A sociolinguistic approach to applied epistemology: examining technocratic values in global 'knowledge' policy[1]

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1. *Introduction and overview*

This special issue presents an excellent opportunity to study applied epistemology in public policy. This is an important task because the arena of public policy is the social domain in which macro conditions for 'knowledge work' and 'knowledge industries' are defined and created. We argue that knowledge-related public policy has become overly concerned with creating the politico-economic parameters for the commodification of knowledge. Our policy scope is broader than that of Fuller (1988), who emphasizes the need for a social epistemology of science policy. We extend our focus to a range of policy documents that include communications, science, education and innovation policy (collectively called knowledge-related public policy in acknowledgement of the fact that there is no defined policy silo called 'knowledge policy'), all of which are central to policy concerned with the 'knowledge economy' (Rooney and Mandeville, 1998). However, what we will show here is that, as Fuller (1995) argues, 'knowledge societies' are not industrial societies permeated by knowledge, but that knowledge societies are permeated by industrial *values*.

Our analysis is informed by an autopoietic perspective. Methodologically, we approach it from a sociolinguistic position that acknowledges the centrality of language to human societies (Graham, 2000). Here, what we call 'knowledge' is posited as a social and cognitive relationship between persons operating on and within multiple social and non-social (or, crudely, 'physical') environments. Moreover, knowing, we argue, is a sociolinguistically constituted process. Further, we emphasize that the *evaluative* dimension of language is most salient for analysing contemporary policy discourses about the commercialization of epistemology (Graham, in press).

Finally, we provide a discourse analysis of a sample of exemplary texts drawn from a 1.3 million-word corpus of knowledge-related public policy documents that we compiled from local, state, national and supranational legislatures throughout the industrialized world. Our analysis exemplifies a propensity in policy for resorting to technocratic, instrumentalist and anti-intellectual views of knowledge in policy. We argue that what underpins these patterns is a commodity-based conceptualization of knowledge,

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which is underpinned by an axiology of narrowly economic imperatives at odds with the very nature of knowledge. The commodity view of knowledge, therefore, is flawed in its ignorance of the social systemic properties of 'knowing'.

2. *Knowledge versus knowing: some distinctions between 'things' and 'processes'*

Our perspective stresses the close link between knowledge, and language, or more precisely, ways of knowing and ways of representing (cf. Fairclough, 2000; Lemke, 1995, pp. 40–43). More importantly, we emphasize the link between expert, or knowledgeable, language and the evaluative biases of 'its' social context of production. Our framework is based on the assumption that 'knowledge' is socially produced and situated; that it is relational, processual and social-systemic. Indeed, what we call 'knowledge' constitutes the autopoiesis—the self-producing and reproducing processes—of human social systems (Graham and McKenna, 2000, p. 41). Autopoiesis is 'necessary and sufficient to characterize the organization of living systems' (Maturana and Varela, 1980, p. xviii). Because we assume that human social systems are living systems, we therefore assume that they are necessarily knowing (cognitive) systems. Hence we also assume that human knowing is a continuous and dynamic social process rather than a static objective substance, and that the process of knowing is a 'third-order', 'sociocognitive', autopoietic process constituted in the consensual domains of language (Maturana and Varela, 1980, 1987; Graham and McKenna, 2000).[2]

Such a view suggests that social epistemology should not only be concerned with the semantic 'content' of knowledge, but also, and more importantly, the knowledge environment, with its networks of social relations, cultural and physical environments, and domain-specific practices. Put differently, we are arguing for a shift in focus from an epistemology oriented towards what might 'count' as knowledge (semantically, a 'substance' or 'thing' that can be readily and substantially quantified and commodified) to one that is concerned with how knowledge and its perceived legitimacy are continuously produced (a process) socially (a cluster of phenomena that may or may not be suitable for commodification). This requires, in Fuller's (1999) terms, a shift 'from content to context' in conceptually 'locating' social epistemology (p. 97). In terms of policy, this requires us to do more than put in place processes and institutions to vet 'knowledge', as Fuller (1988, pp. 289–294) has suggested. Rather, we need to focus more explicitly upon institutional processes of legitimation: normative social labour that endows specifically positioned agents with the legitimacy of 'knowledge specialists'; people who are 'disproportionately empowered to cultivate, negotiate, calibrate and disseminate knowledge of social relations, cultural meanings, national identities and other idioms of social differentiation' (Boyer, 2000, p. 4). Therefore, the 'knowledge specialists' of the public policy communities are an especially paradoxical focus for any study of social epistemology because they constitute the social domains within which knowledge-related policy is produced, and within which the very nature of legitimate, 'commercially viable' knowledge is defined.

To reiterate and clarify: our perspective is informed by an understanding of social systems as living systems in which, from a third-order autopoietic perspective, knowing is viewed as a socio-cognitive process; and the systemic unit of analysis for self-organizing processes in human societies is the meta-organismic 'discourse community' (Lemke, 1995).[3] Thus, we consider knowledge, language, history, context and social coherence to be inseparable in the constitution of human social phenomena.

