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Space

Irrealis objects in technology policy and their role in a new political economy

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Abstract

In this paper, I show how new spaces are being prefigured for colonisation in the language of contemporary technology policy. Drawing on a corpus of 1.3 million words collected from technology policy centres throughout the world, I show the role of policy language in creating the foundations of an emergent form of political economy. The analysis is informed by principles from critical discourse analysis (CDA) and classical political economy. It foregrounds a functional aspect of language called process metaphor to show how aspects of human activity are prefigured for mass commodification by the manipulation of irrealis spaces. I also show how the fundamental element of any new political economy, the property element, is being largely ignored. The potential creation of a global space as concrete as landed property – electromagnetic spectrum – has significant ramifications for the future of social relations in any global "knowledge economy".

Space

Irrealis objects in technology policy and their role in a new political economy

The future ain't what it used to be **– Yogi Berra**

Introduction

It is unremarkable to note the future-oriented aspects of policy. After all, the purpose of policy is hortatory, not historical (Graham and Hearn, 2000); it is designed to 'get people to do things' (Muntigl, in press, p. 147), which is always a future-oriented function. Policy makers have, over millennia, learned many ways to create and promote imperatives for future ways of acting: for example, by allocating resources; by prioritising civil objectives; by legal coercion; by force; and by mass propaganda). In many ways, though, these are the "blunt objects" of policy. A far more ancient and perennial method of "getting people to do things" is to create prophetic perceptions of value for new, unexplored, or unknowable spaces that exist at a time-distance from the here and now—that is, to create value for some imagined future place and time (Bernier, 1992, p. 1992).

Whether as 'the next world' described by Plato (de Santillana and von Dechend, 1962, p. 230); the future 'kingdom of priests and … holy nation' of the Old Testament (Exdodus 19:6, in Küng, 1968/1995, p. 370); the far more democratic 'holy nation' promised by the New Testament (Küng, 1968/1995, pp. 380-383); the promised 'holy land' of the first crusade-mongers in Western Europe (Cawsey, 1999); the 'silk road' of the late middle ages (McNeill, 1987); the mythical El Dorado upon which the South Sea Bubble was eventually built (Morgan, 1929); or as the gold-fields of the nineteenth century in Australia and California (Marx, 1976, pp. 932-940), mythically constructed future spaces – imagined and real – have remained as a feature of hortatory public discourse since the beginnings of history (Voltaire, 1764/1972, pp. 141-145). Official "utopias" have been perennial "places" to aspire to, places where life will be better, where, by 'simply passing on through the inevitable steps proposed by whatever particular ideology is in question, we are

promised that we will re-enter Eden at a higher, more sophisticated level. Paradise is the first and last destination' (Saul, 1997, p. 41). The utopias of any age are its most powerful illusions.

One of the most well-advertised utopias of our contemporary milieu is 'cyberspace' (Graham, in press). There are others of course – as yet without specific names – and these are also considered here. I have drawn the data for this analysis from a 1.3 million word, world-wide corpus of technology policy (for a list of corpus sources cited, see Appendix 1). They were produced in local, state, national, and supranational policy institutions between 1994 and 2000. Being concerned with new spaces, the data presented here is organised around a phrasal verb, "opens up", and its various morphemes (opened up; opening up; open up). In most cases, this phrasal verb functions as 'process metaphor' (McKenna and Graham, 2000, p. 230), the features and functions of which I will describe in the following section. I theme the analysis along historical lines, emphasising the hortatory function of contemporary technology policy, the express purpose of which is to create the foundations of a new economy.

Process metaphor as method

Halliday (1994) identifies six broad categories of processes types: material processes, or 'processes of doing' such as hit, kick, push (pp. 109-112); mental processes, or 'processes of sensing' such as think, dream, see, hear (pp. 112-119); relational processes, or 'processes of being' and becoming such as has [x attributes], was/ is [a kind of …x], is like […x] (p. 119- 138); behavioural processes, or processes that refer to 'typically human' behaviour such as cough, laugh, shiver, shit (pp. 139-142); verbal processes, or 'processes of saying' such as said, promised, exhort, mean (pp. 140-142); and existential processes, or those that claim existence for something (pp. 142-143).

The process typology refers to processes that relate to somehow different but overlapping 'worlds' of human experience: 'the abstract world of relations' (being); 'the world of consciousness' (sensing); and 'the physical world' (doing) (1994, p. 108). But process metaphor allows Participants in the discourse to act simultaneously in antithetical realms of human experience. For instance, in language, "globalisation", a product of

abstraction, is said to act in all sorts of mystical, relational, conscious, and physical roles, thus giving the impression that exists as a force independent of what people do (Graham, 1999; McKenna and Graham, 2000). The term process metaphor should not be understood here as the term "metaphor" is commonly understood in common literary terms. It is, rather, a part of 'grammatical metaphor' (Halliday, 1994, pp. 342-349).[1]

In process metaphor, processes retain their grammatical standing as processes, but they function very differently according to Halliday's taxonomy. They can imply "action" throughout the various realms of experience that Halliday describes. Here is a common example from the technology policy genre I am investigating:

> [1] The transition to a knowledge economy and society over the next few decades **opens up** the possibility of massive productivity gains (Organisation for Economic Development and Cooperation [OECD], 1999, p. 1).

In [1], the phrasal verb opens up appears to function as a material process, a singular, concrete doing (Halliday, 1994, p. 208). In the case of a more 'concrete' construal (Martin, 1999, p. 36), one that might be deployed in more 'common-sense' context, such as George **opens up** the door, the materiality and singularity of the process is clear. However, because the OECD deploys grammatical metaphor, the process relates two highly condensed, highly abstract nominal groups that are compressing myriad, complex, and massive processes into static, irrealis "Things" [The transition to a knowledge economy and society over the next few decades; and the possibility of massive productivity gains]. Consequently, the process metaphor works across the concrete process functions, and not necessarily in a "material" sense at all. In fact, the phenomena to which the material process apparently relates need not even exist – not now, nor even in some imagined future. Process metaphor is a deceptively powerful tool.

We can see the rather surprising metaphorical scope of the process by substituting other processes that retain the semantic sense of the OECD's proposition: The transition to a knowledge economy and society over the next few decades [opens up, promises; offers; brings; creates; reveals; shows; presents; indicates; implies; signifies; suggests] the possibility of massive productivity gains. But there are few other choices that can retain a similar semantic sense in a concrete construal involving the same phrasal verb: George [opens up,

opens] the door. Within the choices that do retain the original semantic sense of the proposition in the OECD sentence, we see that they would occupy positions on the verbal (promises, suggests); abstract-material (offers); relational (indicates, shows = symbolises); and material (creates, brings) planes of Halliday's process typology. In other words, the process metaphor lets the abstract and highly compressed nominal group Head, The transition to a knowledge economy and society over the next few decades, grammatically loose amongst practically all the realms of human experience – the conscious, the sensate, the physical, and the logical – by having for its object an irrealis, highly-compressed nominal group.

The analytical salience of using the substitutive probe, as I have done above, is to see what sort of "sense" or "action" the author is trying to construe with the choice of process. So when we see the substitutes – promises; offers; brings; creates; reveals, etc – we see that something like a future treasure, prize, or gift is being all but guaranteed. Conversely, a transformative Agent with immense and mystical creative powers is implied as guarantor. But the mystical aspects of such futuristic speculation, a kind of "I promise you that these new things place portend a magical future …", is hidden in the deceptive materiality of the process, opens up. A distinctive feature of process metaphor is that synonyms for processes, as they are used in concrete language, need not sensibly apply; lexical synonyms for process metaphor can "come from" or properly pertain to, completely different realms of experience and action than those we would expect to see in more concrete construals.

