

Knowledge waves

New Zealand as educational enterprise

Sean Sturm and Stephen Turner

ABSTRACT: *With New Zealand's 'knowledge wave' in view, along with its near synonyms 'knowledge society' and 'knowledge economy', we consider the 'pedagogy' of contemporary capitalism. Here the education system, and in particular the university, has become the key social institution, and concern, for the enterprise of innovation-oriented techno-capitalism. Its pedagogical design imperative, or structural determination, demands that educational institutions embody and transmit the value of knowledge qua innovation. Looking at work organisation in terms of the 'deep communication' of design principles, evident in enhanced systems of measuring space, time and value, we show that the built environment today favours a 'transcendental' capitalist culture.*

The business 'Enterprise'

*A spectre is haunting the global village:
the spectre of the iconic building.*

—Jencks, *The iconic building* (2005, p. 7)

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In his recent book *The Pine Tree Paradox* (2010), Michael Parker wonders whatever happened to the local 'Knowledge Wave' (Clark, 2001), a well-attended and much hyped event organised by then-Vice-Chancellor John Hood of the University of Auckland and -Prime Minister Helen Clark, and oriented around substantial conferences in August 2001 and February 2003. As we know, the Knowledge Wave, like other

tsunamis that have threatened our shores in recent times, turned out to have had little visible effect onshore. The Conference did not announce the new millennium: a so-called 'Knowledge Age' in which knowledge *is* power, thus, an epistemic episteme, where knowledge rules. Instead, it ushered in an 'Age of Knowledge Management' [Sallis & Jones, 2002] in which the measurement of knowledge is *in* power, thus, an econometric episteme . . . where knowledge *econometrics* rule. While it envisaged a *knowledge* economy, it engendered a *knowledge economy*.)

Parker's concern is the two-decade fall-off of New Zealand's economic performance, according to OECD measures, and what might be done to arrest—or reverse—this country's decline (Mawson, 2002).¹ The 'paradox' of Parker's book title is that, thanks to local conditions, pine trees can be grown here seven times faster than anywhere else, but that others will always be able to produce more and cheaper (it's not strictly a paradox, just a point about economies of scale). Parker argues that New Zealanders should give up the idea that local prosperity depends on the grassroots agricultural economy, even boutique ('biotique') products like kiwifruit or wine, and that we should transform our economy on the model—rather predictably, it must be said—of the cloud-borne knowledge economy of Northern California, of Silicon Valley.

Key to this transformation, for Parker, is an 'innovation cycle' whereby innovative thinkers and other members of what Richard Florida (2002) has called a 'creative class' of artists and designers (McKenzie Wark's [Christopher, 2003] 'hacker class') are fostered who attract investors, and in turn, advertisers, investors, and their sycophants (Wark's 'vectoral class'):

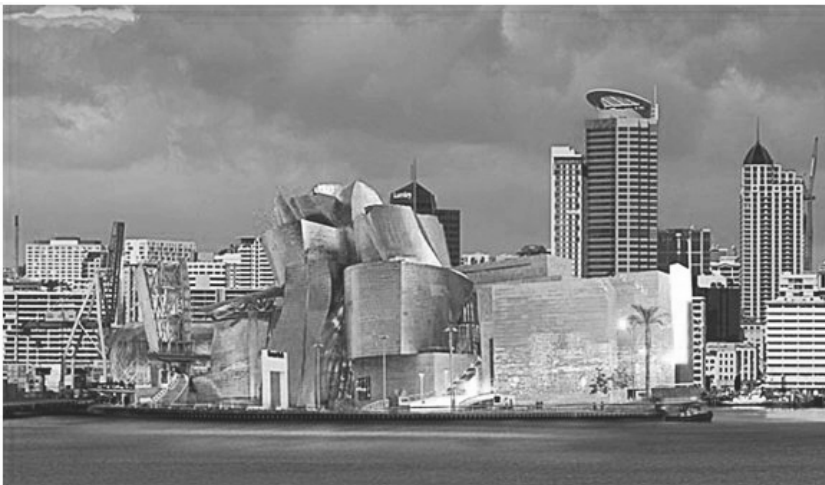
I use the concept of a cycle because the key to success is, in my view, the interaction between disparate elements in the cycle, including universities, start-up companies, R & D centres, law firms, venture-capital firms, banks, accounting firms, advertising agencies, art galleries, music ventures and yoga studios. (Parker, 2010, p. 81)

This cycle would presumably foster various types of innovation, but it is 'disruptive innovation', the 'most dramatic form' of innovation 'brought to life by . . . inventors, . . . artists, and entrepreneurs', that Parker has in mind (Moore, 2005, p. 61). (We would argue most of the innovation, at least since the last Knowledge Wave, was of a different kind, or rather, disruptive in a different way.)

