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**‘Cognitive capitalism’ and the rat race:
how capital measures immaterial labour in British universities***

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**‘Cognitive capitalism’ and the rat race:
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ABSTRACT

One hundred years ago, Frederick Taylor and the pioneers of scientific management went into battle on US factory floors. Armed with stopwatches and clipboards, they were fighting a war over measure. A century on and capitalist production has spread far beyond the factory walls and the confines of ‘national economies’. Although capitalism increasingly seems to rely on ‘cognitive’ and ‘immaterial’ forms of labour and social cooperation, the war over measure continues. Armies of economists, statisticians, management scientists, information specialists, accountants and others are engaged in a struggle to connect heterogeneous concrete human activities on the basis of equal quantities of human labour in the abstract, that is, to link work and capitalist value.

In this paper, we discuss contemporary capital’s attempt to (re)impose the ‘law of value’ through its measuring of immaterial labour, considered by thinkers such as Hardt and Negri to be ‘outside’ or ‘beyond measure’. Using the example of higher education in the UK — a ‘frontline’ of capitalist development — as our case study, we explain how measuring takes places on various ‘self-similar’ levels of social organisation. We suggest that such processes are both diachronic and synchronic: socially necessary labour times of ‘immaterial doings’ are emerging and being driven down at the same time as heterogeneous concrete activities are being made commensurable. Alongside more overt attacks on academic freedom, it is in this way that neoliberalism appears on campus.

Keywords: Immaterial labour; education; measure; value theory

Thomas Gradgrind, sir — peremptorily Thomas — Thomas Gradgrind. With a rule and a pair of scales, and the multiplication table always in his pocket, sir, ready to weigh and measure any parcel of human nature, and tell you exactly what it comes to. It is a mere question of figures, a case simple arithmetic. Charles Dickens, *Hard Times* (1854).

My dream is that the time will come when every drill press will be speeded just so, and every planer, every lathe the world over will be harmonized just like musical pitches are the same all over the world...so that we can standardize and say that for drilling a 1-inch hole the world over will be done with the same speed... That dream will come true, some time. Carl Barth, *Hearings of the U.S. Commissions on Industrial Relations* (1914).¹

In the ontology of Empire value is outside measure. Hardt and Negri, *Empire* (2000).²

Everything can be measured and what gets measured gets managed. McKinsey & co. slogan.

1. Orientations

In the early years of the twentieth century, Frederick Taylor and a small band of disciples — such as Carl Barth — entered battle on factory floors in Chicago, Philadelphia and other east-coast US cities. Armed with stopwatches and clipboards, these pioneers of scientific management were fighting a war and they knew it. A war against ‘systematic soldiering’ and the ‘common tendency’ to ‘take it easy’. A war to induce, coerce and cajole workmen to ‘do a fair day’s work’. A war over the control of production and over craft knowledge. A war to appropriate to managers workers’ knowledge of specific tasks: *how?*, *how much?*, *how long?*, *how many?* A war over *measure*.

A century on and capitalist production has spread far beyond the factory walls. It has been argued, most famously by Hardt and Negri in *Empire*, that the production of *things* — material stuff that can be counted, weighed, measured — is no longer hegemonic. Capital has invaded

1 Barth 1914, p. 889.

2 Hardt and Negri 2000, p. 374.

every aspect of human lives and production is increasingly immaterial, producing information, affects and percepts. It is increasingly difficult to distinguish production from reproduction, the sphere *inside* capitalist production from that *outside* it, where labour-power is produced. When immaterial production is centre-stage, the skills, know-how and attitudes of workers are (re)produced by the relational practices learnt and re-learnt in the home, from uncles and aunts, sisters and brothers, mothers, fathers and lovers. The immateriality of labour implies an activity that emphasises and is self-aware of its cooperative nature, a biopolitical activity that produces affects³. Hence cooperation is far more likely to be of a horizontal, rhizomatic nature, organised on the basis of networks, informal workgroups, peer-to-peer relationships, and even social ties, rather than directed by the boss standing at the apex of a hierarchy. The value produced by this labour is therefore 'beyond measure', because the immaterial living labour producing value is identified with 'general social activity', 'a common power to act' that cannot be disciplined, regimented and structured by measuring devices such as clocks. In such circumstances, exploitation still continues, but not through the subjection of labour to capital's measure. This exploitation continues 'outside any economic measure: its economic reality is fixed exclusively in political terms'.⁴ In the context of what Hardt and Negri call Empire, value can at most be indexed 'on the basis of always contingent and purely conventional elements' imposed by 'the monopoly of nuclear arms, the control of money, and the colonization of ether'.⁵

³ In Foucault, biopolitics refers to the style of governance regulating population through that application of political power on all aspect of human life, that is biopower. He speaks of "...the endeavor, begun in the eighteenth century, to rationalize the problems presented to governmental practice by the phenomena characteristic of a group of living humans beings constituted as a population: health, sanitation, birthrate, longevity, race..." (Foucault 1007: 73). This latter term has been used to refer to practices of public health, reproduction rights, immigration laws, regulation of heredity, and risk regulation. In the works of Hardt and Negri (2000, 2004), biopolitics refers instead to anti-capitalist practices against such a power and the correspondent constitution of a productive social fabric.

⁴ Negri 1994, p. 28.