One effect of process metaphor is to animate huge abstractions in language, thus allowing authors of policy to construe abstract linguistic constructs as if they had supreme power over people – the word "globalisation" is an excellent example in our current pantheon (Graham, 1999, 2000; McKenna and Graham, 2000). Sociolinguistically animated abstractions, which are necessarily products of human imagination, have long played a large part in the governance of human societies, and consequently in their value systems. They are phenomena as old as history (Graham, 2000). The gods of various religions are excellent examples, as are the ethereal utopias they inhabit.

Space, time, and political economy: On the pluralistic nature of space

> Political economy proceeds from the fact of private property. It does not explain it. It grasps the material process of private property, the process through which it actually passes, in general the abstract formulae which it then takes as laws. It does not comprehend these laws, i.e., it does not show how they arise from the nature of private property. Political economy fails to explain the reason for the division between labour and capital, between capital and land. For example, when it defines the relation of wages to profit it takes the interests of the capitalists as the basis of its analysis; i.e. it assumes what it is supposed to explain **– Marx (1844/1975, p. 323)**

Besides creating all-pervasive Actor-abstractions (Graham, 1999), another function of process metaphor, specifically pertaining to the particular instance I am describing here (that of open/s/ed/ing up), is to attribute Power, Desirability, and Importance to irrealis spatial abstractions. The inculcation of space as a socially significant concept is a very old and long story, and I have no time to go into much detail here. Throughout western history, there are recognisable periods during which the redefinition of geographical and social spaces has become central to the course of history: during the latter twelfth century when feudal ties were legally formalised throughout large areas of western Europe (Bloch, 1940/1961, pp. 72-73); during the three hundred years or so it took to complete the enclosures movements in which the land of whole nations was "privatised", and which provided the property foundations for early capitalism (Hobsbawm, 1962, p. 46; Marx, 1844/1975); and during the early twentieth century when radio bandwidth was first subject to technical definition, allocation, and ownership on a national scale, which became the basis of centralised, totalitarian nationalism (Innis, 1951, pp. 81-82; Smythe, 1981, p. 300). These are significant transitional periods in history and, as I hope to show, we are quite probably in such a period now.

There are of course many other significant periods during which empires, nations, and groups have fought over ideas, faiths, and geographical prizes. But they are vastly different and perennial phenomena. I am concerned with describing the inculcation of definable and ownable spaces that previously did not exist as such for people. A thought

experiment might help to illustrate the strangeness of the phenomenon I am trying to describe:

> Imagine you are far out at sea on a vessel that comfortably contains a modest number of people, about 40 or so. You cannot see land on any horison. You have never seen it. The currents are such that you are kept drifting at regular intervals within indistict boundaries, catching fish at one time of the year, whales at another, and harvesting nutritious seagrasses at another. Rain falls predictably enough, and in sufficient amounts so the community has enough drinking water during most years. In such a situation, how would you go about imagining, describing, and defining the space in which your community moves so as to be able to render it ownable by particular individuals? (Graham, in press)

It is conceivable and quite probable that land would have appeared as "fluid", ineffable, and un-ownable a space to the ninth century European social imagination as the watery boundaries within which our hypothetical sea-dwelling community moves (cf. Bloch, 1940/1961, pp. 39-42).[2] The same most certainly holds for radio bandwidth in the early twentieth century (Childs, 1927; Church, 1939). The creation of space <u>as</u> space—that is, as a boundaried, concrete, geo-technically defined area within which active relationships, rights, and obligations are formally defined, enacted, and enforced in relation to that space—is reducible to four basic prerequisites: (i) the technical means to identify and make use of new forms of geo-technical space, such as radio bandwidth, trade routes, land, or international waters; (ii) the pre-existence of a set of informal relationships within that given space <u>prior</u> to their formalisation (Dickinson, 1926, p. 308); (iii) the legal means of formalising the definition of space, and of regulating the relationships therein, which includes a sufficiently developed legal language and institutional infrastructure (Bloch, 1961, chapt. 7); and, (iv) the means to patrol and enforce the boundaries, both within and without, as both concrete, substantial, "exogenous" space, and as abstract, time-bound, "endogenous" activity-spaces (cf. Innis, 1951, p. 53; Brewin, 1998).

These aspects of space creation are the central focus of my analysis here. I am asking how, in policy oriented towards new technologies, social and geo-technical spaces are being prefigured as concrete and abstract environments so that they can be owned by

people and regulated by law. Or, from the perspective of political economy, I want to know how the concrete spatial foundations of increasingly abstract commodity forms are being established at law, and how values are created for, and attributed to, the social relations prefigured for commodification in technology policy. Further, any such space must exist as informal (or perhaps invisible) social relationships before being formally defined at law as something else: new spaces cannot be brought into existence by law alone. Following, I show the social processes that are currently being prefigured in policy language prior to them becoming – concretely, legally, socially, and technologically – real, ownable activity spaces, each corresponding to specific and existing domains of activity and, consequently, their associated value-orientations.

Realis and Irrealis spaces

My analysis distinguishes primarily between two distinct types of space, realis and irrealis. The significance of process metaphor in policy language is that it operates "officially" in the subjunctive, thus binding 'large stretches of institutional time and space. It achieves this, first, by orienting its actions towards potentiality ("irrealis") rather than actuality ("realis")' (Iedema, 1998, p. 484). However, as I will show, while the actuality? potentiality cline that distinguishes between past, present, and future states is most usually expressed in redundancies between tense, mood, and modality systems (Iedema, 1998, pp. 484-485), the functionality of process metaphor turns on the actuality? potentiality circumstance being embedded in the object to which the process is directed, whether the potentiality is realised literally, such as in the words possibility and opportunity, or whether it is buried in the highly-compressed nominal groups which are typical of this genre (McKenna and Graham, 2000). Herein lies the aesthetic ruse of process metaphor: when deployed, ideational representations of irrealis states and processes are presented as concrete, extant, material doings and beings in the here and now.

A brief note on evaluative meaning

Even though the purpose of policy is essentially hortatory, the content of policy discourse, at least in the corpus I am analysing here, is largely propositional. The hortatory

content of policy is based on, or justified by, its assertions of "fact", or high degrees of Warrantability. These are most overtly expressed in propositional content. Here is an example:

> [2] A great deal of effort **must be put into** securing widespread public acceptance and actual use of the new technology. Preparing Europeans for the advent of the information society **is** a priority task. Education, training and promotion **will necessarily play a central role**. The White Paper's goal of giving European citizens the right to life-long education and training here **finds** its full justification. In order best to raise awareness, regional and local initiatives - whether public or private - **should be encouraged**. (eu3: 1,525)

Confusions arise because the functional and social pressures on the genre often pushes the hortatory function towards the propositional realm. In [2] we see a highly-modulated imperative for effort on someone's part which must be put into securing widespread public acceptance and actual use … . As is typical of the genre, the whole stretch of text is agentless. Even where we are told that something must or should be done, we are not told by whom (cf. Lemke, 1995, p.65; McKenna and Graham, 2000). Describing the Necessity for agentless action allows the exhortation to pose as a proposition, as a "fact". After the proposal for action by unnamed Agents, we are given an evaluative (axiological) justification for the proposition construed as a statement of "fact": Preparing Europeans for the advent of the information society **is** a priority task. Translated into the rank-shifted model outlined by Lemke (1998), the proposition says: it is very Important that someone prepares Europeans for the advent of the information age. Put another way, it says: someone must prepare Europeans. We are not told why it is Important that Europeans are prepared, nor who is supposed to do the "preparing". Here, though, we see the relationship between an irrealis object [the advent of the information society], evaluative meaning [the Importance of Preparing Europeans] and the smuggling in of a second exhortation by what seems like a relational proposition [Preparing Europeans <Tok> **is** a priority task <Val>]. Thus education, training and promotion will necessarily play a central role in something or other: it is Inevitable that education and advertising will play a role. The "is-ness" of the proposition is shifted by the "must-ness" of the previous agentless proposal towards an evaluation for Obligation, towards a Normative exhortation.