Here are all the elements of what Dinesh D’Souza (2000), writing about Silicon Valley, calls ‘technocapitalism’ (p. 161), the corporatised cognitive and venture capital nexus of the high-tech economy (Bauwens, 2009). The knowledge economy of technocapitalism, rather than being based in resource extraction, manufacturing or services, combines the ‘immaterial labour’ of creativity with entrepreneurial investment to convert innovation into intellectual property and return a profit to innovators, entrepreneurs, investors, and the economy itself (Leadbetter, 1999, p. vii; Suarez-Villa, 2009). Considering the transition that Northern California has made from an agricultural to a knowledge economy, Parker thinks New Zealand, and specifically Auckland, is well-placed to do the same, given its environment, lifestyle, and liberal disposition; social, geographical, and political factors that simply require an injection of economic strategy: not the ‘Better Britain’ of old (Sinclair, 1986, p. 79), but a Silicon Valley of the South.

So far, so bland. What is visionary, however, is Parker’s (2010) idea that this transformation requires a genuinely world-class university, that he suggests—not ironically—would be situated on Auckland’s waterfront, and that it would take the form of a world-leading work of architecture. ‘Stanford on the Waitemata’ (Parker, 2010, p. 136), he thinks, would have a ‘Bilbao Effect’ (p. 111): as defined by Gail Dexter Lord (2007), ‘the transformation of a city by a new museum or cultural facility into a vibrant and attractive place for residents, visitors, and inward investment’ (p. 32; see McNeill, 2009, pp. 81–97). Parker has the Guggenheim Museum Bilbao (GMB) in mind, designed by California-based architect Frank Gehry, seen in the mock-up in Figure 1 transposed to Auckland.²

Figure 1. The ‘Enterprise’: ‘Stanford on the Waitemata’ (Hunter, 2011)



Never mind that such 'me-too'—'fast-following' (Skilling & Boven, 2007, pp. 40–41), that is to say—'cultural buildings' (variously known as 'trophy' [Zukin, 2003, p. 180], 'spectacle' [Kamin, 2010, p. xxii] or 'flagship buildings' [Jones & Evans, 2008, pp. 72–73]) are passé and hardly transformative (see Thackara, 2011), the nexus of technocapitalism, education, and architecture, that is, of *cognitive and venture capital works*, suggests to many observers the way of the future—as it did for the builders of the flagship Owen G. Glenn Building of the University of Auckland Business School, the then Vice-Chancellor John Hood, and Dean of Business Barry Spicer (Barton, 2008; Saieh, 2010; Sturm & Turner, 2011a). The implicit warning? We cannot afford for this waka to pass us by.

However fanciful the idea of a GMB-like university beached on the waterfront might seem, we wouldn't dismiss Parker as ill-informed, nor the milieu of global finance in which he circulates and that spawned his big idea as immaterial. Though *Pine Tree Paradox* is written in the popular manner of a persuader and has its comic moments, its idea of a university on the harbour captures in bold and bald form certain thinking in corporate, political, and, more critically, academic circles, that we think needs to be addressed. Not for nothing does Parker take his name, for the academic innovation cycle, 'the Enterprise' (2010, p. 139), from New York University President John Sexton's Installation Address—which he attended (Sexton, 2002, 2004). In and through the *name* itself, enterprise, byword of neoliberalism and thus the knowledge economy, is made an object and a target, both thinkable and doable—and, for us, a means to unpack technocapitalism (Fitzsimons, 2002; Olssen & Peters, 2005). Enterprise (Fr. 'undertaking'), and thus entrepreneurship, implies action at any cost, or innovation for its own sake (or from the ground up) as a means to generate capital (Perkin, 1992). Such brand-new knowledge embodies a *tabula rasa/terra nullius* idea of enterprise in the spirit of Joseph Schumpeter, the prophet of enterprise as 'creative destruction' (1942/2003, pp. 133-135; see Bullen, Robb, & Kenway, 2004), for whom entrepreneurs are leaders and risk-takers, but, above all, innovators (Skillen, 1992, pp. 74-75).³

But for all his emphasis on enterprise as innovation (hardly new, as we know), Parker's thinking is not new (ideas about innovation might best be left to innovators, rather than entrepreneurs or analysts, who seem more often than anyone to talk about it). His awe of Silicon Valley and

argument for its economic model is shared by many of the critics he cites (e.g., Florida, 2005), while the idea that New Zealand needs to innovate 'better' if it is to preserve its quality of life (Carden & Murray, 2007), was the premise of the Knowledge Wave conference, now a decade into the apparently ever-more-rapidly-receding past.

The problem with Parker's thinking is that talking innovation per se is an excuse not to think about what problem his thinking is meant to solve. Innovation, for us, is as much a matter of 'problematisation' (Foucault & Rabinow, 1984; Warner, 2002, pp. 154-157) (critique, or what we call 'critical construction') as problem-solving ('crisis management'), a theme to which we will return, and is itself impoverished by the idea of innovation for capital gain. And Parker (2010) is 'intentionally silent on the issue' of what role non-high tech disciplines might play in his university—though 'innovations happen where you least expect them'—but happenstance is to be avoided by being world-class and having people with 'real expertise' (p. 98). What that implies for experts in classical studies, or critique for that matter, is unclear (or, perhaps, all-too-clear). We 'humanitarians' might have a problem with the nature of social capital, or better, well-being in Parker's knowledge economy. Elsewhere, Parker (2010) tells us that '[e]very student, professor, and administrator should—at some level—be engaged in and excited about the scope and audacity of the plan. If not, they are probably at the wrong university' (p. 140). We're done for, then.

