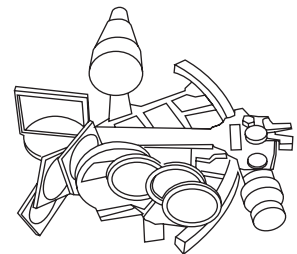
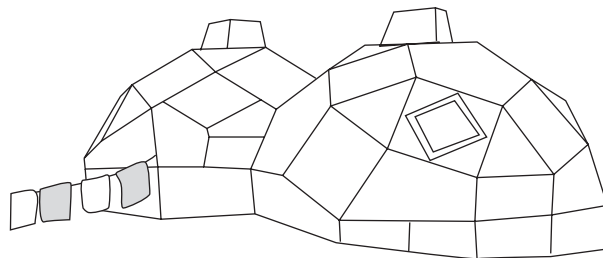
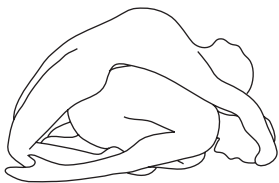
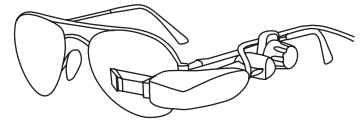


know your place

# headmap

location aware devices



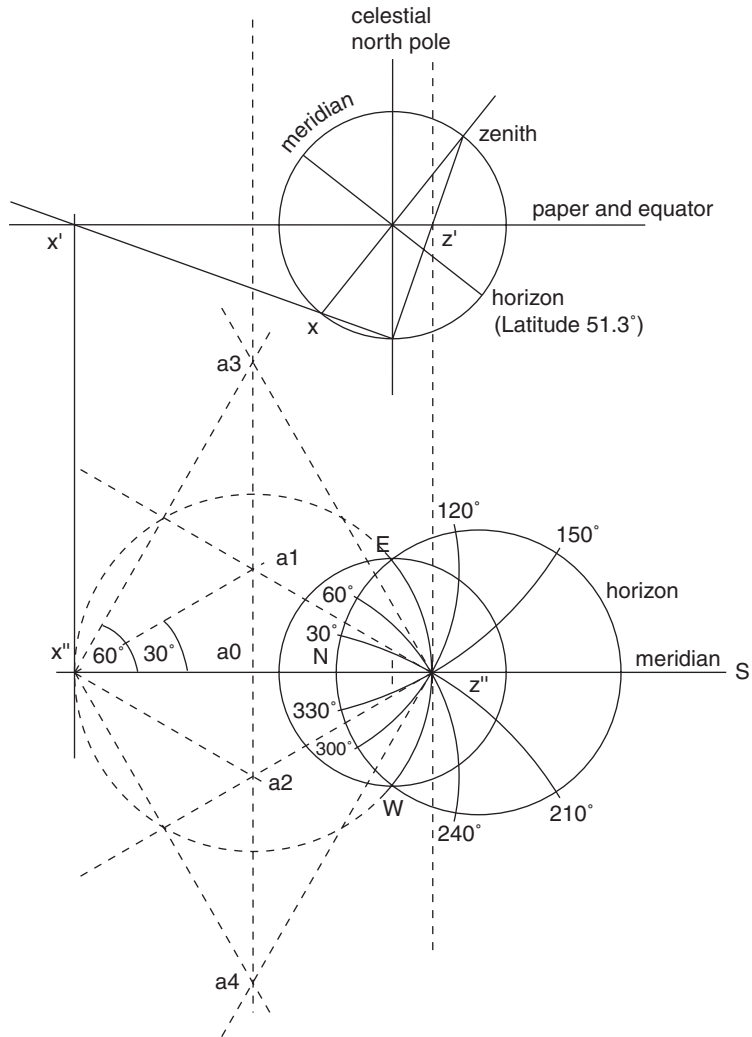
HEADMAP MANIFESTO . LOCATION AWARE DEVICES . HOMELESS NOMADS . MAPPING SEX . FUTURE ARCHITECTURE (LIFE WITHOUT BUILDINGS) . ARCHETYPES . UNLEARNING . CONFUSING BUSINESS . COMMUNITY SCHISMS . WAYPOINTS



# headmap manifesto

for bree.

thanks to suresh for making the trees sing.



there are notes in boxes that are empty

every room has an accessible history

every place has emotional attachments you can open and save

you can search for sadness in new york

people within a mile of each other who have never met stop what they are doing and organise spontaneously to help with some task or other.

in a strange town you knock on the door of someone you don't know and they give you sandwiches.

paths compete to offer themselves to you

life flows into inanimate objects

the trees hum advertising jingles

everything in the world, animate and inanimate, abstract and concrete, has thoughts attached

# know your place

## location aware devices

location aware, networked, mobile devices make possible invisible notes attached to spaces, places, people and things.

the headmap manifesto articulates the social implications of location aware devices.

It manifests a world in which computer games move outside and get subversive.

Sex and even love are easier to find.

Real space can be marked and demarcated invisibly.

..what was once the sole preserve of builders, architects and engineers falls into the hands of everyone: the ability to shape and organise the real world and the real space.

Real borders, boundaries and space become plastic and maleable, statehood becomes fragmented and global..

Geography gets interesting

Cell phones become internet enabled and location aware, everything in the real world gets tracked, tagged, barcoded and mapped.

Overlaying everything is a whole new invisible layer of annotation. Textual, visual and audible information is available as you get close, as context dictates, or when you ask.

## new world

The linking of a location aware device (e.g. something with GPS functionality), with a handheld computer (e.g. an IPAQ or a handspring) together with a mobile, wireless, internet connection, creates a significant new mass market computing platform which begins to make possible:

- leaving notes, demarcating spaces, and marking places, but leaving no external visible sign of having done so.
- anything left can be made visible to all, or to user specified individuals and groups.
- information (textual, audible or visual) can be bound to specific places.
- an alternative or supplement to permanent visual signifiers (e.g. signs, clothing, advertising).

- individuals can utilise new forms of community based on augmented awareness of their proximity to places of interest and each other..

..spontaneous extended community defined by both common interest and proximity.

- tracking the migration and movement patterns of people, animals and things.

- places can have histories 'attached' to them (i.e. the collection of notes left at a given place sorted according to when they were left).

- inanimate objects can become more animate (if you know where a tree is and you know when someone is walking past it you could make it burst into song).

## location aware devices

Consumer orientated, mobile, internet connected devices which are location aware (that is capable of determining and transmitting their current geographical location) are becoming available.

Linking some means of location finding, for example a cheap GPS (Global Positioning System), to a handheld computer and adding a wireless network connection creates a completely new computing platform.

If you know where you are you can link that location information to other kinds of information..

..that is you can associate information with places.

Using a network you can publish the coordinates of a place with a note attached.

That note can then be 'found' by another user who visits the same place.

It is a statute in the US that by October 2001 new cell phones have to be able to communicate their geographical coordinates so that this information can be used by the emergency services (extended 911 legislation).

Government sponsored location awareness mandates, cell phone triangulation, bluetooth, GPS..

..even Integrated MicroElectrical Mechanical Systems (IMEMS) techniques which are making possible the fabrication of chips with onboard digital compasses, and, more interestingly, gyroscopes and accelerometers (which means that the kind of inertial navigation systems used to navigate nuclear submarines without breaking radio silence can be embedded inside your cell phone)

Location aware devices.

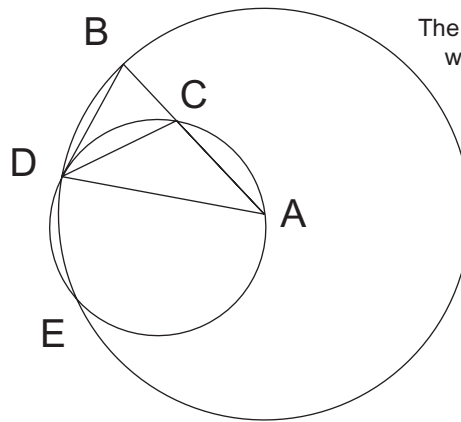
## introduction

The headmap manifesto is a sequence of text fragments dealing with the social and cultural implications of location aware devices.

Headmap argues a move from the 'inside' view that developed after the failure of the space programme, the closure of the frontiers, the rise of television, early computing, interiorised simulation and drug culture..

..towards an 'outside' view - a recolonisation of the real world, computers becoming invisible, mobile, networked and location aware, the real world augmented rather than simulated. People finding more outside than inside and developing sophisticated information based relationships to exterior spaces, computer games moving outside, technologies facilitating the tagging and annotating of spaces, places, people, animals and things, the emergence of new forms of spontaneous externalised real social interaction, constructs drawn from dreams and myth shape the outside more tangibly than ever before.

New forms of collective, network organised dissent are emerging. Collectively constructive rather than oppositional. Now capable of augmenting, reorganising, and colonising real spaces without altering what is already there or notifying those being colonised.



The internet has already started leaking into the real world. Headmap argues that when it gets trully loose the world will be new again.

## land and law

mutating traditional concepts of land, law, politics and ownership

mobile, networked, location aware devices

## maps

### [borders and boundaries]

mapping and social interaction

beyond geographically defined borders and nation states

## politics in software

### [no guarantee]

politics, community and constitution in software

information, not as a precursor to knowledge but as a tool for controlling and selling [no guarantee that technology will be put to liberatory use]

future architecture [lost space]

freeing architecture from the concrete

allowing more flexible spatial narratives.

recolonising real social space

## dreams [does a firm persuasion of a thing make it so]

flowing life into inanimate objects

binding dreams to reality

filling space with chimeric informational 'objects'

hallucination engineering

## nature [annotated]

framing or annotating nature ?

conquering, coexisting with, or resynthesising [nature]

## infrastructure [precursor]

integrating soft space shaping technologies with traditional concrete space shaping exercises like the freeways

[wireless networking is not as an end in itself but a precursor to augmenting reality and real space]

1[putting technologies developed for military coordination and support of field operatives, in the hands of civilians.]

## outside

[www.headmap.org](http://www.headmap.org)

## [space plus information]

defining community differently

spontaneous community, non-geographical nation states and constitutions

double meanings [Howard Hughes hitch hiking]

space plus information

## dissent

compromised countercultures

## shape

making the shape

## so

## wanting

## wireless castenada

## land and law

Soft augmentation, the ability to annotate space using location aware devices, will allow new concepts of land ownership and community and calls into question the geographical basis of power, politics and law.

a magical-legal function

technology gave a shape to america, it defined the pattern of imposition

*"He described to me how on holiday with his wife and children he arrived at a popular beach early to find it empty. For no particular reason he used a bucket and spade to build a perimeter of sand castles 6 meters apart and 25 meters in diameter around his chosen spot. Through the course of the day, the beach filled up and yet no infringement of this unenforcable token boundary occurred."*

THE RAILROADS, THE STEEL PLOUGH, THE SIX SHOOTER, STEEL WINDMILLS AND BARBED WIRE

The shape of America was defined through the application of technology to logistics, agriculture, force, power and bounding.

*"the great plains were only subdued after 1865 with the aid of new technology: the railroads, the steel plough, the six shooter, the barbed-wire fence and modern steel windmills"*

This shape is carved into, and still defines, large tracts of the vernacular landscape, there are still railroads, ploughs, guns, and windmills, and there is still barbed wire.

PARCELING UP LAND INTO RECTANGLES

Before barbed wire it was difficult and expensive to define a perimeter and bound a large tract of land.

From the air Europe and America (both in urban and agricultural areas) are patchworks of rectangular bounded spaces; buildings and land.

RECOLONISE THE USA IGNORING OLD STRUCTURES (OVERLAY A NEW PATTERN)

A new layer of symbolism, a new way of defining ownership and meaning could be overlaid on the old. Invisible on the surface. New paths, new meeting places, new boundaries. New meaning associated with old structures.

Songs and voices and thoughts defining any given space.

*"the 'nomadic war machine' conquers without being noticed"*  
Hakim Bey

Bums used to ride around the US on freight trains. They supplemented this logistical network with a symbol system that they could use to communicate useful information to one another. A given symbol scrawled in chalk might mean something like 'safe to sleep here'.

In san francisco you sometimes see a pair of shoes hanging from the tram wires. They either define territory or meeting places for local gangs.

Kids use graffiti to tag their territory.

Parasites on existing infrastructure.

Not removing or replacing what is there, but altering meaning. Redefining new terms, rules, language and symbolism.

Parasites powerful enough to absorb and dominate the old infrastructure without destroying it become colonists and define the hybrid entity.

Squatters in Zimbabwe are taking back land from British farmers, with the de facto support of the government. While the action is technically illegal the government is supporting the squatters and offering the British safe passage out of the country, rather than support.

The UK is now effectively another US state. [airbases, cultural and economic patterns etc.]

*"Anytime you colonise anybody they're gonna eventually colonise you back."* Erica Rosenblum

*"At this moment in the evolution of the Web, and considering our demands for the "face-to-face" and the sensual, we must consider the Web primarily as a support system, capable of carrying information from one Temporary Autonomous Zone to another, of defending the Temporary Autonomous Zone, rendering it "invisible" or giving it teeth, as the situation might demand. But more than that: If the Temporary Autonomous Zone is a nomad camp, then the Web helps provide the epics, songs, genealogies and legends of the tribe; it provides the secret caravan routes and*

*raiding trails which make up the flowlines of tribal economy; it even contains some of the very roads they will follow, some of the very dreams they will experience as signs and portents."* Hakim Bey, *Temporary Autonomous Zone*

pigeon, creole, slang, cant, argot.

[america effectively decided to open source and modify the English Language, it is now a part of one of the most pervasive and powerful operating systems on the planet.]

*"The despatialization of post-Industrial society provides some benefits (e.g. computer networking) but can also manifest as a form of oppression (homelessness, gentrification, architectural depersonalization, the erasure of Nature, etc.) The communes of the sixties tried to circumvent these forces but failed. The question of land refuses to go away. How can we separate the concept of space from the mechanisms of control? The territorial gangsters, the Nation/States, have hogged the entire map."* Hakim Bey

narrative subservient to economics and brute force

Narrative has always been subservient to the tangible.

*["Athens is neither a city nor a state, it is an idea" Aristotle]*

Now economics and brute force may begin to favour narrative, in the form of network interpretations of old structures.

Distributed communities, built around ideas and new forms of association, will dominate the older forms seeking to contain and control them but bound to conventional ideas of proximity and control

"it is not the land that must be conquered, but the hearts of men"

SPACE FOLDING

before the telegraph..

If a thief robbed a bank and then boarded a train there was no way to inform the sheriff in the next town that a thief was on the train.

New York could not talk to San Francisco.

It was hard to know what was going on outside your local community.

Space dominated communities and communications.

[see 'The Victorian Internet' by Tom Standage]

land as a central tenet of modern power structures

"With the occupation of the remaining open lands, this modern movement of population tapered off, and our mechanical civilisation lost one of its main safety valves."

Control of land and freedom of movement are traditional measures of spatial power. Countries, borders, razor wire, checkpoints, property and prisons all reflect on how the space is subdivided and owned and how people are contained and controlled.

"Millions of people chose a lifetime of danger, 'heroic toil', deprivation and hardships, battling with the forces of Nature, rather than accept life on the terms that it was offered alike to the victorious and the vanquished in the new hives of industry."

Borders are defined by historical conflict, political struggles, treaties and cartographers. Force of arms protects those borders.

