Chapter 6
The Contemporary Research University and the Contest for Deliberative Space

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Abstract In this chapter, I will argue that responses to neo-liberalism and new digital technologies have changed how research, teaching and learning are experienced. Realignment of work tasks has reduced the time and space required for achieving some important knowledge objectives that the academic community and society value. These include enlightenment ideas of seeking truth, reason, criticality and emancipation. I will lay the foundations for my analysis by starting with a consideration of these values, in terms of the purposes of a university education. In particular, I will introduce the concept of 'worthwhile knowledge'. I will then explore neo-liberalism and how this ideology has transformed higher education and continues to exert influence and control over much of what is possible and permissible. Finally, I will make some observations about digital technology in the context of contemporary academic work and examine how technology not only changes the knowledge project but also influences neo-liberal reform. I will conclude with some thoughts on the idea of resistance and subversion to attain spaces for deliberative thinking.

Keywords Neo-liberalism • Teaching and learning • Big data • University education

Introduction

The fundamental objectives for the contemporary research university have remained unchanged for the last 200 years: academics are expected to produce advanced knowledge through research and then use what they have learned for teaching and ultimately, for the well-being of society. In this view, the university is understood as a site of knowledge production and knowledge dissemination.

What constantly changes, however, is the context in which these activities are carried out, with shifting practice environments directly affecting the quality of research, teaching and learning. It is therefore important to understand the circumstances in which academics work and how current situations enhance or degrade

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this quality. The last 30 years or so have been marked by the contemporary period of globalisation, and the university has had to make major adjustments in response to the neo-liberal political and economic rationalisation of society and the digital revolution that saw the onset of a new information age. These two developments, one essentially political and the other technological, have acted independently and in concert to change the university in a variety of ways, some positive and others negative. Both, however, have had a profound bearing on the experiences of academics and students and the contributions that university education makes to society. If the modern research university is to maintain its core objectives and realise its potential, then the academic community ought to understand the consequences of how the integration of neo-liberal and digital technologies has modified what can now be achieved.

In this chapter, I will argue that responses to neo-liberalism and new digital technologies have changed how research, teaching and learning are experienced. Realignment of work tasks has reduced the time and space required for achieving some important knowledge objectives that the academic community and society value. These include enlightenment ideas of seeking truth, reason, criticality and emancipation. I will lay the foundations for my analysis by starting with a consideration of these values, in terms of the purposes of a university education. In particular, I will introduce the concept of 'worthwhile knowledge'. I will then explore neo-liberalism and how this ideology has transformed higher education and continues to exert influence and control over much of what is possible and permissible. Finally, I will make some observations about digital technology in the context of contemporary academic work and examine how technology not only changes the knowledge project but also influences neo-liberal reform. I will conclude with some thoughts on the idea of resistance and subversion to attain spaces for deliberative thinking.

The Purposes of a University

The modern public research university exists for many purposes, but its principal responsibility is the creation of knowledge (Barnett, 1997). This activity is usually done in an international scholarly community of learners that comprise academic staff, students and all those who support this work. In this sense, individuals and institutions make a worldwide contribution to knowledge and learning and are the source of highly educated and well-rounded students who will take their place in work and broader society. Society expects these future citizens to graduate with certain skills and capacities that make the enterprise a worthwhile investment. From such an epistemological foundation comes a vast assortment of functions, including teaching advanced subjects and inculcating values. Society's expectations for a university education are broad and range from educating a section of the future workforce to assisting in the preservation of democracy.

What the university stands for and how it achieves its educational objectives has occupied academics and politicians in considerable debate. However, there are certain values that the community tends to agree upon as foundational, and in the following

sections, I will argue that these have been modified by the neo-liberal and digital revolutions (Harland & Pickering, 2011). This value structure has stood the test of time, and it is generally accepted that it falls within the broad domain of 'being critical' or 'scholarly'. Included are the key concepts of developing critical thinking and evaluative judgement as a precursor to the discovery of new knowledge. Being critical is essential in the search for truth and foundational to how the university can provide a service for society.