Built pedagogy

[A]cademic architecture is a kind of crystallized pedagogy. . . .

[B]uildings have their own hidden curriculum which teaches as effectively as any course taught in them.

—Orr, *Architecture as pedagogy* (1993, p. 226)

The 2001 Knowledge Wave Conference spawned a number of initiatives: Stephen Tindall and David Teece's expat-targeted KEA (Kiwi Expats Abroad) network, the Social Innovation fund, the New Zealand Venture Investment Fund, a Knowledge Wave Trust that would become the New Zealand Institute, and the ICEHOUSE business accelerator set up by the University's Business school, expanded later in the form of the ICE Network, which connects university alumni and academics with entrepreneurs, venture capitalists, and high-technology companies.

This last is Parker's very idea. Rebooting the Knowledge Wave rhetoric, with its cognate terms, knowledge economy and knowledge society (Drucker, 1969, pp. 263-310), his sole add-on is that the hub of innovation and enterprise—what he calls a 'boom generator'—would be the University itself, and not just its Business School. Indeed, his conception of 'the Enterprise' seems a bigger and brighter version of the University of Auckland's existing Owen G. Glenn Business building (OGGB).

What most interests us about the Enterprise is the role that pedagogy plays in the knowledge economy (Peters, 2009). (That is to say, that the techno- in techno-capitalism is an educational technology, a 'pedagogical device', as Basil Bernstein might describe it [Singh, 2002]). This is what is new about Parker's idea of enterprise. We have addressed elsewhere the fact that the design principles of the OGGB are stated in terms of 'built pedagogy', in other words, *in-built* pedagogy (Saieh, 2010; Sturm & Turner, 2011a). We are concerned that the Business School does not only represent a state-of-the-art, fit-for-purpose temple to enterprise (which it does) but also a template for University architecture in toto . . . and, indeed, for the university itself; that its architectonics might be understood by all who relate to it—teachers, students, sponsors, and visitors alike—as the very condition of learning:

The New Business School focuses upon the process of learning. It combines the structured and unstructured, the formal and informal, an environment characterised by fresh air, comfort and natural light. . . . This new 'built pedagogy' represents the vision and architectural embodiment of the University's educational philosophy. (Saieh, 2010)

Indeed, the current management régime of the University of Auckland have endorsed such build-it-and-they-will-come thinking with their current \$1 billion programme of capital works for Auckland's Learning Quarter (Auckland City, 2009, p. 8). What can be learnt in the Business School follows from inhabiting a building whose soaring glass and steel superstructure offers a lesson in 'transcendental capital' (de Cauter, 2002, p. 273; Hage, 2001, p. 4).⁵ This is a schooling in global business (indeed, it sits like a docked spaceship—a Starship Enterprise—next to the ancient watercourse of Waipapa stream [Saieh, 2010]).⁴

Figure 2. Built pedagogy: The University of Auckland Business School (Gollings, 2009)



This might make sense for the Business School, but it doesn't for areas of non-applied knowledge, like the 'blue skies' sciences, 'creative' arts, and so on, in which critical (or 'constructive') innovation is as important as commercial innovation—but escapes detection by the Enterprise, despite its claim to understand best the nature of creativity. (Curiously, according to Richard Florida [2002], the 'creative class' are drawn to innovation hubs, but do not lead them, much less herald them, and would appear supplementary rather than integral to the Innovation Cycle [p. 249].) Parker's Enterprise simply extends the thinking of the Business School. The real problem for us is that how the University's—and, quite probably, the university's per se—business has become identified with that of the Business School; the University's business is business (Barton, 2008).⁶

While Parker (2010) sees such a university as a 'boom generator' on the model of Northern California, bringing together innovators and entrepreneurs who can convert new knowledge into wealth, and drawing to this hub a creative class of artists and musicians (p. 192), we see that the key to this future is a certain 'pedagogical moment' (van Manen, 2007). In this moment, the university is not the means to make this future happen but a way of ensuring that we think of

knowledge—and the knowledge society—in terms of innovation and enterprise, or more precisely, of the nexus of the two. To mask his lack of attention to what ‘knowledge’ might be, or concern itself with, bar knowledge of the sort that entrepreneurs can profit from, Parker constantly exhorts New Zealanders to ‘believe’. To believe what? That Auckland is Silicon Valley in disguise. The future depends on an idea of knowledge—*brand-new* knowledge—that requires the university to promote, not to problematise. The Enterprise will not be a place where such knowledge is problematised so as to enable new lines of inquiry, but one where the production of such knowledge is assumed to be its business. The ‘business’ of the university is, above all, to sell this *raison d’être*, this brand.

