Dismantling Teleological Navigation

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Abstract

Knowing where you are going is an increasingly privileged position to be in. Most of us might manage it for a while, and for the smaller journeys in life we may even succeed when we apply the maps and clocks that have been developed over time to empower our sense of direction and navigation.

Through this essay the author is interested in developing a taxonomy for three pieces of his own work that each employ different forms of navigation. Some of them where intentionally developed to critique traditional forms of navigation, others have emerged as he wrestled with the inherent power structures involved in any form of direction giving, mapping making and time marking.

As a result of post-rationalising the work the author presents three categories of navigation; Teleological, Emergent and Entropic. The latter two encompassing forms of navigation where the destination is less determined and where it is not known at all.

The author's intentions are to begin to construct an appreciation for navigation that is less determined than the models that are implicit within the teleological panacea presented to us through capitalism.

Introduction

'Where do you want to go today?' is an intriguing slogan for any manufacture, let alone the most powerful software manufacture in the world. It is intriguing because although for many consumers who have grown up in an environment of 'bells and whistles', where schooling has prepared us for navigating through a day without question, some of us don't know where are going. In fact rather than read as an open question of opportunity and instead as the words of a hollering self made billionaire, ordering us to make a decision about the direction of our lives in order to perpetuate his control over an industry, the statement becomes a mystifying and perhaps terrifying concept.

In many ways it is easy to dismantle the rhetoric behind many of the statements, slogans and spins of western politics and industry, from Tony Blair's 'Third way' to British Rail's inevitably nihilistic 'We're getting there'. They all present a direction toward something determined, a promise or vision for a space that is better than the one that we are in at that moment, and that their particular route will ensure that we get there.

Whether modernist, utopian or determinist, each phrase embodies a teleological understanding for that journey in which the author of which has an understanding for where they are going or where they would like to take us.

In an attempt to develop a critical and creative space for the development of navigation systems that help those who don't know where they are going or interrupt those who do, the author has developed three categories to differentiate the navigatory nature of three projects of his own. It is hoped that through the

interweaving of theoretical frameworks and the work the author can establish the need for non-teleological navigation systems.

Teleological Navigation – You know <u>where</u> you going.

Navigation in Western Europe and particularly England is profoundly teleological due to the history of the production of colonial spaces from rural counties, by Landlords and the Church through the Middle Ages, to the maritime maps of space and time that etched out the globe as we understand it today.

'Maps, stripped of all elements of fantasy and religious belief, as well as of any sign of the experiences involved in their production, had become abstract and strictly functional systems for the factual ordering of phenomena in space...They defined property rights in land, territorial boundaries, domains of administration and social control, communication routes, etc. with increasing accuracy. They also allowed the whole population of the earth, for the first time in human history, to be located within a single spatial frame.' (Harvey, 1990, p.249)

Power is reliant upon observation and the ability to see ahead of ones self is essential if you what to be able to get to where you want to go.

Whether it be through constructing international protocols for mapping and time keeping to installing a fear of being 'late for the school bell', the English have been socially engineered to read maps, plan journeys, organise their day and navigate their lives with a high level of precision as 'the activities and the interactions of all its participants are orchestrated to a symphony of buzzers, bells, timetables, schedules and deadlines' (Adams, 1995, p.61). In either case it has made us a good workforce to support the aspirations of many organisations that aspire to move forward and progress.

In providing a theoretical perspective that weaves time and space so closely to offer a model useful for predicting and planning navigation is Hagerstrands model of Time Geography developed at the Lund University in Sweden.

It is useful to reflect upon because it is so extreme in its consolidation of a model for time and space where each is bound into certainty.

Time-Geography, a Linear Viewpoint

Space requires time, without time, a location cannot be gotten to and more importantly cannot become an environment to move around within. 'In fact space and time always go together and we might as well, the sooner the better, try to get accustomed to seeing space and time as united into one compact four-dimensional entity.' (Hagerstrand from Parkes and Thrift, 1980, p.243)

Much of the time-geography work concentrated upon developing methods of describing people and their journeys through space in time. Inevitably the work identified a linear series of events that make up a persons day and suggests that the nature of these events (called a project) motivated individuals to move through space to see them fulfilled.