Much evaluative detail can be unpacked from texts of these kinds (Graham, forthcoming). However, rather than paying detailed attention to 'appraisal' resources (Martin, 2000) deployed to inscribe or evoke value for particular elements in the discourse, or to the relationship between the 'predication and propagation' of values in the text (Graham, forthcoming), I use an adaptation of the broad categories detailed by Lemke (1998, p. 37, see fig. 1) to describe propagated value wherever necessary. My reasons for choosing a less detailed evaluative analysis are twofold: i) to concentrate on the historically significant political economic aspects of the phenomenon I am describing, and, ii) to highlight the role of process metaphor which can conflate practically the whole spectrum of evaluative semantics into a single process.

Evaluative Dimension	Positive degree	Negative degree
[**D**] Desirability/Inclination	It is *wonderful* that John is coming	It is *horrible* that John is coming
[**W**] Warrantability/Probability	It is *certain* that John is coming	It is *unlikely* that John will come
[**N**] Normativity/Appropriateness	It is *essential* that John comes	It is *inappropriate* that John comes
[**U**] Usuality/Expectability	It is *normal* that John is coming	It is *unusual* that John is coming
[**I**] Importance/Significance	It is *important* that John comes	It is *irrelevant* whether John comes
[**C**] Comprehensibility/Obviousness	It is *obvious* that John will come	It is *mysterious* that John is coming
[**H**] Humourousness/Seriousness	It is *hilarious* that John will be there	It is *serious* that John is coming
[**A**] Ability/Difficulty [proposals]	It is *easy* for John to come	It is *difficult* for John to come
[**Ut**] Utility/Usefulness [proposals]	It is *useful* for John to come	It is *useless* for John to come

Figure 1: Evaluative resources for proposals and propositions (adapted from Lemke, 1998, p. 37)

Where evaluative condensation is overtly implied, that is, when a Process, Participant, or Circumstance collapses a "pre-evaluated" proposition that can be expanded into Lemke's rank shifted probe, it is … x that, I have underlined the evaluator concerned using broken lines. Process metaphors, their associated irrealis objects, and their spatial elaborations, are marked in **bold**. Where agency is attributed to what is being opened up, the Actor is underlined. Examples from the corpus quoted here are identified by file name and concordance word numbers (see Appendix 1).

"Opening up" future space: Gold fever and bubble blowers in "the new economy"

In the corpus, the phrasal verb "open/s/ed/ing up" collocates with possibility/ies and opportunity/ies.[3] The possibilities and opportunities opening up are overtly spatial in their constitution; they are often construed as the spatial aspects of irrealis states; as the result of ways of being, seeing, and acting in new spaces (cf. Fairclough, 2000); and as the social realms in which such doings might occur. In all, there are 108 instances of open up and its morphemes in the corpus, not a significant number considering the size of the corpus (1.3 million words). But a collocation map (see Appendix 2) shows its significance to other key terms in the corpus. For instance, open up collocates with information, technology, and, economy, the most frequent words with lexical content in the corpus.

Something on the value differentials between the main irrealis objects being "opened up" is in order here. Possibilities may be positive or negative potentialities in terms of Desirability, one of the broadest (or at least most highly elaborated) "species" of value in the English language (cf. Lemke, 1998, p. 38; Graham, forthcoming). Possibilities may be evaluated as Desirable or un-Desirable to varying degrees. Opportunities, on the other hand, are already potentialities positively evaluated for Desirability: Opportunities are always Desirable potential realities for someone and thus imply the need for a certain amount of action for the opportunities to be moved from potentiality to actuality. These broadest of evaluative orientations are implicitly and explicitly expressed in the data. Following, for example, is an explicit recognition that possibilities may be Desirable or un-Desirable:

> [3] As with other technologies that have become intrinsic parts of everyday life like the automobile, different physical, social and economic configurations may prevail in distinctive societies with particular traditions, values and political preferences. The Net is no different, it **opens up possibilities**, **from the ominous to the utopian**, for facilitating the development of new or the consolidation of old **social orders**. (oecd6: 2,656)

Opportunities, on the other hand, are unquestionably Desirable potentialities, even if those potentialities are not available, or their Desirability not Obvious, to all:

> [4] However, an element of the population is likely to remain excluded from the **opportunities opened up by** e-commerce for a range of social and economic reasons.
>
> Whilst a number of publicly-funded initiatives, at **local, regional and national level**, **aim to improve** the **opportunities** for this 'e-excluded' group, the Team believes that better co-ordination of these initiatives is needed - with resources targeted at the most effective programmes - which **must also be** effectively **marketed.** (uk_eva~2: 32,909)

Here we see the interrelationship between evaluations of Desirability and Importance for realising opportunities. The hortatory function of policy is expressed in Necessity: initiatives are required to improve opportunities and these initiatives **must be** effectively marketed. There is also a subtle reference to degrees of Desirability where opportunities are concerned; for some, namely this 'e-excluded' group, opportunities must be improved. That is, they must be made to appear more Obvious and Desirable than they currently are to this group. The express need to improve opportunities also refers to the Ability of this e-excluded group to grasp the opportunities.

The preconditions for property in political economy

As I have stated above, there appear to be four preconditions for the development and formalisation of new spaces of politico-economic significance. In the following sections, I show that these are indeed a major focus for contemporary technology policy. The first and most significant aspect is the creation of new geo-technically defined spaces. Surprisingly, this is the least elaborated aspect of space in the corpus. The second is the pre-existence of informal relations in that space. The third is a legal infrastructure for formalising the relationships, and the fourth is the means to patrol, police, and defend the space. This last aspect is presupposed and thus passed over here. That is because in 1998, the United States (US) Department of Defence formally defined 'cyberspace', along with 'air, land, and sea', as a 'battlespace' thus committing the world's most expensive and destructive war machine to patrolling and policing the boundaries of an ostensibly global space:

> The Information Operations doctrine "moves information operations from an ad hoc process and institutionalizes it." The individual services already had taken steps to formalize their information operations … and the new doctrine brings these operations

> into the joint realm … The doctrine published by the chiefs takes warfare to a new dimension with the "ultimate target human decision-making."' (Brewin, 1998)

Little more needs to be said on the matter. Therefore, I firstly focus on the activity spaces – the "informal" relationships – that are being prefigured for formalisation in the "new economy" before moving on to identify the concrete geo-technical space that is currently being colonised on a global scale, and upon which the foundations of a new form of political economy are to be built.