We have a problem with this idea of the university and of education more generally, in particular, with its models of pedagogy and performance. Firstly, pedagogy on board the Enterprise is taken care of by building ‘better’: a better ‘knowledge ecosystem’ is one more in tune with the imperatives of techno-capitalism—very much like the ‘entrepreneurial ecosystem’ Barry Spicer wanted for the Business School (Barton, 2008). (From the front elevation, the Business School even looks like a stringed harp, a lyrate receptor of the winds of transcendental capital).

The Enterprise is also primarily a ‘research university’, where the emphasis is on innovation and enterprise, not teaching. It is, in a sense, an anti-university: it is not an institution with any real educational aims—other than generating cognitive and venture capital. Teaching that does not generate new knowledge or knowledge-workers is neither here nor there for the Enterprise because it has no social mission but its economic one: for Parker, public good equals wealth, not well-being, despite his ex-pat’s über-enthusiasm for ‘New Zealanders’ and the ‘New Zealand’ way of life (investigating the nature of this place and abandoning it by, say, joining Australia are both out of bounds). If it’s so good downunder, ‘real’ New Zealanders might well ask, what prompted him to bugger off in the first place?

Secondly, performance on the Enterprise is only any good if we can measure it. It’s about endowment funds, Nobel laureates, and all manner of rankings (he is only concerned with the top 1%, naturally). The mix of ‘stake-holders’ in New Zealand universities, which includes academics—and students, administrators, alumni, and the public—who may well resist the mission of the Enterprise, means that it must be constructed outside the national university system. It is further

hindered by the New Zealand Government's accountability for its use of tax-payers' money—though Parker thinks the Government might inject \$220m anyway, as it might have done with the proposed Stadium New Zealand (a.k.a. the Waterfront Stadium for the Rugby World Cup 2011). As with rugby, it all comes down to performance: New Zealand needs to up its game and the Enterprise is the game changer. Performance-based measures of well-being, it hardly needs be said, are not just a matter of OECD rankings, but have now entered into, and increasingly define, the value of all work in the university: research, teaching, and service.

What defines the Enterprise, taken as a nifty shorthand for technocapitalism—or what we will call, with an emphasis on measure, *technical* capitalism—is its focus on techniques of measure (econometrics), or measurement as *tekhne*, rather than on technologies (Butche, 2009). The system of technical capitalism, its régime, has to do with means of measure (econometrics) not surplus goods (economics), and little to do with public good (socioeconomics) or mood (socionomics [Prechter, 1999]) (Sturm & Turner, 2011b). For it, public good and mood are goods, if they are goods, that are countable like any other in econometric terms. What we used to call 'society' is rebooted as an enhanced system of measure. For Keith Hoskin (1995), indeed, it is 'a fundamental principle of modernity' that we are 'subject to measures that are also targets' (p. 279); worse, that as Goodhart's Law—that 'every measure which becomes a target becomes a bad measure' (p. 265)—has it, we now find ourselves locked into a system of measure that is its own end, not a cycle of innovation but of accountability. Accountability has become 'accountabalism': 'the tyranny of strict accountability and the tendency it creates for managers to resort to overlearned, command-and-control approach', as David Weinberger defines it (2007, p. 54). And, at any rate, its enhanced measures of productivity, of technical efficiency or re-production, do not repay the cost of their accounting.

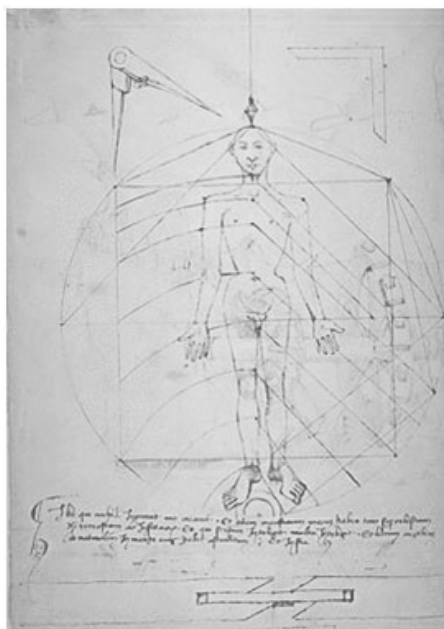
Econometrics

I believe E-conometrics can help us get our house in order as nothing else can. After all, that's what E-conometrics means (from its Greek roots): oikos (house), nomos (custom or law), and metron (measure) or 'measurable rules of the household'. And the emphasized 'E' suggests letting computers do most of the work!

—Macy, *The project* (2009, p. 161)

Our critical construction of the Enterprise recasts—reconstructs—Parker’s vision of a new knowledge age (an epistemic episteme) as an age of knowledge management (an econometric episteme). Given that the ‘success’ of the Enterprise is unaccountable on any measure other than its own, what is needed is an account of measures of accounting, of metrics themselves. That is to say, it is necessary but not sufficient to address the ‘rhetoric’ of econometrics (aims, objectives, outcomes; inputs and outputs; policies and best practice; and so on); we must address the imperatives of design, or what we call the *design-drive*, of technical capitalism, which is to reboot society as an enhanced system of measure.