Further to this, and of particular interest to me, the group describe the tasks as having lives, 'from when and where they come into being (birth) and to the point when and where they cease to be (death)' (Parkes and Thrift, 1980, p.244). These ideas are exemplified through the days activities of a small family and the individuals 'projects' that make up their day;

Father: 0900 leaves home	Mother: 0750 leaves home
0930 bank	0820 drops off child at school
1000 post office	0830 work
1015 home	1100 shopping

1210 lunch at university	1130 returns from shops
1300 home	1700 leaves work
	1720 picks up child
	1800 home

As each person moves from one task to the next, they can be seen to be fulfilling projects in order to complete a relationship with an environment. The work goes on to describe how well developed the projects are as ideas or narratives, in order for individuals to be motivated into fulfilling them. So much so that as the projects become the reason to interact with an environment, it is these that define our understanding for a geography. In fact as our commitment to fulfilling the tasks becomes so great, particularly in the case of the mother, in the given example, we will find that her 'reality' becomes constrained as her opportunities become restricted by the time it takes to work around their child within that particular geography.

Criticism of the time-geographic approach has since been targeted at the apparently linear approach taken to conceptualise time and space, although the Lund school argued that they merely absorbed given models in order to make their point clear. Perhaps the most interesting problem with the time-geography model for the authors development for his second category of emergent navigation, was the groups lack of interest in what happens when the linear paths cross and cause conflicts in the completion of the tasks 'there is still very little known about collateral processes or about the conflicts associated with them.' (Parkes and Thrift, 1980. p.248).

An Experiment in Temporal Navigation

In April of 1998 the author was commissioned to develop a navigation scheme for a Business Centre in Edinburgh. The work was done for the Albion Trust, a charity who is part funded by many large Scottish companies. They had been developing a scheme to convert a large Edwardian school into a business centre for Charities for two years, and was due for completion in May 1998.

The buildings three floors were built on top of each other, each a replica of the other with a central corridor through the middle connecting each room to a central staircase linking the floors. Such a building represents much of what is two dimensional about the classical architectural approach to design; although tremendously three dimensional in scale, the facade and the plan have no relationship and were designed in separation. Consequently, the corridor becomes the means of getting around and with the high windows, a child would orientate themselves via a mental map that was extremely linear - into the building, along a corridor, up stairs, along a corridor and to a room. The routine could be easily played out backwards and forwards, making it easy to remember, but completely detached from the architectural environment.

Upon analysis of this particular construction of space it soon became clear that it was not a representation of space and that in fact it was a model of time. Any visitor has little option in terms of direction and movement, and in fact will struggle to see much of the outside world until they are inside a room, the only thing to do is to travel to a destination. Therefore a navigation scheme should not use maps or spatial directions, but instead temporal ones.

Upon entering the business centre, concentric circles were centred within the floor of the reception area and were installed to radiate up the corridors and throughout the entire building (Fig. 1). Each circle or arc denotes a time from the centre that is derived from an average walking speed. Thus, the receptionist does not refer to a map or provide spatial directions, but instead simply tells people of how to get to specific rooms by telling them where the office is in time. Consequently the inhabitants of this place find themselves conceiving and navigating through it in time rather than space.

Fig 1. Norton Park Reception 0' 0"

Emergent Navigation – You have a good idea where you're going but not when or how you'll get there

Consumerism is a complex system that has a large impact upon our understanding of space, certainly as people in England and most parts of Western Europe, spending time shopping and being in and around shopping environments occupies a significant amount of our time. At an early age we develop sophisticated understandings for how malls, supermarkets, pedestrianised streets, shops and shop windows operate.

The navigation that we use when we are shopping seems to fall in to the three crude categories presented through this essay; at times we know exactly what we want and shop to these ends, other times we have an idea of what we want, but don't know where to get it from, and lastly we increasingly find ourselves in a shopping environment not knowing where we are going or what we want, hoping that the experience will provide us with enlightenment.

The most vivid model of the three that the authors experience of shopping fits, is the second, in which he finds his destination and journey emerging as he explores options, reassesses his aims and develops what computer scientists call an adaptive model Ref for achieving his objectives.

In finding a theoretical framework to support an argument for the classification of emergent navigation systems the author references 'Social Navigation', a term introduced by Dourish and Chalmers in 1994 when exploring the apparent movement of users on the internet as they become influenced by others.

It becomes a useful model to contextualise another piece of the authors work that is significantly different to the Norton Park project that acted as an authority upon the spatial and temporal framework to be navigated through. Through 'Raindance' Social navigation is employed to involve and support the participants navigation.

