war. Throughout the years of America's engagement in South East Asia RAND ran this data through cybernetic models which influenced both policy and military strategy – RAND simulations (which failed, for example, to take into account NVA morale as a factor) were a primary justification for the bombings of North Vietnam and Cambodia. The greatest debacle came in the latter stages of American engagement when a simulation exercise was conducted to find out how much longer the war would continue. The response given by the computer was a date several years previously.

Like these Cold War policy-makers, Wiener had always believed in the application of cybernetics to social and cultural systems, and the idea of modelling the variation of such systems over time was an idea which held great fascination for futurists. Since no mathematics existed to make such models, it remained a tantalising dream, a dream which seemed to promise profound, even transcendental revelations. This extension of this American science into the realm of ideology was largely responsible for 1950s Soviet hostility to cybernetics. At RAND, futurist Herman Kahn, who had previously worked with John Von Neumann on the 'Monte Carlo' simulation of the effects of a nuclear explosion, turned to the ideas of social cybernetics to model entire nuclear wars. Kahn chaired the Strategic Objectives Committee, which proposed a variety of simulations that became the basis for US strategy throughout the Cold War. Kahn's wargames played through a variety of scenarios, taking imaginary conflicts through forty-four "rungs of escalation" from "ostensible crisis" through "justifiable counterforce attack" to "global nuclear war." Utilising game theory models like the 'prisoner's dilemma', Kahn's scenarios had a social element, political situations being represented and considered through an increasingly 'soft' non-mathematical technics of modelling.

Kahn's published works were widely read, and the concept of cybernetically modelling the future spread from military to business circles. Corporations began to allocate large budgets to cybernetic futurism. In the mid-sixties the oil company Royal Dutch Shell hired an eccentric Belgian, Pierre Wack, to run its planning department. Prone to burning incense and chanting mantras in the office, Wack cut an unusual figure in the corporate world. He was also a disciple of two seemingly contradictory things – Kahn's RAND scenarios, and the thought of the central Asian mystic Gurdjieff. From RAND he learnt the importance of research, of collating accurate information about the present in order to make predictions – and through the abject failure of RAND's methods in Vietnam, the uselessness of simply trying to mathematically extrapolate the future from the present. From Gurdjieff, he took the idea that a certain number of 'remarkable men' exist in the world at any one time, people whose knowledge has the power to change the world. From a fusion of the two he invented 'scenario planning' a technique where organisations create a number of 'alternate futures': visions of how the world might be in ten, twenty or fifty years time. To do this they work with 'remarkable' outside thinkers and are encouraged to step away from the 'official future' – whatever the mainstream picture of things might be in their organisation.

Scenarios, in Wack's definition, are like science fiction stories, except with rules. No aliens. No disregarding plausibility. GBN founder Peter Schwartz likens them to movie scripts and it seems no accident that they thrive in California, home of Hollywood. There are, Schwartz stresses, some

differences. “SF is not bounded by reality. You can rewrite the rules of reality. With scenarios you can’t. SF is intended to stimulate and entertain. Scenarios are about improving decisions. The purposes are quite different.” If a company has, say, four different futures in front of them, they can see where their business would fit into each possible scheme of things. Making pictures helps notoriously hidebound corporation man ‘think the unthinkable’. In a world where the birth rate is tiny, what does that do to his sales of disposable nappies? How will a CD pressing plant fare if everyone starts listening to music online?

Schwartz worked under Wack at Royal Dutch Shell, and when Wack retired, took over his job. Schwartz’s own scenario-planning claimed its first major victory when he accurately predicted the possibility of an oil crisis in the early seventies. When it actually happened, Shell was able weather the storm much better than their competitors. Scenarios, unsurprisingly, became a topic of interest to organisations around the world.

Schwartz is a dapper bearded man with sparkling eyes and the engaging manner and studiedly-open body language of a great salesman. We sat down in his Bay Area office, beneath pictures of his kids and a plastic model of the Mars Lander, and he said things into my tape recorder like “we are on the brink of extending human life very far into the future”, “there is about to be an energy revolution” and “in 2050 we will look back on the turn of the century as a time of monumental change.” He spoke rapidly, with a slickness honed by countless conference debates and corporate presentations.