"to be a tramp rather than lose his freedom to sleep as late as he liked, to eat what he could find at the time he wanted, to paint only when the passion to work took him." ANAIS NIN - The Chanchiquito

The law (backed by force and political will) protects property rights within those borders and defines the way in which land is divided

"rigid definition and control of land has been a central tenet of modern power structures." Hakim Bey

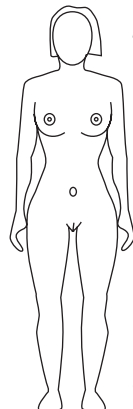
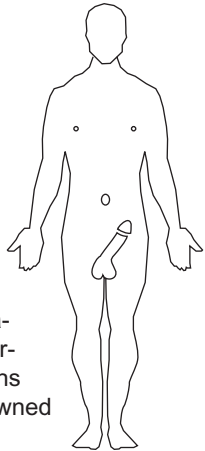
The map is effectively closed, all land falls clearly under the jurisdiction and ownership of some state or other. There is no new world and no new frontier on the surface of the earth.

Augmenting and annotating reality will lead to a new conception of space, new ways of looking at land ownership, new kinds of communities and states.

Whole continents could be colonised over again without directly challenging the existing power structures, without people even being aware that it is happening.

"Athens is neither a city nor a state, it is an idea" Aristotle

"There is an old and useful distinction between the civic and the urban. Latin, as Fustel de Coulanges observed in his great work on the ancient city, distinguishes between the terms civitas and urbs. Families or tribes who joined together because they shared the same religious beliefs, social organization, form of government and modes of production created civitas — a community that was not necessarily related to any particular place or construction. But when such a unit chose a particular site and founded a city in which to dwell — as Rome was founded on the Seven Hills — an urban settlement resulted. So urban space became the territory of the civic formation, and civic principles determined the spatial configuration of the city. Choice of site, performance of the foundation ritual, and organization of the layout were seen as such fundamentally important acts that they were traditionally ascribed to the community's gods and mythic heroes." William Mitchell, City of Bits



"it is not the land that must be conquered, but the hearts of men"

Communities based on symbolism, subsistence through acute local knowledge, and mobility. [nomadic]

Temporary Autonomous Zones

Hakim Bey wrote a paper entitled 'The Temporary Autonomous Zone'. It focuses on anarchist communities living in the gaps left by the dominant power in their domain. Assassins, pirates and the tongs. Communes, dining clubs and gatherings that serve as the anchor for all kinds of social groups and movements.

[BEGIN QUOTES from Temporary Autonomous Zone by Hakim Bey] pirate networks

Pirate Utopias - The sea rovers and corsairs of the 18th century created an "information network" that spanned the globe: primitive and devoted primarily to grim business, the net nevertheless functioned admirably. Scattered throughout the net were islands, remote hideouts where ships could be watered and provisioned, booty traded for luxuries and necessities. Some of these islands supported "intentional communities," whole mini-societies living consciously outside the law and determined to keep it up, even if only for a short but merry life." Hakim Bey - The Temporary Autonomous Zone. [see texts like Daniel Defoe's history of the pirates]

No more space, no terra incognita. Computer networks are providing gaps in which anarchist communities can find abstracted spaces that can anchor their efforts to live differently.

"The second generating force behind the TAZ springs from the



historical development I call "the closure of the map." The last bit of Earth unclaimed by any nation-state was eaten up in 1899. Ours is the first century without terra incognita, without a frontier. Nationality is the highest principle of world governance not one speck of rock in the South Seas can be left open, not one remote valley, not even the Moon and planets. This is the apotheosis of "territorial gangsterism." Not one square inch of Earth goes unpoliced or untaxed...in theory." Hakim Bey

"occupy these areas clandestinely" Hakim Bey

"from among the experiments of the inter-War period I'll concentrate instead on the madcap Republic of Fiume, which is much less well known, and was not meant to endure. Gabriele D'Annunzio, Decadent poet, artist, musician, aesthete, womanizer, pioneer daredevil aeronautist, black magician, genius and cad, emerged from World War I as a hero with a small army at his beck and command: the "Arditi." At a loss for adventure, he decided to capture the city of Fiume from Yugoslavia and give it to Italy. After a necromantic ceremony with his mistress in a cemetery in Venice he set out to conquer Fiume, and succeeded without any trouble to speak of. But Italy turned down his generous offer; the Prime Minister called him a fool. In a huff, D'Annunzio decided to declare independence and see how long he could get away with it. He and one of his anarchist friends wrote the Constitution, which declared music to be the central principle of the State . The Navy (made up of deserters and Milanese anarchist maritime unionists) named themselves the Uscochi , after the long- vanished pirates who once lived on local offshore islands and preyed on Venetian and Ottoman shipping. The modern Uscochi succeeded in some wild coups: several rich Italian merchant vessels suddenly gave the Republic a future: money in the coffers! Artists, bohemians, adventurers, anarchists (D'Annunzio corresponded with Malatesta), fugitives and Stateless refugees, homosexuals, military dandies (the uniform was black with pirate skull-&-crossbones later stolen by the SS), and crank reformers of every stripe (including Buddhists, Theosophists and Vedantists) began to show up at Fiume in droves. The party never stopped. Every morning D'Annunzio read poetry and manifestos from his balcony; every evening a concert, then fireworks. This made up the entire activity of the government. Eighteen months later, when the wine and money had run out and the Italian fleet finally showed up and lobbed a few shells at the Municipal Palace, no one had the energy to resist."

[END QUOTES from Temporary Autonomous Zone by Hakim Bey]

[BEGIN quote from Pharmakolpoieia - Plants, Posions and Herbcraft by Dale Pendell, mercury house san francisco 1995]

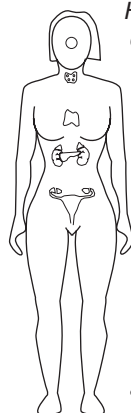
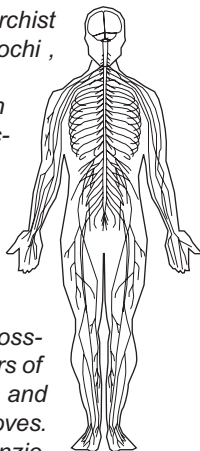
The Maypole at Merrymount. The counterculture arrived in the New World shortly after the Pilgrims. Thomas Morton was the co-owner of a company that brought a group of indentured men to Massachusetts in 1625. They built their settlement a few miles from Plymouth. The purpose of the company was profit, When the reality of the prospects in the Massachusetts wilderness became apparent, Morton's partner shipped out for Virginia, where he planned to sell off the indentured men, leaving Morton in charge in his absence.

Morton, who was a poet, made a speech to his men telling them that they had nothing to lose but their chains, and why not rebel, declare themselves free men, and learn to live as the Indians did - that far from being the abode of the Devil, as the Pilgrims saw it, the New World wilderness was the Garden of Eden.

They set up an anarchistic community and named it Merrymount. Morton had pagan leanings and told the company stories of the old gods, They set up a Maypole and invited the local Indians to a celebration. The men found the Indians friendly, ready to have a good time, and ready to trade. Morton's men showed the Indians how to fire muskets, and found that the Indians would make a good trade in furs in return for muskets and powder.

Stories of the parties and the mixing with Indians got back to Plymouth, and Miles Standish made a surprise raid with some soldiers and kidnapped Morton. Standish had provided the Indians with their first generic term for white Europeans (cutthroat) when he had invited two leading chiefs to a council inside his fort and then had them both murdered with swords. Standish wanted to lynch Morton on the spot, but some of Standish's men convinced him that Morton had important friends in England and that there might be repercussions. Instead he chained Morton to a tree on an island to await the next ship for England, assuming he would starve to death. The Indians fed him.

[END quote from Pharmakolpoieia - Plants, Posions and Herbcraft by Dale Pendell, mercury house san francisco 1995]



### aboriginal lands

[Begin quotes from Amos Rapoport - AUSTRALIAN ABORIGINES AND THE DEFINITION OF PLACE found in Shelter Sign and Symbol ed. Paul Oliver - Barrie and Jenkins 1975]

Many Europeans have spoken of the uniformity and featurelessness of the Australian landscape. The aborigines, however, see the landscape in a totally different way. Every feature of the landscape is known and has meaning - they then perceive differences which Europeans cannot see. These differences may be in terms of detail or in terms of a magical or invisible landscape, the symbolic space being even more varied than the perceived physical space. As one, example, every individual feature of Ayer's Rock is linked to a significant myth and the mythological beings who created it.

Every tree, every stain, hole and fissure has meaning.

Thus what to a European is all empty land may be full of noticeable differences to the aborigine and hence rich and complex.

Europeans may thus completely misunderstand the nature of the landscape because of their point of view.

Messages only become meaningful when received and recognised. Signals and signs become perceptual or conceptual meaning through symbols. Symbols thus change the biological and geographical world of signals and signs into a human world of

meanings.

[...]

*Underlying the visible landscape there seemed to be a symbolic landscape which was more real and of which aborigines had a clear notion.*

*What, therefore, needs to be considered is the relation of this symbolic world to the physical, the relation between symbolic and physical space.*

[...]

*By using natural features, the physical structure of landscape becomes congruent with mythical structure and hence humanised. If architecture is the mode of creating virtual space, making visible an ethnic domain and setting up a sphere of influence, then aborigines create place by giving meaning to sites in terms of their culture their ethnic domain. They do what architecture does in all the ways described but without the architecture.*

*To Europeans land meant buildings, crops, man-made artefacts, for aborigines it was a spiritual and emotional thing. Because aborigines did not cultivate land or erect permanent dwellings, that is because they took possession of land in non-material ways rather than in European terms, the latter did not realise that aborigines owned, occupied and used land. They could thus appropriate such land without qualms.*

[...]

*It thus seems clear that the Australian aborigines were most definitely able to establish a sense of place which was independent of any buildings which they might have constructed. This suggests that in the larger sense the establishment of place is a symbolic process. The use of physical barriers is only one way of achieving this - although, apparently, an essential one in our culture and context.*

[End quotes from Amos Rapoport - AUSTRALIAN ABORIGINES AND THE DEFINITION OF PLACE found in Shelter Sign and Symbol ed. Paul Oliver - Barrie and Jenkins 1975]

maps [borders and boundaries]

## The survey of india

There are insane maps of india covered in a dense mass of triangles.

GEORGE EVEREST

During the 19th century George Everest initiated a plan to formally survey, and then map, the whole of India.

## MAPPING AS CONQUEST AND CONTROL

Triangulation towers and theodolites became features of British India as far as the edges of the empire. Local communities came to see these towers as symbols of final subjugation and resisted violently, attacking and destroying them as they began to encroach on their territory.

Modern mapping provides a context for modern demarcation. The artificial idea of non-porous frontiers and nation states.

Arbitrary lines on maps.

Mapping is a mode of knowing and a method of controlling. [see texts like Ian Barrow's 'Moving Frontiers']

In a scientific context, observation, classification and modelling can be seen as a precursor to engineering, which equates to control.

The military has always been actively involved in map making, the Ordnance Survey in the UK is the primary source of civilian mapping data and is the primary governmental mapping organisation, until recently it was directly controlled and funded by the military.

During the gulf war, and in former Yugoslavia, the commanders integrated a whole range of spatial mapping technologies, from 3d terrain models to GPS, to enhance their formidable command and control systems.

## UNCHARTED TERRITORY

Uncharted land and water was always marked on a map as terra incognita.

Ancient and medieval writers mapped through narrative; unveiling and revealing the places they had been in associative rather than spatial terms, focusing on descriptions of places, people, and customs. They had more in common with the linear journeys of the songlines than spatial conception of Ptolemaic maps.

*"The first colonial cartographers of India were thus still surveying under the influence of medieval conceptions of the uncharted and its rhetorical practices of revelation. However, the maps drawn by James Rennell and his companion surveyors did introduce new attitudes towards the representation of land and frontiers, attitudes which, in the words of R.H. Phillimore, the Survey's historian, rescued the map "from the vagaries of fancy." David Harvey has remarked that the reintroduction of the Ptolemaic grid, with location determined by means of latitude and longitude, stripped maps of all their medieval "elements of fantasy and religious belief, as well as of any signs of the experiences involved in their production." Maps, now imbued with the principles of Enlightenment rationality, had become, according to Harvey, "abstract and strictly functional systems for the factual ordering of phenomena in space." While this essay will suggest that medieval spatial notions and cartographic practices together with contingency and contestation fashioned early colonial maps which were neither purely abstract nor functional, Harvey is correct to posit that maps displayed a greater 'objectivity'. Maps, as he says, lost much of their medieval sensuous, tactile character, and instead emphasized spatial organization and rationality. Nevertheless, how*

could maps rationally represent, in a coherent and systematic manner, anomalous revenue arrangements whereby, for example, the Company was permitted to demand revenue from certain tracts of land close to Bhutan from July to November only, at which time Bhutan once more claimed jurisdiction.” Ian Barrow, ‘Moving Frontiers’

## Maps

NEW WAYS OF SEEING (SCIENCE AS A SEQUENCE OF MAPS)

Conventional maps represent new ways of seeing and interpreting the space. Maps linked to, and illustrating, statistical data and migration patterns, physical, political and climatic maps, all have utility in a relevant context, but also affect the way we think about what is mapped.

Science can be seen as a more abstract set of maps, opening up new territories for exploration

“...just as those old atlases portrayed a world at once larger and startling and disquietingly different to citizens of the sixteenth century, a new atlas is aborning in the maps churned out by contemporary scientists; just as the world looks back to celebrate and ponder the quincentennial feats of Columbus, science is making and mapping discoveries of entirely new and equally momentous geographies.

[...]

A whirlwind tour of the world captured by modern mapping extends from the atomic and microscopic to the cosmic. Planetary geologists have mapped the hills and dales of Venus by radar, Mars by magnetometer, Jupiter with photopolarimeters, the moon in person. Paleocologists have mapped the location of lakes that dotted the Sahara until disappearing four thousand years ago, and climate modellers are mapping the climate as it will appear one hundred years hence. From 590 miles up in space, satellites can determine the average income of a neighbourhood, follow wandering ice bergs, track wandering albatross; from instruments resting on the surface of the earth, physicists can see into the heart of the planet, into the heart of the atom, into the big bang. Astronomy’s new telescopes chart the cosmos in all its multiple electromagnetic personalities: optical of course but also xray, gamma ray, infrared, radio, and ultraviolet. Biologists have mapped the location of proteins, electrons in atoms. Neurobiologists have mapped areas of the brain that light up when we dream. Where Aeneas may once have trod, the smouldering phlegrean fields now glow in aerial infrared maps. No earthly or celestial or even artistic territory has been spared this rampant cartography: experts not long ago scanned the Mona Lisa’s sublime and mysterious face with a microdensitometer, measuring and mapping the topography of pigments in la gioconda’s smile.” Stephen S. Hall - mapping the millennium

MACHINES FOR GENERATING INTERPRETATIONS

[a map] “a machine for generating interpretations”

A WAY TO UNDERSTAND WHAT YOU SEE

If you can mathematically abstract the structure of a system you

can usually map it onto many other systems.

Being able to Map an interpretation of one system onto other systems is why mathematicians, scientists and programmers often see themselves as basically lazy. Less work, more back.