Social Navigation

'In social navigation, movement from one item to another is provoked as an artefact of the activity of another or a group of others. So, moving "towards" a cluster of other people, or selecting objects because others have been examining them would both be examples of social navigation.' (Dourish and Chalmers, 1994)

As the internet enabled disparate and invisible communities to connect, a significant amount of research became interested in the social and spatial paradoxes that occur as languages, interfaces and interactivity is developed to enable them to affect each other.

Social Navigation is a field that grew from an observation by Dourish and Chalmers (1994) who coined the phrase to describe the navigation that occurred within networked information spaces and the movement between information that is provoked by the activity of others. Munro et al (1999) adopt the term to describe collaborative and collectively organised systems such as on-line voting, scoring and public review guides used by internet retailers such as Amazon. Social Navigation instantly acknowledges the presence of participants in an environment and their importance in defining it.

At a leading scientific edge in developing human computer interfaces that are socially aware is Kristina Höök, director of the Social Computing Group at the Swedish Institute of Computer Science (SICS). Recent writings have supported her practical projects with a closer definition of the greater value of Social Navigation beyond the simple binary conflict implicit within the term Human Computer Interaction. In describing the application of Social Navigation systems to an on-line grocery store, Höök relocates us back into space that has properties akin to those in actuality.

'First of all, we would assume that other people would 'be around' in the store. Instead of imagining a 'dead' information space, we now see before us a lively space where (in some way) the user can see other shoppers moving about, can consult or instruct specialist agents and 'talk to' the personnel of the grocery store. These are examples of direct Social Navigation.' (Höök, 1999, p.5)

The importance of social influences upon our production of space as we explore a trajectory for achieving our aims in a virtual or actual environment is very vivid if we reflect upon how we 'browse' through web sites or more commonly shops. As a society of browsers we have developed incredible skills in looking, reflecting and modifying our choices of what we choose to consume based upon what we see others doing.

This is not to be misunderstood as indecision but a significant skill that is vital in helping us understand who we want to be. An 'emergent navigation' that helps us decide where we want to go.

Within arguing for 'emergent navigation' there is an implicit problem because as the previous sentence implies there is still an aspiration for the teleological, the very thing that the author is attempting to offer alternatives for. However located between a continuum of the ordered (teleological navigation) and the disordered (entropic navigation), emergent navigation offers a vista upon networks that recognise their complexity and opportunity for social definition, but still retains a purpose of direction. An important aspect as to why shopping environments are still able to make the sale even if it was a surprise to you.

In Raindance the author presents a collaborative project that employs social navigation to aid a web users navigation around a server.

Raindance

The purpose of 'Raindance'[i] is simply to enable a virtual community of viewers to become more aware of itself by picturing the current activities of the whole system. If cyberspace was like real space, when we arrived in a particular street or homepage we would be able to base our decisions on where to go within that space according to the visible traffic of other visitors. Some spaces like bars maybe very busy whilst others like specialist shops maybe quite quiet.

Presently most online services in cyberspace present a hierarchical list of possible places to visit on their server and there is no mention of other people visiting the site, making surfing a lonely and server biased experience. 'Raindance' is a simple illustration of how the traffic of users can be used to inform an interface to a website and enable visitors to 'see' their community.

In its current form Raindance is quite basic and it has no context from which to inform its graphics, so it simply uses circles that's size correspond to how many visitors are 'hitting' that part of the web site. Upon arriving at the Raindance interface the user is presented with a host of circles all apparently fluctuating in diameter and size. Upon clicking and holding down the mouse whilst the pointer is inside on of the circles, the user is shown a menu in the form of a list which describes what the circle represents, how many visitors it is taking at the moment, an opportunity to visit the link and to tag the link (Fig.2). Clicking on another circle will reveal the same type of information but if the circle is of a different size the a different number of visitors will be revealed.