⁵ Hardt and Negri 2000, p. 355. Hardt and Negri, along with other scholars, claim to have identified a structural break in the capitalist mode of production with the emergence of 'post-Fordism', 'cognitive capitalism' or, from a more orthodox perspective, the 'knowledge economy'. For more general critiques of Hardt and Negri's argument on the immeasurability of value and the periodisation of capitalism see Caffentzis 2005, Harvie 2005 and De Angelis 2007.

Yet, we argue in this paper, the war over measure continues right there, at the point of immaterial, self-organised and cooperative production. Capital is indeed pervasive, and its means of measurement often appear distant and elusive. But they nevertheless contribute to the constitution of the norms and modes of production, the *how?*, *how much?*, *how long?* and *how many?* that delimit our social doing. While thinkers such as Hardt and Negri are celebrating the impossibility of measuring immaterial production, the heirs of Frederick Taylor and Dickens' Gradgrind are attempting just that. An army of economists, statisticians, management scientists and consultants, information specialists, accountants, bureaucrats, political strategists and others is engaged in a struggle to commensurate heterogeneous concrete human activities on the basis of equal quantities of human labour in the abstract, that is, to link work and value. Far from the law of value being redundant as Negri (and Hardt) have suggested, it is increasingly assuming the form of a struggle over measure even on the realm of immaterial production.

In this paper, we seek to uncover capital's attempt to measure immaterial labour and thus (re)impose value and the law the value. We use British higher education (HE) as our case study, since between us we have over three decades' experience working in this sector, and it gives us the opportunity to problematise our own activity within the 'great scheme of things'. Academic work possesses all the basic characteristics of immaterial labour. It is a form of directly social work, in which the form of social cooperation is crucial in defining the 'output'; moreover it is a form of doing that is necessarily grounded on relational awareness. It is labour that produces *affects* — that is, the increased capacities of bodies to act. Academic work is also a context for the production of ideas, in the form of research papers, books, conference presentations, lectures and so forth. Moreover this production is 'biopolitical' and can occur at any time: we have both experienced waking up in the middle of the night with the solution to a problem intractable during 9 to 5 or reached insights that will find their way into a paper whilst playing with a child.

There is another reason why the United Kingdom's higher education sector is important as a case study. From the late 1970s onwards, the UK has been the most neoliberal of European countries and the market discourse offers the only horizon within which new policies are designed. In Britain, all new policy is designed to 'push through' the 'Empire' of neoliberal markets in ways that simultaneously attempt to bypass and silence a left opposition that lacks any alternative project. In higher education, this 'pushing through' takes a number of forms, including: artificial scarcity of resources; greater competition across HE workers (including students); changes in syllabi towards an 'education' subordinated to the needs of business;

transformation of the nature and modalities of academic work; and, imposition of heteronymous constraints that bound the forms of social cooperation of academic work. In higher education we may be ‘pushing through’ Empire, but we see no light at the end of the tunnel.

The paper is structured as follows. In section 2 we discuss the context of the struggle over measure in academia. Here we will briefly review the British government’s calls, and consequent policies, for universities to become more competitive and to emulate business. In section 3 we burden the reader with the burden of our toil, providing concrete examples of the multiplying chores and barriers constructed across the flows of communicational, affective and creative work. These we categorise under the rubrics of standardisation, quantification and surveillance. We try to make sense of it all in section 4. Here we invoke the traditional Marxian category of value, following an interpretative tradition that understands socially necessary labour time — the substance of exchange value — as category of struggle over measure, not simply as the expression of *a past* given quantum of labour. In other words, the labour that at any given time is ‘socially necessary’ is both the result of past measuring processes and the present benchmark. We distinguish three ‘levels’ at which measuring takes place, viz: across education workers within individual academic institutions, across academic institutions within the nation-state, and from the higher education sector to other sectors both national and international. These measuring process are self-similar, implying a fractal-like organisation of academic work and work in general.

In the final section we explain that measure involves both synchronic and diachronic processes, i.e., processes through which heterogeneous human activities are made commensurable, through which socially necessary labour times emerge for various activities and through which these socially necessary labour times are driven down. We also hint at some of the implications our interpretation of measure has for our understanding of the circulation of struggles both within education and throughout society, and of capitalist development and the law of value.

2. Context: ‘We can’t be complacent’

Since the 1970s – and the general social struggles of that decade – education has undergone widespread restructuring. ‘Warwick University Ltd’⁶ was a forerunner in consciously attempting

6 Thompson 1970.

to align itself with the needs of capital; globally, education systems and institutions have now become a terrain for marketisation agendas.⁷ Charting the ‘entrepreneurialisation of the universities’ and the ‘rise of the corporate university’ in the United States, the editors of *Steal this University* suggest that ‘[w]hat is new about today’s university is not only that it serves the corporation – for it has always done that – but that it *emulates* it’.⁸ Universities themselves ‘are *becoming* businesses’.⁹ In the United Kingdom, many neoliberal trends are articulated in the government’s White Paper on *The Future of Higher Education*. In a critique of this document and state education reforms more generally, Andrew Robinson and Simon Tormey argue that a ‘once “independent” public service [is being reduced] to a wing of capital. ... [T]he penetration of neoliberal assumptions goes well beyond the formal status of the higher education sector, it permeates every assumption about the rationale of education itself.’¹⁰ The situations in the UK and the US are not identical, but there are many common themes, also shared by education systems in other ‘advanced capitalist economies’.¹¹ These include: the growth of for-profit education institutions; the invasive intervention of both private-sector corporations and government in the daily running of ‘public’ universities; the increasing importance of market relations; managers’ use of ‘benchmarking’, ‘performance indicators’, ‘performance management’ and various forms of ‘performance-related pay’ (‘merit pay’); rhetorics of ‘best practice’, ‘efficiency’ and ‘global competitiveness’; and the ‘proletarianisation’ of academics.¹²