Activity spaces

Cyberspace is most often construed as a space created by ways of doing things, which is merely to say that it is technologically contrived space: 'broadly speaking, technology is how we do things' (White, 1940, p. 15):

> [5] The information economy **opens up new ways** of communicating with each other and doing every day activities - and it **offers huge opportunities** to all Australians.
>
> […]
>
> And it no longer matters **how far away we are** from each other, because **it takes no time to get there**. This is the information society. (cita1: 635)

In other words, according to Australia's Ministry of Communication, Information, Technology and the Arts (CITA), the future activity space with its huge opportunities is created precisely by making a commodities out of the destruction of time between people (cf. Innis, 1951). In fact this statement says that the space between people is precisely where huge opportunities lie, as they logically must in any process of mediation (Silverstone, 1999, p. 13). In any case, it is a space of new activities into which specific institutions are firstly moving:

> [6] Telecommunications companies (Telstra, Optus, AAPT, etc.) **are moving into e-commerce and application development** and finding new value. They **are moving more into** Internet Protocols and data transmission. This **is opening up** a whole lot of new **opportunities** for them … **in this new environment** that can mean developing software. (ausbey~1: 40,801)

Here are direct and explicit links between what people do, the new spaces created by doing these activities, and the perceptions of value that accompanies the creation of these new activity spaces.

New media also have the potential to bring different social spaces – previously antithetical institutions and, thus, qualitatively different activity spaces – into contact with one another:

> [7] These channels **would help** teachers **to find** workplace assignments and **might also offer** "job shadowing" or other programs that **would expose** business executives to the **learning environment** and build connections that **would open up** classrooms [**one social space**] **to** the world of work [**another social space**]. It is **essential** that employers gain a fuller appreciation of the complexities and challenges involved in preparing young people for the labour market. (canada1: 34,261)

Open up does not function as process metaphor here. Both the realisation and possible semantic substitutes remain on the abstract-material plane. In this case, a semantic probe reveals that open up … to means, roughly, expose … to: that is, schools should be exposed to the world of work; executives should also be exposed to the learning environment. The process metaphor actually happens here to a somewhat restricted extent in the low-modality group might also offer.[4] Probing offer here, we find the meaning is something like allow, present, create, open up, bring about, mean, facilitate, and so on. Once again, future opportunities that would exist, given the conditions that the authors outline, are presented as the valuable artefacts. No explicit evaluation for Desirability or Importance is necessary: the irrealis promised land of opportunities requires only certain forms of action at the right time. A would, an evaluation for the Probability of outcomes related to exposure, becomes an obligatory should in the evaluative chaining of would help ✍ would expose ✍ is essential. The chain develops its force in 'retrospective' propagation (Lemke, 1998, pp. 52-53). The is essential casts its evaluative force back along the chain to propagate the Necessity of exposing schools to work: would help ✍ would expose ✍ is essential. The propositional would … is thus shifted by retrospective propagation to an hortatory shouldness, or more strongly, a must.

New views and new ways: Opening up new ways of seeing, being, and acting

The inculcation of ways of being and acting is an inherent aspect of discourse (Fairclough, 2000). It is also an overt function of technology policy. Certain irrealis spaces are construed in video-geographical terms, as new spaces that would more concretely be seen: vistas, horizons, perspectives, and so on:

> [8] In the future, the main possibilities for manufacturers, whose **horizons** for the moment remain primarily European, will be linked to **the expected opening up of the American market** … . (fr3: 16,736)

In [8] the process metaphor is nominalised and rendered part of a projected nominal group organised around a disembodied "expectation". The strategic advantage of nominalising the process metaphor is to hide some nonsense and submerge an admission of subordinate dependency. Future possibilities for French manufacturers, whose horizons are currently limited, will be linked to expectations of an irrealis space opening up. The manufacturers' main possibilities are linked to an expected opening up, that is to say, they are linked to another set of Possibilities, which are shifted towards higher Probability by being expected (by nobody in particular). Put concretely, this says: the manufacturers' future opportunities depend on whether the American market opens up; that is, whether it is "liberalised" or "deregulated". Here is where the admission of dependency comes to the surface. To be realised as overt process metaphor, this construal would have to read something like the expected liberalisation [i.e. opening up; deregulation] of the American market **will open up** the main possibilities for manufacturers….

New horizons and new vistas go together, but the vistas "opened up" by the power of tomorrow's communication technology are vistas on the most intimate aspects of social interaction, and on the bodies and minds of the people who constitute these:

> [9] As for the inquiry and collaboration that are indispensable for learning and basic scientific research, the power of tomorrow's information technologies **will open up new vistas** by radically improving the capacity to communicate and simulate. … Once liberated from some of **the constraints of cost, time and space** of traditional education, learning systems that encourage individual creativity may take over.

> Biotechnology **will open up new vistas**. The identification of genetic information and applications of genetic engineering are already making their mark in society and will profoundly affect many facets of everyday life in the future. Human health, food production (both livestock and plants) and food processing are all likely to be influenced by advances **at the interface of genetics and technology**.
>
> Work is already well under way on the human genome; by 2005, at the latest, scientists should know the full DNA sequence of **a** typical **man or woman**. (oecd7:1,164)

There is clearly a colonising imperative in all of this. Opening up and securing new spaces is both Necessary and Important. But the spaces are of the most personal and intimate kinds. Cost, time and space are constraints that will be cast off to enable new kinds of education. Once again the destruction of time and space between people makes "room" for qualitatively new spaces. The "map" of the human genome should be complete shortly, and the sequencing of a typical man or woman is something that apparently ought to be celebrated rather than dismissed as so much nonsense. Who is this typical man or woman? What colour would their skin, eyes, hair, and teeth be? What will they look like? How would they smell? Who will decide what are Normal physical and intellectual traits? If "typical" men and women are part of the new vistas that biotechnology will open up, one might well wonder what the authors' meaning of individual creativity in education might be.

The geographical metaphors of trails and paths provide the nexus between social activity and its legal regulation. In the following, legal expertise and legal language are the means by which new paths can and must be put forward, another geographical feature of the future space of political economic activities:

> [10] France has a meaningful voice to be heard in this respect, which should amount to more than just exporting its "model" of data protection; given the country's experience in these matters, France **must and can put forward** propositions that **open up new paths**. (fr2: 14,231)

New legal trails are being blazed in France, ones of a very specific nature and orientation:

> [11] The current positive law covering communications would not be capable of serving as a basis for the entire analysis relating to criminal liability. The first cases brought before the courts **open up certain trails** which confirm that inspiration can be drawn from foreign examples. It then becomes appropriate to formulate recommendations

> which are based both on a clarification of the relevant rules and recognition of the role of a joint regulatory body. (fr2: 64,483)

The laws are concerned with intellectual property, with the ownership of the products of people's minds. 'How does one become an owner of productive stock? How does one become owner of the product created by means of this stock? Through positive law' (Marx, 1844/1975, p. 295). The legal definition of existing social relations is perhaps the most significant aspect of any transition in human social relations. It is the process that gave us formal feudalism and private property (Bloch, 1940/1961, pp. 72-73; Hobsbawm, 1962, p. 46; Marx, 1844/1975). The mere mention of a "knowledge economy" implies new commodity forms and property laws – intellectual property laws – which depend on the codification and definition of new types of property, and thus new (pseudo-)spatial domains (Graham and Hearn, forthcoming). New positive law is needed to own the new kinds of formally defined products of labour, products of everyday human interaction.