3.   *The social sciences, managerialism, technocratic discourse and knowledge policy*

The technocratic response to the most recent challenges in the realm of human inter-relatedness appears to be to reduce conceptually the inherent complexity of human creative processes to the absolute minimum in order to make 'sense' of social disjunctions (McKenna and Graham, 2000). We define technocrats as people who transform 'discourses of expert knowledge into discourses of social policy' (Lemke, 1995, p. 58). They are the 'makers of politics and purveyors of mass information' (Marcuse, 1968, p. 28), the 'catalysts of the Third Industrial Revolution and the ones responsible for keeping the high-tech economy running' (Rifkin, 1995, p. 175). In Saul's (1992, 1997) view, contemporary technocrats are informed by managerialist values, reified and hardened by years of development within massified and increasingly centralized industrial societies.

The simplistic, pseudo-scientific posturing of technocracy typifies the discourse traditions of so-called 'rational' management (and rationalism in general), both in business and, importantly for our purposes here, in public policy:

> The creation of contemporary government elites has followed the same course as that of the new business elites. The phenomenon has different superficial characteristics, but the underlying theme is identical . . . The trend began with the growth of the social sciences, which forced the full array of real social questions into a falsely scientific straightjacket. The postwar schools of political science and economics are a prime example, with their reliance on abstract models, flowcharts, and impenetrable specialist dialects. Apart from being indescribably boring, they have been almost flawlessly wrong on every issue they have addressed. (Saul, 1992, p. 123)

However closely our views align with those expressed in the above quote by Saul, we do not, indeed cannot, reject technique and technicality. Indeed, we must resort to technique and technology to write this article. We do reject, though, the tendencies of technocracy to both elide and render invisible worldviews and value systems that fall outside the auspices of social control and narrowly economistic 'outcomes' (McKenna and Graham, 2000).

For us, there is a clear imperative critically to analyse the tendencies of technocratic discourses that demand the constituents of complex socio-cultural systems to 'simply align' themselves with the 'values, visions, and practices' of managerialist value systems—including the assumption that knowledge only has value in relation to its amenability to being commodified (Gee and Lankshear, 1995, p. 10). We reject the notion that such value systems are the only ones within which policy authors can think about the development of any future knowledge society (Graham and McKenna, 2000). In the following two sections, we outline why technocratic axiologies have come to dominate the domains of public policy; how such value systems render the social universe as an object of instrumental outcomes; and why, perhaps, the self-imposed (autopoietically constituted) constraints of the policy discourse community remain an obstacle to realising the potential of alternative axiologies.

4.   *Language, 'thingness' and the technicalization of epistemology*

When considering the domain of public policy, the commodification of epistemology becomes even more problematic if one considers the historical tendencies of scientific

and technical languages in general. Technical languages, by necessity freeze processes, rendering them to the grammatical status of 'things'. For instance, when metal is exposed to air, it oxidizes; the process is known as oxidation. This is what Halliday calls the 'thingness' of technical language (Halliday, 1993, p. 11). Social processes, once nominalized by social science, are also often treated as 'things', as if they existed independently of people and society (McKenna and Graham, 2000). They can then be hurled about, willy nilly, in the transit system of language, as agents, circumstances or various other sorts of 'things' (Martin, 1999). That tendency makes for considerable confusion, because instead of remaining part of a flexible system of thought, nominalized social processes tend to become perceived as 'things' that stand in relation only to one or more established taxonomies of 'thingified' conceptual entities (McKenna and Graham, 2000). Often throughout history, such concepts—via legislation and coercion—are given power over people (Graham, 2000). At that point, they take their place as active participants in the social order, much like conceptions of God which, once given sufficient definition, normative inculcation and legal sanction, become bases of, and rationales for, decision making in technocratic discourse communities.

That tendency is especially problematic in the social sciences (including and perhaps especially in public policy). It leads to a confusion between 'things' that people do, 'things' that people think and say, 'things' that people have and the myriad other 'things' that exist *external* to people (including other people and other groups of people!). Technocratic discourse, in particular, tends to manipulate objectified social processes, consequently collapsing consensual domains and myriad social processes in a potpourri of pseudo-objects and self-validating taxonomies (Halliday, 1993; Halliday and Martin, 1993b; McKenna and Graham, 2000). Technocratic discourses, we argue, collapse consensual domains to create simplistic models of 'what knowledge is', precisely at the cost of comprehending 'how knowledge is produced, validated, and evaluated'. This is, in some respects, a function of the contemporary view of theory, which 'stems from an artificial separation of methodology from philosophy' (Harvey, 1973, p. 11).