Education is not only big business, it is also a global business. A decade ago only the ‘top’ universities — in the UK, Oxford, Cambridge and the more prestigious London universities, like LSE, SOAS and London Business School; Harvard, Yale and so on in the United States — tended to compete to attract overseas students. Now many ‘new’ universities (former

⁷ See Levidow 2002, and Rikowski 2001.

⁸ Johnson et al. (eds.) 2003, p. 13.

⁹ Ovetz 1996, p. 113.

¹⁰ Robinson and Tormey 2003, p. 1.

¹¹ See, for example, Cooper et al. (eds.) 2002 for discussion of Australian higher education.

¹² In the global South, higher education has been a casualty of the more general imposition of neoliberal policies, as indebted governments have been forced by the IMF and World Bank to implement Structural Adjustment Programmes (SAPs). The Bank has argued, for example, that SAPs present African governments with ‘a golden opportunity to “increase the efficiency of resource use”.’ Caffentzis 2000, pp. 5–8; see also Levidow 2002.

polytechnics) are also competing in the global higher education market. Luton and Middlesex universities, for example, both earn more than one-sixth of their total income from non-European Union students. The corresponding figure for LSE is roughly one-third, as it is for SOAS.¹³ Foreign students are important to the UK's economy as a whole, with those from outside the European Union contributing annually £4 billion in fees and a similar amount spent on living costs. But the market is becoming increasingly competitive. Not only are Britain's 'big names' competing with the likes of 'lowly' Luton and Middlesex, as well as the prestigious American colleges. Other developed countries, such as Australia and New Zealand, are also encouraging foreign students to study with them, whilst traditional 'source' countries of the South — China, Malaysia and Singapore, for example — are developing their own higher education sectors. Thus, as (then British prime minister) Tony Blair warns us, 'We can't be complacent': 'We are determined to stay ahead of our competitors.'¹⁴ Or, in the words of David Young, then Chair of the Higher Education Council for England (HEFCE), in his Foreword to that organisation's *Strategic Plan for 2003-08*, 'this is no time to rest on our laurels, because the challenges facing higher education are more wide-ranging and profound than ever before.'¹⁵ And Secretary of State for Education Charles Clarke, in his Foreword to the 2003 White Paper on *The Future of Higher Education*, after having celebrated the 'success story' of British universities, proceeds to suggest that although 'it would be possible to opt for a quiet life ... bask in previous successes, shirk the need for reform ... [i]t would be wrong because the world is already changing faster than it has ever done before, and the pace of change will continue to accelerate.'¹⁶

This choir of reformers and 'modernisers' has good reasons to sing its tunes against 'complacency'.¹⁷ What goes under the name of education, is the practice of 'mobilizing even more effectively the imagination, creativity, skills and talents of all our people'. This instrumental understanding of education in turn 'depends on using that knowledge and understanding to build

¹³ *The Guardian*, 18 April 2006.

¹⁴ Tony Blair, 'Why we're putting up millions to attract more students from overseas', *The Guardian*, 18 April 2006.

¹⁵ HEFCE 2003, p. 2.

¹⁶ DfES 2003, p. 2.

¹⁷ The 'modernisers' drive change in a double sense. Neoliberal governments push for more trade liberalisation and increasing competition on the international stage, and then use the effect of these agreements to tell the rest of us that the world has changed and therefore we must continue the rat race.

economic strength and social harmony'. While the latter depends on making 'the system of supporting students fairer' by introducing fees and targeting support grants only for the very poor, economic strength is supposedly achieved by 'harnessing knowledge to wealth creation', and this 'depends on giving universities the freedoms and resources to compete on the world stage'.¹⁸ The platitude reveals a reality in which this 'freedom' is predicated on the slashing of public spending on education, forcing universities to compete for students and other resources. Across the sector, the allocation of resources is driven by consideration of where particular universities can best compete: high-flying research institutions get more research money, whilst 'lowly' institutions get funding tied to 'widening access'.

In this context, many universities have used revenue from overseas students to make up a funding shortfall resulting from the systematic cuts in state expenditure on education since the 'fiscal crisis of the state'.¹⁹ (Typically, fees for non-EU students are double the funding universities receive for students originating from within the Union.) With increasing global competition, this revenue is increasingly uncertain. In turn this has the effect of sharpening disciplinary pressures on higher education workers, reducing the space for criticality in the education of undergraduates and fostering instead a 'bite-sized' standardised concept learning.

Although there are commonalities amongst trends within higher education across the planet, the situation here in the UK seems special and its education system represents a frontline in capitalist development. For example, many other European countries are now in the process of standardising and 'harmonising' their university systems, under the so-called Bologna process. The aim is to create a single European-wide market in higher education. But many of the proposed changes — shocking as they are to continental academics — are common practices in the UK.