Legal spaces and information infrastructure

Where legal definition is concerned, the use of open up is usually part of the verbal group form, open up ... to and not process-metaphorical. It means, again, to expose … to and thus refers to concrete objects. The following European Union policy statement sets the agenda for what must be done in member states for a new social space to become a legal reality:

> [12] Member States **should accelerate** the ongoing process of liberalisation of the Telecom sector by :
>
> (1) **opening up to** competition infrastructures and services still in the monopoly area
>
> (2) **removing** non-commercial political burdens and budgetary constraints imposed on telecommunications operators
>
> (3) **setting** clear timetables and deadlines for the implementation of practical measures to achieve these goals.
>
> An authority should be established at European level whose terms of reference will require prompt attention. (eu3: 1,285)

Although the use of open up is usually not process-metaphorical in discourses about legal and communication infrastructure, its deployment is nevertheless worth investigating. Opening up social processes and institutions to "outside" influences carries unerringly positive connotations in the contemporary policy genre. Indeed, open (along with its morphemes) is a key term that appears in the corpus about the same number of times as free and its morphemes.[5] Open appears as a Desirable pre-modifying attribute for government, networks, systems, access, markets, standards, society, environment, communication, services, information, processes, frameworks, and so on. It carries roughly the same liberatory connotations as freedom. But as opening up … to, as in the above example, it means precisely the opposite of what is commonly understood by the word free: it means forced to submit to new influences (competition) and new forms of regulation; regulation based on different values than those that have to date prevailed in these social domains. It is a form of technocratic euphemism that operationalises the axiology of neoliberalism.

But the liberatory euphemism bears little scrutiny. The first two liberalisation measures mentioned here are in contradiction. The infrastructures and services that need opening up to competition are those still in the monopoly area. That either means regulating against existing private monopolies or privatising government monopolies. Either way, liberalisation requires new regulatory regimes: it requires more regulation, not less. That fact is reflected in the highly modulated should-ness of EU recommendations to Member States, and in the announcement that a new EU authority is necessary to regulate the liberalisation of the Telecom sector. Taken as a whole, the statement merely says that Member States should accelerate liberalisation of the sector by liberalising the sector more quickly, since measures [1] and [2] are ostensibly regulatory measures for liberalisation, and [3] is a proposal to do it more quickly.

There are clear confusions in the relationship between regulation and liberalisation in terms of circular causality. This is typical of the genre (Graham, 1999; McKenna and Graham, 2000). For instance, the French group says that

> [13] The gradual **opening up** of the telecommunications market **is leading to** profound changes in the structure of this sector of activity and considerably speeding up its growth. (fr3: 17, 819)[6]

In other words, the gradual opening up of the infrastructure market is causing changes in the structure of the sector as well as speeding up its growth. Liberalisation is prima causa, not an effect of regulation. But the European Commission (EC) says that

> [14.1] Provided the necessary safeguards are in place, **opening up** infrastructure provision **will underpin** the further development of the telecommunications sector, and this development is necessarily **at the heart of the transition towards the Information Society in the European Union**.
>
> [14.2] Liberalisation of infrastructure will reinforce the benefits of the liberalisation of telecommunications services by encouraging innovation and the exploitation of the new technologies, and by **opening up** greater **possibilities** to provide new services in new ways. A clear regulatory framework and timetable is required in order to give predictability to all sector actors, including both the traditional and new investors.
>
> [14.3] In the longer term and as integrated or multimedia services and applications develop, a regulatory framework will be required that addresses the issue of convergence between telecommunications and broadcasting. It is already possible technically to use communications infrastructure from each of these domains to provide services in either area.
>
> [14.4] The development of the Information Society and of the new integrated applications will make it increasingly difficult to distinguish between the two service areas. **Opening up** infrastructure provision is an essential step for the future development of the telecommunications sector and the Information Society, and this document puts forward the measures and principles that are required at a Union level to provide the necessary regulatory framework. (eugpv16c: 45,542)

Here we see the confusion of causal circularity fully blown where regulation and deregulation are concerned: provided safeguards [regulations] are in place, opening up [deregulating] infrastructure provision will underpin further growth of the telecommunications sector. This in turn will lead to Europe's transition to an Information Society. A dichotomy is established between the "pipes", or infrastructure, for telecommunication and the services that are sold "through" them.

According to the EC, the liberalisation of telecommunications services is exceeding that of "pipe" provision. So Europe needs both liberalisation of infrastructure as well as liberalisation of services. No clear distinction between the two is made. What is needed for liberalisation [deregulation] is a clear regulatory framework [set of regulations] that gives

predictability to all sector actors. But the processes of regulation and deregulation will necessarily get further confused because the services and infrastructure of telecommunications are getting all mixed up with those of broadcasting. To add to the confusion, the development of the Information Society will make it more difficult to tell the difference between telecommunications infrastructure and broadcasting. So even more regulation will be required.

In [14.1], the Information Society was to be a result of the irrealis liberalisation of telecommunications infrastructure to the same degree as the providers of telecommunications services. By [14.4], the relationship has reversed; the development of the Information Society will change the relationship between telecommunications and broadcasting, apparently because the infrastructures of both can be used to deliver the services of both. In the first instance the Information Society is râison d'etre for infrastructure liberalisation, whereas by paragraph [14.4] it becomes prima causa of the deteriorating distinctions between "content" and "pipes". Then the Information Society is subject to a three-way Cartesian split of sorts: its infrastructure, the telecommunications sector, is put up as a separate entity from the new integrated applications, which also exists separately from the Information Society, thus making a regulatory framework necessary to sort out the confusions.

This is a schizophrenic worldview. Evaluations for the Necessity of new regulations appears as the result of Necessary deregulation, or liberalisation: deregulation of infrastructure is necessary for the development of the Information Society. But because the Information Society makes it difficult to distinguish between infrastructure and services, more regulations are required. Roughly equal evaluations for the Necessity of regulation and deregulation are overt: safeguards are necessary; regulation is required; further regulation will be required; opening up infrastructure provision is essential; new measures and principles are required. There is no agency whatsoever, and whoever it is doing the needing and requiring is not specified. All this Necessity for regulatory action is premissed upon the Desirability, Inevitability, and Importance of the Information Society, which apparently does not yet exist.

Market space

The predominating irrealis spatial object which is being "opened up", as might well be expected in the neo-liberal climate of the current age, is the activity space of markets:

> [15] <Heading> Internet **opens up** global **markets**
>
> The market must lead. The government's first job is to remove **obstacles**, and champion **the way ahead**.
>
> <Heading> Setting out **a vision and a clear direction**
>
> Where government intervenes, the results must progress us towards becoming a knowledge-driven economy. We must have a sense of urgency. We've won against the odds before ... we can again.
>
> Throughout our history, New Zealanders have shown a remarkable ability to respond in a positive way to world events. Just as the first shipment of refrigerated meat aboard the SS Dunedin in February 1882 **opened up new overseas markets** for our primary products, so the Internet **opens up new markets** for our knowledge exports. These include such products as software, technology, education, film, television, Web design, telecommunications, financial services, call centres and others, all of which can **travel down** the information **superhighways** to **the world at the speed of light**. (nzknow~1:17,456)

The heading claims that the Internet opens up global markets. Again, nowhere in this stretch of text does open up function overtly as process metaphor. However the metaphorical function is buried in the relations over a stretch of text much longer than any single clause. All the objects appear to be past or present actualities. Semantic probing reveals that the authors firstly mean the Internet clears the way to; exposes; gives access to; and so on, all of which are realisations on the abstract-material plane. Nevertheless, the authors are clearly concerned with spatial qualities and a new "territory" of opportunity which is irrealis. The literary metaphor of the pioneering trailblazer is deployed to portray the government's role: to remove obstacles, and champion the way ahead. But within the first two sentences, the propositions become either circular or redundant because of two meanings of "market/s". The internet opens up global markets*;* the market, in turn, must lead. What is causing the confusion is two distinct meanings of market/s. The first instance, global markets, means a space of activities defined by the activities of producing, buying, and selling commodities.