## A way of seeing

THE WORLD DIFFERENTLY

Human beings relate to the world through their technology. Technology defines your conception of space and the way you interact with and see the world (freeways, guns, barbed wire, desktop computers arbitrarily shape the world).

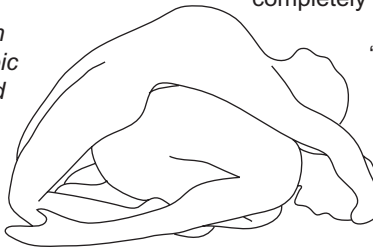
“If all you have is a hammer, everything looks like a nail”

A change in the technology that mediates your world changes the way of the world.

CAN BE STRUCTURED BUT IT IS NEVER STRUCTURED DEFINITELY

The way we see the world and conceive of space, the way we relate to, and interact with our local and extended communities will change.

“And I would define the ‘poetic effect’ as the capacity that a text displays for continuing to generate different readings without being completely consumed” Umberto Eco



“can be structured but it is never structured definitively”

## songlines

The aboriginal concept of space clashed with western ideas of law and land ownership. Colonial settlers parcelled land up into neat rectangles enforcing these arbitrary boundaries with force and punishing trespassers.

“Song lines are the sound equivalents of the spacial [sic] journeys of the ancestors, the lines of which are found also inscribed in Aboriginal paintings and carvings. They detail the travels of the ancestors and each verse may be read in terms of the geographical features of the landscape. Encoded within them are the great ceremonies which reactivate the Dreamtime in the present.” Mudrooroo, Aboriginal Mythology

A journey (not a road or a path), and ritual associated with that journey were at the heart of the aboriginal understanding of their relationship to the land.

## footprints

Footprints, traces left that are transient, temporary and in isolation at the moment they occur. Aggregated, together, footprints can indicate a pattern, a direction and motive.

EVIDENCE

footprints function as evidence of the presence of others

Robinson Crusoe

## DOGS

Dogs augment their environments. They piss on trees and leave their scent. Encoded information for other dogs. Kids tag their local environment. In both cases the message is fairly simple: I'm here.

## INFORMATION ABOUT THOSE PEOPLE

Native trackers in Namibia, used by the South African army in the bush, were feared for their ability to discern and interpret every trace left by the guerillas they were sent to kill.

## IMPLICATION

footprints don't just indicate existence and direction, they can imply action, condition, intent and motivation.

## LOGS

After an attack on a computer system is apparent, all the logs get searched for evidence of a hackers presence, and beyond that, methods used, origin and identity.

Logs kept by websites are used to track your behaviour on the web. These are reinforced by the cookies left on your machine when you visit a website. Companies (like Personify) build up profiles of your behaviour patterns (action, intent, motivation and condition) based on the traces you leave as you navigate the internet. Other companies (like Zero Knowledge) seek to protect your privacy while you surf and anonymous remailers like the now defunct anon.penet.fi (see galactus for information on anonymous email) seek to hide the trail email leaves (that leads back to you).

Your individual actions and choices are not as interesting as your patterns over time.

## HUMAN BEINGS AS PATTERN FOLLOWING CREATURES

The army always seemed to me quite stupid.

It's key features, uniforms, drill, marching, rank, endless exercises, applied to young men who were not necessarily incredibly bright.

As far as I can tell I'm a pattern following animal.

There are whole years of my life that I cannot clearly remember. Sometimes in an effort to recover those years, and in the absence of a journal or diary to remind me, I grab a pile of bank statement from that year and study them to see roughly where I was and what I was doing. Usually mind numbing patterns emerge. Same Safeway, same day, every two weeks, roughly the same amount spent. Same ATM every friday night roughly the same amount. Every two weeks a meal at one of a small number of revisited restaurants. Every month rent cheque, haircut, some aberrant item like clothing or travel. If I continue long enough the pattern breaks up temporarily as I move to another city and then quickly settles down again. If I had my grocery receipts I'd find roughly the same food items recurring for months at a time. If I could trace my movements I'd find myself taking similar routes over and over again to get to the same set of destinations.

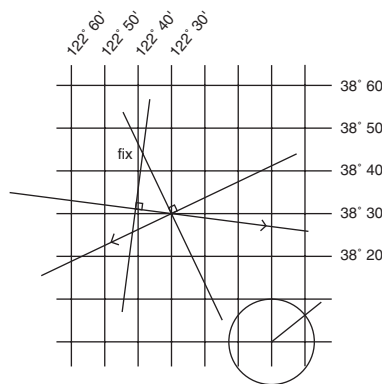
All of sudden the army isn't so stupid. They know I'm a pattern-based animal, that I like patterns and find it hard to break them once they are established. So they instill patterns for every conceivable situation that a soldier might face, so that when finally that situation occurs it is easier to follow the pattern than do anything else (like run away).

Then there is dependence on patterns like always having somewhere to sleep, always having a place to get food from, always having the same people with you, always doing the same tasks.

## INSTITUTIONS

Sophistication, change and novelty, can cripple large institutions. Just clearly tell people what to do and let it be a subset of what they have always done otherwise nothing will ever actually get done. Institutions need to innovate with care, or with great violence.

A good startup company, begins agile and original, smashing the ingrained patterns of its competitors, when it reaches a certain stage of life it begins to congeal, patterns emerge and it becomes political and institutional. Smashing those patterns is possible but harder than starting again, hence the number, and success of startups in a time of accelerated change.



Venture capitalists, and the startups they fund, are the R&D department of corporate America. They take the risks and when something works it gets assimilated.

## PATTERNS IN BEHAVIOUR

For a while I used to keep a diary, diary entries were limited to a maximum of 10 words. An entry on a given day might look like this:

2. 3.96  
climb.walk.work  
sunlight.Carly.happy

The first five words were reserved for practical things, so if I worked, did nothing, wrote or coded I would use an appropriate word to represent that mental activity, if I did physical stuff like walking and climbing I'd enter whatever the activities were.

The second five words were more abstract. I'd try and think of keywords that would distill my feelings about the day (mood, people and sensations)

11.11.98  
climb.swim.work  
empty.bored.overcast

At night, before I wrote anything down, I'd lie in bed and try and retrace my steps during the course of the day. Establishing exactly where I had been, any interactions, and what I had done. Almost a meditation ritual for sealing the day. When I had the day clear in my head, I'd distill the day down into a few practical words, and a few words that represented feelings.

[..in western culture this structuring used to fall into the category of prayer, going through your day at the end of it, considering your actions and your motives, but atheists have often discarded this

practical tool, throwing babies out with bath water]

This distillation of a day down into a few words can function as a rigid form for a log. A haiku diary that, over time, builds up until patterns emerge.

Because of the concise and constrained form, it was easy to see the patterns. Patterns of productivity and inaction, of happiness, boredom and darkness, people recurring, appearing and disappearing, change of location (temporary and permanent).

A normal journal is too long to be read in this way. I always found that when I wrote a full page every day, and returned to it later, all I wanted was just an indication of mood, place, activity and people, and that it was hard to see patterns emerge over a longer time period, given that there was so much to read.

Another concept is the pure mood log, define a list of categories..

Boredom, fitness, health, how horny you feel, confidence, happiness, and then each day rate each of the categories on a scale from -5 to +5.

Then you can graph your mood and your 'state' over time.

Build a website that allows a group of people to do this. Aggregate moodlog entries within groups and determine group mood, plot the site graph and see if you could map mood to world events or local incidents.

Show people their patterns in a way that might be directly useful and interesting to them, even suggest changes in behaviour and be able to measure and show direct changes in mood resulting.

The extent of their effort would be 10 words or less a day for the diary, 10 numbers entered into the mood log a lot easier than keeping a conventional journal.

SHOWING PEOPLE THEIR PATTERNS RATHER THAN USING THEM AS SALES TOOLS

human patterns have become commoditised.

*"It was indeed the age of information, but information was not the precursor to knowledge, it was the tool of salesmen" Earl Shorris - A Nation of Salesmen*

Market researchers have mutated into profilers of individuals.

Market researchers have long been keying their information geographically. One of the big digital mapping data companies GDT is a wholly owned subsidiary of a large market research firm, R.L. Polk (their tagline: 'multi-dimensional intelligence').

Zipcodes function as a means of subdividing the US for market research purposes, that is, they are a convenient topological convention for organising personal and property related data, a geographical axis.

Large chunks of the third world have no equivalent system (due to the lack of pressure from market researchers).

People could have their own patterns made available to them for

www.headmap.org

non-commercial use.

EXTENSION OF DIGITAL PATTERNS AND LOGS INTO PHYSICAL SPACE

The same mass tracking of behaviour that is evolving on the web, maps onto the behaviour of people and the movement of animals and objects in the real world. At the point when devices that travel with you everywhere are aware of their location, it becomes possible to track you in the real world.

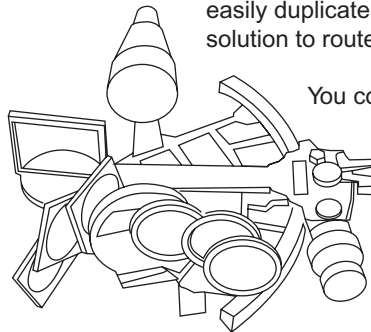
MIGRATION AND EBB AND FLOW, GROUP BEHAVIOUR

If you are native to a city and a tourist asks you for directions to a place, you do not necessarily tell them the way you yourself would go, which might involve convoluted shortcuts and complications, you tell them the shortest clearly describable route.

Map the way people get from A to B, and establish that tourists travel one way, locals travel one way and commercial drivers yet another.

A tourist could access that information to get a different view of the city, finding out which way a local would go, or maybe a specific individual would go.

Mapquest finesse their routefinding capability using information from commercial drivers (making it difficult for a rival service to easily duplicate what they have with a pure static technology solution to routefinding).



You could sell your morning walk

Elliot Solloway builds educational software while working with underprivileged kids in the school system in Detroit.

His software offers young kids a chance to think like undergraduates. Complexities like modeling phenomena using differential equations are present, but hidden, using natural language scaffolding.

An example would be a piece of software for studying the local stream. You take a picture of your local stream and that image becomes the backdrop for the software, then, as a class, you begin to study it. You take measurements of all kinds. All this data is entered into the software, which becomes, over time, a model of the stream. At some point you begin to notice patterns emerging, you use your model to predict outcomes and suggest causal relationships.

Another example would be modelling weather. This gets interesting at the point where you get kids in schools all across the world submitting data in a common form over the web. Everyone begins to contribute to a more or less accurate model of the weather independent of professional meteorologists.

If the meteorologists make some suggestions as to what kinds of phenomena they need studied, an army of kids is now at their disposal generating data and learning as they do so.

Compare this to SETI (Search for Extra Terrestrial Life) a government funded project that had its budget cut dramatically. They leveraged what they had by building a distributed model for processing the data they were collecting. The team were able to release a screensaver that used spare computing cycles on any

internet connected desktop to help with the number crunching.

Intel launched a screen saver that uses spare computing cycles to help cancer research.

Recently, according to Solloway, kids across America tracked the migration of a particular species of butterfly. The implication is that kids (and everyone else) can make big science and data gathering projects viable in the absence of huge grants. (see also the educational initiatives of the Digital Earth project).

Market research used to be labour intensive and data was expensive to gather. Now the job is being pushed out on to the internet and we all indirectly gather data, by navigating the internet and filling in forms, and buying stuff.

Beyond studying our habits as we sit in front of computer comes the point at which everything that is static in the world is mapped and everything that moves (vehicles, portable stuff, animals, people) is tagged, location aware and on the network.

Consider the patterns of migration and ebb and flow that might emerge when that data was harvested. The maps and the visualisations of that data. Beautiful, useful and terrifying (like any good technology).

The dark implications are similar to there web based counterparts, with an emphasis on spatial monitoring and control.

#### APPLICATIONS

*"I have a weakness for places — old battlefields, car-crash sites, houses where famous authors lived. Bygone passions should always have an address, it seems to me. Ideally, the world would be covered with plaques and markers listing the notable events that occurred at each particular spot. A sign on every pay phone would describe how a woman broke up with her finace here, how a young ballplayer learned that he had made the team. Unfortunately, the world itself is fluid and changes out from under us; the rocky islands Mark Twain was careful to avoid in the Mississippi are now stone outcroppings in a bean field. Meanwhile, our passions proliferate into illegibility, and the places they occur can't hold them. Eventually pay phones will become relics of an almost vanished landscape, and of a time when there were fewer of us and our stories were on an earlier page. Romantics like me will have to reimagine our passions as they are — unmoored to earth, like an infinitude of cell-phone messages flying through the atmosphere." Ian Frazier, Jan/Feb 2000 issue of Mother Jones*

#### transience and fragility

Transience and fragility are at the heart of internet killer apps.

Email - disposable notes.

Napster - a fragile temporary network where you might be able to find the mp3 you want due to the effects of scale.

The Web - no guarantee you will find the page or the site you visited today tomorrow.

ICQ - even more disposable notes.

ONLY THAT WHICH CANNOT BE TOUCHED CAN BE SACRED

..a world filled with notes and objects that aren't really there.

SECEDE FROM THE PRESENT

..invisible structures reinforcing ways of thinking beyond the conventions of your proximate peers and your community. Secede from their present.

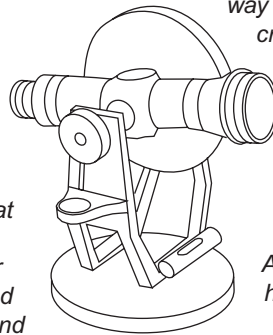
SURFACE BOY

..a land with less to see, less on the surface, no visible signs, no colourful packaging

#### humanised without building

*[Begin quotes from Amos Rapoport - AUSTRALIAN ABORIGINES AND THE DEFINITION OF PLACE found in Shelter Sign and Symbol ed. Paul Oliver - Barrie and Jenkins 1975]*

*Aborigines can make the most exact and complex maps of the journeys of their ancestral figures and they themselves re-enact the journey going in procession from sacred spot to sacred spot, following the divine route. If we remember the processions in tracing the boundaries of Roman (and other) cities we find a similar way of defining place except that it was expressed concretely by building walls. In fact aboriginal areas where sacred objects are stored became sanctified and animals and people in them were safe - an early form of the city or house of refuge but without physical construction.*



*Aborigines do not move just in a landscape but in a humanised realm saturated with significations.*

*Aborigines structure their existing physical landscape mentally, mythically and symbolically without building it.*

*[End quotes from Amos Rapoport - AUSTRALIAN ABORIGINES AND THE DEFINITION OF PLACE found in Shelter Sign and Symbol ed. Paul Oliver - Barrie and Jenkins 1975]*

#### data streams

*[BEGIN QUOTE]*

*Immaterial Incorporated—Cabinet*

*from the transcript of an interview with Eben Moglen: The Encryption Wars, Part I*

*MOGLEN: Well, I don't think their answer is there's nothing we're going to be able to do about it. But the answer is we are no longer attempting to delay the adoption of strong encryption technology by United States export controls. You'll notice that last night they took the error out the GPS.*

*WORTHINGTON: So Iraq is now going to be able to target its*

cruise missiles precisely on top of the Washington Monument and not 50 meters away.

MOGLEN: Yes. The military says they will continue to provide wrong information in just those places that are absolutely important, but I don't think that means the White House or the Washington Monument. I think that means missile silos in Montana.