Figure 3. M. Taccola, The Canon of Proportions (1449, 2009)



To understand technical capitalism’s designs on us as knowledge workers, we must attend to the symbolic means by which it instantiates and thereby communicates value, be it through econometrics, or architectonics, or pedagogy (or the communicative system of the Enterprise that they inform). What Hoskin and Frandsen write of accounting we take to be true of technical capitalism: it is ‘descriptive, prescriptive, and even inscriptive, but also ascriptive’, which is to say that ‘what gets ascribed a name is made into a significant presence as [a] result of being signified’ (2010, p. 10). With their idea of ‘ascriptive’ force, the power to name and thereby to confer value, Hoskin and

Frandsen are redescribing what Marx calls 'real abstraction' (Marx & Engels, 1857–1858/1970, pp. 140–141; see Sohn-Rethel, 1970/1978): 'abstraction not as a mere mask, fantasy, or diversion', as Albert Toscano (2008) puts it, 'but as a force operative in the world' (p. 274), a process by which concepts become concrete. In other words, in the Enterprise as built idea (or ideal building), technocapitalism is made concrete.

Further, the ascriptive force of technical capitalism subjects to its design principles in advance, anything we might say, or do, or think, or feel. It enforces a certain 'distribution of the sensible' (*partage du sensible*), to use a phrase of Rancière's (2000/2004): an 'apportionment of parts and positions . . . based on a distribution of spaces, times, and forms of activity', in particular, of 'what is seen and what can be said about it, [and] who has the ability to see and the talent to speak, around the properties of spaces and the possibilities of time' (pp. 12–13). Take the classroom: we know as teachers that before a word is spoken in the classroom our students will have internalised, to extrapolate from Rancière (2000/2004), a certain 'distribution of the teachable'—or rather, of the measurable—with its authority effects of teacher-student (teaching & learning) and assessor-assessed (examination). Teachers, researchers, and managers similarly internalise the means of their own measure ('constructive alignment', PBRF, Total Quality Management), and the strategic effects enacted by these measures. An account of a communicative system like technical capitalism thus requires a construction of its design principles, and their effects in situ. We call this its *deep communication*.

The authority and strategic effects of built pedagogy generate workplaces and workflows that it is the task of a *critical* construction to problematise. Our criticism aims to put flesh on the bones of built pedagogy by recovering the 'full life' of the university with all its mistakes and muddling, pains and pleasures, idle and creative moments (Virno, 2002/2008; Agamben, 1995/1998, p. 98). That is to say, workplaces involve 'soft' qualitative relations as well as 'hard' quantitative systems of measure, aspects of the university that are 'sensible' and 'in-sensible', or *visible* and *invisible*, to extrapolate further from Rancière (he talks 'consensus' and 'dissensus' [2010, pp. 37–40]). Our construction of the OGGB, for instance, returned the building to the living and lived—largely invisible (like wind, or *hau*)—world of its setting, its *place*, in terms of which we reconstructed the design imperatives of its structure: its 'built pedagogy' (Sturm & Turner, 2011a). Critical construction thus envisages communicative systems

as living and lived worlds, participation in which we consider an act of participatory design or 'place-making' (Norberg-Schultz, 1980).

By way of a summary, let us offer four corollaries of technical capitalism for the local knowledge economy:

1. The Knowledge Wave (KW) did not seem to deliver on its promise of generating new 'knowledge', a 'knowledge age', 'society', or the like, though that may be because it was unclear all along what this would look like. What was certainly wanted, in retrospect, was a cluster of new high tech companies and attendant services, in the form described by the Enterprise. The KW did generate numerous knowledge-making initiatives, but not a Silicon Valley-sized Innovation cluster.
2. The KW has taken the form of enhanced techniques of measure (econometrics), or accountability (calculable aims, objectives, and outcomes), which have boosted productivity through superior means of counting, monitoring, and reporting, thus ensuring that work, workers, and the workplace fit countable goals. These new econometrics have reconfigured the knowledge economy in terms of accountability.
3. The rise of technical capitalism has created an ever-expanding class of people to manage this accounting process, a *technocracy*, amounting to a large invisible bureaucracy of econometricists. It is an unqualified good, because the success of the Enterprise requires its own measure (in the university, this development corresponds with the metastasis of Human Resources, a.k.a. managerialism, and Total Quality Management, and in whose terms the prime function of the university is professional development rather than education).
4. What is required by technical capitalism is an institution (the Enterprise), whose main function is to promote econometrics. In this sense, the Enterprise is strictly mission-less, a spaceship on autopilot. Its command-and-control orientation, organised around the means of accounting for success, is prescriptive rather than participatory by design.

In short, (1) the Knowledge Wave did not deliver new knowledge, or a knowledge age or society; instead, it ushered in a technocapitalist régime of knowledge management. (2) This régime implemented new techniques of measure (econometrics)—of accountability—that have reconfigured the economy of knowledge, and (3) required a new class of technocrats to manage it, as well as (4) an institution (the

'Enterprise') whose main function it was to promote econometrics. The knowledge economy is thus rebuilding—re-educating—Aotearoa New Zealand from the ground up according to an econometric design, with the technocapitalist university, the 'Enterprise', as its temple and template. The knowledge workers it produces know that economy inside-out and work to 'realise' it. Knowing nothing else, nothing counts for them but econometrics.