The second instance, in which the market must lead, refers to market logic, principles, and values, presumably according to neoliberal tenets.

Panic is barely implicit when authors say that New Zealand is running against the odds and that the government must have a sense of urgency about its mission. The whole report is shot through with the same sense of panic, inadequacy, and confusion from the first paragraphs onward.[7] The comparison between the "new economy" and "the old" raises some interesting questions. If, as the report claims, a shipment of refrigerated meat opened up new overseas markets as early as 1882, then the authors are not concerned with the existence of new geographical markets, since none have been "created" for many decades. Of course not even the most confused or panicked technocrat could buy literally into the illusion that a shipment of refrigerated meat opened up new overseas markets. This is where the process metaphor function becomes apparent. It has been buried under nonsense.

The refrigerated meat presumably did not depart all by itself from New Zealand for foreign lands in order to open up new markets; it merely signified the existence of new markets, or, more precisely: a) the newly acquired ability that New Zealanders developed to keep their products fresh during long sea voyages: the medium of refrigerated ships; b) the pre-existence of commercial and legal relationships between New Zealand institutions and institutions in other countries that made trading shiploads of refrigerated meat practical and legal; c) the qualities that made New Zealand's refrigerated meat a desirable commodity for institutions and people in other countries, and; d) the ability of New Zealand farmers to produce enough meat to establish practical commercial and legal relationships throughout the world. Thus, the use of opened up here collapses all sorts of Participants, Circumstances, Relationships, Activities, Processes, and other abstractions in the strange clause that claims refrigerated meat opened up new markets.

The most extreme expressions of neoliberal dogma are possible when expectations of the irrealis are too heavily overlaid on the present:

> [16] With the advent of information and communication technologies, **the vision** of perfect competition **is becoming a reality**. Consumers can now find out the prices offered by all vendors for any product. **New markets have opened up,** and prices have dropped**.** When businesses can **deliver** their products **down** a phone line

> **anywhere in the world**, twenty four hours a day, the advantage goes to the firm that has the greatest value addition, the best known brand, and the lowest 'weight'. Software provides the best example: huge added value through computer code, light 'weight' so that it can be delivered anywhere at any time.
>
> Competition is fostered by the increasing size of **the market opened up by** these technologies. Products with a high knowledge component generate higher returns and a greater growth potential. Competition and innovation go hand in hand**.** Products and processes can be swiftly imitated and competitive advantage can be swiftly eroded. **Knowledge spreads more quickly**, but to compete a firm must be able to innovate more quickly than its competitors. (nzknow~1:3,920)

Here we see at least one reason why the "knowledge economy" is construed so reverently in technocratic policy statements (cf. Graham, 1998; McKenna and Graham, 2000). Contemporary econometrics is well known for its lack of ability to cope with the unpredictable muck of reality (Saul, 1997). New technologies will solve the problems of reality by making the vision of perfect competition a reality. The reality is, unfortunately, exactly the opposite of that posited by neoliberal economics. Media ownership concentration is at an historic high (Barr, 2000; Kellner, 1999). Monopoly appears to be the paradoxical outcome of increasingly perfect competition. Moreover, the product that provides the best example of new economy goods, software, is perhaps the most monopolised of all.

Leaving aside the confusions and inaccuracies of the New Zealand group's propositions, the process metaphor function of opened up is again less obvious here, partly because of its past tense, partly because it is agentless, and partly because of the level of abstraction in the single Participant, new markets. Markets are activity spaces, mass processes involving many People, Processes, and Things. There are many different kinds of markets: labour markets, financial markets, software markets, commodity markets, fruit markets, geographically defined markets, and so on. We are left unsure as to which new markets have opened up. But if we take the advent of information and communication technologies as 'hyper-theme' (Martin, 2000), and assume that perfect competition and consumers having perfect knowledge of prices are predicated upon the hyper-theme, then the process metaphor becomes more obvious. Put more directly, the relationship is this: With the advent of information and communication technologies new markets have opened

up [in the first instance, appeared*;* come into being*;* have become accessible, and so on]. But even with that relationship made clear, the metaphorical scope of the process is still not entirely exposed. To see the scope of the metaphor, we need to consider time and tense.

The temporal relations between ostensibly linked propositions in [16] is confusing because of the tenses deployed: the present-ness of is becoming a reality, and of can now find out, conflicts with the past-ness of have opened up and the future-ness of when businesses can deliver their products down a phone line. We are left unsure as to which elements are causally predicated upon which others, and of the qualitative aspects of the previously opened up markets. Presumably, the markets the authors refer to must have been opened up prior to consumers having access to price knowledge. The confusion of present-ness, past-ness, and future-ness, and the consequent lack of clear causal relationships, makes the propositional content elusive: while perfect competition is construed as a result of information and communication technologies, new markets are already presupposed in the availability of price information and product availability. The ability of businesses to deliver their products down a phone line appears to be set in the future. But in the next paragraph, the increasing size of the market is again opened up by these technologies, resulting in more competition, while products with a high knowledge component – those that can be delivered over the phone – appear in the present.

When all this is unpacked in terms of causality and temporal relations, the metaphorical scope of opened up – in both instances – becomes more obvious: the market, its products, its producers, and its prices are already present: new technology makes these available; exposes them to competition; relates them to all the others; signifies their existence to people, along with their Significance; creates markets as social and symbolic spaces of interaction; and facilitates awareness of all participants in the market process to all others, thus creating perfect competition. The superficial singularity and materiality of opened up appears to be something that has already happened. But it actually collapses and confuses causal relations, uniting past and future happenings, awarenesses, possibilities, knowings, and doings for all the participants in the marketspace of the knowledge economy, thus bringing into being an ideal state: the reality of perfect competition.

Concrete space: The foundation of any new political economy

All of the future spaces that are elaborated to any extent in the corpus are symbolic activity spaces. Whether referring metaphorically to vague irrealis objects, or to currently "protected" social activities, what is said to be opening up in the policy corpus are possibilities and opportunities for further commodify existing human activities: education, biological processes, thought, art, language services, cultural production, imagination, and so on. They are the ever-more intimate aspects of human social activity that are to be alienated from whole nations and sold off as commodities in the "knowledge economy" (Graham, 2000). But the kinds of activities that policy authors posit as the basis of the "new" economy are not new in any way whatsoever. They are existing activities that are to be formally redefined for "removal" into a "new" space.