WORTHINGTON: Do you think, ten years from now, we'll see maps published showing the version of the United States that's being released now, with these abrupt transitions from crystal clarity to fog?

MOGLEN: Mapmaking is a very interesting subject in general, because when everybody in the country is carrying GPS equipment, one kind of mapmaking that will be absolutely possible consists of the whole structure of what we think of as free data. That is to say - people voluntarily walking around with GPS equipped cell phones donating the stream of their information to a mapping database which will be a very accurate map of everywhere all the time. Every bridge, every road, every place in the country will be repeatedly measured by people moving around with GPS equipment.

WORTHINGTON: Have you heard of any project like this today?

MOGLEN: I'm not aware of any. But you can see that it will happen, because that data stream will exist, and there will be a kind of decentralized geographic information service structure, but I don't think anybody has yet thought about what will happen. You have lots of people thinking about it from a commercial point of view - Pizza Hut guys wondering how soon they'll be able to advertise to you on your cell phone where the closest Pizza Hut is.

[END QUOTE]

## politics in software [no guarantee]

### no guarantee of liberatory use of tech

"The banalization of TV, the yuppification of computers & the militarization of Space suggest that these technologies in themselves provide no "determined" guarantee of their liberatory use." Hakim Bey

New technology, before it arrives, heralds destruction or liberation depending on whose account you happen to be reading. The internet has been (all at once) an anarchists tool, a military tool, a tool for salesmen and businesses, and in general a communications medium for everyone able to use it for whatever purpose they intend.

### social control

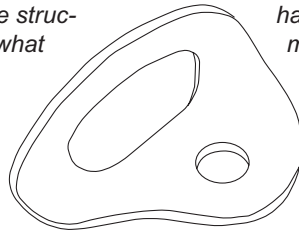
POLICE SENSORIUM (L.A. BELFAST)

"But this is hardly the ultimate police sensorium. As gang hysteria and the war on crack keep the city's coffers open to police funding requests, it is likely the LAPD will continue to win political support for ambitious capital investment programs in new technol-

ogy. Having brought policing up to the levels of the Vietnam War and early NASA, it is almost inevitable that the LAPD, and other advanced police force, will try to acquire the technology of the Electronic Battlefield and even Star Wars. We are at the threshold of the universal electronic tagging of property and people - both criminal and non-criminal (small children, for example) - monitored by both cellular and centralized surveillances. Of the latter, ex-Los Angeles police chief, and now state senator, Ed Davis (Republican - Valencia) has proposed the use of a geosynclinal space satellite to counter pandemic car theft in the region. Electronic alarm systems, already tested in New England, would alert police if a properly tagged car was stolen; satellite monitoring would extend coverage over Los Angeles's vast metropolitan area. Once in orbit, of course, the role of a law enforcement satellite would grow to encompass other forms of surveillance and control." City of Quartz - Mike Davis page 253

"As part of it's "astro" program LAPD helicopters maintain an average nineteen-hour-per-day vigil over 'high crime areas', tactically coordinated to patrol car forces, and exceeding even the British Army's surveillance of Belfast. To facilitate ground-air synchronization, thousands of residential rooftops have been painted with identifying street numbers, transforming the aerial view of the city into a huge police grid." City of Quartz - Mike Davis page 252

"The man coordinating these many teams in various global locations is codenamed Weatherman One. The Weatherman has the ability to 'consider huge amounts of data and to make quick, calm decisions' helped along by 'cybernetic implants which link his cerebral cortex directly to the SkyWatch computer net'" From Captain America to Wolverine - Mark Oehlert



[swedish space media network  
French SPOT system of  
commercial satellite imaging  
to customer spec. [+ USA LANDSAT]  
[numerous weather satellites]  
[NYTimes 30th Jan 1989  
Scientific American 264 No.1(Jan91)  
soviets enter commercial satellite  
business down to 5 ft resolution from  
SPOTs French 10 ft i.e. military grade  
American response to question  
their own policy of total secrecy.]  
[real-time multispectral imaging]

POPULAR CULTURE AND TECHNOLOGY TO KEEP PEOPLE GRINNING MINDLESSLY (VIRGIN)

"To complain about the society of the spectacle as a contemporary social disease is to forget the it was the Romans who declared that all the people wanted in order to be contented was bread and circuses, or pizza and television, if you prefer." Marcos Novak

People will almost certainly use location aware devices without strong privacy protection in place, as long as transactions are secure and there is no overt discernable violation. If it makes there lives easier Americans seem content to have huge market research firms keeping data on them and selling that data.

This is an argument for strong encryption, impartial automated infomediaries, and a non-proprietary distributed open source infra-

structure.

### SOCIAL CONTROL THROUGH INFORMATION

If this technology impacts without privacy built-in, all kinds of organisations could not only know your internet browsing habits, but where and when you go (in real time - i.e. where are you now), what you buy and who you see, and from that establish the patterns in your spatial behaviour. A step beyond being able to sell your bank statement.

### information, not as a precursor to knowledge but as the tool of salesman

If all our experience becomes mediated by technology how do we stop salesmen getting access to our every waking moment irrespective of place and time?

*“reality did not cease to exist, of course, but much of what people understood as reality, including virtually all of the commercial world, was mediated by television, it was as if a salesman had been placed between Americans and life.” Earl Shorris*

## future architecture (lost space)

### definition of architecture

*“Architecture: from the Latin -teks—To weave (as a net); also to fabricate, a root shared with text, textile, context, subtle (“the finest thread of the weave”) and technology. More especially, to build a dwelling, with tools.” American Heritage Dictionary*

### A NEW FORM OF PARASITIC ARCHITECTURE (AUGMENTATION AS)

Soft augmentation, the ability to annotate and bound real spaces without physically altering them, is a new variant form of parasitic architecture. A structure that is dependent upon and augments an existing structure can be classified as parasitic architecture.

### OPTIMISM IN ARCHITECTURE

Architecture is less and less about buildings, but can continue to be about our relationship to real space.

### reading narrative into architecture

### THE ACT OF RITUAL IS SYMBOLISED BY PATH AND GOAL (SEE AND FLOW AND LOCAL ROUTING)

A central idea in human culture is the journey. A journey is a fundamental way in which we relate to space. We move from one place to another in a linear sequence. The idea of the journey is central to our myths and stories, it is encoded in our architecture and implied in our built environment, the streets outside our houses, the paths through the woods, the networks of freeways, the railway tracks through our towns, the airports on the outskirts of every city, the ports distributed along every coast.

These paths serve a logistic purpose, to move people and to move things. We can choose to stay relatively still and things will find their way to our communities. But even this stasis still involves journeys, to work, to school, to shop, to the next room.

Novels are linear journeys, but even in a medium like the internet this linear idea persists, the way you experience hypertext is linear too, it just doesn't constrain the way you navigate.

Human beings have limited ability to multitask, at least at a conscious level (Distraction), so that each shift in our attention aggregated becomes a journey.

*“You are here - a virtual somewhere possessing an identifiable (interiorized) form and mnemonic associations by which you have arrived, will leave, and (may) navigate to return. Functionally similar mnemonic architectures have existed for almost two thousand years,” Darrel Berry - The Poetics of Cyberspace*

Human beings are nomadic at a very fundamental level.

### PSYCHOLOGICAL PROJECTION (ITS NOT REALLY THERE)

Architecture projects meaning onto space through physical restructuring of our environment.

What if the same principles could be applied without remodelling the space, if path could be implied without a sequence of real columns, a sacred space could be implied without a real perimeter.

### SACRED SPACE

A place in a local park or an arbitrary piece of sidewalk could become a meeting place or a sacred space with meaning overlaid but invisible.

*“A locus is a place easily grasped by the memory, such as a house, an intercolumnar space, a corner, an arch or the like.” Darrel Berry - The Poetics of Cyberspace*

### voyages of discovery

### THE NEW WORLD

*“on the one hand he shared the practicality of the English school [...] on the other hand, he was imbued with the nonsense of hermetic philosophy.” A.L. Rowse on Elizabethan mathematician John Dee*

*“The opening of the “new” world was conceived from the start as an occultist operation. The magus John Dee, spiritual advisor to Elizabeth I, seems to have invented the concept of “magical imperialism” and infected an entire generation with it. Halkyut and Raleigh fell under his spell, and Raleigh used his connections with the “School of Night” a cabal of advanced thinkers, aristocrats, and adepts to further the causes of exploration, colonization and mapmaking. ‘The Tempest’ was a propaganda-piece for the new ideology, and the Roanoke Colony was its first showcase experiment.” Hakim Bey*



Virginia was conceived of along such utopian lines.

CLOSE CONNECTION BETWEEN THE VOYAGES, NAVIGATION AND THE EXTENSION OF KNOWLEDGE

“there was a close and continuing dialectic between the voyages and the extension of knowledge.” A.L. Rowse

New worlds inspire hope and new ways of thinking. Voyages of discovery force advances in the technology required for such endeavours (navigation, map making etc.). If new worlds actually appear, their qualities, their character and evidence of their existence affect the society which initiated the voyages, in intellectual and material ways.

The internet can be read as a new world and a new frontier, subject to reports from settlers, evidence of its existence (webvans etc.), land grabs and economic and social impact.

New ways of seeing the world can be analogous to new worlds.

“for a ship does not go into the seas of the opposite south without bringing back to the courts or academies evidence of those worlds.”

Vereenigde Oost-Indische Compagnie

memory maps and symbol systems [organising and structuring systems]

ARCHITECTURE

“A mnemonic architecture facilitates memory and desire, a cluster which seeks to cluster. A process architecture provides access to tools. Most architectures exhibit both process and mnemonic aspects, either together, or in varying spatial and temporal aspects — this shelter from the rain, this arbour in which I dream.” Darrell Berry - *The Poetics of Cyberspace*

Architecture is about utility, Corbusier contended that living spaces should be machines for living in.

Physical buildings function on many levels, and utility should be broadly defined: symbolic, narrative, mnemonic and aesthetic.

Buildings can be symbols of power, authority and permanence. Buildings prescribe journeys which you have to take in order to transition from one space to another. They can encode and reference ideas and function. They can be beautiful.

“A church is an excellent example of this, a symbolic array is created where the interaction between the symbols in that array holds greater value than the essence of any one of the symbols within that matrix.” Clay Graham

A cathedral is symbolic clearing in the woods, sunlight through the tracery in the stained glass emulating light through branches. The columns are high and, like trees, arching up and spreading out. Ritual, symbolism, metaphor, mnemonic function converge in what were key medieval centers of power and administration.

[BEGIN QUOTE]

www.headmap.org

David Frerichs describes Clay Graham’s archetypal paradigm

Virtual Architecture uses archetypes to convey the purpose of the space. Archetypes are a low-level symbolic language, understood to be at the base of the human psyche, which the virtual architect uses to encode meaning. Ten archetypes are as follows:

AXIS: Infers a path to a goal and begs to be followed.

COURT: The focus of action/inaction and cognitive awareness, a container of thresholds.

RELATIONSHIP OF PATH AND PLACE: The journey begins at the first threshold (initiation) and ends at the final threshold (enlightenment)

PERIMETER OF DOMAIN: The limit of understanding, the limit of the defined world.

PORTAL: A breach in the perimeter: the mouth of an axis connecting two domains.

OPENNESS AND CLOSURE: Defined by the perimeter, openness is the lack of understanding and closure is the comfortable area of knowledge.

DATUM: Spatial datum defines the scale and perimeter of the space; secondary datum may define items of interaction and is offset to show importance.

COLUMN: defines the perimeter and sets the vertical scale.

WALL: The primary method of defining the perimeter; also provides closure and clarifies breaches or portals.

ROOF: Preserves the relationship of sky and ground and provides the elevation boundary for the area of interactivity

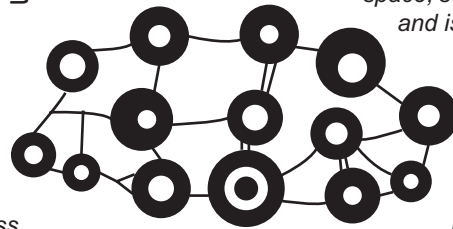
[END QUOTE]

Architecture serves to organise and focus all the appropriate symbols, meanings, and functionality that the proposed purpose of the building dictates.

Qualified architects are already finding themselves in many other roles aside from pure builders of buildings. Interface design, website design, building temporary structures for transient events like festivals, conferences and trade shows, 3d design for computer games and simulation.

As the networked world becomes increasingly overlaid upon, and integrated with, the real world, the new concept of augmented space will offer opportunities for redefining the boundaries of architecture.

Imagine if there were no billboards, no one wore bright colors or fashionable clothes, the buildings were all spartan and utilitarian, there were no street signs, none of the houses had numbers, and shops had no shopfronts just doors. The entire life of the culture not visible without some kind of technological augmentation. All colour and information was invisible to the naked eye.



Burning Man enforces a no money rule, no advertising, no spectators. When I was there in 1999, despite 25,000 people turning up, there were no concessions, no logos, no labels, no billboards. All the infrastructure and actual structures were temporary, including the airport and the 27 radio stations. The only food you had was what you hauled in from the outside or what you bartered for, and the only thing in the whole place you could buy was coffee or juice (carrot, apple and ginger). Weirdly enough this regime significantly and positively changed the atmosphere relative to analogous big gatherings. One guy came into a camp I was visiting and tried to exchange large amounts of drugs for a little food and something to drink, (an indication of value shifting in this artificial economy).

Symbol systems extend to the extreme utility of coherent addressing, the numbering of houses, the naming of streets, the boundary markers that define villages, towns and districts.

In Japan the streets are not numbered according to the western convention of beginning at the start of a block and increasing as you walk. They are numbered according to the age of the building, the oldest building is the first. So if someone gives you an address that just states the street name and number it is effectively useless. Cell phones are essential if you want to find your way to an address you haven't been to before.

Symbol systems can extend beyond conventional boundaries. symbols of approval and disapproval, support and opposition, descriptions of function and ritual attached to any arbitrary space, bespoke paths for individuals and communities parasitic on aggregated conventional common paths. Bespoke numbering and addressing systems.

The way the space is navigated, valued, and understood will change in the face of augmentation technologies.

OCCULT

*"And if we now try to convey in a sentence the sense and meaning of all the myths and rituals that have sprung from this conception of a universal order, we may say that they are structuring agents, functioning to bring the human order into accord with the celestial. 'Thy will be done on earth, as it is in heaven.' The myths and rites constitute a mesocosm - a mediating, middle cosmos, through which the microcosm of the individual is brought into relation to the macrocosm of the all." Joseph Campbell - The Masks of God*

*"The tree is already the image of the world" Deleuze and Guattari -1000 Plateaus*

[TREE OF LIFE][URL]

The tree of life, the Tarot, objects and symbols of power all find there way into common cultural currency, witness the masonic motif on the US dollar bill.

Religion and mythology are filled with old stories which can help articulate new visions.

Mythology, Archetypes and Religion are constantly mined by contemporary culture to encode, shed light on, and add authority to, new thoughts, new ways of thinking and new technologies.

[William Gibson used voodoo myth and symbolism mapped onto his dream of a networked world.]

Human culture is rich in this kind of symbolism and these kinds of dreams, they help to shape the internet already, everything is a metaphor for something in the real or mythological world, from daemons to trash cans.

Expect a new golden dawn.