3. Quantification, standardisation and surveillance: the burden of academic labour

Before analysing this situation in more depth, we will first describe measure in higher education as we personally have experienced it over the past two decades as workers in the sector. We can sum up some these processes under the terms quantification, standardisation and surveillance. In all cases chores are imposed and barriers erected that cut across and interrupt

¹⁸ DfES 2003, p. 2.

¹⁹ O'Connor 1973.

the flows of communicational, affective and creative work. It seems clear — from discussions with older academics and from accounts such as A.L. Halsey's *Decline of Donnish Dominion* or Slaughter and Leslie's *Academic Capitalism* — that the forms of measure we describe below are new.²⁰ Indeed, measure in any *systematic form, with material effects* seems to be new.

Measure, as we would now recognise it, simply did not exist in the post-war university or polytechnic. Of course lecturers had to perform various tasks — teaching, administration, pastoral care — but for the most part these were shared and rotated, allocated on the basis of custom, collegiate decision or head of department's say-so. A certain level of research activity was expected of academics, particularly those employed by universities as opposed to polytechnics, but monitoring of this was minimal. In fact, the contractual obligation was to *engage* in research or other 'scholarly activity', rather than to produce a research *output*. High-quality publications would certainly be rewarded in terms of prestige and/or promotion to Reader or Chair (which may or not have brought financial benefits), but even a lecturer who published nothing would enjoy material security, relaxed conditions of work and a high and rising income.

To obtain a bachelor's degree in a British university a student needs to attain 360 'credit points', i.e. 360 credit points = 1 degree. At least 120 of these credit points must be awarded at 'level 3' (i.e. third or final year) and a further 120 must be at 'level 2' (i.e. second year). Degree courses (or 'programmes') are further broken down into 'modules' of between 10 and 40 credit points. So, for example, in each of his or her three years a student might study six 20-credit modules. The amount of work required to attain a certain number of credit points is also standardised across any particular institution. For example, the 'norm' for a 20 credit-point module might be two one-hour lectures each week plus a fortnightly seminar or tutorial over the course of two semesters, with assessment by a two-hour exam and a 2,500-word essay.

The content of both the overall degree programme and each of its constituent modules is framed by a set of 'indicative learning outcomes' (ILOs),²¹ which take the form of statements, 'On completion of this degree/module, the student will...' ILOs can be either 'subject specific' (e.g. '... have attained a knowledge of the ways in which working-class struggles drive capitalist development') or 'generic' (e.g. '... be able to work cooperatively within a small rhizomatic network'). The set of ILOs for a particular module must be 'appropriate' to that module's 'level',

²⁰ Halsey 1992, Slaughter and Leslie 1997.

²¹ Academics have learnt to deploy this vocabulary with bravado, yet it is not clear whether the 'I' in ILO stands for 'intended' or 'indicative', and the 'O' for 'outcome' or 'objective'.

while the learning outcomes for a degree must satisfy so-called subject benchmark statements. So ILOs for level-1 modules, for instance, tend to emphasise mere 'knowledge' of theories, whilst at level-3 students are expected to be able to 'critically engage'.²² To ensure consistency across institutions, the Quality Assurance Agency for Higher Education (QAA) produces a set of *subject benchmark statements*. These specify the types of skills and 'competencies' which an economics graduate (say) should have acquired upon graduation.

An elaborate set of procedures exists in order to allow the monitoring of these and other norms. For instance (and note that these are *examples* only):

- For each module, the 'module leader' (ML; usually the module's main lecturer) must complete various paperwork, in particular, 'module specification' and 'module review' documents. The 'mod spec', submitted prior to the teaching period, will list the module's 'aims and objectives' and ILOs, its 'modes and methods of assessment', and other information, such as 'indicative reading' and a summary of 'teaching methods'. In the 'module review' document, completed at the end of the module, the ML reports students' average marks and their dispersion, summarises students' feedback on the module, and offers their own assessment of the module's strengths and weaknesses and suggests changes for the following year.
- Across a degree programme as a whole (say BA (Hons) Economics) this information is collated into two important documents with similar structures. First, a 'programme specification', which will include the module specs for all of a programme's constituent modules, along with a fairly detailed rationale for the degree as a whole, its overall 'aims and objectives' and learning outcomes, and an inventory of the resources (academic staff, library and other facilities, etc.) available to 'deliver' the programme. Second, annual programme reports, which collate module reviews and summarise overall performance of a cohort of students, in terms of 'progression rates', 'withdrawal rates', location and spread of marks, and so on.

²² One of us worked in a department which scheduled annual 'exam scrutiny' meetings, in which faculty would collectively consider each other's examination papers. It was interesting to see what type of questions one's colleagues were asking of students. Less easy to endure were suggestions that perhaps first year students should merely be asked to 'explain' such-and-such a theory rather than 'critically discuss' it.