Even though such fundamental ideas will be realised in different ways in each subject and discipline, the general concept of criticality has widespread acknowledgement and support from the academic community. Critical social engagement is, however, more controversial and often perceived as characteristic of the liberal arts and humanities subjects. Engagement includes learning to be 'critic and conscience of society' and, at least in New Zealand, is enshrined in law as one of the conditions for a university education (Education Act, 1989). Even though all New Zealand academics and students are charged with acting as critic and conscience of society, for some, this will be seen (if considered at all) as peripheral to the core tasks of creating and disseminating high-quality subject knowledge. Such an obligation, however, allows all universities to make a distinctive contribution to society, both locally and globally, and, at least for institutions that operate within the Western liberal tradition, provide a disinterested public critique that helps to influence and maintain democratic structures.

In addition, knowing lots of things (typically advanced subject knowledge) is not the same as creating knowledge, and although this is a conception of university learning that is concerned with the types and qualities of knowledge, it is quite clear that knowledge creation is a scholarly activity that requires careful reflection and deliberation. One of the key conditions for researching, reasoning or learning to be critic and conscience of society is that these activities take time. They require the careful and thoughtful creation and maintenance of particular spaces in both the curriculum and in academic work. In the contemporary university, academics are very busy, and time for creative and innovative tasks is becoming harder to find as academic life speeds up (Parkins, 2004).

Parkins (2004) argues that scholarship calls for detachment, calm and care and that such spaces for thinking deliberatively cannot be accelerated. There are no shortcuts and academics need time for achieving 'worthwhile things' (Reisch, 2001). What is 'worthwhile' should be given much thought. My personal view is that it starts within the critical domain and an education concerned with developing 'powerful knowledge' (Beck, 2013; Wheelahan, 2007; Young & Muller, 2013). Powerful knowledge is a complex idea that has certain qualities that distinguish it from other forms of knowledge (Harland, 2016). For the student learner, I consider that it has the following characteristics:

1. Being skilled in producing one's own knowledge
2. Being able to evaluate knowledge claims
3. Being able to apply the skills of production and evaluation to different knowledge contexts over time
4. Being prepared to use knowledge wisely for the good of oneself and others

In principal, these are the same qualities academics seek in their research, but power is also derived from the esoteric nature of the subject (Beck, 2013). Even so, power from advanced subject knowledge is limited, and academics and students need more than this in order for their learning to operate in everyday situations and influence what will later become common sense knowledge. It is the generative principles of disciplinary knowledge that provide such an outcome, and one method of achieving this is to educate students as authentic researchers (Jenkins, Healey, & Zetter, 2007). Such a knowledge-creating experience gives students the best chance of learning different ways of thinking and being that allows them to enter new conversations in society (Wheelahan, 2007). In addition, if learning through research is done from the first day at a university, it then provides something useful and 'powerful' for every single student because it allows them all to be involved in sustained knowledge production over time. I contrast this experience with the older elitist curricula types that are predicated on developing the next generation of academics and so typically reserve the research experience for the last year of a degree programme. If students from elite programmes are not going to work in their field of study after university, they are soon likely to forget most of the subject information they have been taught (Custers, 2010).

If it is accepted that the critical nature of a university education is (a) fundamental to the educative project, (b) has the potential to provide powerful knowledge for all students and (c) is also what the sector and society requires and values, then any changes that impact on these need to be identified and thoroughly understood. In the next section, I want to examine the two major changes for the sector and how these have altered the knowledge project, primarily by redirecting academic work towards compliance, accountability and administration, activities that have marginalised time and space for the critical project of higher education.

Neo-liberalism and the 'Privatisation' of the Public University

The first change started to impact in the late 1970s. Societies across the world began to experience the full force of neo-liberal economic and political reform that heralded what has been called the contemporary period of globalisation (Steger, 2013). Governments throughout the world, regardless of political persuasion, began to understand their roles and responsibilities in different ways, and the free market became a dominant ideology to guide thinking. Prior to the rise of neo-liberalism, governments tended to have a much larger role in overseeing both the commercial and social aspects of society. When free market ideas became the overriding principle for this project, there was a dramatic rationalisation in government function and the social contract changed. Neo-liberalism was largely experienced as a shift from the public to the private sector and from the collective to a new emphasis on the individual as a competitive economic actor.