“When I set out in this business twenty-seven years ago,” he started, in one of those introductions which ought to cue the opening of a bio-pic, “I wanted to figure out what was a better future and how to get there. I was a student activist in the 1960s, I was a leader of the student rebellion at Columbia University, big in the anti-war movement, all that. But as a result, at the end of it I knew what I didn’t like, but I didn’t know what I did like. I was honest enough to look at the communist world and say, the extreme Left, that ain’t it. I looked at a lot of what I saw in the US from conservative politics on the Right and said, I don’t like that either – so what’s a better future? So I set out to answer the question. I set out to get a career that would allow me to answer that question.”

[IMAGE]

By the eighties Schwartz had left Shell to join Californian think-tank SRI, an outfit which among other things first conceived of the computer mouse. Then in 1987, along with a group of former colleagues from SRI, from Shell and even further back in his countercultural past, he formed the Global Business Network. One of GBN’s co-founders was Stewart Brand, one of Ken Kesey’s Merry Pranksters, publisher of the Whole Earth catalogue and founder of the Well, the prototypical online community. Other GBN associates include the ex-manager of the Grateful Dead and Peter Coyote, movie actor and member of famous San Francisco commune The Diggers. With such figures blended in with the rest of the ‘remarkable men’, the GBN is inevitably a management consultancy with a strong utopian flavour.

GBN has built scenarios for a vast range of organisations, from civil engineering firms to the government of Colombia. The Christian Brothers of Rome recently hired them to look at the long-term prospects for their celibate religious order; they are having (understandable) problems recruiting young members. One of GBN’s greatest successes came in 1991, when they went to South Africa to see if futurism could help move the country out of its apartheid-era impasse. The resulting ‘Mont Fleur Scenarios’ showed that the only future in which South Africa could potentially thrive was one in which there was real power-sharing.

In all the GBN sessions I attended, from a corporate all-dayer at a Berkeley hotel to an open meeting addressed by a British futurist with a specialism in the environment, there was a scrupulousness about exploring a variety of possible alternatives, and (among the insiders at least) a shared set of intellectual

reference points – more or less what you would expect from a crowd of middle-aged San Franciscans – Gregory Bateson, Buckminster Fuller, Marshall McLuhan, the green movement. Nothing appeared to justify the European suspicions of a sinister plot; not the unpretentious offices in a shabby part of Oakland, nor the good-natured banter and faintly hobby-horse-ish point-scoring among the participants. However in writing *The Long Boom*, Peter Schwartz has crossed the line from disinterested futurism to political advocacy, in the process breaking the cardinal rule of a scenario planning session – that there should always be a set of alternatives. *The Long Boom* contains a single well-developed scenario, and a call to make it come true. Schwartz's book has been positively-received by decision-makers around the world – including (in Britain) members of the Prime Minister's policy unit and on the Bank of England's interest rates committee. The Organisation for Economic Cooperation and Development (OECD), the 'rich man's club' of industrialised nations, was so excited by the original 'Long Boom' article that it convened a special conference to discuss it.

Driven by high tech optimism and unabashed celebration of American innovation, *The Long Boom* is Peter Schwartz's ultimate scenario, what he describes as his futurist "PhD thesis, written in the light of everything I've learnt over the years." The argument turns on a single point – that all the economic laws of the industrial era, like scarcity of resources and diminishing returns, are about to collapse. This is the defining New Economy idea, and Schwartz (with his co-writers Peter Leyden and Joel Hyatt) builds it into a seductive vision. In the future, he argues, economic value will not be based on physical stuff, but on the circulation of knowledge. Already much of our economy, from news journalism to mortgage advice is based on information, rather than tangible things. Even in very physical processes like car-making, 'knowledge' infuses everything, from the new body styling which attracts customers to the just-in-time delivery system which gets the parts to the assembly line. Unlike objects, which are finite and scarce, knowledge is abundant. You can't quantify how many ideas there are in the world and every second of the day people are having more. Yet some of them can create real value. So making money in the New Economy is about skillfully extracting value from this torrent of information, not labouring to add it to raw materials. Think of the world this way and the logic of the dotcom bubble becomes self-sustaining. The proposition is that a new dotcom's knowledge, the idea behind it, an idea whose sole physical embodiment may be in its business plan, is what makes it valuable. In its extreme form, this is a kind of transcendental dematerialisation, the soul of economic value unshackled from its troublesome material body. This is the proposition which, in the last year, has ceased to convince the global technology markets.