And it is this largely "undefined" space into which much of human conscious activity is to move which is of most historical significance. It is a concrete space, one which certain individuals have only recently developed the technological, institutional, and legal infrastructures to colonise on a global scale. It is global electromagnetic space, or bandwidth, or 'electrospace' (Hinchman, 1969, in Smythe, 1981, pp. 300-318). Throughout history, the meaning of geo-technically defined space has, to a very large extent, characterised each particular age (Innis, 1951, pp. 92-97; Marx, 1973, pp. 276-283). Geo-technical spaces exist independently of what people do. They include land, air, sea, and electrospace. They are fundamental to any new form of political economy. This is most noticeable during recent times in the development of industrial capitalism:

> wage labour in its totality is initially created by the action of capital on landed property, and then, as soon as the latter has been produced as a form, by the proprietor of the land himself. This latter then 'clears' … the land of its excess mouths, tears the children of the earth from the breast on which they were raised, and thus transforms labour on the soil itself, which appears by its nature as the direct wellspring of subsistence, into a mediated source of subsistence, a source purely dependent on social relations. (Marx, 1973, p. 276)

Which is also to say that the globally mediated nature of human interaction is epiphenomenal. It first requires the existence of a new "type" of private property. After staring at the ever

expanding edge of electrospace, concentrating on the spatial, social, and technical qualities of electromagnetic spectrum, Smythe (1981, pp. 300-318) concludes that electrospace 'is to communications today as is land is to crops and water to fish. It is a peculiar natural resource, one whose politico-economic and social aspects have largely been ignored by social scientists' (1981, p. 300; cf. also Childs, 1924; Church, 1939).

And that remains the case in the corpus I have analysed here. Bandwidth is only mentioned in 28 of the 68 documents that make up the 1.3 million-word corpus. Bandwidth appears 198 times in those 28 documents. Only once in an Australian document is it discussed in terms of "available electromagnetic space", and even then it gets confused with data transfer capabilities:

> [17] **Bandwidth refers to the range of frequencies**, expressed in Hertz (Hz), that can pass over a given transmission channel. The **bandwidth determines the rate at which information can be transmitted** through a circuit.
>
> **The phenomenal growth projected in electronic commerce will significantly affect the demand for bandwidth**. The growth in online transactions for intangibles such as **delivery of entertainment and educational** products will also fuel demand. In Australia, **demand for bandwidth is expected to grow strongly** for the retail trade; property and business services; education; and health and community services sectors over the next five years. (au_kba: 7,622).

Although the authors implicitly distinguish between commodity categories – entertainment; retail trade; property and business services; education; health and community services – and identify bandwidth as a medium of sorts, this is a most perfunctory and confused treatment of what is actually being proposed. It collapses three meanings of bandwidth currently in use: the first refers to radio spectrum, the second to the rate of data transfer, the third to a commodity form. They are far from identical meanings, even though there are certain relationships between them. Furthermore, none grasp the essential features of bandwidth as a geotechnical space that must be occupied monopolistically to be of any politico-economic advantage, like land for example.

A far greater awareness of bandwidth as being concrete space was prevalent when it was first brought to widespread attention in the early proliferation of broadcast radio. Bandwidth was commonly thought of as "air-as-raw-material", but of course

> air has nothing to do with the matter, whether as raw material or otherwise. Nothing is property unless it can be reduced to possession and exclusively occupied and held. The newspapers of Washington D.C., called attention … to the purchase of space overlying a lot of ground by the owner of a tall building adjoining, in order to secure the right to the perpetual use of whatever light and air might fill that space. Air drifts in and out with every zephyr, and light passes through at the rate of 186,000 miles per second.
>
> The purchaser can only own so much of them as he can use. What he here bought was something more imponderable than light. In economics it is known as land, or natural resources; in everyday English it is space. (Childs, 1924, p. 520)

Throughout history, and I see no reason for the current period to be any different, the mass media environment has been a decisive influence in the distribution of political power, the essence of which is control of people within a particular space (Graham, 2000; Innis, 1950, 1951; Mumford, 1962; Smythe, 1981). And power, in the end, is the focus of any critical analysis. The policy statements in the corpus I have analysed are concerned almost entirely with the activities that are or will have been commodified in the "new economy". That is to say, the purpose of the policy statements I have analysed thus far is not to identify or explain the foundations of an emergent political economy but to identify the kinds of labour that will be commodifiable and commodified in future. These include everything from art and imagination, to education and engineering, to entertainment and research, and just about any act of symbolic labour whatsoever. People must act and think in certain ways if their labour is to become fit for commodification in what will be the "knowledge economy".

Quibbles over the ownership of radio spectrum may seem mundane in terms of what is being proposed in the policy corpus: namely, the commodification of practically everything that makes humans human (and inhuman). But it should be noted that the global privatisation of bandwidth is an historically unique macro-proposal. Electrospace is objective common property, the global enclosure of which is presupposed and apparently needs no explanation. Grabs for whole spectrum blocs have to date been the concern of nation-states: 'radio communication is particularly susceptible to national control because, to a much greater extent than other communication media, the radio requires some control if it is to serve any human purpose whatsoever' (Church, 1939). But today there is a fully developed

system of international institutions that can provide the legal infrastructure to define and formalise social interaction; to make property, commodity, and contract laws; and to enforce these on a global scale.

> Until quite recently,
>
> nations of the world have never departed from the basic "world property" concept of the right to use specific radio frequency assignments, such rights have in practice been treated as one of the most important bases of politico-economic power on a first-come, first served policy. (Smythe, 1981, p. 307)

Today this power is being privatised. Unlike copper wire, fibre optics, or satellite infrastructure, radio spectrum is the non-depletable, concrete resource upon which any global knowledge economy, if it is to exist at all, must eventually be built (Rosston and Steinberg, 1997). The concrete quality of the space is almost incomprehensible. Because the electromagnetic spectrum exists everywhere all the time at all frequencies, the current bandwidth legislators construe electrospace as a kind of 'space in the fourth dimension' which should be left 'open to private exploitation, vesting title to the waves according to priority of discovery and occupation', but that is not the case:

> Of course, the wave length is not a fourth dimension, for there is also breadth and depth of wave (amplitude and frequency) and doubtless the correct analogy is the whole electro-magnetic field; but private property in any natural field or wave is only a human convention and one that it would be dangerous to extend to this new-discovered continent. The theory that otherwise it cannot be developed has already been demonstrated to be untrue. Otherwise only can it be kept free from monopoly. (Childs, 1924, pp. 522-523, emphasis added)

A new-discovered continent indeed! But that was in 1924. Today it is a continent that has become as conceptually passé and opaque as land. That is because bandwidth is generally sold as amounts of time, and because it cannot be seen or touched. It has thus been relegated to the status of a mythical realm. Radio spectrum is now not widely conceived of as concrete property, at least not in policy.

Even those charged specifically with selling the spectrum are clearly confused. The language advocating spectrum privatisation is shot through with all the clarion calls of colonialism, and with all the "pioneering" images that adorn the imperialist mindset. Thus, in however an unconscious and confused manner, the spatial aspects of language are clear and present:

> [18] I truly believe that encouraging **more bandwidth**, particularly, to residential consumers in the country, **is the next great frontier** in communications policy.
>
> As I was saying, **bandwidth is the great ::: the next great frontier** in communications policy. And I want the hallmark of this Commission's work to be that we encourage the competitive provision of high speed networks and services using any appropriate technology for **all Americans wherever they live, at home, at work, in schools, libraries, hospitals, whether they live in cities or in rural areas, on reservations**. **Wherever** there's demand, **there should be** bandwidth. (Kennard, 1998, in FCC, 1998)

Here again in the Federal Communications Commission's (FCC) argument to "deregulate" bandwidth we see the same expansive aspects of social life implicated as in the policy concerned with proposing the commodification of human activity. But this time the talk is referring to foundational space, real space – newly privatiseable property, not something that there can be suddenly more of .