- To ensure 'fairness' students' assessed work — particularly for longer pieces such as a dissertation – must usually be graded against a 'matrix', with the various degree 'classes' (First, Upper Second, etc.) along one axis and a list of categories (e.g., structure, grasp of 'key concepts', ability to critically analysis, referencing) along the other. Within each cell is a description of the standard that must be achieved in that category in order to warrant that class of degree. Markers must complete the matrix for each individual assignment.
- Before any degree programme can be offered, it must be 'validated'. The validation process involves scrutiny of the 'programme specification' and/or a 'validation document' by several committees internal to the university and, at a final validation meeting, a panel which will include two or three external validators. These scrutineers will judge the proposed degree on the basis on its internal consistency, the extent to which its learning outcomes correspond to the subject benchmarks and so on. All degree programmes must be periodically (approximately every four years) revalidated.
- Annually, module and programme documentation is examined by various 'quality' committees, overseen by institution-level bodies with such names as Centre of Academic Standards and Quality. A module leader whose marks are significantly higher or lower than for other modules, or too dispersed or clustered about the mean, might be required to justify their digression from the norm.²³
- Marks and degree classifications awarded by universities are monitored by 'external examiners', who scrutinise a sample of students' exam scripts and assignments, and attend examination boards. The role of 'externals' is to ensure consistency and 'fairness' across the sector.
- Departments are subject to periodic visits – lasting three or four days – by the QAA, which sends in a team of inspectors. Although the inspectors do observe teaching and meet with students and faculty, they spend most of their time holed up in a 'base room', poring over programme documentation (module and programme specifications and reports, external examiners' reports, examples of student work, examples of academics' feedback on student work, documentary evidence of 'excellence' in various areas). Of course,

²³ We can understand a module's mean mark as an indicator of how much work its teaching team imposes on students; the dispersion of marks (their variance or standard deviation) measures the extent to which students are ordered into a hierarchy (Harvie 2006).

preparing, collating and cataloguing this documentation involves an immense amount of work, which must start up to 18 months before the visit.

- In 1998, a Joint Costing and Pricing Steering Group, a bloc comprising universities, colleges and funding bodies, including the Higher Education Funding Council for England (HEFCE), initiated a Transparency Review. The purpose of this was to ‘improve the accountability for the use of public funds’, by discovering the amount of time academics spend on various activities — teaching funded by HEFCE (EU undergraduate students), teaching funded by other sources, HEFCE-funded research, and so on. In practice it has required academics to complete time-use diaries for sample weeks.²⁴
- Since the 1980s, British academics have been exposed to so-called research selectivity, a project designed ‘to evaluate the quality of research in UK higher education institutions’. The mechanism for this evaluation has been a series of Research Assessment Exercises (‘the RAE’), held in 1989, 1992, 1996, 2001 and 2008. University departments must submit each of their ‘research active’ academics’ ‘best’ four publications over the assessment period, again accompanied by reams of documentation. The ‘quality’ of this research is assessed by one of a number of panels or ‘units of assessment — there were 67 in the most recent exercise — and at the end of the exercise, each department receives a grade. The exercise has material effects, both for departments and for the academics it employs (or chooses not to employ), since the ‘assessment informs the selective distribution of funds by the UK higher education funding bodies’.²⁵

4. Measuring academic labour: ‘executives should not abandon hope’

These practices and requirements of quantification, standardisation and surveillance obviously impose a huge burden of work on academics and few are happy about it. There have been a

²⁴ See <http://www.icpsg.ac.uk/project/>.

²⁵ See <http://www.rae.ac.uk/>. The two quotations are at <http://www.hefce.ac.uk/research/ref/reform/rae.asp>. The specific difficulties associated with measuring research are myriad and we do not have space here to discuss them in detail. Suffice to say, there are now many critiques of research selectivity and its (adverse) effects on scholarship, both in general and in particular disciplines. See, e.g., Harvie 2000, Lee 2007, Dunne, Harney and Parker 2008.

number of responses. Managers have frequently suggested *there is no alternative* (TINA) and instead urged us to 'work smarter, not harder'. This seductive slogan is deployed not only to dampen staff resistance to further deterioration in our working conditions. It moreover attempts harness 'change' (restructuring and innovation) and increased 'competitiveness' to our very resistance. Unfortunately many academics accept the TINA argument and even the argument that there must be standardisation in the interests perhaps of 'fairness' or 'quality'. Many nevertheless adopt individualised acts of refusal. These may involve fabricating documentation or, more often, engaging in mindless 'tick-boxing' practices whenever feedback is required on something or another. Frequently the discursive acceptance of TINA by staff goes hand-in-hand with practices that show, on the contrary, that there are alternatives. So, whilst management requires standardisation for the sake of efficiency — a high student-staff ratio — and in the name of 'fairness', in the privacy of their offices, staff may well provide unstandardised services to meet particular students' needs. Indeed, we can make the general point that, thanks to staff refusal to submit to management norms and standards, students do in fact get 'an education', articles are written and published (especially in new universities) and knowledge is produced. In other words, the struggles against management measures and the values they promote are also the realm of alternative measures and values. Unfortunately, this often implies overwork on the part of staff. We do not have room in this paper to discuss in details academics' struggles for alternatives to capitalist value.²⁶ Suffice to say most of these struggles and alternative practices take place on the micro or molecular level. Most are hidden behind a façade of compliance and 'constructive engagement' with managerial discourse.

We suggest that it is productive to understand them in terms of struggle over *measure*. This is useful because it helps us both understand what is happening within higher education in its own terms, and also to link developments in this sector to processes of measure elsewhere in the economy and society more generally. Of course, it also provides a basis for linked struggles. By struggle over measure, we mean to retrieve an old preoccupation embedded in classical Marxism's categories of value. For us, the capitalist production of value that Marx discusses in *Capital* is a category of struggle. Moreover, this struggle includes a struggle over measure(s): the daily struggle over the *what, how, how much, why* and *who* of social production.²⁷ This

26 For more on these struggles and practices see Harvie 2004, 2006 and 2008, Harvie and Philp 2006, and the excellent EduFactory project, <http://www.edu-factory.org/>.