When it came to reform and privatisation of public sector organisations, neo-liberalism had limits with respect to particular services, and it was too difficult

to fully privatise some of the institutions governments managed on behalf of society. These included educational institutions such as the public universities (Marginson, 2007). Nevertheless, there was still an expectation that these institutions would mirror the private sector and behave in an efficient businesslike way in order to enhance economic performance. To do this required the creation of competitive environments through setting standards and introducing a variety of compliance measures. These were designed to drive up performance and provide more control over educational services that were viewed as strategically important for each nation's economic future (Olsen & Peters, 2005).

At the same time, universities were encouraged to promote academic capitalism and engage in 'third mission' commercial enterprise activities to generate additional private income (Leisyte & Dee, 2012). Central governments had the ability to exercise financial compression though reduced funding while increasing their influence through legislation and policy (Neave, 1988). The outcome of forcing public universities to operate more like private businesses in a global free market has been to fundamentally change the educational enterprise. Institutions are managed differently, there has been a move to mass higher education and differentiation of university types, the academic workforce is now more casualised (Schuster & Finkelstein, 2006), there are changes in what can be taught, and a raft of compliance measures ensures universities are more accountable to the government and the taxpayer.

An example of accountability and compliance is the research assessment exercises that now impact on academics in research universities in several Western countries. Governments measure the quantity and quality of research for the purposes of reallocating limited funding. Assessment brings individual reward (or punishment) and institutional prestige through local and world ranking exercises, and so research becomes valued above other academic activities such as teaching (Elton, 2000). Once this effect was identified, the neo-liberal response was to introduce new quality assurance measures to hold researchers accountable for the quality of their teaching and so raise and protect standards and restore balance (Cheng, 2011). At present, however, in the situation across those sectors in which both research and teaching are measured, research still tends to be valued above teaching. The reasons behind this difference are complex but can partly be attributed to the quantitative measurement of research (numbers of publications, impact factors of journals and so on) and the lack of precision in attempts to measure teaching quality.

Furthermore, in the research-intensive universities, academics are trained only in research before they enter the profession and may have few skills in all the activities they are expected to perform, including teaching. Such a situation can create a different value base for each component of academic work, and there is evidence to show that the relationship between research and teaching has radically changed in the neo-liberal university (Elton, 2000). What is not known is whether or not research, when measured by quality of thought and knowledge, has genuinely improved across the sector, stayed the same or declined and similarly if current student experiences and learning are better or worse.

The technology of compliance is not just imposed on universities but is embraced by them. Institutions have adopted the same tools for performance management in order to drive up productivity (Harley, 2002). Adoption has created a new type of academic workforce that has less freedom to decide on appropriate work activities, less collegiality and a seemingly continuous increase in bureaucratic tasks. At the same time, academics have been complicit in accepting and adopting neo-liberal reform and have recreated themselves as neo-liberal subjects (see Ball, 2012). For example, tightening fiscal constraints on research tends to require a shift to more entrepreneurial activities that often places academics in a competitive relationship with colleagues. With external and internal performance management to control scarce resources, there will always be winners and losers. Some in the university are empowered while others subordinated. The work done by academics then changes to meet the required criteria for success, and so values gradually shift and align themselves to the new standards set by others.

A second illustration of neo-liberal reform is the move to mass higher education. Greater student access can be viewed positively from an inclusion perspective, even though the increase in numbers is principally accounted for by a larger diaspora of society's middle class (Marcenaro-Gutierrez, Galindo-Rueda, & Vignoles, 2007). It can also be seen positively in terms of economies of scale and the best use of infra-structure and resources. However, teaching large classes of more diverse students creates a number of problems for teachers, and what was possible in the older elite system now poses huge challenges. A simple illustration from my own experience of teaching Ecology is taking a class of 20 first-year students on a 7-day field course in the late 80s and finding this unthinkable with the 150 that I am faced with today. Students in this subject now have a different educational experience. Data on changes to staff and student numbers from my own research-led institution illustrate many of these observations:

Figure 6.1 shows student numbers increasing at a faster rate than lecturers with fairly steady numbers of research-only staff. The largest increase has been in the
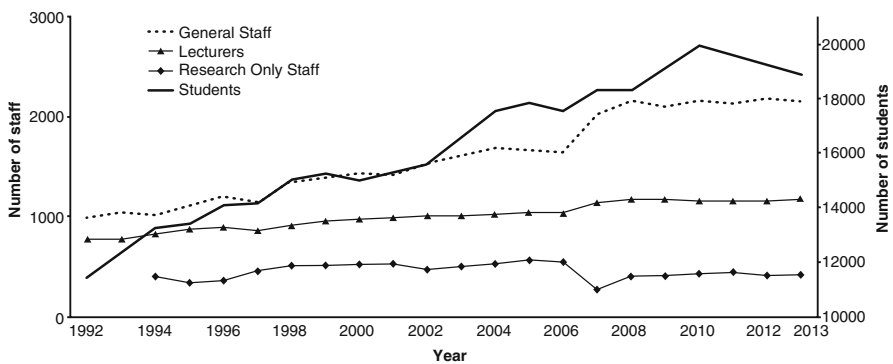

Fig. 6.1 Lecturing, general administrative and research staff with total students (1992–2012) at the University of Otago. *Source*: University of Otago Annual Reports, http://www.otago.ac.nz/

administrative and managerial category now required for dealing with new business activities and compliance measures. With regard to research productivity at the University of Otago (measured by numbers of publications), between 2004 and 2014, research outputs increased by about 50 %. It is not known how representative this situation is for other institutions, but it is likely that such changes are mirrored across the whole sector because universities tend to respond similarly to the pressures of globalisation. What is important to note, however, is that the administrative work of academics in many Western countries has also increased.

All these changes have occurred when the total weekly working hours of an academic has been constant over time. Analyses by Tight (2010) and Staniforth and Harland (1999) have shown that since the end of the 1960s, and spanning the introduction of neo-liberal reforms, the average working week for a university lecturer remains around 50 h. In this limited period, more research and teaching are now required, while increasing time is spent on administration (Ball, 2012; Menzies & Newson, 2007; Staniforth & Harland, 1999; Tight, 2010). Menzies and Newson (2007) describe the new bureaucratic work as 'self-serve administration' (p. 93). So if student numbers have increased to put pressure on teaching, and there is more administration for academics (despite the huge increases in administrative support staff), then there must also be pressure on research in a finite week resulting in work intensification (see Hartman & Darab, 2012). Tight (2010) also draws attention to the paradox that increasing amounts of compliance activities threaten the quality of teaching and research: the very activities they are meant to protect. Stephen Ball (2012) makes a similar observation:

> [ ] we are required to spend increasing amounts of our time in making ourselves accountable, reporting on what we do rather than doing it.
>   (Ball, 2012, p. 19)

Yet whether or not we are 'at work' is a moot point for academics as the boundaries between public and private life tend to blur and time spent thinking about a research problem, for example, is unlikely to be accounted for. Barnett (2011) has proposed that academics occupy practical, virtual and imagined space. Practical is characterised by the work diary and documented activities, virtual is the non-documented activities such as writing at home, and imagined is the mind working in an expanded ontological space.

Furthermore, similar issues impact on students who now experience 'study intensification' and a different type of education. I will provide a case study example that illustrates what I mean by this. In response to neo-liberal pressures, my university changed its teaching practices and moved from degree programmes and reliance on a final examination to a structure of semesters and modules with internal summative assessment and frequent exams (Harland, McLean, Wass, Miller, & Sim, 2015). Students became more like consumers of education as they were offered more choice in what to study. They could access a wide range of modules and to a large extent construct their own degree pathways. However, because each module was largely independent of others, student learning had to be assessed and graded more often. A culture of frequent summative assessment of short pieces of work in modules and submodules gradually evolved and altered the learning experience.