A technics of counting—'accounting for success', perhaps—is crucial to this knowledge economy. Michel Foucault's (1977, pp. 23–82) idea in 'What is Critique?' of a criticism that is at once archaeological, genealogical, and strategic (that is, focussed on systems, origins, and relations) can help us critically construct the idea of econometrics built into the 'Enterprise'. As a truth procedure, Foucauldian critique generates a properly historical method that suspends questions of the truth and falsehood of historical phenomena or 'positivities'. This brings to light

- a. 'what constitutes the acceptability of a system', namely, the conditions in terms of which a 'nexus of knowledge-power'—like the knowledge economy—can have appeared and become accepted: an 'archaeology' (p. 61);
- b. 'the breaking points'—such as the Knowledge Wave conferences and the arrival of econometrics—'which indicate its emergence' as a singularity, a singular effect of 'multiple determining elements', rather than a *mere* event: a 'genealogy' (p. 64);
- c. 'the complex interplay between what replicates [it] and what transforms it'—like the visible and invisible university—such that the 'network of relationships' that constitutes such a singular system is 'in perpetual slippage', never 'absolutely totalizing': a 'strategics' (p. 65).

Our critical construction of the 'Enterprise' has thus far been in the main archaeological; what remains, all too briefly put, is a genealogical account of econometrics. We must trace its determinants in a 'space/time/value "machine" ' of accounting (Hoskin & Frandsen, 2010, p. 1; Frandsen, 2001, p. 12) grounded in a discourse of 'accountability', and a strategic account of econometrics that 'situate[s] it] in a context that exceeds it' (Foucault, 1977, p. 65). In other words, this is just the visible aspect of an more capacious invisible university.

Such a critical method allows us to differentiate the conditions of econometrics from the conditions that econometrics imposes—

hence to differentiate the globalisation of the university, through the superimposition of enhanced systems of measure, from the globalising university, an otherwise unquestioned rationale ('globalise or die') built into current university mission statements and, more broadly, educational policy. But, more significantly, it enables us to understand the singularity of econometrics as one 'of those self-evidences on which our knowledges, acquiescences, and practices rest' (Foucault, 1991, p. 76). Here we must consider how it *might not have come to be, or come to be otherwise*, rather than taking its existence as a *fait accompli*. It allows us to question the structural necessity and inevitability of technical capitalism and our sense of being locked in to it . . . if not to escape it.

Strategics

[W]e are moving into a . . . totally pedagogised society (TPS), where . . . the state is moving to ensure that there's no time and space which is not pedagogised.

— Basil Bernstein, 'From Pedagogies to Knowledges' (2001, p. 377)

The key to maximising productivity in a 'modern business enterprise' is 'accountability'. This word, Keith Hoskin and Richard Macve note, appeared for the first time in the late eighteenth century (1794, to be exact; from 'accountable', 1580s), supplementing the word 'accounting' (late fourteenth century) (Hoskin & Macve, 1988, p. 40). It is first dictionaried in Noah Webster's 1828 *American Dictionary of the English Language*, where it is defined as 'the state of being liable to answer for one's conduct'. Webster's example is 'The awful idea of accountability' (Hoskin & Macve, 1986, p. 124, n. 8). Accounting, for Hoskin and Frandsen, is a 'space/time/value "machine"': its visible signs at once name, count, and evaluate, thereby setting up a calculable space shared by calculating subjects (2010, p. 1). The 'centripetal' (circumscribing) and 'strictly bounded' (ascribing) tendency of accounting enabled the repetition, or more efficient husbanding, of the resources of the domain accounted for. This, in turn, enabled economic reproduction. Modern accounting adds a futural (or, strictly speaking, a future perfect, 'will have been') dimension: it does not just count production, but envisages future productivity through planning. Thus, for Hoskin and Frandsen, strategy, or strategic planning, is shaped by accounting—or, as we would have it, technical systems of measure, and not the other way around,

hence 'strategy as numbers' (2010, p. 1; Smith, 2003). The upshot of accounting's tendency to name, count, and evaluate is that what is *not* named/counted is correspondingly devalued, or, conceivably, *is* of no value, though strictly speaking it has simply been accorded no value (Hoskin & Frandsen, 2010, p. 10).

The ascriptive force of accounting also affects workers: in any domain, whether a city or corporation or university, the subjects of its calculation (space/time/value) are inscribed by the technical measure or account of their position and performance, and thereby ascribed an identity. The 'real abstraction' of this process is twofold: the abstraction of technical measure demands greater productivity of its subjects, firstly, by ensuring that they perform in measureable and therefore manageable ways; secondly, by ensuring that they internalize the measure of their performance such that they are doubled as subjects, becoming measurers of their own performance and thereby their own managers. They are thus both 'calculable and *calculating* subjects', and thereby '*strategizing* subjects' (Hoskin & Frandsen, 2010, p. 3, emphases given). In a university, for example, a senior lecturer might, through this process of abstraction become a Director of Graduate Studies or Assistant Dean of Arts. This would extend the permeation of such accounting techniques throughout the organisation through constructive alignment with university aims and objectives and fatten the technocracy of accounting. The lecturer-subject, it needs hardly be said, is not just doubled, an abstract version of his or her former self and no longer just a teacher/researcher, but twice as busy as before. Such is managerial makework.