27 See Cleaver 2000 for an original discussion of 'value' as a category of struggle.

struggle goes on in any sphere of social production in which capital seeks to valorise itself vis-à-vis the self-valorising practices and desires of the producers (whether 'material' or 'immaterial'). However, from the perspective of alternative to capitalist valorization practices, the problem is the extent to which these struggles are absorbed into homeostatic processes through which singular producing nodes are pitted against one another. The term *homeostasis* describes the process of self-regulation of living organisms via positive and negative feedback. The capitalist market mechanism is homeostatic in the sense that singular producers or 'nodes', by responding to the market's 'price signals' simultaneously reinforce the validity of those signals: by accepting the rules, we reproduce the rules. But in a social system such as capitalism this process — whatever its limitation and crises tendencies — can only emerge out of a social construction as a result for example of the imposition of "enclosures" and of strategies of governance. Furthermore, every moment of this constructed homeostatic process, is a manifestation of struggle: thus, the market mechanism can be understood in terms of clashing measures and value practices. This general process of measurement, takes then specific forms in specific contexts.

Since the late 1970s neoliberal reforms had the aim to introduce market discipline in any sphere of production. In those sectors and public services in which complete exposure to market mechanism was not possible due to strong and diffuse resistance to it, New Public Management techniques were introduced to simulate the homeostatic disciplinary mechanism of the market. This happened both in the global North on the wake of the fiscal crisis of the state,²⁸ and in the global South on the wake of the debt crises and consequent Structural Adjustment Programmes. In the last few decades reforms in higher education in the UK — a country in which these reforms had made much progress — have created a situation in which the waged and unwaged workers in education (staff and students) must continuously meet benchmarks that are posited *outside* them. Benchmarks are concrete socially defined norms of production that producers must meet or beat, and in thus doing they are part of the social process that define *how* we produce, *what* we produce, and *how much* we produce. Once this social process is coupled to a system of rewards and punishment, we have a disciplinary system. Individual "productive nodes" in higher education might *deviate* from these socially defined norms. Indeed, these deviations from the average are precisely the dynamic principle that oversee the production of value: once the producers' living labour is caught within the ongoing opposition between their own

²⁸ For a review see Larbi 1999.

performance and a moving standard, and once the condition of their livelihoods is increasingly tied to the condition of meeting or beating these standards, we have in place the dynamic process that Marx associates to the formation of socially necessary labour time (SNLT) in capitalism.²⁹

In this section we will discuss a few contested measuring processes that highlight value as a category of struggle in the case of UK Higher Education. It is perhaps important to anticipate that an immediate political implication of this approach is that breaking with these homeostatic mechanisms that attempt to couple the value practices of intellectual and affective work to the value practices of capital, requires in the first place a recognition of the problematic of their coupling. We should certainly not dismiss immaterial labour as being ‘beyond measure’,³⁰ for capital’s managerial discourse believes otherwise:

As services become an ever-larger part of the global economy, managers are rightly looking for ways to improve productivity and efficiency. Services may be difficult to measure and standardize than the manufacture of products, but executives should not abandon hope.³¹

What is even more worrisome about this inducement to keep faith in capital’s measure is that capitalist managers acting upon this belief will put capital’s measures above all else. Through *their* measures of things and processes, they will always end up making our lives hell. And it goes without saying that this is not because we believe they are sadists. Rather, as Marxists, we believe that they are agents that — to a large extent — personify social relations of production. Furthermore, following De Angelis 2007, the frontline clashing of different values and measures that these social relations of production express, passes through all subjects in capitalism, including managers, although, perhaps, do a different degree and intensity.³²

²⁹ For a more extensive discussion of the link between value and measure along these lines see De Angelis 2007, pp. 175-194.

³⁰ Hardt and Negri 2000, p. 294.

³¹ Harmon, Hensel and Lukes 2006, p. 6.

³² “Within this framework therefore, social subjects are not either ‘good’ or ‘bad’, either ‘us’ or ‘them’, either ‘working class’ or ‘capitalists’. To the extent that the real is constituted by a plurality of value practices, we can regard social subjects as being traversed by the social forces they contribute towards constituting,

The structure of our analysis below follows another consideration linked to the question of measure. This is the fact that the homeostatic processes emerging from the struggles over measure tend to be disposed in self-similar ways at different scales of social action, in what has been called a 'fractal-panopticon'. Briefly, De Angelis argues that the market order as conceptualised by, for example, Friederich Hayek has organisational properties similar to that of the Jeremy Bentham's 'panopticon'.³³ These essentially disciplinary properties shaping social production are reproduced and extended throughout the social field and the planet. The panopticon of the global market is fractal in that different levels of social aggregation are *self-similar* in terms of their disciplinary processes.

In what follow, therefore, we distinguish three (self-similar) 'levels' of measure, all of which are linked to disciplinary processes making the measure *real*. We first consider measure with higher education institutions (HEIs), that is, treating each HEI as the social field, with individual education workers its constituent nodes. Moving to a larger scale, we treat HEIs as nodes, exploring measure across HEIs-as-nodes within the nation-state. Finally, we look at international measure across nation-states, i.e. the nation-state is the node.