Although a very simple concept Raindance is one that reveals a great deal of information in an extremely clear manner. For users it provides a clue as the popularity of websites which might impair their download but might also suggest their interest value, and it certainly gives users a view of cyberspace as though it were populated by a community.
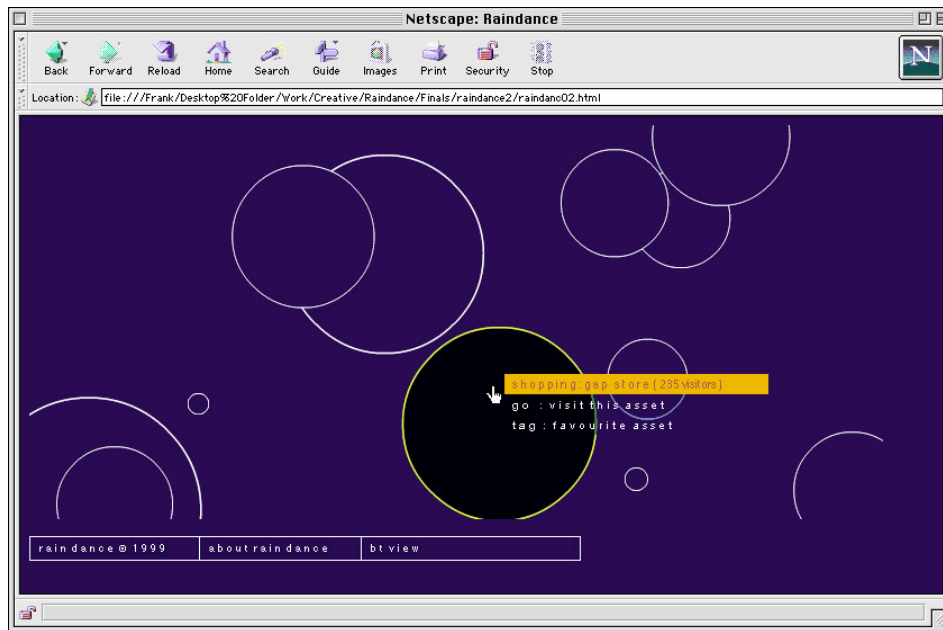

Fig 2. Raindance interface.

Entropic Navigation – You haven't a clue when or where you're going

Probably an oxymoron, because while entropy describes the measure of the disorder that exists in a system, navigation is the process of plotting and directing a course, and it would appear very hard to be doing both at the same time! However the author uses this term to organise his third project for presentation and the audio work of Janek Shaeffer.

The idea of a navigation that is not only emergent but chaotic, with out apparent end and in fact dismantles any sense of order as the journey begins is not so unusual. In fact the investments people make in to chaotic or random systems are both regular and consistent parts of their lives. From lottery tickets than offer a fourteen million to one chance of winning to following junk email leads that take you to unexpected hyper links.

In actuality we are experiencing an increasingly high level of entropy in many of the traditionally more ordered areas of our lives. Certainly after privatisation, the British Railways network has reached a complexity wall that makes it an impossible system to manage, with entropy emerging as the first few trains set off each morning and begins affecting others. By the end of a particularly bad day an astonishing level of disorder may emerge that causes services to be late, moved and even cancelled, making the appearance of the next train to be quite random.

Consuming music never had the quality of entropic navigation, in fact it was always about the ownership of a organised series of repeatable linear tracks, that we recognised from the radio and became part of an archive. The majority of shoppers for music know exactly what they want because they have heard it elsewhere and want to explore it further or replay it until they have ironed out all of the unfamiliarity.

One audio artist that uses sound in certainly an emergent form and perhaps in an entropic manner is Janek Schaefer, from his Triphonic Gramaphone that featured three stylus' for the same deck, to the WOW record in which 'the spiral groove is repositioned off centre on the vinyl surface to invoke a very pronounced fluctuating wow sound as the tone arm sweeps from side to side on the turntable'.

Whilst these works certainly demonstrated a multi-linear dimension to audio playback the new work 'Skate' seems to encapsulate a disordered form of music that has no end and a perpetual unfamiliarity.

Skate

In an attempt to find further reference to develop the category of entropic navigation, the author presents the work of Janek Schaefer[ii], a contemporary composer and musician who explores audio pieces through modified technologies. Schaefer's work recognises the technical vocabulary of making, transposing and amplifying sound through its various technologies, in particular the record deck, and rebuilds and recombines it's component parts to modify the structure of made sounds.