The new system marginalised higher-order tasks that take time to develop, and students had very little opportunity to mature as autonomous independent learners. The study showed that they became obsessed with their grades that were the main objective for study. Teachers knew that students would work for such reward and used grading liberally, but this pedagogical move was also student driven as students wanted to accumulate small grades that could be combined for a final mark (rather than sit an exam at some distant point). Many in the study were assessed and graded more than once a week for the whole of their 3-year degree. The frequency of grading also meant that most students reported that they were living in a continual state of mild stress (I doubt anyone really likes to be assessed, and if this is happening constantly, then university life must be less enjoyable than it could be).

Over-assessed students were no longer seen as the independent learners characteristic of earlier times, and very few in the study read anything outside of their subject or prescribed tasks. In this sense, there was little space for the critical project of learning. The end result was a curriculum managed in small chunks, with much information learned, forgotten and never revisited again. May (see May 2001 in Cribb & Gerwitz, 2013) introduced the idea of the 'miniaturisation of knowledge', and I would suggest the students experienced study intensification through frequent grading and the 'miniaturisation of learning'. However, one academic who took part in the study pointed out that a continual state of compliance for the reward of a grade produced good neo-liberal subjects who were likely to fit in and be successful in a work environment characterised by individual competition and reward. If the problems illustrated by this case study are more widespread across the sector, then the challenge will be to ensure that teaching and curriculum experiences genuinely align with the core values that each university stands for.

Taken as a whole, the main neo-liberal-driven changes have converted a portion of an academic's daily life into new administrative tasks for compliance with increased pressure on performance. There is simply less time available to carry out activities, and this situation is compounded by mass higher education and its associated challenges. What is clear is that academics would like more time for their core work of research and teaching. What is not clear, however, is whether or not academics across disciplines attach similar importance to their civic and democratic roles as critic and conscience of society (Harland & Pickering, 2011; Macfarlane, 2005). In the present day, to get by in research and teaching may be sufficient in itself:

> As society is defined through the culture and values of neoliberalism, the relationship between critical education, public morality, and civic responsibility as conditions for creating thoughtful and engaged citizens are sacrificed all too willingly to the interest of financial capital and the logic of profit making.
>
> (Giroux, 2002, p. 427)

One neo-liberal solution for concerns about increasing pressures on different academic activities has been the unbundling of traditional research, teaching and service roles and the rise of the para-academic who specialises in selected tasks (Macfarlane, 2011). A second is the casualisation of academic jobs with increasing part-time and fixed-term contracts (e.g. Ryan, Burgess, Connell, & Egbert, 2013). However, both strategies offer limited solutions and also have implications for the critical project of the research university.

The Promise of Big Data

The contemporary period of globalisation has also seen the digital revolution characterised by rapid advances in information and communications technology (ICT) that have now become a motif for living in modern-day society. Much has been written about the remarkable advances of ICT and the impact it has had on knowledge and education, and I would like to make some observations about digital technology, its connection to neo-liberal reform and its impact on academic work and the university's critical project. The assertion I would like to explore is that despite much greater efficiencies in communication and information flows, there is little evidence that the quality of the knowledge project, in terms of research and teaching, has improved. There is no doubt that technology has enhanced access to and dissemination of certain forms of knowledge and, for many, that these opportunities are available instantly. However, more and faster does not necessarily mean better. Furthermore, I will suggest that the possibility of technology helping to liberate academic labour and so enhance spaces for reflection and deliberation has not materialised. In fact the reverse may be true as ICT has made possible the neo-liberal technologies of control that impact on all areas of academic life. Without advances in ICT, very little compliance would be possible as the economic cost to the individual, institutions and society would be too high.

Despite continuing technological advances and the new opportunities that these open for the university, ICT developments have also aided an increasingly compliant sector move into a low-trust environment that has changed traditional notions of academic freedom. The university lecturer has gone from having a vocation to becoming a knowledge worker in a regulated commercially oriented industry. Yet without a certain measure of trust and freedom, it is difficult to see how academics can fully discharge their roles and responsibilities towards knowledge, students and society's democratic project. In this sense, technology has helped diminish the core of academic work, while it has changed the way we understand and talk about education. ICT has also enabled a previously unthinkable industrial language to become widespread across the sector (e.g. for profit, knowledge producer, service provider, student as customer).