Measure within higher education institutions (HEIs)

We have described the processes through which class contact hours, assessment methods and so on are being standardised across courses/modules for students. This standardisation frames and makes possible workload calculations for lecturers too, with the other key variable being student numbers. University managers construct workload models for academics on this basis. Such models vary between institutions, but, for example, a one-hour lecture might be allocated 3.5 hours (the additional 2.5 hours being time for preparation and dealing with subsequent student queries) and a one-hour seminar 2.5 hours. Module leaders may perhaps receive an additional allowance to take into account their module-management functions. In some universities, allocated hours might be weighted by student numbers, such that teaching a large number of students is better 'rewarded'. Academics are also allocated hours for performing other key aspects of their jobs such as administration and, possibly, research. So, an admissions tutor or programme leader might 'receive' 200 hours, a personal tutor 25 hours per group and so on. In many universities, the allocation of a research allowance is 'discretionary', being awarded by

social forces often in conflict with each other." De Angelis 2007, p. 30.

³³ See De Angelis 2001, 2002 and 2007.

some 'research committee', based on past and potential research performance. Thus a 'better' researcher, i.e. one who has more or more prestigious publications, may be allocated a larger research-time allowance. A full-time lecturer's hour allocation is supposed to sum to 1575 or similar over the course of the year (37.5 hours/weeks × 42 weeks).

It is easy to ridicule as 'abstract' or 'made-up' such workload models and the 'norms' of which they are constituted. From one perspective — a perspective that values the communicative and relational aspect of teaching and its potential to inspire students from a wide variety of economic, academic and cultural backgrounds — these 'norms' *are* ridiculous. Rather than standardisation, the conditions of an increasingly heterogeneous student body and 'widening access' would necessitate maximum self-managed flexibility and autonomy of judgment by individual staff and departments. In turn, this would require a context of abundant 'under-utilised' resources that can be put to use when specific needs require it, but be kept otherwise as the normal context of creativity and sociality.

But these norms are also *real* in the sense that they help shape *the form* of academic labour in both its educational and research features. They do so by counter-posing the measures of capital, which privilege the meeting of abstractly defined targets (whether these indicate financial viability or consistency with government policies), to the immanent measures of immaterial labourers, who instead privilege the intellectual and relational content of their work. Thus, for example, an 'inefficient' lecturer becomes one who is unable to *meet or beat* the norm, one who spends more than, say, two-and-a-half hours preparing each lecture, or an educator who assigns 'excessive' value to the relational practices with students who do not conform to the standard academic background and so need particular attention. Conversely, an 'efficient' lecturer is one who uses the pittance of his or her research allowance and produces 'measurable output' — one article in a 'good' refereed journal each year — without asking for more time off teaching.³⁴ It goes without saying that unless such a lecturer is able to beat norms elsewhere, and recuperate time in this way, then they will be forced to extend their own working day and week. In this way, a quantitative definition of socially necessary labour time (SNLT) for the labour of a lecturer emerges as the result of ongoing process of norm definition.

³⁴ A department's RAE score is essentially based on each of its members' 'best four' publications. Since RAEs have taken place every four or five years or so, the 'norm' for the production of a 'good' article is roughly one year.

Work allocation models exclude a variety of activities. For example, allowances for meetings (which yearly increase in number) are not always granted, nor is time for the writing of student references. Our informal interviews with several staff across the sector also reveals that strategies of work intensification frequently occur when middle-ranking managers fiddle with the weights and parameters of the workload model, in a bid to squeeze an increasing number of activities into the maximum time permitted by the contract. At other times, when this maximum is exceeded by a significant amount, management discourse is deployed to make sure that the meaning of the figures is not taken 'literally' as an absolute amount of work performed (which would run against the national contract), but rather as an indication of 'relative labour inputs'. But such management reliance on the workload model immediately opens up a tactic of struggle against this form of measure, namely a type of work to rule or, rather, a work to the workload model. Every time one is expected to perform a task for which no hours have been allocated, the task is refused and possibly forwarded to the line-manager.

This framework often reveals a contradictory set of incentives. On one side, academic staff are pushed to become 'more efficient', that is, to spend less time preparing teaching material and engaging in discussions with students. On the other side, there is an incentive for lecturers to hide from management any 'efficiency gains' they do make, i.e. instances when they beat the norm, with the fear that, as next-year's weights are calculated in a context of reducing resources, the goalpost are shifted once more.

We have already mentioned (in section 3) the so-called transparency reviews, imposed on English and Welsh universities by the UK Treasury and implemented by HEFCE. Transparency reviews have been designed to discover the relative proportion of time *actually* spent on various classes of activity, such as 'teaching', 'teaching-related', 'research', 'administration' and so on. Such information would enable all institutions 'to determine the full economic cost of all their activities at a level appropriate to their decision-making' and to 'set a price for their activities using market-based pricing ... or cost-based pricing where appropriate' and, of course, to design suitable workload models.³⁵ What is interesting about the transparency review exercise is not so much that many academics invent the time-use diary returns upon which the review is based, but that absolute honesty on the part of academics is also discouraged. We are reminded of Verushka Graef, a mathematician in Iain Banks's *The Steep Approach to Garbadale*.³⁶ Graef's

³⁵ <http://www.jcpsg.ac.uk/project/>.