> From this separation flows a tendency to regard facts as separate from values, objects as independent of subjects, 'things' as possessing an identity independent of human perception and action, and the 'private' process of discovery as separate from the 'public' process of communicating the result. (pp. 11–12)

Here, in Harvey's critique of artificial disjunctions between fact and value, object and subject, philosophy and method—between the language of things and the language of processes—lies the rationale for our evaluatively based perspective upon applied, social epistemology.

A further (and empirically verifiable) phenomenon informing our approach is that, within discourse communities, 'thematic patterns... recur from text to text in slightly different wordings, but [are] recognisably the same, and can be mapped onto a generic semantic pattern that is the same for all' texts about particular topics (Lemke, 1995, p. 42). The same holds for 'evaluative patterns' (Graham, in press). An evaluative-analytical approach, then, provides us with a useful tool for understanding the organizing value constructs that inform the conceptual apparatuses of the policy discourse community (Lemke, 1995, pp. 99–105). In taking this analytical approach, we can uncover recurrent evaluative patterns within the public policy discourse community of 'what it means to know'.

5. *Implications of technocratic evaluative stances towards knowledge*

It is worth speculating about what happens when understandings of knowledge in public policy are at odds with the actual underlying dynamics of knowing, as seen, for example, in the difference between mechanistic and autopoietic understandings. We argue that a seriously ineffective knowledge-related public policy framework has emerged because the phenomenological system it seeks to organize is misunderstood, and such misunderstandings cause a serious overestimation of the degree to which phenomenological systems like 'knowledge economies' can reasonably be subjected to commercialization or commodification while still maintaining their function as the source of social coherence. We argue that the latter occurs because of the extent to which the autopoietic processes of any discourse community are impeded or destroyed through the system being understood and 'treated' as an entirely instrumental and *alien* constitution of activities and 'objects' destined for private ownership in the pursuit of profit, rather than as a process of ongoing social cognition and, consequently, coherence.

6. *Evaluative patterns in knowledge-related public policy: some analytical notes*

Our analytical framework seeks, again, not to separate facts from values, but rather to treat them as inseparable aspects of meaning. It is a slightly modified version of a method developed by Lemke, which is organized around a set of 'semantic classes [or dimensions] of evaluative attributes for propositions and proposals, which appear to be the only ones allowed in English' (Lemke, 1998, p. 36):

The rank-shifted semantic 'probe' for evaluated propositions and proposals is: 'it is (degree) X that...' for propositions, or, 'it is (degree) to...' for proposals. If condensed evaluative attributes are reframed in the form of '[It is X that...] where that introduces an embedded noun clause, and the extraposed *it is* is followed by an adjective' then these adjectives 'fall into a very small number of semantic classes, all of which are in some sense evaluative epithets' (Lemke 1998, p. 37). This form can also contain evaluative modalizers that alter the Degree of the evaluative dimension. Examples from the corpus are: '**it is** (very) difficult **to** arrange for the transfer of the most sophisticated skills to these companies (noieconv: 10302)' (a proposal evaluated for a high Degree of negative-Ability); and, '**it is** (very) important **that** the supply from the future work-force—i.e. those currently in education—will in the longer term lead to a reduction of the ICT manpower shortage (hollan $\sim$ 2: 15,801)' (a proposition evaluated for a high Degree of *Importance/Significance*). Importantly, evaluative patterns with these particular structures can become condensed over time, much in the manner of thematic condensation (e.g. nominalizations), so that a single attribution in a proposition can 'collapse' the full rank-shifted form into a single word (Graham, in press; Lemke, 1998, p. 36). For example, 'John is a terrorist', because of normative evaluative inculcation, can easily be expanded into the form '**It is** (very) un-*Desirable* and in-*Appropriate* **that** John is a terrorist' (a proposition evaluated for a high negative Degree of Desirability). That is the phenomenon of 'evaluative condensation'.

Within the 'systemic functional' tradition, from which we draw many of our discourse-analytical tools, the difference between 'propositions' and 'proposals' is that propositions (broadly, descriptions of some phenomenon, past, present or

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).

future) can be tested for truth (which is only one dimension of evaluation), whereas proposals (such as requests or demands for action) cannot (Halliday, 1994, pp. 68–71). However, here we adopt a modified distinction between propositions and proposals put forward by Thibault (in press) which is defined with an emphasis on the *attitudinal* (or *evaluative*, or *axiological*), rather than purely *semantic* (logical and experiential), dimensions of language. This allows for a 'propositional attitude' (an attitudinal claim about the truth of something) to be expressed about a 'something' that cannot immediately be tested for truth, such as an arguable claim regarding 'a possible future state of affairs'.