The Long Boom imagines a future where this explosion of abundance goes global. It also argues that apart from these magic-wand changes of economic laws, a series of crucial technological advances are in the offing, which are likely to have profound effects on the world. "Right now," Schwartz points out, "there are 500 new drugs in trials in the US. Typically there are maybe 25." Add to this the knowledge from the human genome project, and the drug treatments and gene therapies it will bring, and the result will be a massive improvement in health and longevity. "You and I have a shot at a hundred and fifty" he tells me, beaming. "Our kids may live for centuries." Add to this the possibilities of fuel cells, nanotechnology and computerisation, and you have some compelling reasons for optimism.

The final requirement for a 'Long Boom' will be a political one. "Going global," says Schwartz, "is the first principle. I understand the fears of the anti-globalisation protestors, but I think they're fundamentally wrong." He paints a picture of a 'virtuous circle' where the integration of the global economy leads to innovation and accelerates growth, which in turn spreads affluence, decreases poverty and produces a wave of tolerance. Comfortable, well-off people won't want to fight each other. In the contrasting 'vicious circle', in which the global protestors put up "trade barriers", the effect is a spiral of economic stagnation, poverty and intolerance.

Schwartz stresses that the Long Boom is a ‘vision’ of a possible world that could easily not come to pass. Many problems could short-circuit it – from ecological crisis to fragmentation caused by the current plethora of small ethnic conflicts. Thus he has devoted much of the last few years to bringing the gospel of the Long Boom to the ears of influential people round the world. Asked about his British contacts he mentions Geoff Mulgan, founder of influential think-tank Demos and member of Tony Blair’s policy unit as ‘a fan’. Deanne Julius, until April one of the three-person committee who set UK interest rates at the Bank of England, though sceptical about the possibility of a Boom, presented a paper to the OECD outlining three policy frameworks to facilitate it.

To many people Schwartz’s ‘vision’ of free market capitalism trickling down wealth to the poor is, to say the least, a little rosy. He dismisses such fears. “The Left aspires towards making the world a more just and fair place, whereas the Right says that’s not possible. My view is that I’m not sure you can make the world a more fair place, but you can help those people who have been left out by creating sufficient abundance – and history now shows us over the last fifty years that if you have high growth and an abundant economy eventually everybody benefits. Is that fair? No. Is that equitable? No. But if you ask people at the bottom, whether they would prefer that to being poor – would I like to have my house even if my house isn’t as big as his house, the answer is ‘yes thank you, I’ll take the house’! If you ask the poor, they’re as realistic as anyone else.”

Confronting the other major argument against globalisation – that the main reason Americans are so enthusiastic about it is because it will extend their cultural and economic dominance of the world, Schwartz is equally unfazed. “What we think of as Americanisation – Coca-Cola, McDonalds and baseball caps worn backwards – is very superficial. The values and cultures and histories and belief systems that make up a culture are very deeply embedded. You can’t change cultures easily even if you want to.” He believes that globalised cultures might acquire an initial American veneer, which will then even out, in a harmonious cultural exchange. The question of whether globalisation will just reinforce American economic hegemony is similarly dismissed. America may get there first, but soon the rest of the world will catch up – as long as we don’t disregard Long Boom principles.

Much of the book version of *The Long Boom* reads like a statement of America’s manifest destiny to lead the world into the future. At one point Schwartz describes the westward movement of something called the ‘axis of innovation’, a kind of cultural ground zero which shifts through history from Greece and Rome, through Europe and England to land in the USA, flooding it with the “power to influence the rest of civilisation in the long term.” Although America’s current position as global superpower is undeniable, this kind of rhetoric (“where the future is being born”) feels like nothing so much as a sales pitch. The notion of California, in particular, as somehow literally existing in the future (“five years ahead”, “ten years ahead”) is a common feature of much Bay Area conversation. Remember, in the new knowledge economy, talking yourself up is a literal method of generating wealth.

However, despite the dark suspicions in Europe that GBN are a sinister force, when I asked around in SF dot com circles, people laughed. GBN were seen as hippy relics, people from the old days of the Net, who seemed out of place in the new accelerated corporate San Francisco, the San Francisco where you couldn’t find a parking place, clubs had door policies, and anyone earning less than \$100,000 a year was being pushed out across the Bay. “GBN”, as someone said to me at a party on the roof of the Industry Standard building, “are, like, so nineties”.