Schaefer's 'Tri-phonic Turntable'; described as 'a three tone arm, two direction, multi-level, micro vari-speed vinyl manipulator' is the first of two pieces referenced that explicitly explore some of these ideas. The re-construction of a traditional record deck simply enables a musician to apply three needles to one record simultaneously and amplify their sound. The resultant audio is described as 'emotive soundscapes [that] inhabit the architecture of the mind's eye.' Which the author interprets as a reference to the multi-temporal experience of environments that we usually filter so readily to sift out the stronger narrative for our own orientation. Schaefer's 'Tri-phonic Turntable' constructs an environment that is too complex to sift, forcing us to submit to the three narratives working simultaneously.

Schaefer's second piece is presented to provide a further space of reflection upon a desire to come across the unexpected, and for the unexpected to increase in its disorder (Fig 3.). ''Skate' will be cut using short scars of textural sound which allow the tone arm to navigate freely across the disc'. The intervention into the traditional printing process of vinyl generates an opportunity to stand outside of a predictive narrative and provides us not with a single track of sound that we may follow, but a never ending random sound track that neither the author or listener knows where it will go.

Schaefer's work whilst occupying a critical space within its own field enables us to find evidence of a cultural practice that is/was defined by single temporal speed and direction – the single groove in the record and the destiny of its composition, but that is now moving in search of no teleological explorations of its own media.
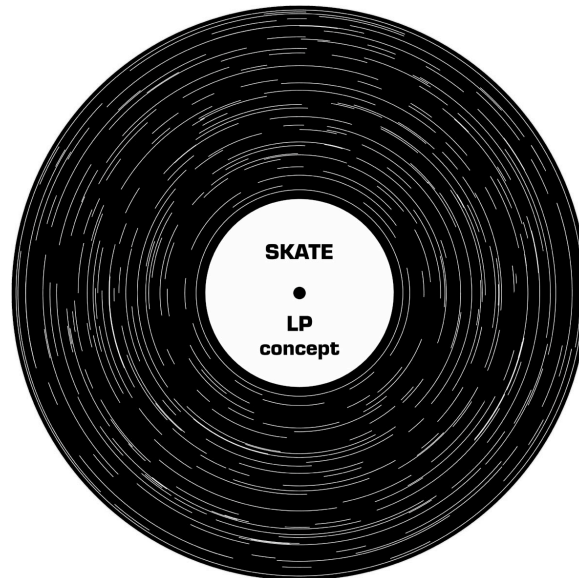
Fig 3. Skate

The Random Lift Button

Central to all of the authors research is capitalism's conversion of time and space into economic currencies. From land ownership that has shaped our society, to the domination of the clock through schooling and into the workplace we are forced to equate our time and space against profit. However, with the advent of digital media technologies, the familiar relationship between time and space is becoming distorted, and more interestingly adaptable, allowing us to question these economic pressures.

Research work to previously attempted to do exactly this, and sometimes the digital technologies are apparent other times merely the principles and concepts that they have provided us with remain. In each case the technology adopted is appropriate to the interaction with the subject matter and is usually as discrete as possible.

The Random Lift project was conceived as an opportunity to exemplify further the role of space at the mercy of time. Certainly in large commercial buildings lifts are implemented to squash space and enable people to move more quickly from one work activity to the next. Lifts become a temporal slippage in the experience of a building as a whole, we skip space and avoid people, places and the opportunity to see the 'whole'. Indeed corridors and stairwells are recognised as the most important social spaces within businesses and many more negotiations and affairs occur between office spaces than within them. Just like in hypertext our choice of destination is provided to us with the minimum of 'journeying'.

It is this temporal problem that interests the author most about the lifts and the chance to explore not the travel or the journey but the lack of one; the lost space, being in the hypertext moment and offering alternatives to allow us to reconcile the lift economic efficiency.

The concept was presented at Habitus: A Sense of Place conference held in Perth, Australia during early September and Consciousness Reframed 2000 in Newport Wales held in August.

It embodies the notion that not knowing where you wanted to go, and relishing the uncertainty of the navigation is a valuable human disposition and important act. The random lift button would place us directly in the centre of a non-linear moment, its outcomes uncertain and unpredictable. A sensation that would be both rewarding and entropic.

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Parkes and Thift (1980).Times, Space and Places , Wiley. London

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Notes

[i] Raindance; Developed by Richard Hackett, Noemi Sadowska, Chris Speed.
Please visit http://caiia-star.net/speed/raindance to see Raindance but you will need the Macromedia Shockwave plugin. http://www.macromedia.com

[ii] Janek Schaeffer can be reached through http://www.audioh.com