The role of policy is to 'get people to do things' (Muntigl, 2000, p. 147), which includes ways of knowing. Thibault's (in press) definition of proposals and propositions is, therefore, especially useful for the analysis of knowledge-related policy discourse because of policy's necessarily future-oriented, hortatory function (there is no point trying 'to get people to do things' in the past). There is also strong generic (normative) institutional pressure in contemporary policy institutions to translate, more or less opaquely, statements of 'fact' into imperatives for action, thereby causing technocratic authors to invoke (sometimes extremely subtle) forms of the naturalistic fallacy. This is a largely implicit function of contemporary policy discourses, which draw largely on technocratic value systems (McKenna and Graham, 2000). Addressees of policy texts are implicitly expected to respond with specific actions, based on normatively inculcated axiologies, to what are ostensibly

statements of 'fact' (Graham, in press). Unlike the Regents of the *ancien régime*, the modern technocrat cannot merely command his or her subjects to act in such and such a way; they must convince addressees of 'the facts of the matter', and *necessary* actions can thus be 'recommended' as a natural corollary. So when a policy expert writes that

> Encouraging links between cultural institutions, cultural workers and commercial content producers will help to increase the variety and quality of digital content, and improve Australia's visibility in the global online environment. (cita: 3,835).

the reader is expected to infer the *desirability* of increasing *the variety and quality of digital content* and improving *Australia's visibility in the global online environment*, therefore accepting the necessity of linking *cultural institutions, cultural workers and commercial content producers* (i.e. commercializing 'culture', a third-order processual 'artefact' which exists independently of any specific individuals). In other words, the desired result of such a statement is a metaphorical transfer between the proposition that 'doing X will achieve Y' (commercializing cultural production will improve digital variety and online visibility)—a truth claim—and the proposal, the exhortation, to 'Do X!' (commercialize culture!). The metaphorical displacement is based on an expected evaluation of *desirability* among addressees for very vague outcomes, none of which should necessarily lead us to perceive them as intrinsically *desirable*. The metaphorical displacement between two very different types of language—the 'is' and the 'ought'; the proposition and the proposal (exhortation)—takes place, therefore, largely in the realm of *axiological* meaning, rather than in logical or experiential dimensions.

Since policy is oriented towards modifying future behaviour, it is oriented towards emphasizing the *necessity* of specific kinds of action sometime in the future (Graham, 2001; Muntigl, 2000). Imperatives for *necessary* action are also realized in the semantics of *importance*, which, when directed towards action or behaviour, are operationalized as (or oriented towards) the semantics of *necessity* (Lemke, 1998; Thibault, in press). Therefore, to draw out the evaluative patterns that are overtly intrinsic to the hortatory function of the policy corpus, we probed the corpus for four-word clusters around the semantic dimensions of *importance* and *necessity* ('it is important to'; 'it is necessary to'; 'there is a need for/to'; and so on). These clusters most overtly explicate what policy makers evaluate as being *necessary* kinds of action to bring about benefits for their constituencies from knowledge-related policy.

The evidence we present clearly shows that a recurring axiological preference for a strong instrumentalist, technocratic axiology underpins knowledge-related public policy. Non-instrumental aspects of life are not seen to be of concern to policy makers, except in relation to how these aspects might realize economic values (which the discourse generally equates with price), and the aspects most likely to be targeted for commodification are intrinsic to, or entirely contingent upon, third-order autopoiesis—precisely the aspects of human activity that define human social systems as such, and which is the organizing principle of social coherence (Graham and McKenna, 2000). Third-order processes are to the (living) social system what the genetic code is to the individual organism: the very 'essence of life' (Barlow, 1998). What is being proposed in contemporary 'knowledge economy' policy, then, is the commodification of everything human—the commodification of essential life-processes (Graham, 2000).

7. *Analysis*

The texts we have included here exemplify our analytical findings, but are by no means exhaustive. Using *Wordsmith Tools* software, our test for overt semantic markers of *necessity* and *importance* returned 16 901 examples, far too many to include here. The analysis is a representative sample from that sub-corpus which shows the tendencies we have described above most overtly. Those tendencies are present to greater and lesser degrees in every instance returned by our search.

The first example is from South Africa. This document is the least overtly instrumental text we were able to identify in the corpus. In this respect, it acts as something of a reference point for the rest of the analysis. Semantic markers (evaluators) for *necessity* and *importance* are marked in **bold**; sociocognitive (third-order autopoietic) processes which are construed as the 'objects' of policy (that which is to be modified and commodified) are marked in *italics*; Degree modifiers are marked in (round brackets); references to 'utilitarian' or 'instrumental' outcomes are [enclosed in square brackets]; and other evaluative dimensions, as defined in table 1, condensed or otherwise, are underlined. Texts are numbered, and referenced by corpus file names and word numbers.