The way in which the subject of accounting, counted as such by the count, understands his or her value to the organisation, foregrounds the 'pedagogy' of econometrics—its pedagogical moment. Again, the subject has been ascribed as such by a system of measure that pre-orders work and organises the workplace. Strategic planning is oriented to an idea of success measured by existing systems of measure. Thus, a course of instruction in a university is 'successful' if it can be shown that its aims, objectives, and outcomes have been met with 'mathematical' certainty (by triangulating the course 'contract', student grades, and surveys of their satisfaction)—which, of course, they *will* be if they have been 'well' designed.

Figure 4. The closed loop of 'constructive alignment' (Biggs, 2003)



Such an idea of education as a closed loop of strategising by numbers seems manifestly anti-pedagogical, but it is replicated in the 'strategizing subjects', that is, teachers and learners (leaving aside researchers for now), who inhabit this closed loop (Hoskin & Frandsen, 2010, p. 3). Through a constant 'freezing' and 'unfreezing' of the subject at the whim of the count (Hoskin & Frandsen, 2010, p. 11), the system updates itself, ever sub-dividing the space, time, and value of the workplace, and, in the university, the teaching and learning environment. Since the late 1980s, the adoption in universities of new econometrics from New Public Management practices, including 'Total Quality Management' (TQM), 'Benchmarking' with its 'Key Performance Indicators' (KPIs), the 'Balanced Scorecard' (BSC), and a whole vocabulary of other performance metrics only serves to illustrate the anti-pedagogical function of accounting qua accounting (see Birnbaum, 2000; see also Sherr & Lozier, 1991; Shafer & Coate, 1992; Kaplan & Norton, 1992; Ramsden, 1991). The result is that the business of education, as embodied in Michael Parker's 'Enterprise', has now become the business of corporate business (see Head, 2011).

Thus, the arrival of knowledge econometrics, or the 'Age of Knowledge Management' (Sallis & Jones, 2002), demands that we rethink our idea of the university and the very idea of education in terms of Bernstein's 'totally pedagogized society' (Bernstein, 2001, p. 365). This is the discipline of 'lifelong learning'—the 'precarity' of work, by another name (Berardi, 2009; see Illich & Verne, 1981)—such that what a society teaches becomes ever more automatic, robotic even. Not for nothing does Vilém Flusser call schools the 'factories of the future' (1999, p. 49): in a postindustrial age of 'immaterial (knowledge-based) labour' (Lazzarato, 2004), schools are the very places where new knowledge-workers—who are increasingly knowledge-measurers ('knowledge economists')—will be made, or *built*: 'we shall have to look upon the robot-man of the future more as an academic than as an

artisan, worker or engineer' (Flusser, 1999, p. 49), he says. In a society built to measure, as it were, what does education do but programme workers for 'work-programming' (Flusser, 2005, p. 25)? As Flusser grimly puts it: 'the factory is nothing but an applied school and the school nothing but a factory for the acquisition of information' (1999, pp. 49-50).

In *Catching the Knowledge Wave?: The Knowledge Society and the Future of Education* (2006), Jane Gilbert argues that that 'tomorrow's schools' need to move beyond the production line educational model of the industrial age, with its well-educated elites and functionally literate masses. Changes in the New Zealand education system in the 1990s in the aftermath of the Picot report shifted the focus from education to the administration of education and the idea of accountability, with a renewed emphasis on numeracy and literacy, and, in general, 'excellence' (p. 56). Disputing the emphasis on maths as the 'prototypical academic subject—objective, timeless, and universal' (p. 60), Gilbert rightly argues for diverse knowledges and different learning dispositions. The emphasis on the logical-mathematical and verbal-linguistic should be supplemented, she thinks, by further ways of knowing: the musical, natural-environmental, physical-kinaesthetic, and interpersonal. With the digital age in view, Gilbert prefers the associated metaphors of 'connectionism', 'situated cognition', and 'learning communities' (p. 78), with the model of mind as a node in a network. She argues that education should develop individuals with the capacity to connect, reflect, and cope with uncertainty—with not knowing; these are the 'problem solvers' (p. 82) the knowledge society needs.