Typically, such talk is accompanied by the liberatory claptrap that has accompanied "revolutions" throughout history (cf. Fairclough and Graham, forthcoming; Marx, 1846/1972, p. 457). Here we have another Federal Communications Commissioner bidding an almost sentimental farewell to the national geography of electrospace:

> [19] I think **this is an extraordinary crossroad in our intellectual thinking** with regard to communication services, and **we should keep that in mind**. In a sense, **the beginning of crossing the rubicon**, sort of **leaving the world** of legacy systems and their inherent limitations not only in technology and the kinds of communication services **we provide to the public**, but as well in the regulatory structure that was built up and served well, and **to a great degree, administering national policy** with respect to those sorts of systems.

> And so, this really is **one of the many opening salvos** of an important transition, both in terms of the way we provide communication services **and the way that we regulate them**. (Powell, 1998, in FCC, 1998).

Regulators are firing off salvos as they cross the rubicon, enthusiastically mixing metaphors and confusing medium, message, national regulation, and service provision with the meaning of private property in electromagnetic spectrum.

The underpinning assumption of the new (de)regulatory push for bandwidth is that, because of the digitally convergent nature of our new technological environment, modes of communication between people have become qualitatively indistinguishable: 'I would say that if not already, in the very immediate future, it gets rather basic. Bits is bits. Voice is data. Data is voice. Video is data. They're all the same' (Chrust, 1998 in FCC, 1998). There is much in history to refute the Commissioner's assertions: "bits is bits"; radio waves is radio waves; space is space. That is to miss the whole significance of mediation as a process that involves people, their culture, and their historical and extant knowledge economies (cf. Innis, 1951; Silverstone, 1999, chapts.1-2; McLuhan 1964). We might as well say "trucks is trucks", regardless of whether they are transporting nuclear weapons, wheat, or anthrax. From such a perspective "all roads lead to Rome" and the rest is so much irrelevant noise.

A macro synthesis of the meaning of "content" and property policy

In all of this – in the privatisation of formerly common property and the global regulation of human activity at the most intimate levels – we see an incipient prefiguring of what policymakers and telecommunications industry experts think should happen in the irrealis world of the knowledge economy. The symbolic activities of humans are to be commodified and traded within a privatised global realm of electrospace. The unifying principle underpinning both "types" of policy is that it will encompass and commodify all aspects of human activity everywhere. There is nothing that should not be bought and sold. The policy concerned with spectrum ownership is oriented to reaching people wherever they live, at home, at work, in schools, libraries, hospitals, whether they live in cities or in rural areas, on reservations, and so on. Similarly, for policy concerned with those aspects of humanity that are to be modified for, and commodified within, the newly acquired global

space, the legislative vistas include changing how people live, learn, work, create, buy and sell. Put simply, the privately-owned, concrete property element will ideally extend to enclose all of humanity; the commodity element will ideally infuse every aspect of what it means to be human.

Conclusion

It is not surprising to find that policy constructed in an age dominated by a perverse, falsely individualist, neoliberal economics has the most personal aspects of people as the primary focus of the commodification process. We owe such an oppressive global condition to the failure of political economy to understand its object. Nevertheless, neoliberal economics has become ultimately successful in dominating administrative logic and colonising the channels of public opinion throughout most of humanity. But political economy continues to misunderstand private property, the element on which its claims to expertise are premissed. To this day, political economy presupposes the property element. This is all the more pronounced considering that we are in the historically unique situation of seeing the creation of new private property on a global scale, the global privatisation or enclosure of electrospace. It is the single largest continuous expanse of cultivatable economic property we can possibly realise under existing technical conditions. Consequently we are in the situation of seeing the creation of the largest division of 'property owners and propertyless workers' in history (Marx, 1844/1975, p. 322). Simple possession has nothing to do with the matter.

At the same time as the digital divide is being loudly and roundly touted by one group of legislators as the issue that most needs addressing today, another related group of legislators are busily working towards the only possible means by which such a fundamental division can be created and sustained. The entire global mass of "knowledge economy" and "information society" policy entirely ignores the creation of this new private property, focusing instead on rationalising the commodification of human thought, language, art, imagination, communication, creativity, and emotion. These are the activities of the propertyless knowledge worker that will be commodified in the institutional edifices that control the medium through which all electronically mediated experience must eventually

pass. Should full technological realisation of the property element prove to be realisable (there are doubts that this can be accomplished), the implications cannot be understated: it would amount to the corporate colonisation of every aspect of propertyless humanity.

Moreover, as the politico-economic basis of power since radio, the privatisation of electromagnetic space is essentially the privatisation of that power, the privatisation of global political power. What is now only a barely covert influence in world politics must, if the property-medium of political power becomes privately owned, become an overt and singular influence, perhaps implying outright structural dominance on the part of its future owners. Alienation of thought, language, and the most intimate aspects of biology is thus the apotheosis of a pathology that is oriented to the legal definition and ownership of others' lives, of their life energies, and of the products of these. The gene pools of whole nations are now being sold (Williams, 2000). The current process is, or will be, at its most complete if and when the irrealis objects being claimed process-metaphorically in current technology policy are allowed to become objects of positive law. The language of policy is the operationalised discourse of contemporary political economy. For this reason, if for no other, a sustained critique of policy language is necessary, if not sufficient, for positive change.

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Appendix 2: Collocates

L= total within 5 words to the left of open/s/ing/ed up
R= total within 5 words to the right of open/s/ing/ed up
T= total collocates
Freq= frequency of collocate word in entire corpus
Rank= rank order by frequency of collocate in total corpus
Words *n* = 1,355,425 - Types *n*= 27,579 - Sentences *n*= 37,909
Sent.length = 27.60 - Paragraphs *n* = 15,094 - Para. Length = 80.37

N	WORD	T	L	R	Freq	Rank
8	NEW	27	7	20	4,383	3
15	INFORMATION	16	13	3	7,652	1
16	ECONOMY	14	10	4	1,510	24
17	OPPORTUNITIES	13	8	5	833	135
19	COMMERCE	10	4	6	3,518	6
20	MARKET	10	3	7	2,247	12
21	MARKETS	10	4	6	975	93
22	POSSIBILITIES	9	3	6	134	799
24	GLOBAL	8	2	6	736	160
26	TELECOMMUNICATIONS	8	5	3	1,791	15
27	ACCESS	7	1	6	2,339	11
29	PROCESS	7	2	5	1,076	71
30	SECTOR	6	6	0	2,043	13
33	COMPETITION	5	0	5	1,134	60
34	ORDER	5	5	0	1,017	82
35	POLICY	5	3	2	1,949	14
36	SERVICES	5	2	3	4,451	2
37	SOCIETY	5	5	0	1,789	16
38	TECHNOLOGIES	5	2	3	1,452	28
39	TECHNOLOGY	5	4	1	3,855	4

[1] Although Shakesperean 'conversion-metaphor' (Oxford English, 1986, p. 531) is somewhat similar in function and form.

[2] I realise I am stretching a long bow to posit the existence of such a "thing" as a "ninth century European imagination".

[3] I analysed the corpus using *Wordsmith Tools* software.

[4] "Offers" also functions as process metaphor in [5].

[5] Open and morphemes *n*=695; Free and morphemes *n*=678

[6] I have evaluated "growth" here for Desirability. "Growth is good" is an underpinning axiological assumption at this stage of history (Halliday, 1993).

[7] “In today's information age knowledge has become the gold standard. If New Zealand is to prosper in the third millennium it is vital that we understand the implications of this change. [para 1]

But time is short. Prices for our commodity exports are in decline and we face tight competition for markets. It is unlikely that the traditional foundations of our economy alone - farming, forestry and fishing - can deliver the level of growth needed for our future well being. If we don't change the way we compete in the global economy our way of life and standard of living are at risk.” [para 2]