> [1] World-wide there is a clear trend for *curiosity-driven research* to increase as a function of [national per capita income]. Nevertheless, there is a danger of adopting [too economistic a viewpoint]. Even at our current stage of development, **there is a need to recognise** the **importance** of *the knowledge-generating function of research*, particularly in the higher education sector. *Human wonder and curiosity and the ability to recognise serendipitous discovery* account for much of [scientific progress]. *Basic enquiry*, as opposed to a formula-driven approach, is (**absolutely**) **essential**, particularly at the universities and technikons, which deal with *young minds*. **It is important that** *fundamental research activity* not be regarded as impractical, because it **is** the preserver of standards without which, in the long term, the [applied sciences] will also die. *Scientific endeavour* is not purely utilitarian in its [objectives] and has important associated *cultural and social values*. **It is** also **important** to maintain [a basic competence in 'flagship' sciences such as physics and astronomy] for *cultural reasons*. (sthafr ∼ 1: 5,230)

Here we see what could be regarded as an attempt to balance humanistic and instrumental (technocratic) value-systems. *Importance* and *necessity* evaluatively link *the knowledge-generating function of research*, *higher education*, *human wonder and curiosity* and *fundamental research activity* to implicitly exhort addressees to perceive research as an ultimately 'instrumental' pursuit, precisely by saying that such aspects of human activity should *not be regarded as impractical*. At the risk of perhaps being overly critical, this is not a position that says non-instrumental pursuits can exist legitimately as a concern for government without reference to *overly economistic* concerns, even though it hints at the potentially destructive effects of entirely commodifying second- *and* third-order autopoietic phenomena. There is an underpinning and overarching concern for scientific progress and applied science (and by extension industrial and material 'progress') that subsumes the humanistic aspects of the text under the neo-liberal, technocratic aegis of 'economic growth'.

A more typical set of constructs deployed in attempts to foreground non-instrumental aspects of social life is illustrated in an Australian document:

> [2] While digitisation of our *existing cultural and artistic works* is a critical area of activity, **there is a need to recognise that** *Australian artists and cultural workers* are currently challenging and pushing the boundaries of online technologies to invent [completely new works]. *These activities* **need to be** encouraged and supported – for example, the US firm Intel is funding online artists as [a research and development exercise, a way of testing the capabilities of its products]. *Artists*

need to be recognised as [innovative contributors to the information economy]. [Encouraging links between cultural institutions, cultural workers and commercial content producers] will help to <u>increase the variety and quality of digital content, and improve Australia's visibility in the global online environment</u>. Access to <u>affordable high bandwidth</u> will assist cultural workers [to use interactive technologies to produce Australian cultural content that is <u>innovative</u>, <u>challenging</u> and <u>engaging</u>]. (cita1: 3,385)

Here we see, not just an explicit legitimation of art as a precursor to industrial and commercial innovation, and as a producer of 'products' (rather than for any intrinsic social value), but we also see an exhortation for the *necessity* of construing art as a technologically dependent endeavour which is best 'used' to produce *digital content*, *a research and development exercise*, and *a way of testing the capabilities* of technological products. We do not decry the commercial and industrial links to art or the role of technology in its production. We simply point out further evidence of the narrow sense of legitimate rationales for the existence of essentially non-instrumental activities in knowledge-related policy domains. In this case, the corporatization and technologization of art is operationalized as an unmitigatedly *necessary* and unproblematic objective, to the extent that one cannot help but question the wisdom of this pattern of evaluative assumptions in a truly knowledge-based society.

An extreme example of the instrumentalization of culture is seen in another Australian document, one that is also typical of many in the corpus. It advocates the

[3] <u>Digitisation</u> of *national heritage collections* is being facilitated through Australia's Cultural Network... **There is also a need for** *cultural institutions* to identify [intellectual property issues] and [develop protocols to deal with them]. **It is important to** encourage <u>best practice standards</u> for [inter-networked cultural databases and collection management systems]. There are also <u>opportunities</u> for <u>new collaborative partnerships</u> between *cultural organisations*, government and private enterprise to produce [<u>quality</u>, <u>market-oriented products</u> and services]. (noie1: 9,475)

National heritage collections, *cultural institutions*, *intellectual property*, *best practice standards*, *protocols*, *databases*, *collection management systems*, and *market-oriented products and services* (an unlikely set of discursive bedfellows) are seamlessly and unapologetically conflated as both *necessary* and *desirable* aspects in the (flagrantly nationalistic) commodification of third-order phenomena (opportunities are *always desirable* potential future states for someone).

We must also question what might constitute *best practice* in art, which one assumes is primarily concerned with new and challenging creative outcomes, and which is in any case appraised from entirely subjective and culturally specific aesthetics constructs. It is also difficult to avoid commenting on the capitalizing of the term *cultural network*, thus transforming 'it' into a proper noun, a nominalized 'thing', no doubt, a technological infrastructure which is best 'managed' by *networked cultural databases*. The same document continues to express its authors' technocratic concerns that government ensures the integrity and growth of Australian culture in the global information economy when they state that:

[4] The government sees [the information economy] as a chance to <u>enrich</u> *the lives of Australians and the wider global* community by promoting access to *Australia's cultural collections, activities and events*. [Online technologies] make possible <u>new forms</u> of *cultural expression*, and also make it possible to reach <u>new audiences</u>, at home and overseas, with [*Australian cultural products*]. In the digital environment, **there is a need to** ensure that the *creative work of Australians* is <u>protected</u> against <u>manipulation</u> and <u>theft</u>. (noie1: 9,225)

Here is a restatement of the *cultural heritage-products-technologies* link already expressed. But the authors go on to imply that integration with market mechanisms is imperative by relating *new audiences* to the need for legal protection from *manipulation* and *theft*. The needs expressed are explicitly economic and legalistic rather than creative; they are to do with objective property (things) rather than subjective and sociocultural aesthetics, and more importantly, creative processes. We ask: what is the cultural value of knowledge-based policy that fails to understand the nature of creativity?