*"the symbol cluster of the Quest"*

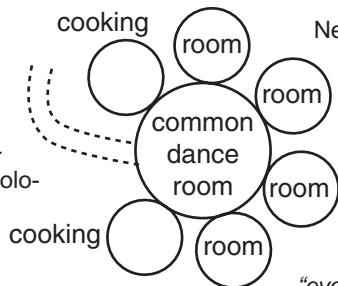
*"That's how religions work, a few people relate at first, the core of symbols then blossoms to incorporate new input." Clay Graham*

UTILITY

A modern map is an abstraction, a widely understood convention.

A visualisation of any given data is only useful if you understand what is being represented and why. Without elaborate explanation a vector field is only really useful to someone who is used to vector fields. A three dimensional surface map is useless unless you are used to interpreting data in this form. Stock market analysts still prefer a sequence of bar graphs over three dimensional surface maps.

Visualisation should help people interpret information.



New languages, new conventions for abstraction, new kinds of visualisation integrated into our experience of space will change our conception of it.

THE COLLECTIVE CONSCIOUSNESS

*"What did the backer hope to gain from it ? A leased line to the collective unconscious"*

*"every culture lives within its dream" Lewis Mumford*

Cultures give shape to their worlds, through shared symbolism, convention and meaning.

Massively extended choice in a media context (Cable TV, video, internet access etc.) mean that the social homogeneity that followed from collectively experienced limited choice broadcast media is breaking down.

But we still all see the same street signs, the same billboards, the same line down the middle of the road.

The ability of a small community to affect the way its members see and experience the space in which they live will mean an end to a commonly held view of that space.

*"all simulation is political" Ted Nelson*

SCIENCE

Science, like religion and mythology is a source of observations, classification and modelling leading to interpretation. But unlike religion and mythology it has use beyond communication through metaphor and shared meaning.

Science and rationality applied to an augmentation system, might literally mean describing, modelling, predicting and interpreting the

world as we experience it. The collective body of scientific knowledge at your disposal. Plants and animals might be annotated and described, physical systems might be modelled with a view to prediction.

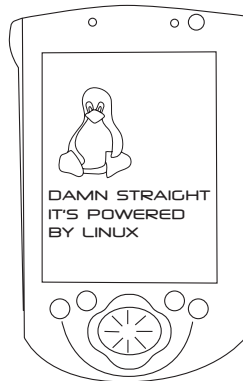
SPACE AS HIERARCHY OF VALUES REPLACED BY SPACE AS A SYSTEM OF MAGNITUDES

“space as a hierarchy of values was replaced by space as a system of magnitudes”

When people exclusively think associatively rather than in terms of a system of magnitudes, physics has a hard time advancing (cf. Gallileo).

“In fact, most of them were incredibly pissed off. They had pulled some blame-reversal thing where they felt the existence of toxic metals in their soil and swimming hole was somehow my fault. That if I'd kept my mouth shut, it would have been safe. This shouldn't have surprised me, because the ability to think rationally is pretty rare, even in prestigious universities. We're in the TV age now and people think by linking images in their brains.” Zodiac - Neal Stephenson

Neal Stephenson wrote another book about a young girl growing up in a future dominated by nano technology called The Diamond Age. In it he described a 'book', an intelligent nano-computer that functioned as a tutor to the girl, it could teach it's young reader all the concepts she needed to grasp, from the very simple to the very advanced, through a series of simulations and games, (e.g. escaping from a locked room in a castle requires working out the basic principles of a binary code).



CARTESIAN SYSTEMS PLUS EMOTION

Taking a rationally constructed system, and using it to further irrational, symbolic, non-utilitarian, human ends is always fun.

AUGMENTING REALITY

“Ritual is Mythology made alive.” Joseph Cambell - The Masks of God

“My little theater,” Aglie said, “in the style of those renaissance fantasies where visual encyclopedias were laid out, syllogues of the universe. Not so much a dwelling as a memory machine. There is no image that, when combined with the others, does not embody a mystery of the world” [Foucault's Pendulum - Umberto Eco page 283]

“Behind crenellations & slit-windowed towers scholars & fedayeen wake in narrow monolithic cells. Star-maps, astrolabes, alembics & retorts, piles of open books and in a shaft of morning sunlight an unsheathed scimitar.” Hakim Bey

“the leonine tradition and the wisdom of the unicorn”

external representation of interior space

“What will we make of such spaces? Camillo sought to capture the entire scope of his world's knowledge within his memory theatre...” Darrel Berry - The Poetics of Cyberspace

www.headmap.org

OCCULT AND TECHNOLOGY  
APPLE AND CABALA

“syncretism: reconciliation or fusion of differing systems of belief, as in philosophy or religion, especially when success is partial or the result is heterogeneous.”

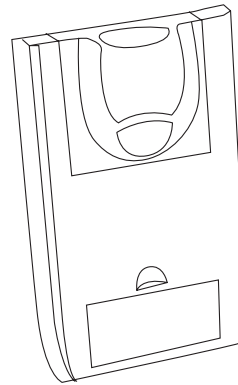
“I told them about a strange thing I had seen in Paris, a bookshop near quai Saint-Michel. It's symmetrical windows advertised it's own schizophrenia; on one side, books on computers and the electronics of the future; on the other, occult sciences. And it was the same inside: Apple and cabala.” [Foucault's Pendulum - Umberto Eco page 255]

A hybrid of symbolism, ritual and rationality.

LANGUAGE

“It is the intuition of space which most fully reveals [the] interpenetration of sensuous and spiritual expression in language.” Ernst Cassirer - The Philosophy of Symbolic Forms

Push Singh at MIT is working on the assumption that language is heavily linked to spatial metaphor (ted supports bill, Tina is close to joe etc.) and consequently an artificial intelligence approach to language can be developed within the context of a physically accurate 3d environment, you can learn language in the human sense better if you inhabit a 3d space governed by the laws of physics.



INSURRECTION

“Smash the symbols of the Empire in the name of nothing but the heart's longing for grace.” Hakim Bey

“If rebellion proves impossible then at least a kind of clandestine spiritual jihad might be launched.” Hakim Bey

“Evanescent incendiary mind-bombs, scary mandalas flaring up on smug suburban nights” Hakim Bey

synaesthesia

seeing extraneous sounds while listening to loud music, hearing silent movement out of your field of vision.

commodification of synaesthesia.

lost spaces [better use of lost spaces]

Think of all spaces that are lost, the rooms, the places; where are the stories that could illuminate them and tell where they are.

“...rooms adrift in foundering cities, room and streets, names like wounds, the room with windows looking onto other rooms with the same discolored wallpaper, where a man in shirtsleeves reads the news or a woman irons; the sunlit room whose only guest is the branches of a peach...” Octavio Paz, Sunstone

to be an immortal you have to secede from the present

"Rimbaud said "Existence is elsewhere", and Malevich once wrote, "Only that which cannot be touched can be sacred". To me, this experience of two places, two worlds, in one moment is a central form of the experience of modernity." Jeff Wall, Introduction to Transparencies

"Our time calls for intelligent fads. Our time calls for a self-aware, highly temporary array of broad social experiments, whose effects are localized, non-lethal and reversible — yet transparent, and visible to all parties who might be persuaded to look.

The Internet is the natural test-bed for this fast-moving, fast-vanishing, start-up society."

Bruce Sterling - Manifesto jan 3 2000

**dreams**

**[does a firm persuasion of a thing make it so]**

**Life flows into inanimate objects**

"Life not content with it's own province, had flowed incontinently into the stones, river, stars and all the natural elements:

the external environment, because it was immediately part of man, remained capricious, mischievous, a reflection of his own disordered urges and fears." Lewis Mumford

In antiquity there were gods for everything, rivers, streams, trees, and animals.

This anthropomorphic view of the world made the external world an extension of man himself.

A whole new layer of information overlaying the world functions in the same way.

Precedents and models for a world like this stretch from science fiction and the occult to drug experiences and the myths and legends of ancient cultures.

**dream shaping reality**

**every culture lives within its dream**

"Every culture lives within its dream. It is reality while the sleep lasts, a culture lives within an objective world that goes on through its sleeping or waking, and sometimes breaks into the dream, like a noise, to modify it or to make further sleep impossible." Lewis Mumford

Culture is a dream, a set of arbitrary collectively agreed upon conventions. That dream is imposed upon reality. Everything in the built environment reflects upon how the collective sees itself. Visually appreciable characteristics and conventions vary between neighbourhoods, cities and states. Immigrant communities living together bring with them their own dream and overlay it on what

they find (china towns, Latin quarters).

This externalised dream extends deep, if you have never stepped outside your culture, you may not notice how much of your world is mediated by an arbitrary dream.

**COLLECTIVE DREAMS AS STRUCTURING AGENTS (SCIENCE AND POLITICS ETC)**

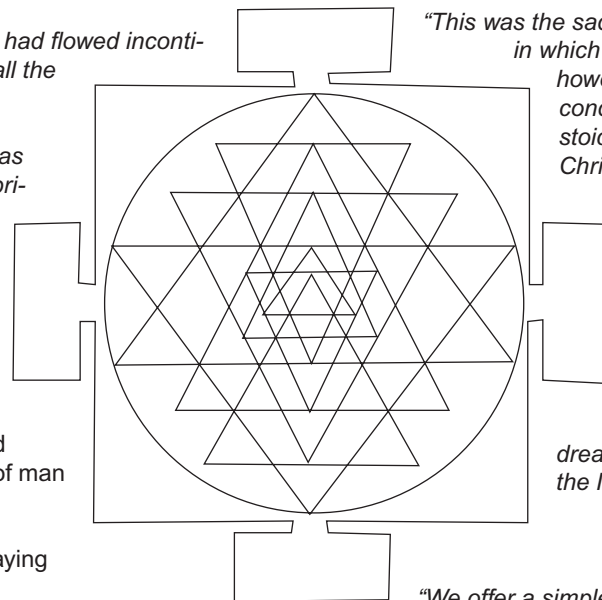
"The dream gives direction to human activity and both expresses the inner urge of the organism and conjures up appropriate goals." Lewis Mumford

Science, technology, art, literature, politics etc.

**MERGING DREAM WORLD AND REAL WORLD**

We will be able to alter and experiment with the cultural interpretation and structuring of the physical world without physically altering it.

"He told me of how his real life and his dream life are becoming much the same."



"This was the sad ambience, the bitter, depleted world in which Lewis and Tolkien wrote. They had, however, a more positive response to these conditions and events than the postimperial stoicism, cultural despair, and resigned Christian pessimism that were the response of their British contemporaries. They were not prepared imaginatively and intellectually to withdraw and accept defeat. Out of the medieval Norse, Celtic, and Grail legends, they conjured fantasies of revenge and recovery, an ethos of return and triumph. As Chaucer said in Troilus and Criseyde, they aimed "to make dreams truth and fables histories" Inventing the Middle Ages, Norman F Cantor 1991

"We offer a simple test for otherworldly explorations: are there plants in the realm? And if there are, what is their status.

In natural, inhabitory societies everyone is a plant person. Sure, there are exceptions - the Eskimos lived entirely by eating other souls - but those are exceptions. To walk through the Amazonian forest with the Waorani or the Quichua speaking peoples is to be deluged with plant lore: with names, uses, and legends about plant after plant after tree passing by."

Pharmakolpoeia - Plants, Posions and Herbcraft by Dale Pendell, mercury house san francisco 1995

**does a firm persuasion of a thing make it so**

Then I asked: "does a firm perswasion that a thing is so, make it so ?" He replied: "All poets believe that it does, & in ages of

imagination this firm persuasion removed mountains; but many are not capable of a persuasion of anything." William Blake

We can experiment without needing to alter.

If General Motors invents a new experimental kind of carburetor, it is not a simple matter to replace every carburetor in every GM car out in the world. It is not even that simple to build it into all new GM cars, what if it suddenly proved faulty? The cost implications of recalling all those cars would be crippling.

Shift this problem from a real world industry, to the internet. Write a plug-in for a browser which offers some radical new functionality and release it, if people decide they need it, it can, almost overnight be downloaded and installed on the majority of machines and the internet is altered, upgraded and different from what it was prior to release of that plug-in.

Think of this analogy in terms of real space. How much does it cost to build a new cathedral? Is the cost affordable for a small distributed community of relatively poor teenagers? How much to alter and convert an existing building to some new purpose?

What if you could alter and convert real space and real spaces to serve your purpose without a legal change of ownership or real construction work.

"to make dreams truth"

## ideas trying to come into being

Soft augmentation is an idea that follows from current trends in technological advancement and investment.

information age daydream

"we have all the ingredients but we still don't know what we're cooking" Douglas Adams

"They are merely trying to occur, they are checking whether the ground of reality can carry them. And they quickly withdraw, fearing to lose their integrity in the frailty of realization. And if they break into their capital, lose a thing or two in these attempts at incarnation, then soon, jealously, they retrieve their possessions, call them in, reintegrate: as a result, white spots appear in our biography-scented stigmata, the faded silvery imprints of the bare feet of angels, scattered footmarks on our nights and days—while the fullness of life waxes, incessantly supplements itself, and towers over us in wonder and wonder..." Bruno Schulz - Cinnamon Streets

## the great work - the planetary mind

"...peopled by unruly school groups being taught to idealise engineers" Umberto Eco

a). "Computers - the gizmos themselves - have far less to do with techie enthusiasm than some half understood resonance to The Great Work; hardwiring consciousness, creating the Planetary Mind. Teilhard de Chardin wrote about this enterprise many years ago and would be appalled by the prosaic nature of the tools we will use to bring it about. But I think there is something sweetly ironic that the ladder to his Omega Point might be built by

engineers and not mystics." John Perry Barlow

Augmenting human faculties, occult powers, changing the way we see the world and seeing deeper, hardwiring aspects of consciousness, merging dream and reality.

HE TOLD ME OF HOW HIS REAL LIFE AND HIS DREAM LIFE ARE BECOMING MUCH THE SAME.

"Ritual is Mythology made alive." Joseph Campbell - The Masks of God

"But I also believe it was through her that he began to be aware of the erotic nature of automated universes" [Foucault's Pendulum - Umberto Eco page 223]

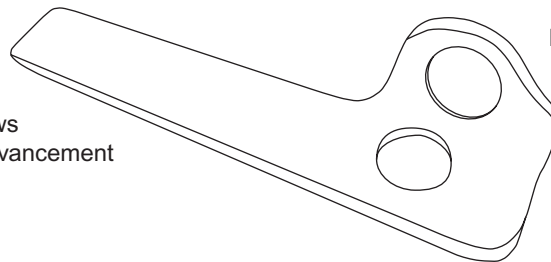
DIVIDES

Unaugmented people are going to live in a very different world, a divide as deep as rich and poor, educated and uneducated, race or political affiliation.

## nature [annotated]

### framing and annotating nature

BEAUTY OUTSIDE



beauty is largely outside art galleries, and it should be unobtrusively sign posted.

MAKING THE STONE STONY

If art is about making us see what the artist wants us to see (Duchamp) then when an artist annotates nature it is art.