Advances in technology have led to the speeding up of information flows that make many university activities faster and more efficient. It would be hard to dispute the benefits this brings. For example, knowledge can now be accessed remarkably quickly and shared efficiently with anyone with an uncensored network connection (at least in the elite universities). This communication can be seen as part of the democratisation of education, and much knowledge is no longer the privilege of the university but open to all. It can also be argued that technology per se does no harm and that is how individuals and communities adopt it that make a difference. Technology that enables the gathering of data for academic research may be positive, while using the same technology for gathering data for meaningless compliance is certainly negative. Similarly, ICT specifically designed for teaching (e.g. a learning management system) can be used well or poorly.

Modern technology does not seem to free up time but increases the number of tasks possible and that soon become required. As such it speeds up academic life. One clear impact of the advances in ICT is that various technologies have ensured that academics are always available for work (Parkins, 2004), a situation that blurs the distinction between employment and leisure and between measured activity and ontological spaces for thinking. Towers, Duxbury, Higgins and Thomas (2006) talk about the 'third space' (p. 597), which has been enabled by mobile technologies. It is no longer helpful to distinguish between work and home life because academics can be at work wherever they are. Parkins (2004) suggests that because we are expected to respond quickly to the immediate demands of others, time for reflection becomes difficult to find. In a study of Canadian academics, 69 % said they did not thrive in the new technological environment because of time pressure and the fast pace of academic work (Menzies & Newson, 2007). The time used for the production and dissemination of knowledge has now been labelled 'network time' (Hassan, 2003).

There is additional pressure because academic work is seldom done in isolation but in a broader academic community. The idea of the lone scholar working in seclusion has long been a myth, and knowledge is typically constructed in social communities. ICT has enabled connectivity between individuals and communities and opened up new possibilities for collaboration. However, Stephen Ball (2012) argues the more time we spend adapting to performativity through accountability that 'social structures and social relations are replaced by information structures' (p. 19). There are now more short meaningless exchanges between academics, and quantity has replaced quality in communication (Menzies & Newson, 2007). If we take this idea further by arguing that in the information age, information structures themselves are becoming more efficient and impersonal, then the spaces for both the social and the critical are in danger of erosion.

Using digital information in the form of big data and analytics is relatively new and has been made possible by advances in computing and analytical procedures. I will not say much about the concept of big data in the university beyond the idea that it is about our ability to harness massive and dissimilar data sets that offer predictive potential for managing institutions and academic work. However, I would like to raise some issues because the potential of big data is unknown. Although there seems to be some optimism that it will be beneficial, this has yet to be demonstrated. I have two concerns about possible detrimental effects:

1. That big data will be used to accelerate the neo-liberal reform of higher education
2. That big data will result in more work for academics outside of the core tasks of research and teaching

It is inevitable that the neo-liberal project will make very good use of big data to ensure that its ideological objectives continue to be met and evolve. As such it will be interesting to see how data is interpreted and managed and for what ultimate purposes it will be put to use. Who actually owns the information on which decisions rest will need careful consideration, and because of this, there will be ethical

concerns around 'mining' massive and disparate data sets, often without an a priori question. Depending on what is discovered, those commissioning such work might be tempted to use the information for meddling in academic affairs. Such a situation may seem reasonable if the outcome is, for example, the ability for management to make more accurate predictions and forecasts. However, given society's fixation with numerical and measurable data as a determinant rather than contributing factor to decision-making, certain values that the university represents may become less visible and so more vulnerable.

Vulnerability concerns derive from the track record of ICT when viewed as a technology that supports compliance, increases administrative tasks and compresses academic life. In this interpretation, ICT has already damaged the core functions of the university with respect to time available for research and teaching. Why should big data be any different? Like ICT it has the potential to do both good and harm, but I doubt, despite the best efforts of the data experts, that it will ultimately free up the spaces required for enhancing the knowledge project. This single measure of quality should be the judge of whether or not big data will be worthwhile for the university sector.