Similarly, but in the vein of privileging the more prosaic elements of national culture, the following document from Hong Kong paints a picture of national self-image, not just in strongly instrumental terms, but in purely commercial ones:

> [5] A strong *work ethic* and *spirit of entrepreneurship* should continue to be <u>nurtured</u> and <u>strengthened</u> Hong Kong's *cosmopolitan outlook* and its character as both a Chinese and international city are [<u>important</u> elements of <u>strength</u>]. The <u>fact</u> that so many of its people have been *educated* overseas or have *lived or travelled* abroad, the widespread [<u>use</u>] of *English* and the ease of access Hong Kong people have to information have all contributed to making Hong Kong an <u>international</u> city with *a <u>distinctive</u> culture*... At the same time, **it is important to** ensure that Hong Kong people gain a <u>high</u> level of <u>proficiency</u> in the *Chinese language*... to [leverage] its *distinctive blend of Chinese and Western cultures* to become [an <u>international centre</u> for *cultural exchanges*] and, in the process, to <u>strengthen</u> its position as [a gateway to China]. (hongkvis: 6,805)

Here, *necessity* is directed at the very source of third-order autopoiesis in human societies: *language*. The exhortation is this: 'Hong Kong people must be proficient at the Chinese language'. Apart from anything else, the 'language ideology' presented here blatantly ignores the rich and vast linguistic differentiation amongst the people known in the 'occident' as 'Chinese' (Irvine and Gal, 2000). The *necessity* for Hong Kong people to be fluent in 'Chinese', an unambiguous exhortation, is premised upon nothing in particular and appears from nowhere. Moreover, while it is undoubtedly true that many people in Hong Kong are pragmatic and entrepreneurial, and that many of their international familial networks are an impressive source of potentially vast benefits, the picture painted here is a one-dimensional view of millennia of socio-cultural development. Culture is presented as an instrument of commerce, a 'thing' destined for *exchange*, and thus as an instrument for the commodification of other cultures. Are none of these instrumental values sustained by China's long intellectual history, its distinctive art history, and its other cultural traditions? If they have been sustained by these traditions, is the above passage anything more than a superficial and inept social analysis informed by technocratic values? We read the statement as an anti-intellectual position, poorly disguised as the commodification and technicalization of ethno-linguistic, nationalistic and economistic *sentiment*.

Globalization of 'culture', which is raised in all but the first of the corpus documents cited in our analysis, is an issue in need of closer examination. Discourses on globalization and knowledge-based economies closely overlap (Rooney and Mandeville, 1998), but it is instructive to see that technocratic values position culture as an instrument of economic globalization rather than vice versa. Of course, it is not only in Hong Kong where this is done. We have seen in the Australian examples above that the products of Australian cultural processes are potential keys to 'new global markets'.

A more curious position is taken in a French document, which states that:

> [6] A *consensus* seems to be emerging at <u>the national and international level</u> on the following points: - as the Internet and the networks are *a still evolving and <u>highly complex</u> world*, **it is necessary to** create a

> place for the different players to *meet and hold discussions* so as to *give thought to subjects of common interest, harmonise practices in short* [set the rules] for '*world civility*' and create [a centre of network skills and expertise]. No such precinct exists, and the *hearings* carried out by the Council of State, which have <u>clearly confirmed</u> that need, could not replace it on a permanent basis . . . (fr2: 81,985)

Here we see the contradictions of the contemporary technocratic axiology fully blown. The exhortation is to *set the rules* quickly while *the Internet and the networks are still evolving.* The imperative appears to be Jesuitical—'Control it now before it gets beyond our grasp!' *World civility* is a function of elite technocratic control rather than an intrinsic function of human interrelatedness on a global scale. Many questions arise here. Amongst which group of people is this *emerging consensus* developing? Who are the (*important / significant*) *different players*? Is *world civility* merely a game for which this (obviously small) group of *players* must *set the rules*? How is a global phenomenon to be situated in a *precinct*? Precisely how is it connected to *networks of skills and expertise*, and what kinds of *skills and expertise* might these be? One thing is certain though: the authors link *world civility* to *rules*, *games*, and *players*. The poverty of the technocratic axiology is exposed here in full.