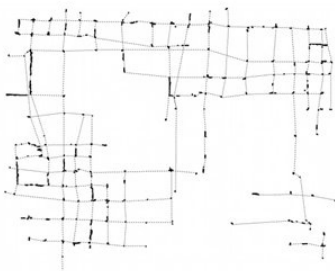
We do agree, but think that it is not problem-solvers we need, but rather 'problematizers' (critical 'constructionists'). We take issue with the idea that the 'Enterprise', for instance, will solve the problems of Aotearoa/New Zealand. Participatory design or 'place-making' depends instead on the ability to critically construct the environments in which (or, more commonly, out of which) we find ourselves locked. Participatory design must also take account of the walking, talking, thinking, and feeling that goes on there, of our 'working knowledge'. Thus, we should not innovate in the name of the 'Enterprise' with its idea of 'brand-new' knowledge in the service of a so-called 'knowledge economy' (or rather, knowledge econometrics), which embodies a *terra nullius* idea of enterprise. Rather, we should invent a place with an Invisible University as its *genius loci* (Really Open University, 2010; see Lomas, 2002). *Invent* a university? To invent is not to think up out

of nowhere, it is to discover or find (from the Latin *invenire* 'to devise, discover, find') what is already there; to invent or dis-cover a university is to recover its 'full life' (Virno, 2002/2008) that is largely invisible to the econometrics of technical capitalism. We must breathe life (*hau*) into the University by returning it to its living and lived world, its place.

Whereas Michael Parker gives us only one design for life, place-making or participatory design allows for many. That is to say, the University might offer a social future that is shared and open to possibilities or 'scenarios of the future', as Flusser might say (1999). We fear that the reduction of the university's function to entrepreneurial and econometric innovation, to marketing and measuring knowledge will bequeath us a social deficit: it suppresses the university's critical-creative capacity to posit other or better futures, to generate a critical surplus, in the service of a public or political good, in other words, to *educate* (from the Latin *educare*; literally, 'to lead forth'). This critical surplus—or, Foucault might say, *strategic* surplus—we call *argos* (from the Greek *argos*, 'idle, fallow') (see Agamben, 1996/2000, pp. 140–141; Agamben, 2007); Rancière calls it 'dissensus', or simply 'politics' (as opposed to 'consensus' or 'the police'):

The essence of politics is dissensus. Dissensus is not a confrontation between interests or opinions. It is the demonstration [manifestation] of a gap in the sensible itself. ... [It] is the demonstration of a possible world. (2010, pp. 38–39)

Figure 5. Consensus versus dissensus (Dylan, 2011; Klee, 1927)



Or worlds, we would say. (Elsewhere, dissensus is defined as 'the production, within a determined, sensible world, of a given that is heterogeneous to it' [Rancière, 1983/2003, p. 226].)

We don't think of knowledge in terms of the consonance (or consensus), of the creative and entrepreneurial, as Parker would have

it in his 'Enterprise' model where the University and its denizens resonate 'on message' (that message being technocapitalism). Rather, we think of knowledge—or knowledges—as turbulent (from the Latin *turbulentus*, 'full of commotion', from *turba* 'crowd'), as emerging out of the dissonance (or dissensus) of what Rancière (1992/1995) calls a 'community of sharing' (*communauté de partage*, literally 'distributed community'; pp. 49–50, 84–91). It is the noise of cross-talk and background hum that marks a place that is fully alive to its people.

Notes

1. Between 1950 and 2000, New Zealand's GDP per capita ranking amongst OECD countries dropped from 3rd to 20th (sec. 2), although our education rankings remain consistently higher, New Zealand being ranked 5th in 2008 for the proportion of students aged 25 to 34 with tertiary education (OECD, 2010).
2. Gehry (Hoyle, 2008) himself dismisses the idea of a 'Bilbao effect' and such 'spectacle architecture' (Foster, 2002, p. 61).
3. Note that Schumpeter's exemplar is the Renaissance 'artist who at the same time [is] an engineer and an entrepreneur', for example, Leonardo—who was, of course, something of a glorious failure, not to mention beholden to his patrons (2003, p. 124). It must be said that Schumpeter adapted and vulgarised the idea of 'creative destruction' from Marx (Marx & Engels, 1848/2002, p. 226).
4. Transcendental capital is more than global or transnational; it is omnipotent ('generic' [de Caeter, 2002, p. 273]) and orbital ('hovering' [Hage, 2001, p. 4]). The term thus combines a philosophical and an everyday sense: transcendental capitalism seems a Kantian a priori (necessary) condition of our experience, and a lofty, almost supernatural, phenomenon.
5. Such 'built pedagogy' is a prime example of the process that Marx called 'real abstraction'—'[a] thought becoming a thing', as Paolo Virno puts it in *A Grammar of the Multitude* (2004, p. 64; see also Marx & Engels, 1857–1858/1970, pp. 140–141).
6. Under Vice Chancellor John Hood—and his successor—the University of Auckland has aimed to add a 'third stream' to the traditional streams of teaching and research, whereby 'universities run more like businesses and in partnership with business to develop money-making spin-off companies', and thus to nurture an 'entrepreneurial ecosystem' (Barton, 2008).
7. We thus reverse Michel de Certeau's (1980/1984) idea of place as geographical (mapped) locality and space as phenomenological (lived) locality (p. 117), and draw instead on Martin Heidegger's 'Building, dwelling, thinking' (1971, pp. 145–161).

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