Yet though GBN’s star may be fading, ‘the future’ is likely to remain the site of a highly-charged political battle. The alliance of cybernetic futurism and emergent New Economy ideas in which information is held to be a direct generator of economic value mean that information about the future circulates as an increasingly-important commodity. It exists both as mathematical formalisations (computer simulations, economic projections, weather reports, futures trading) and informal

descriptions (science fiction cinema, religious prophecy, venture capital) as well as the formal / informal hybrids created by professional futurists.

West Coast business culture, steeped in cybernetics, has always cannily promoted positive feedback between future-oriented media and capital (notably in the Cold War use of science fiction about space exploration to promote aerospace industry research). Looking back at the media generated by the computer boom of the last ten years, it is clear that the effect of futurist fictions, projections and predictions has been to fuel our desire for a technology boom. From *The Matrix* to *Enemy of the State*, product-placed Hollywood visions (ambivalent, dystopic, yet sexy) of the awesome reality-controlling, reality-producing power of computer networks have contributed to an explosion in the technologies they hymn. As New Economy ideas take hold, a subtle oscillation between prediction and control is being engineered. The consensus is that virtual futures generate capital, which is to say that successful or powerful descriptions of the future have an increasing ability to draw us towards them, to command us to make them flesh. Early twentieth-century avant-gardists revolted in the name of the future against a power-structure which had its source in control and representation of the past. Today the situation is reversed. Now the powerful employ futurists, and draw power from the futures they endorse, condemning the disempowered to live in the past. The present moment is stretching, slipping for some into yesterday, reaching for others into tomorrow.

A year on from my visit, the atmosphere in the Bay Area has changed beyond recognition. The classic Californian disaster movie scenario has been played out across the peaceful abundant meadows of the technology boom. Towering inferno, great earthquake, market crash. The ideas in *The Long Boom* no longer seem backed up by short term trends in stock prices, though certain other key aspects of the scenario (pharmaceuticals, nanotechnology) have been gathering pace lately. But it will take more than a market downturn to kill futurism. The dream of a predictable, controllable tomorrow, a tomorrow which can be created, or at least planned-for, is still tantalisingly present on the horizon.

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>> Illustrations by Simon Worthington

Silence of the Suns

By Simon Worthington

It's midnight, the dead of night. The earth's dark side provides shelter from the solar winds: a barrage of electrically charged particles caused by plasma shockwaves surging out of sunspots. Shielded from the solar winds, the upper atmosphere's reflective underside - known as the 'radio mirror' - becomes more robust. As the solar radio noise lets up, 'Very Low Frequency' (VLF) radio signals can be picked up: a mix of magnetic storm emissions, atmospheric nuclear explosions, naval nuclear submarine communications, meteor showers and spacecraft launches and re-entries.

silence of the sun

It is this pulsing, crackling miasma of radio noise that the artist Joe Banks records and uses in performances like the recent *Disinformation*, a noise installation in a cold war nuclear bunker at Anstruther, Fife. The bunker Banks used on this occasion was already surrounded by a Faraday cage which neutralises dangerous impulses such as those radiated by atom bombs. Quite apart from their lethal radio-activity, as electromagnetic emissions go these are like the equivalent of enormous, man-made, lightning strikes. On a more modest scale, the Faraday cage functions as the earth does, creating Banks' very own protected dark side.

silence of the sun

In this artificial dead of night, or night of death, Banks created two noise works: *National Grid*

NO5608 and Theophany. In a service corridor 150 feet below the ground he fed the bunker's mains AC supply into one side of his sound equipment, outputting subsonics on the other side which, in turn, were audible on the surface (National Grid NO5608). Deeper down, in the bunker's chapel Theophany's recordings of VLF radio signals generated a different kind of noise: military intelligence communications and the universe's radio storm folded together.

Banks himself relates his work to the project of *intonarumori*, or noise machines, of Italian Futurism - drawing not on a stylised simulation of industrial processes, but directly upon electricity itself as both real and metaphorical source of creative energy. Banks' noise machines are plumbing the hemispheres for sonic truth, paving their immaterial way around what he describes as the "semi-skimmed" philosophical and deconstructive levities of the contemporary arts. Like lie detectors, Banks' sound machines make recourse to the objectivity of scientific measurement and relay. Unlike lie detectors, Banks is more than happy to undress the military technologies and history of warfare that make his experiments possible.

silence of the sun

Joe Banks was at Interference, the Lux Cinema 9/12/98. Tel: 44(0)171 684 0201.