"To achieve the end of yugen, art had sometimes been stripped of its color and glitter lest these externals distract; a bowl of highly polished silver reflects more than it suggests, but one of oxidized silver has the mysterious beauty of stillness, as Seami realized when he used for stillness the simile of snow piling in a silver bowl. Or one may prize such a bowl for the tarnished quality itself, for its oldness, for its imperfection, and this is the point where we feel sabi. [...] The love for the fallen flower, for the moon obscured by the rain, for the withered bough, is part of sabi. Unlike yugen (to which, however, it is not opposed) sabi does not find in these things symbols of remoter eternities. They are themselves and capable in themselves of giving deep pleasure. Sabi also differs from the gentle melancholy of aware: here one does not lament for the fallen flower, one loves it." Tsunoda, et al, Sources of Japanese Tradition

"And art exists that one may recover the sensation of life; it exists to make one feel things, to make the stone STONY. The purpose of art is to impart the sensation of things as they are perceived and not as they are known. The technique of art is to make objects "unfamiliar," to make forms difficult, to increase the difficulty and length of perception because the process of perception is an aesthetic end in itself and must be prolonged." Victor Shklovsky, Art As Technique

not the conquest of nature but her resynthesis

[...]

Soft augmentation ought to make our attempted conquest of nature less obtrusive.

"the ultimate goal of it's development was however not the mere conquest of nature but her resynthesis" Lewis Mumford

### temporary and permanent

[Begin quotes from Amos Rapoport - AUSTRALIAN ABORIGINES AND THE DEFINITION OF PLACE found in Shelter Sign and Symbol ed. Paul Oliver - Barrie and Jenkins 1975]

The twofold nature of ownership characterizes all secret-sacred objects (churinga) and sites of mythological and ritual significance (Dreamings). For example among the Aranda each individual had a personal stone or wood churinga kept in a sacred 'storehouse' of the ritual group. The churinga is a lifeline to the spirit world and the dreaming - and people belong to it. The 'storehouse' may be a hole in the ground (where the churinga is buried), a hollow tree, a cleft in a rock or a shed of branches. In any case it is concealed from view and the whole area around it is forbidden to women, children and the uninitiated on pain of death. Thus while the concept of a sacred storehouse resembles that of other cultures, it is not expressed by building, and, rather than being stressed, is hidden. A similar relationship exists between ritual groups and natural or artificially constructed Dreamings - standing stones, rock masses, waterholes, trees or stone arrangements. These are permanent and symbolic assurances of the presence of the Dreaming which are the very ground of being and keep the world going. The whole world is a single entity the main characteristic of which is reciprocity.

Many descriptions and illustrations exist of ceremonies all showing the great variety, richness and complexity of the temporary 'monuments' used - body decorations, shields, poles, crosses and the like. Various markers may be erected, rocks emphasized by having blood poured on them or special bough huts built in which men spend much time during,ceremonials." During some ceremonials big fires are lit as 'temporary monuments'.

The various forms of body decorations are extremely complex involving painting, covering the body with down stuck with blood and so on as well as the use of extremely complex, elaborate and tall head gear. People so decorated could be seen as 'temporary monuments' claiming a place by making it sacred through linking it with myth.

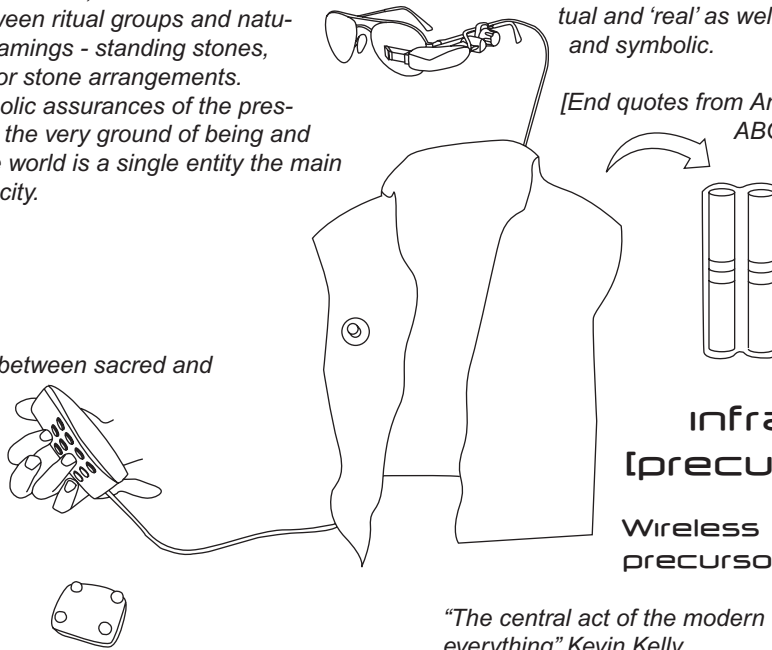
[...]

While Western man relies on barriers to keep out nature, reduce differences between seasons and times and defines places by manipulating these barriers, aborigines define places by knowing them and their distinctions. This knowledge is perceptual and 'real' as well as associational, mythical and symbolic.

[End quotes from Amos Rapoport - AUSTRALIAN ABORIGINES AND THE DEFINITION OF PLACE found in Shelter Sign and Symbol ed. Paul Oliver - Barrie and Jenkins 1975]

[...]

There is thus a clear distinction between sacred and profane, very much as Eliade suggests, even though there are no visible physical demarcations. For example when churingas were kept in caves, those entering to fetch them impressed palm prints near the entrance to establish rites of passage" indicating an awareness of a boundary between sacred and profane. In fact any place where churingas are kept becomes sacred, and the churinga is shown to initiates as a rite of passage giving rebirth into full membership of the clan. Similarly, ceremonial leaders frequently become such in special caves whereas other people who entered these caves could disappear forever. There are thus a number of rites of passage related to environmental features. Some sacred places are specially related to the conception of children. When a woman conceives in a place where there are prominent features - rocks, boulders, ancient trees - one of the spirit children of the place enters her body and the totem of this place becomes the child's irrespective of the father's or mother's totem. This shows the importance of the place of conception and the individual retains a special relationship to the natural feature and would worry if the tree was to be cut down or the rock mined.



"The central act of the modern era is to connect everything to everything" Kevin Kelly

In the wake of huge investment in high bandwidth wireless networking, the networks that are evolving are different from there wired predecessors. The world wireless networking makes possible is still to be built.

A world will emerge in the new spirit spontaneously and it will take time to establish its characteristics and determine its shape.

### the expansion of the highway system

"In 1919, Major Dwight D. Eisenhower had led his motorised military expedition across the United States with barely a road system to follow. It got him thinking about the motorways of the future. Thirty-seven years later, in 1956, president Dwight D. Eisenhower signed the Interstate Highway Bill, which provided for a 41,000-mile superhighway system (later raised to 42,500 miles)

that would crisscross the nation. The Federal government would pay 90 percent of the cost, with most of the money coming from a specially designated, non-divertible highway trust fund accumulated out of gasoline taxes. The program was actively advocated and promoted by a broad coalition of interests that became known as the 'highway lobby'- automobile makers, state governments, truckers, car dealers, oil companies, rubber companies, trades unions, real estate developers. There was even the American Parking Association; after all, no matter how great the distance covered, drivers would eventually have to come to the end of their trips - and park their cars.

Eisenhower himself advocated the interstate highway program on several grounds: safety, congestion, the many billions of dollars wasted because of inefficient road transport, and, evoking the darkest fears of the Cold War, the requirements of civil defense. "In case of atomic attack on our cities," he said, "the road net must permit quick evacuation of target areas." The resulting program was massive, and Eisenhower took great pride in the scale of the construction, using wondrous and mesmerising comparisons. "The total pavement of the system would make a parking lot big enough to hold two third of all the automobiles in the United States," he said. "The amount of concrete poured to form these roadways would build eighty Hoover Dams or six sidewalks to the moon. To build them, bulldozers and shovels would move enough dirt and rock to bury all of Connecticut two feet deep. More than any single action by the government since the end of the war, this would change the fate of America." His words were, if anything, an understatement."

The Prize - Daniel Yergin

#### THE INTERNET

The internet is not the same as the freeway network in America, but it has some themes in common.

The internet was designed to be able to survive a nuclear attack and at least a stated proposed use of the highway system was to enable evacuation during a nuclear attack.

Despite all the focus on internet companies like Amazon and Yahoo (the dotcoms), the real economic issue is not the companies that claim to be the commercial internet, but the fact that like freeways, the internet just changes the way information and goods flow through the system. If the internet is having an impact on the real economy it is because it is affecting the way all transactions are being conducted (taking the broadest definition of transaction to include receipt of information, email, trade, website hits etc.).

#### THE WORLD OUTSIDE IS GETTING WIERDER

[..in San Francisco with high DSL penetration and 802.11 wireless networking, clouds of random connectivity exist, you can be walking past someone's house and get a network connection...there are even websites which tell you which doorsteps to sit on..]

#### 3 SPATIAL EXTERNAL NETWORK

Unlike the internet, the freeway network is external and deals with the movement of goods and people as well as information.

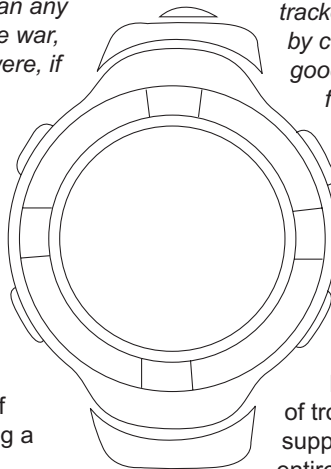
#### AUGMENTING THE ROAD SYSTEM (PARASITIC TECHNOLOGIES)

The freeway network also represents a nexus point for the convergence of internet access and wireless location aware devices.

The freeways reshaped America, they conjured up suburbs, malls, motels, restaurants and gas stations. They reinforced America as a huge homogenous market that distributors could easily supply. They enabled easy migration from anywhere to anywhere. Given the level of mobility already built into American life and consciousness (LA is a great big freeway). What will the result of the addition of a new layer of technology augmenting this infrastructure conjure up. Cars will be location aware and connected to the internet. Driving through some remote valley you will know if something interesting is happening outside your field of view, or if a particular town is worth stopping in, or if someone in your extended community lives nearby. Your immediate surroundings can become more than just scenery merging into an irrelevant blur.

#### COORDINATION AND SUPPORT OF FIELD OPERATIVES

"I asked the major over wind and noise about the strange warning sign that had caught my attention early in the morning. "Desert tortoise," he shouted. "Fifty thousand dollars if you kill one." "The scientists claimed to be matching the warfighters chip for chip in the information war. Tortoises were tagged with transmitters, tracked by radio telemetry, and graphed in grid locations by computers. Landsat satellites were used to identify good habitat areas, aerial mine detection technology to find tortoises moving on the ground, and electronic sensors to warn off vehicles that might endanger the creatures." James Der Derian - Cyber-Deterrence [Wired 2.09]



#### MILITARY ORIGINS

the military gave us GPS, head up displays, computers even. C4i (command, control, communications, computers and intelligence) integrates all kinds of technologies, to augment the capabilities of troops in the field with every kind information and support, and to supply commanders with a model of the entire theatre of operations.

#### PROTOTYPES

The technology developed to equip special forces for the next low intensity conflict.

Even less technologically advanced, and civilian orientated, forces are useful for determining precedent.

Police forces around the world make heavy use of the radio. Radio communication is a fundamental capability upon which command and control can be built. The radio links back to a command centre, full of operators in contact with officers, with access to information (maps, databases etc.) men, vehicles and equipment.

This kind of support infrastructure is what is being made available to civilians through the convergence of cell phones and the internet.

#### the ally

[BEGIN quote from Pharmako/poeia - Plants, Posions and Herbcraft by Dale Pendell, mercury house San Francisco 1995]

## THE NATURE OF THE ALLY

The old doctors had helpers

Maybe the power plant was a conduit, or a call, a sort of whistle. Or the plant was like a delivery service. Not like the plant itself was the ally

maybe the ally lived in the plant, or maybe the ally lived in the next world, and the plant was like a bridge

That plants have virtues, or "vertues," was known by the ancient herbalists. The Virtue of a plant was its truth, its strength. Maybe the best synonym is integrity. Or power. Or poison.

The ally is the one who helps you. That is what an ally should do. Allies assist each other in the prosecution of some task.

Allies may also have agendas of their own, however. That is, an ally is not like a fairy-godmother, but is a powerful force in its own right.

An ally is like a half-broken horse, a horse with spirit. A horse that will carry you many days, only to suddenly knock you off on a low branch. Some allies are the subtle type. Maybe You have an ayahuasca saly. She is friendly. She gives you things. She doesn't seem at all malevolent. Or maybe you have an opium ally. She is more than friendly. She'll call you up and invite you over. And she is voluptuous, so you go. She is so good to you it seems like heaven. You get what I mean.

[END quote from Pharmakol/poeia - Plants, Posions and Herbcraft by Dale Pendell, mercury house san francisco 1995]

## instant tools

[Begin quotes from Amos Rapoport - AUSTRALIAN ABORIGINES AND THE DEFINITION OF PLACE found in Shelter Sign and Symbol ed. Paul Oliver - Barrie and Jenkins 1975]

Aborigines have few tools or objects and rely on 'instant tools', that is they recognise potentially useful objects in the environment. If this object matches a 'mental template' or idea of a tool, for example a spear thrower, a concrete object results.

Group members share food as well as other possessions, and among aborigines articles have been traced through 134 persons. This sharing creates friendship and social values are more important than economic ones.

Hunters do not store food but regard the environment as a storehouse. While each local group is associated with a geographic range there is considerable visiting among groups which do not maintain exclusive rights to resources but have flexible arrangements. At the same time most groups have a home base or camp.

This generalised description of the way in which hunters and gatherers (including aborigenes) use space can be expressed in terms of a set of concepts derived from animal studies

Home Range - The usual limit of regular and activities, which can be defined as a set of behavioural settings and linking paths.

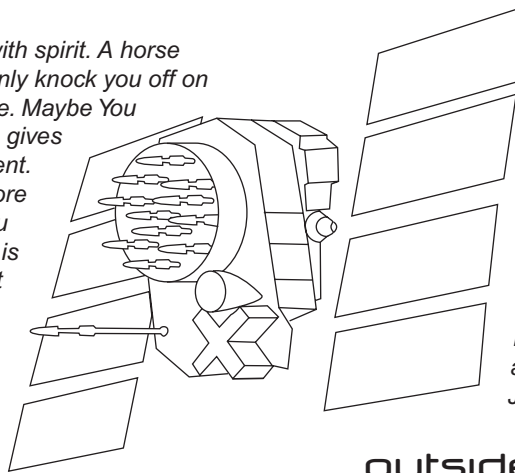
Core areas - Those areas within the home range which are most used and most commonly inhabited.

Territory - A particular area which is owned and defended - whether physically or through rules or symbols which identify the area of an individual or group from others.

Jurisdiction - 'Ownership' of a territory for a limited time only, and by some agreed rules.

Among animals the size of home range and core areas and their coincidence, and the times and duration of jurisdiction depend on the natural conditions (climate, rainfall, resources) on the one hand and the animal species on the other. In the case of hunters also the same physical factors play a role as do the values and life-style of the group.

[END quotes from Amos Rapoport - AUSTRALIAN ABORIGINES AND THE DEFINITION OF PLACE found in Shelter Sign and Symbol ed. Paul Oliver - Barrie and Jenkins 1975]



## outside [space plus information]

### community

#### FACILITATING COMMUNITY

Local communities can be brought closer together if common interest is allowed to intersect with location in a more efficient way. Why should people in a town not be able to establish more accurately where the people are who share their interests.