Resistance for Deliberative Space and Worthwhile Things

How can an academic preserve, recreate or reinvent working practices commensurate with the university's knowledge project? The neo-liberal university is unlikely assisted with this challenge, judging by the relentless reform agenda that continues to redirect academic work towards compliance and the market. Similarly, the digital revolution is a powerful driver of speed and complexity, and so it seems inevitable that research and teaching will have to continue under both pressures. There is of course a bottom line to change and reforms must have limits. These will be reached when the profession is no longer attractive to high-quality staff or when the quality of knowledge production and teaching falls below an acceptable standard. The question will be who decides what these standards are: is it the public, the politicians, the free market or the academy? If university academics are included in decision-making, then they must take responsibility for ensuring the kind of academic life that is conducive to high-quality knowledge and learning.

Space for scholarly activity may require a subversion of time. It has been claimed that busy academics do not want more free time but struggle to gain enough time for what they value (Reisch, 2001). Questions need to be asked about accountability, compliance and administrative loads. What difference do these really make? Compliance in all forms should be put to the test with the same rules of evidence that these technologies demand of those being measured. Does any policy or quality assurance exercise genuinely improve the quality of research, teaching or student learning? If it does, and gains seem worthwhile, then there may be a rationale for keeping it. I suspect that no compliance activities have ever been put to such a test, and because compliance technology changes the distribution of power, those who

now hold that power will not easily relinquish it through opening up these processes to scrutiny.

It is also unclear if academics see the need to resist neo-liberalism (see Harland, Tidswell, Everett, Hale, & Pickering, 2010). Many of those working today have only lived as neo-liberal subjects or taken up a university post after 1979, and it is possible to be very successful knowledge workers under neo-liberalism, solely focused on research and teaching. Furthermore, the scholar lives on in the life of the mind and so resists reform and, in this sense, limits it. As such the scholar can still achieve a measure of slow scholarship and deliberative spaces for thinking and learning. It is debatable, however, whether or not the university as a whole can live up to its full potential with respect to the knowledge project and wider society. Successful researchers and teachers once had many different associations with society, and this powerful group, gradually weakened by successive governments, has withdrawn and retracted many of its previous services and responsibilities. There is a decline in political literacy through the erosion of academic self-governance (Macfarlane, 2005), and it seems to be enough to research and teach a subject and be content within a narrow version of academic work.

When it comes to technology, any resistance is likely to have less success. When PowerPoint became the favoured visual aid for communication in lecturers, it swept the world and shaped our consciousness. Yet it was accepted without empirical research to ascertain the impact on teaching and learning, despite the fact that it radically changed communication. Similarly, email, social media and mobile technologies enable us to remain connected and be at work and on call on a permanent basis. One could argue that academics are free to decide their use of ICT, but it is often presented with little choice. Individuals may not be free in an institutional or broader global context. As examples, I am required to use my university's learning management system, and if my vice chancellor wants to communicate with me by email, it is unlikely that I will pick up my fountain pen and post a handwritten response. Once we get used to speed in communication, it makes it harder to return to other methods characteristic of a more contemplative academic life.

Hassan (2003) argues that critical reasoning works on different epistemological assumptions to instrumental reasoning, and the former usually cannot be done in order to comply with the often short-term demands of performativity and accountability. In addition, I argue that critical reasoning also has a practical use because it allows us to subject all forms of knowledge to critical and reflexive evaluation. To do this constitutes a powerful action. However, although academics have traditionally studied every subject imaginable, they are reluctant to be critical of themselves, the institutions in which they work and the manner in which they are governed. Until they redirect some of their considerable intellect towards this task, governments and the free market will progressively determine the purposes of the university. Academics will be recast as subservient knowledge workers (Leisyte & Dee, 2012), and critique will be left to a few interested sociologists and those who study higher education. Neo-liberal ideology with its concomitant reliance on ICT and the promises of big data require critical debate by the entire scholarly community and wider society because the changes they bring impact on everyone associated with the university project.

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