If the applied epistemology revealed in the policy documents above appears confused, narrow or simplistic in its view of knowledge and social ontology, then, the position adopted in the following Canadian document approaches the Dantesque for its less-than-divine comedy:

> [7] The Panel believes **there is a need for** [closer linkages between the world of business and the world of *education*]. Our *discussions* with [employers] confirm the view that the <u>quality</u> of the [technical skills] and *knowledge* of Canadian university and college graduates is <u>very high</u>. However, as noted earlier, employers often complained that new recruits <u>lack</u> [the <u>essential skills</u> needed even for entry-level, let alone more senior positions]. This is a <u>clear but difficult</u> challenge to Canadian schools. [Revising curricula] <u>once again</u>, especially with <u>limited resources</u>, may seem <u>daunting</u>. However, in our view, this is **necessary**. Despite recent growth in <u>co-operative education</u> and '<u>experience-with-work</u>' <u>programs</u> in the elementary, secondary and post-secondary systems, young people still have <u>too few opportunities</u> *to learn* about [<u>the world of work</u>]. Most high school students study *social*, *health* and *family life issues* to [prepare them to become responsible citizens]. Oddly, however, <u>only a fortunate few</u> learn directly about [the forces and factors that will shape their ability to earn a living]. (canada1: 33,034)

An epistemology that takes such an incoherent, unsophisticated, and uninformed view of learning and education is dangerous. Here, *necessity* is metaphorically transferred from second-hand, non-specific complaints by a nebulous group of *employers* about the quality of graduates to the *necessity* of revising the national curriculum *tout court.* Technocratic values are totalitarian in their grasp if nothing else. Not surprisingly (in the current climate) increased government funding for education is not even mentioned. Rather, the authors are exhorting the *necessity* for education to be *education for work.*

There is, of course, no doubt that education and work are linked, indeed, that *the world of work* is highly dependent on the education system (which is also a world of work). However, to present a chain of logic stating that: the quality of technical skills and knowledge are very high among graduates; that employers complained about a lack of essential skills in new recruits; that there is a lack of opportunity to learn about the 'world of work' because students study social, health and family life; and that *oddly* students do not directly learn of the forces and factors that *will shape their ability to earn a living* makes absolutely no sense. Although there is clearly a convoluted logic at work here, there is confusion about what is taken to be at the root of the 'problem', and the logic relies heavily upon the axiologically nuanced discourses about 'the real world'—while the discourse recognizes that other worlds and

worldviews exist, they are entirely devoid of any 'real' values. One reading of this passage is that, at its heart, the real world rhetoric is being used to justify an argument that the education system should be put in the control of business (who not only understands the 'real world', but in fact is the only real world) rather than educators, who clearly do not understand 'the real world' and have consequently got it all wrong.

Our questions to the authors of this document are: how is learning about social, health and family issues not learning about the forces that will shape the ability of students to earn a living? Also, how is participating in society and family as citizens not tantamount to an active, profound, legitimate and direct engagement in important activity in the real world? Rhetoric about the real world is not much more than thinly disguised anti-intellectualism, and is, therefore, inadequate in a serious applied epistemology for a knowledge-based society.

Whilst the confusion that leads to the epistemic and axiological failure of the Canadian document is a problem of very great seriousness in developing coherent education policy (which must be a central platform in any knowledge-based society), many issues of technicalization appear in relation to education policy throughout the corpus. One such example is evident in the following statement from a Greek policy document:

> [8] Greece is currently faced with this challenge, and it can meet it by drawing from *its heritage in the field of education and science*, creating the <u>appropriate</u> circumstances for progress and growth within [the framework of a unified Europe]. In this context, [the reassessment and redefinition of the education system], taking into consideration the progress to date and the way that new technologies may affect it, is **a pressing need**. A primary government responsibility is to ensure <u>equal opportunities in learning</u> for an <u>active and equal</u> participation of all citizens in the digital world. (greece1: 11,047)

Having set up the propositionally constituted context, the authors transpose 'factual' content into hortatory imperatives, arguing that:

> [9] In order to allow both teachers and their students to participate in the Information Society, **it is necessary to** [make them aware of the new technologies and to provide them with the **necessary** basic knowledge and skills]. The *teaching* of information science and new technologies, as well as the *familiarisation* of students with [the use of electronic and audio-visual and communication media], should be <u>core</u> subjects in *all education levels*. Only by doing so will the <u>equal participation in tomorrow's digital economic and social developments</u> be secured. (greece1: 11,047)

The hortatory displacement moves from the esteemed Greek *intellectual heritage*, to new geopolitical contexts, to a *redefinition* of the entire Greek educational system, finally to posit the *necessity* and *desirability* of educating students in new technologies (which will in any case be defunct by the following year) and the digital world. It is a rather rapid and impoverishing descent.