On the street where you live, the block where you live, the neighbourhood you live in, how many people do you know? And if you wanted to meet the subset of those people you might have something in common with, is there any reasonable way to do it without waiting for ten years worth of arbitrary random interactions.

#### PROXIMITY

What if there was a system that could establish that someone like you was sitting around bored in the next street, that you had a mutual friend in common and the system can arrange to introduce the two of you, in a way acceptable to each of you.



Leverage proximity better.

Space games

What if you had to run around and climb things to play computer games rather than sitting in a room listening to headphones.

Imagine games which involved spatial challenges, and involved whole communities of kids, both building the levels and playing the games.

“go to the end of the road and climb on the roof of the deserted cinema”

or rather (introducing a time element, and in order to get the next instruction)

“RUN to the end of the road and climb on the roof of the deserted cinema.”

Such games might result in a few fatalities, but at least it would get kids out of the house.

#### REGULATING COMMUNITY

Church clocks predate personal time keeping.

The clock strikes loud to regulate a community otherwise disconnected from awareness of mechanical time.

In this small Japanese village a megaphone wakes the whole community up in the morning, barks advice during the day and plays a lullaby at bedtime.

#### double meanings [Howard Hughes hitch hiking]

#### SEEMINGLY INNOCENT ENGLISH VILLAGES

Remember those hammer films, or those episodes of the Avengers, when seemingly innocent English villages turn out to be living according to entirely different and usually malevolent rules and regimes. ‘The Wicca Man’ being the definitive example, a policeman (Edward Woodward) arrives on a small island to investigate the disappearance of a young girl, he slowly establishes that he is in a thinly disguised pagan community. At the end they trap him in a large wicca man and burn him to death according to pagan ritual practice.

In the absence of visual cues, and given the extent to which people can be permanently connected to distributed communities, it is going to be harder to make assumptions about people and their communities and affiliations.

#### DUALITIES

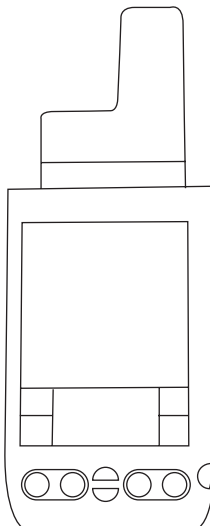
A person may seem to be one thing and turn out to be quite another.

*“I can’t conclude my brief remarks today without a mention of a particularly odd development related to wireless computer telecommunications. Because it is now possible to carry out transactions entirely in cyberspace (including financial transactions), many information entrepreneurs in 2015 have simply given up*

*any physical home. Basically, they have become stateless people, 21st-century gypsies.*

*A recent tragic example of this occurred in the small town of North Zulch, Texas. There, some rural law enforcement officers apprehended a scruffy vagabond on a motorcycle after a high-speed chase. Unfortunately he was killed. A search of his backpack revealed a device the size of a cigarette pack. The police officers, who were not computer literate, accidentally broke the device. This tiny device was actually a privately owned computer bulletin board system with some 15,000 registered users.*

*Many of the users were wealthy celebrities, and the apparent outlaw biker was actually an extremely popular and nationally known system operator. These 15,000 users were enraged by what they considered the wanton destruction of their electronic community. They pooled their resources and took a terrible vengeance on the small town of North Zulch, which, by contrast, had only 2,000 residents, none of them wealthy or technologically sophisticated. Through a combination of harassing lawsuits and sharp real-estate deals, the vengeful board users bankrupted the town. Eventually the entire township was bulldozed flat and purchased for park land by the Nature Conservancy.” Bruce Sterling - Wired 1.4 page 91*



#### the richest most satisfying playground

Ignore mental abstraction for a moment in favour of physical reality. The real world is beautiful and complex and detailed.

#### SIMULATION

I remember driving down a motorway on the way out of London once and seeing a tree in bright late afternoon sunlight and (after having spent too much time over the previous couple of months in dark rooms with 3d studio and photoshop), feeling struck by how much detail there was in the tree and how well rendered it was. This seemed like a dark thought at the time. Later on I worked at a company that worked on real-time physics simulation, and the implication (and motivation) was that reality could be simulated not just visually but at a deeper more fundamental level. Ultimately the simulation would be a satisfying alternate reality.

The vision of a 21st century games console hooked up by a fat pipe to the network, with accurate physics, stunning rendering, AI and other people to play with or against is still current. It is coming to pass in the shape of the Playstation 2 and the Microsoft X box. But it all seems rather dull and peripheral relative to the real revolution. The internet doesn’t need 3d, it certainly manifests in 3d, in the form of Quake, but it is not fundamental to its success or growth. Interesting but not core, not fundamental.

#### OUTDOORS

The outdoors has been refined into an urban playground on the one hand, or a backdrop for extreme sports and ‘nature’ on the other. In some real sense it has already become a stage set.

The idea that you can now make a phone call from anywhere means the notion of wilderness is now defined by personal economics and technology rather than geographic location.

A friend of mine who recently returned from Africa told me about the battles and alliances in the bush, where multiple film crews from different networks and natural history programs were attempting to get shots of the same animal without getting each other in the shot. The noise and the lights and the generators transformed the wild into something else, but the product would ultimately be cut and dubbed to reflect the idealised image of 'nature' that audiences demanded

Mountaineers queue up to climb once rarefied and remote mountain peaks like Everest and K2. Western sport climbers bored of Thailand are bolting routes in Cambodia and Vietnam, widening their field of play. Snowboarders are helicoptered into remote areas to board down inaccessible runs.

Kids in urban areas skateboard, rollerblade and bike there way over every conceivable urban obstacle. Technology just makes outside more fun.

#### THE SPACE PROGRAM

Two things are experiencing explosive growth, the internet and cell phones. Now the two phenomena are about to get integrated. From anywhere on earth for a relatively small amount of money you will be able to send and receive information including your geographical position.

During the sixties the space program began in earnest. From a cultural stand point it represented some assumptions: that there would be something on the moon when we got there and that actually going there was worthwhile.

When NASA abandoned manned missions to other planets, it represented a shift from an externally focused world view to an internally focused world view. From a belief in an outside that was worth reaching out for, to an obsession with creating internal worlds.

Computers have dominated our lives since that point, and the computing experience is epitomised by sitting at a screen and focusing on abstractions.

The idea of building whole worlds inside a computer, of not having to travel to real places because we have cameras and sensors that can tell us what is there persists, as does the conception of a computer as a complete internal world we can inhabit without leaving the safety of a bedroom.

Geography is unimportant we are told, communities, trade, communication, all are free of geographical constraints as a consequence of the internet. But communities of real people should be able to meet in real life, trade would be more efficient from at least a logistical point of view it were sensitive to geography, and communicating with people who share a common interest locally can be more interesting given that you might be able to actually talk to them at some point without traveling to the other side of the world.

The frictionless abstractions that the internet has facilitated have already proved there worth, but imagine if those abstractions could be further leveraged to increase there potency.

Mobile phones are already augmenting reality in the moment. I

can walk down the street (or through the bush), decide I need to know something, or talk to someone, and call to get an immediate resolution to my need. ('I'm lost, are you sitting in front of a computer?' or 'Melanie, you know about plants, can I eat these yellow berries..')

#### 1-800-questions

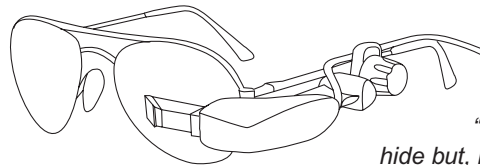
#### SIGNS

The world is already full of external and consciously (and unconsciously) constructed visible symbol systems, advertising hoardings, street signs, bar-codes, lists of ingredients, post-it notes, shoes hanging from tram wires, clothing, architecture. All of which make reality richer more interesting or easier to navigate

One day there will be no visible signs. Or rather, visible signs will persist but the invisible visible (or audible) signs will be more important.

Knowing where I am and what I'm doing I can ask the network to tell me what information I should see or hear that would be useful or relevant given my position and interest.

Real signs might be reduced to machine readable symbols that just exist to link to the relevant information on the network. I read in the symbol on the engine block of my car and a repair manual (or voice link to a mechanic) opens up. Knowing the location of a wooden box exactly I could place a note in it without it actually being there. I could leave a huge burning skull in a restaurant I decide I don't like.



#### AUGMENTATION PRECEDENTS

*"...or Persona Vitrea (a mask that does not hide but, rather, reveals)"*

The success of the film the Matrix was built on a vision of a digital world as complex and rich as our own. The interface to the outside (the real world) was a cell phone [Nokia].

Neo: I need a little help

Operator: door on your left [Neo tries the wrong door] ...no your other left

Morpheus at one point in the film asks the operator for a structural architectural plan of the building they are in.

The film can be read in a number of ways, one of the readings is as a key reality augmentation film, with just a cell phone the field operative can get any kind of information or help needed.

[Having an argument at the checkout at Safeway and calling in an airstrike from your cell phone.]

Good film precedents for augmented reality technology include Terminator 1, which came out in the early eighties before 3d graphics were being used in films. The Terminator uses a 2d head up display which can supply schematic diagrams, telephone directories, appropriate things to say and basic useful information like how to drive a truck. If anything that functionality is short of what is now possible.

Neal Stephenson's 'Snow Crash' has characters who do nothing

but gather arbitrary data using cameras and other sensors attached to their bodies. The information is fed to the library of congress and the data gatherers only get paid if anyone accessing the library uses information they have gathered.

Another precedent is military technology, night vision, HUD's, GPS, the whole C4i (Command, Control, Communications, Computers, and Intelligence) infrastructure.

For some time now wearable computers have been an area of interest in geek circles, at MIT and elsewhere, cameras and displays strapped to the head, keypads sewn into jackets, computers in shoes.

At siggraph 99 there was a demonstration of a machine readable symbol system that would link to information on the net if it were scanned, scanning was done using pattern recognition and a worn camera.

All this reliance on gear is a little tedious

Cellphones (some location aware) with an internet capability are a reality. This is sufficient to begin moving in the right direction. Having said that, retinal displays exist and will soon be available and cheap, and as people become aware that the ability to augment reality is no longer just a geek dream but a mass market reality, peripherals will appear and get refined.

## senses

Devices can enhance your senses and give you a different way of thinking about your environment, a conventional paper map and a compass significantly augment your ability to not get lost.

People have walked to their death off cliffs in fog, blindly trusting the reading on their GPS.

*From an extreme empirical point of view, you are constantly making assumptions based on your model of the world rather than the strict information your senses are receiving.*

If you augment your senses artificially and feed that model additional information what harm?

*"the abyss of the five senses, where a flat sided steep frowns over the present world" Blake*

*"you move forward feeling with the back of your hand because if you touch something red hot or electrical with your hand facing forward that hand would clench automatically and you couldn't unclench it."*

*[paraphrase of 1950's British fireman describing moving through smoke filled buildings]*

*"Although the landscape before my eyes may well herald the features of the one that is hidden behind the hill, it does so only to a certain degree of indeterminacy: here there are meadows, over there perhaps woods, and, in any case, beyond the near horizon, I know only that there will be land or sky and, as far as the limits of the earth's atmosphere are concerned, I know only that there is, in the most general terms, something to be perceived, and of those remote regions I possess only the style, in the abstract. In*

*the same way, although each past is progressively enclosed in its entirety in the more recent past which has followed it, in virtue of the interlocking of intentionalities, the past degenerates, and the earliest years of my life are lost in the general existence of my body, of which I now know merely that it was already, at that time, confronted by colours and sounds, and a nature similar to the one I now see before me. I possess the remote past, as I do the future, therefore, only in principle, and my life is slipping away from me on all sides, and is circumscribed by impersonal zones. The contradiction which we find between the reality of the world and its incompleteness is the contradiction between the omnipresence of consciousness and its involvement in a field of presence."*

*M. Merleau-Ponty - Phenomenology of Perception*

*"I've got this little Hi-8 camera which I'm taking everywhere because I trust it more than my eyes." Terry Gilliam*

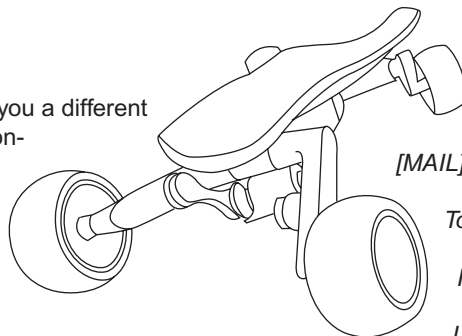
seven league boots

## space plus information

### PLACE THE ORGANISING PRINCIPLE

Location aware wireless, mobile, devices can use geography as an organising principle. A knowledge of the place you happen to be can establish a context for your requests.

Where you are affects your information requirements and the behaviour you expect from your device (if you are in a theatre you don't want the phone to ring).



[MAIL]

To: Cornelius Tacitus

From: Gaius Plinius Luci

*I know you will think it a good joke, as indeed it is, when I tell you that your old friend has caught three boars, very fine ones too. Yes, I really did, and without even changing any of my lazy holiday habits. I was sitting by the hunting nets with my writing materials by my side instead of hunting spears, thinking something out and making notes, so that even if I came home empty handed I should at least have my notebooks filled. Don't look down on mental activity of this kind, the mere fact of being alone in the depths of the woods in the silence necessary for hunting is a positive stimulus to thought. So next time you hunt yourself, follow my example and take your notebooks along with your lunch-basket and flask; you will find that Minerva walks the hills no less than Diana."*

[END]

### INFORMATION RECONFIGURED ACCORDING TO CONTEXT

Geographical context impacts upon the information you need and your range of action.

"Find me a way back home" [get a map from this location to my house]

"Show me all the restaurants I'll like within a mile radius"

"find me a bookshop"

*"I need a bus downtown, where do I go to get one, what number should I take, how much will it cost and how long will I have to wait" [nextbus]*

*"Everywhere there is incessant relative change in position throughout the universe, and the observer is always at the center of things." Giordano Bruno*

*"A liquid architecture is an architecture whose form is contingent on the interests of the beholder"*

*"Liquid architecture makes liquid cities, cities that change at the shift of a value, where visitors with different backgrounds see different landmarks, where neighborhoods vary with ideas held in common, and evolve as the ideas mature or dissolve."*

Marcos Novak, *TransTerraFirma: After Territory*

John Perry Barlow interviews Ted Nelson.

TN: *"I've always felt tyrannized by categories. The answer is not to eliminate categories but to provide a means whereby categorization is recognised and becomes harmless - like celluloid overlays. The same material should be categorizable and recategorizable every way possible by different people. We're speaking here in the context of tomorrow's publishing."*

#### THE OBSERVER AUGMENTED

Life looks different depending on who you are with. If you have a guide it changes the way you see a place. If a device gives you a personalised view on an unfamiliar place, it changes your experience of that place.

*"show me all the yoga studios, climbing walls and vegan restaurants, and find me a friend with a sofa I can sleep on."*

Information can make the unfamiliar familiar.