While there is of course some merit to the argument that technological education should be central to contemporary education systems, should it displace scholarship in language, social studies, philosophy, physics or literature? Such issues are not broached anywhere in the entire document. Neither is the issue of securing what is termed *social developments* adequately addressed. For example, what is the link between technology, digitalization and *social development*? What is the link between *social development* and technical education? We are left to wonder. Perhaps the authors assume that simply plugging in some recently acquired technology will take care of

all these issues. Other disturbing but common difficulties emerge in another passage from the Greek document.

> [10] It is envisaged that by solving the problem of lack of classrooms and eliminating double shifts in schools, the **necessary** infrastructure will be established in each school allowing students to practice, *in their free time*, in [using the new technologies]...Local government and the local community in general (scientific associations, private companies, Chambers, etc.) can make a valuable contribution in this process by creating suitably equipped areas and making them available to young people ...**It is necessary to** *create* both the *human and the physical networks* that will [exploit the existing infrastructures in the academic and private sector] (GU-NET, EDET, TEN-34/135, Internet providers). The development of digital and cable television also *create* [*sic*] a great potential for [the provision of information and educational services]. The [production and marketing of books and educational software for each subject] will further ensure *a pluralistic provision of knowledge to students*. The target is for **every school, every teacher and every student to have access to such educational networks by 2002**. (greece1: 12,094)

Here we see the cargo cult of techno-utopianism writ large, along with the student-as-knowledge-bucket view of education. Information technology will apparently provide a magic carpet that will carry the people of Greece away from the negative effects of a severe under-investment in the education system. The authors choose, instead, to posit the *necessity* of committing social, financial and educational resources to a suite of technologies that have yet to show any broadly significant benefits, and which are destined for fast obsolescence, along with their associated skills. The Greek document is exemplary of a bankrupt technocratic axiology that pervades public policy discourses about the commercialization of epistemology, privileging the 'things' of technology over the cultivation of critical thinking skills. This passage is again representative of an anti-intellectualism that is particularly unacceptable in education policy, but even more so in any knowledge-related policy. Such a stance towards policy is rendered all the less acceptable because it clearly originates in an almost complete lack of interest in treating issues of education, knowledge, wisdom and 'sociality' (Silverstone, 1999) with the seriousness they clearly deserve. The knowledge *environment*—the social source of knowing—is abandoned in favour of the latest gleaming, clicking, whirring lump of plastic and silicon.

8. *A few parting words*

It is evident that the extent to which third-order autopoietic systems are situated, processual, relational and sociocognitive is clearly not understood by the various authors of our corpus. Knowledge is treated as an independent, objective *substance*, a mere object for a commercially motivated instrumentalism. At the same time, it is victimized by an intrinsically anti-intellectual, technocratic axiology. That axiology, from which the authorial stance of the policy makers derives its impetus, thoroughly pervades the corpus. The high levels of instrumentalism, anti-intellectualism and the lack of desire to deal with 'non-instrumental' human values on their own terms has left *unasked and invisible* the following questions. To what extent is commercialization of epistemology possible without destroying social systems outright? What is the wisdom in anti-intellectual knowledge-related public policy?

Our analysis clearly shows that Fuller's (1995) argument about the infusion of industrial values is a world-wide reality in knowledge economy policy. According to what we can see

in our corpus, we could also add that the knowledge-related policy discourse community seeks to intensify the commodification of knowledge societies by deploying technocratic axiologies, which are overlaid upon the broader and older axiologies of a senile industrialism. Technocratic axiologies, produced by the self-proclaimed pillars of knowledge societies, seem unable to grasp life as it is lived. Thus, the policy positions betoken a seriously distorted grasp of what it means to be human and what it is to know. Our position is that technocratic social epistemology, as evidenced by the corpus, is flawed and (at least potentially) quite dangerous because policy makers understand knowledge in mechanistic rather than autopoietic terms, leading them to prescribe their deficient axiological imperatives for the whole of humanity.

Our perspective and analysis suggests that any fracture between instrumental and non-instrumental aspects of human 'sociality' creates a false dichotomy and a deficient, regressive and damaging basis for fostering the intellectual life of people. We see a profoundly asocial, indeed, *anti*-social view of the human world, one that is, therefore, at odds with the social reality of what it means *to know* (a *process* intrinsic to and definitive of social coherence). To simply aim at commercializing 'knowledge' is to miss the point of making public policy—that is, to create societies that are environments for providing *better* lives for people, lives that are more rewarding and more enjoyable. It misses the point because these 'things' are all, first and foremost, socially, culturally, spiritually and artistically derived processes of well-being.

Notes

1. Research funded by a University of Queensland New Staff grant.
2. First-order living systems are unicellular. Second-order systems are meta-cellular *organisms*. Third-order systems are social systems of meta-cellular organisms.
3. Although that is a contentious view by some accounts, (e.g. Mingers, 1996, p. 470; Whittaker, 1998), for our purposes it has been sufficiently theorized and defended elsewhere (e.g. Luhmann, 1995; Graham and McKenna, 2000).

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