#### BEHIND THE NEXT HILL

I live in a box, I walk down the street and I pass other boxes. Occasionally I see someone briefly at a window, I somehow know that there are people in all the boxes, that there are lives going on all around me that I cannot see. So much is taken on trust and the percentage of other lives that I see with my own eyes is small. Media feeds the feeling that I have a grasp of what is going on around me, and dulls my sense of distance and dislocation from the world. I think I know what other countries are like, what other parts of my home town are like, what other people are like, based entirely on information derived from media rather than personal experience. People are always different when you meet them, even if you know a lot about them

Zero media is a 'year zero' position. Seceding from passive media is quite common, lots of bright people I know don't watch TV or read newspapers. They don't trust the mass media, it seems to be feeding them a false sense of knowing and comfort, and dulling their capacity to know and act in the real space. How distanced is the news from the event it reports on, how much do I really know about the real experiences of others from having them presented to me on television in my living room. Doing a thing or being somewhere is always different than I thought it would be, even

I've seen it done or been told what its like. The media offers me something, but not the experience itself. It can offer me a clue (and that can be a good thing), bad things have happened in former Yugoslavia for example, but I'd have to be there to begin to know what the pictures mean.

Cutting the media umbilical chord changes the whole shape of the world. Everything changes, you think about the space differently, you do more, you have more time and you make more of an effort to actually see rather than relying on mediated sources, rather than grinning mindlessly.

*Cut television out of your life and life changes.*

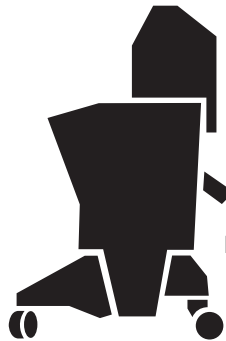
*"It was three days, before I was told that Princess Diana had died (very weird), I noticed a Union Jack at half-mast over the engineering building (extremely unusual), jets flew over Oxford in formation.*

*I overheard a conversation*

*'how was London yesterday?'*

*'lots of flowers, flags at half mast'*

*No information to tie all this together. And why should there be? It wasn't a direct part of my life, I wasn't tied into the mass media so it didn't reach me.*



*Ironically you still hear about everything eventually anyway. People tell you things that only make sense if you assume some context you have no direct grasp of. I knew there were Spice Girls because people told me Spice Girls jokes."*

I have some vague model in my head of countries I have never been to, I trust that they are there and that if I boarded a plane and headed in the right direction that place would be, at least very roughly, as I had expected.

How to enhance appreciation of the world around you without, becoming dulled by a false sense of knowing.

Subordinate all information about an experience to what you consider to be the real experience.

#### guides

##### VOICES (FOOTPRINTS)

I want to have access to every conceivable kind of guide. I want voices to tell me about the place I happen to be in. I want to see the footprints of local people showing me how they navigate the space. I want to be able to ask for help of any kind and get it. I want to be able to call in air strikes

##### DEGENERATES

*"degenerates can get you in and degenerates can get you out"*

Enable subcultures to orientate and organise the chaos spontaneously.

Spontaneous gatherings, actions and insurrection.

*"everyone within a six mile radius, get here now"*

## dissent

Tom Frank, in his essay 'Dark Age - why johnny can't dissent', attacks the ineffectiveness of a compromised counterculture which failed to evolve from its roots in the 1950's and 60's.

*[BEGIN QUOTES from 'DARK AGE - Why Johnny Can't Dissent' by Tom Frank, published in The Baffler]*

*"The ways in which this system is to be resisted are equally well understood and agreed upon. The establishment demands homogeneity; we revolt by embracing diverse, individual lifestyles. It demands self-denial and rigid adherence to convention; we revolt through immediate gratification, instinct uninhibited, and liberation of the libido and the appetites"*

*"The countercultural idea has become capitalist orthodoxy"*

*"ersatz rebellion everywhere on TV"*

*"..drives the machine by invading the sanctum of every possible possible avant-garde"*

*"now we are sold cars by an army of earringed, dreadlocked, goateed, tattooed, and guitar-bearing rebels"*

*"Capitalism has changed dramatically since the 1950's, but our understanding of how it is to be resisted hasn't budged"*

*"The most startling revelation to emerge from the [William S.] Burroughs/Nike partnership is not that corporate America has overwhelmed its cultural foes or that Burroughs can remain 'subversive' through it all, but the complete lack of dissonance between the two sides."*

*"Avant-garde was becoming tradition: what had been dissonance a few years before was turning into a balm for the ears (or for the eyes)"*

*psychedelic concentration camp*

*"reality did not cease to exist, of course, but much of what people understood as reality, including virtually all of the commercial world, was mediated by television, it was as if a salesman had been placed between Americans and life."*

*"we seem to have no problem with the fact of business control over every aspect of public expression"*

*[END QUOTES from 'DARK AGE - Why Johnny Can't Dissent' by Tom Frank, published in The Baffler]*

A recent article about western travellers in the third world offers an equally barren view

*[BEGIN QUOTES from 'Bangkok Journal: Bit of Trekkers' Exotica, Looking More Like Home' By SETH MYDANS]*

*But for all its color, Khaosan Road [epicentre and crossroads for backpacking world travellers] is more than a curiosity. It is a raucous, round-the-clock wake for a way of life that is gone forever. It is the black hole at the center of a shrinking world where the*

www.headmap.org

*Age of Discovery has ended, all roads have been traveled and the words "remote" and "exotic" have all but lost their meaning.*

*The travelers have changed as well; indeed, the whole enterprise of rough travel has changed. In many ways, it has become as regimented as a standard package tour.*

*The sandals, the strange hair and the tie-dyed shirt are no longer a cry of rebellion, as they were in the 1960's and 70's. They are now the gray-flannel suit of the budget traveler, following in 30-year-old footsteps in search of enlightenment: eating the same food, listening to the same music, making the same discoveries.*

*The T-shirts display the grip of conformity from one generation to the next: familiar portraits of Che Guevara, John Lennon, Bob Marley, Mao Zedong, Kurt Cobain and an American Indian chief.*

*Young Moses Fletcher, 23, from Britain looks exactly like mature Wolfgang Maria Ohlheuser, 60, from Germany, with their loose white cotton outfits, beards and sandals, except that Mr. Ohlheuser's beard is white.*

*And what is there left for these travelers to discover? The recipe for adventure can now be found in a guidebook, like the ingredients for a chocolate cake - every dirt trail, every hill-tribe village, every night market, every guest house, every glorious sunrise.*

*The world of travel has been tamed. The last few rough patches in Asia are being nibbled away now: the northern edges of Laos, the plains of southwestern China, the hidden villages of northern Myanmar.*

*Even the remotest of these have been mapped, analyzed and assessed for their curiosity quotient in the guidebooks.*

*[END QUOTES from 'Bangkok Journal: Bit of Trekkers' Exotica, Looking More Like Home' By SETH MYDANS]*

...but a new form of difference and dissent is emerging. A couple of examples would be the Open Source movement and the IMC (Independent Media Collective). The premise for this new form of dissent is constructive rather than oppositional, it is about building rather than stance.

In collectively developing Linux, the Open Source community have built an operating system which rivals Microsoft Windows, and Windows is a product that has made Microsoft the most successful commercial organisation on the planet.

The IMC has created a world wide news network. Ordinary people can bypass or supplement the mainstream media, and, where they are involved in events, contribute what they have seen and heard.

Both Linux and the IMC are examples of new forms of collectively constructive community made possible by computer networks. Both have relatively flat, contribution and merit based hierarchies.

Computer networks allow opposition to organise, but more interestingly they make possible new forms of autonomous community and collective construction.

Location aware devices and the ability to mark and annotate real spaces will dramatically extend the possibilities for collective construction.

Extra-geographical states based on common interest, with their own constitutions, currency, taxation, banks etc. Communities able to collectively reinterpret the real physical world around them. Marking, demarcating and annotating real space using networks they will live in a world of agreed upon and engineered meaning that people outside the community will not see.

*"build amidst the confusion of others"*

## shapes

### charred coughing phoenixes

#### RESURRECTION

The combination of high bandwidth internet access and location aware wireless devices facilitates a medium capable of borrowing all the existing metaphors and applications that have evolved around each of its parents, plus whole other rich seams of untapped potential ways of thinking about and using this technology.

Real world problems, theory from architecture, from simulation, from linguistics, anthropology and psychology, ideas from science fiction, literature and mythology, all offer countless new ways to think about how this technology might evolve.

Add a geographical layer to the internet and it changes what the internet is

a whole new internet.

#### desirability

There are as many different ways in which soft augmentation will be packaged as there are demographic groups..

Professionals, researchers, organised crime, urban youth [...]

like all technology it is double edged, good and bad, interesting and banal, optimistic and depressing

..but it is different and it is happening.

*"the extended-me culture"*

*"and when people sees the systems everybody will want one"*

*"who will build gardens out of deserts and pile up wonders to the sky." Gropius*

*"She looked over his shoulder  
For vines and olive trees,  
Marble well-governed cities  
And ships upon untamed seas,  
But there on shining metal  
His hands had put instead  
An Artificial wilderness  
And a sky like lead."*

#### shape of the system

..the shape of the system will be determined by what happens next.

*"most mens minds remained at a medieval level. But it is the minds of the elect who constitute the differentia between one age and another."*

*"while we're waiting for the coming revelations in biotechnology and nanotechnology, location aware devices, which look like banal and tedious relations of overhyped WAP and wireless internet technologies, are actually going to change the shape of the world more completely than the internet and cell phones have"*

*"It's wrong to wish on space hardware"*

## SO

people talk to themselves

the trees sing

the buildings speak

there are notes in boxes that are empty.

Cell phones become internet enabled and location aware, everything in the real world gets tracked, barcoded and mapped.

Overlaying everything is a whole new invisible layer of textual, visual and audible information. This information becomes available as you get close or when you ask.

#### AVAILABILITY

Consumer orientated, mobile, internet connected devices which are location aware (that is capable of determining and transmitting their current geographical location) are becoming available.

It is statute in the US that future cell phones be able to transmit their geographical coordinates so that this information can be used by the emergency services (extended 911 legislation).

#### geography as context and constraint

Since the internet began its exponential growth, it has been easier for ordinary people to ignore geography as a constraint.

Communicating, organising and coordinating actions across borders and boundaries both artificial and real, using ideas and common interest rather than proximity as an organising principle.

#### CELL PHONES

The second notable explosive growth curve charts the adoption of cell phones.

Cell phones set you free in a different sense, they allow you to communicate from anywhere.

The integration of these two technologies, high bandwidth internet access as a basic component of cell phone functionality, together with location awareness (the cell phone knows its geographical location) is leading somewhere.

The step beyond ideal, but dislocated communities, is to add a geographical layer to the mobile internet. A geographical layer

would add a spatial address to information and people (longitude and latitude), so that proximity could again become a pervasive, useful but not constraining, utilitarian factor in organising community or in a searching for information.

#### GEOGRAPHY HAS NOT MATTERED

geography is unimportant on two counts.

i. It doesn't matter where you are - because the internet makes distance irrelevant in the context of communication or information retrieval.

ii. It doesn't matter where you are - because you can access the internet from wherever you are.

*"It has become clear that, thanks to the internet, geography matters less and less" Wired Magazine - March 2000*

but if you are moving and have a device that is location aware and connected to the internet..

Geography is an essential added filter

it provides a context for your needs

neo: I need a sandwich, I'm not prepared to walk more than a 200 metres

operator: knock on the door of number 17 and mrs jones will make you a sandwich if you do the washing up

#### mass market hardware

The e911 requirements call for a new generation of location aware wireless devices.

The hardware aspects of this technological revolution have been available to the military, to large businesses and the scientific community for some time.

The technology has also filtered down to the yachting community and more recently to backpackers and car owners, it is now possible to buy a relatively cheap, reliable, handheld gps device, containing mapping data; that will also integrate with a laptop or palm top.

It is already possible to annotate space.

a). touch a button on your device to determine and log the location

b). add a note linked to that location to a networked database.

Leave a note at that geographical location.

#### by adding geographical awareness to the internet you create something new

...this is the last place I saw my father before he died.

The concept is an extension of a cartesian system and yet the point in space specified may link to an emotional state rather than a cold label.

You could search for sadness in New York.

[www.headmap.org](http://www.headmap.org)

The whole world will become an annotated space, which links from the real to the information space and back again. The world as interface.

You can search locally based on your current position,

e.g. show all the restaurants within a mile radius.

The device knows where you are and the database knows what's close by.

peer to peer is more interesting than broadcast models

It is already possible to broadcast information, for example the location of the nearest Starbucks, but life becomes more interesting when consumers can contribute information.

..show me all the restaurants my friends like within a mile radius.

The structure becomes interesting when ordinary users can annotate that database.

At that point the database grows and the users direct its uses, they determine the future business models for such an infrastructure.

You are driving down the main street of an unfamiliar town and all you can see is the shops and buildings on either side. You are effectively in a valley and all your information about the place is constrained by line of sight.

The map on the display of your mobile device however is lit up with dots which represent places of interest determined by the network Starbucks, McDonalds, 76 etc.

A more interesting case: the information you are receiving is not just a broadcast that lists the nearest Starbucks and McDonalds, but information based on your personal profile and the suggestions and opinions of your peers.

The places that you might be actually be interested in that you can't see are now visible and accessible to you.

Alternative bookshops, Yoga studios, old friends or whatever

Factor in everybody and their contributions and opinions, and you radically empower the system.

Conventionally in a city you would maybe know only a very few of your neighbours and mostly in the same street, your wider community is present, but currently invisible and inaccessible.

Sitting at home bored, you check your device and it indicates that someone you haven't met, but who has a friend in common, is sitting at home two streets across and three houses down and they are also bored.

Members of distributed communities held together by common interest could be made more aware of who within those communities is physically local to them.

headgames

Assume kids have cell phones that transmit their geographical coordinates

Computer games evolve that actually get kids out of the house and running around instead of being stuck in front of a computer screen.

Gaming stress tests technology and defines ways in which it can be used effectively (businesses for example will end up making use of the innovations that designers of these games instantiate).

'go to the end of their road and climb onto the roof of the abandoned cinema' (or whatever; localization involves user contribution)

..when the device transmits the coordinates of the top of the cinema the game gives them with the next problem... (add a time component: run to the end of the road and climb onto the roof of the deserted cinema)

Extending phone functionality:

status messages on phones

By the side of each of the names on your cell phone's people list appears a status message: bored, busy, in transit etc.

Once people are logging their location in such a way that their friends can find them, you could be notified if your friends came within a mile radius of your current location

Parking space finding, homeless people are given free devices to log parking spaces as they become available (and receive payment)

Entering a restaurant you see a huge burning skull in the middle of the room. Nobody else sees it. The skull was left at this geographical location by one of your peer group indicating that the restaurant is terrible.

..a box in a room may have something in it even though it is empty.

## wanting

know when your friends are near

know when something happens close by

spontaneous organization and disorder flows

[everyone within a mile radius here now]

publish your morning walk somewhere

meeting places invisibly sign posted [skateboard here wednesdays]

uses beyond utility

[...]

know where the nearest starbucks or mcdonald's is.

[www.headmap.org](http://www.headmap.org)

[...]

I want to find the echoes of the people who have been here before me

emotional archeology

geography adds a whole new dimension to the internet

information is actively overlaying real space

all the problems relating to building such an infrastructure have been reduced to resolution rather than possibility or plausibility.

but free, open, secure and contribution based ?

## wireless castenada

invisible allies

trees hum

rooms answer questions about themselves

life flows into inanimate objects

its a weird occult project and nobody seems to have noticed

like all those roman gods for everything



headmap

[www.headmap.org](http://www.headmap.org)

[info@headmap.org](mailto:info@headmap.org)