³⁶ Banks 2007.

Glasgow flat is sparsely furnished and its windows have no curtains because, as she explains to Alban, the novel's protagonist, her job involves 'a lot of staring into space'. Real-world academics who have been as candid in their transparency review time-use diary have been reprimanded by managers for not taking the exercise seriously.

Measure across HEIs, measure within the nation-state

Let us now zoom out of individual institutions and explore the measuring processes within the higher education sector as a whole. Here we can understand that the rationale for this measuring of academic labour largely emerges out a struggle for funding among increasingly resource-constrained institutions. While it is obvious that this 'resource constraint' has been politically engineered by a string of neoliberal governments, yet, it now acts as a context in which individual institutions make 'economic' choices and define labour processes.

Measure across and competition between HEIs takes place in a number of ways. First, the standardisation and record-keeping processes generate a large volume of comparable statistics, which, in turn, allow the production of league tables. Such data includes: staff-student ratios; 'progression rates' and 'retention rates', i.e. proportion of level-1 students who proceed to level-2, etc.; proportion of students awarded degrees in particular degree classes (First, Upper Second, etc); proportion of students employed six months after graduation; 'scores' awarded to departments by the QAA following inspection visits; and, performance indicators regarding 'widening access'. The rationale for the collation and publication of such statistics and league tables is to make the market more 'efficient': by increasing the quantity of information available to applicants, they are then, supposedly, better able to exercise their 'consumer rights' in choosing universities that are most 'appropriate' to their needs and budget. In reality, such choice is restricted to a core of students with 'traditional' school backgrounds. For the bulk of university students, poorer and possibly from 'disadvantaged' backgrounds, choice is restricted to institutions in their localities or those with looser entry levels.

These indicators also form the basis for a proportion of HEIs' state-funding, which we discuss below. Thus they influence universities' funding both directly and indirectly, and consequently, put pressure on staff to meet targets, whether this is through intensification of labour, restructuring of the forms of labour or simply, as it was practised in the old Soviet Union, fiddling with the ways 'evidence' is produced in relation to these targets.

British universities are funded from a number of sources. All are conditional upon measure and/or competition and, hence, are uncertain and disciplinary: they all exhort higher education workers to not 'be complacent'. Neoliberalism enters the classroom in several ways.

- *Student tuition fees.* Since 1998/99 European Union students studying in Britain have been required to pay 'top-up' fees. Currently universities are allowed to charge students up to £3,145 per annum. But clearly, for universities, this income is dependent upon attracting students. As we noted above, competition for non-EU is also becoming increasingly fierce.
- *HEFCE grant.* This has three primary components: teaching resource, special funding and research funding.

Teaching resource is allocated on the basis of a model that first calculates a level of 'standard resource', which takes into account current student numbers, subject mix and a few other factors. Standard resource is then compared with 'assumed resource', that level of funding that each institution has previously received. If assumed resource and standard resource differ by more than 5%, then 'adjustment' is required. According to HEFCE's explanation of the process: 'Adjust funding [occurs] where institutions have failed to meet the requirements of their funding agreement ... This usually arises because institutions are unable to recruit or retain the numbers of students for which the previous year's grant was allocated.'³⁷ So, universities must compete to recruit students and the losers are forced to make adjustments: 'For institutions which fall outside the tolerance band, we take action to bring them within the band. This may be by expecting institutions to increase or reduce their student numbers, or by adjusting funding.'³⁸ In practice, this means a process similar to the 'structural adjustment programmes' forced on poor countries by the IMF in the wake of debt default or other financial crisis. (After all, a country cannot live 'beyond its means', as the adage goes.) Thus a university in crisis is pressurised to design and implement a recovery plan, which may involve cutting programmes, closing departments and other restructuring all geared towards making the university more 'accountable' to the taxpayer.

So, for example, in the last few years there has been increasing concern over a 'science crisis' in UK universities. In 2004 the closure of a number of chemistry, physics,

³⁷ HEFCE 2007, p. 13.

³⁸ *Ibid.*, p. 14.

engineering and mathematics departments prompted the government to order HEFCE to investigate this potential crisis. Although HEFCE concluded that there was 'no general crisis', the Royal Society has argued that too many science departments have been closed without students' needs being safeguarded. Ten universities have recently closed chemistry departments for lack of demand and in 2005 Sir Howard Newby, chief executive of HEFCE, warned MPs that applications to study those science discipline had fallen up to 30% in recent years.

Special funding is awarded to enable universities to meet HEFCE's 'strategic aims' which are set by government policies. These include: (i) 'widening participation and access'; (ii) 'enhancing excellence in teaching and learning', which takes almost half of the £1 billion available; (iii) 'enhancing excellence in research'; and (iv) 'enhancing the contribution of HE to the economy and society'. All four strategic aims are 'underpinned' by three 'cross-cutting supporting aims': (i) 'building on institutions' strengths'; (ii) 'developing leadership, governance and management'; and (iii) 'excellence in delivery: organisational development within HEFCE'. For each of its aims, HEFCE has defined 'key performance targets by which we plan to demonstrate, in measurable terms, our progress towards the aim and objectives.'

Regarding *research funding*, HEFCE's position is that 'a dynamic, world-class research sector is not only vital for the health of universities but crucial to economic growth and social cohesion.' A 'key element' of the strategy is thus to strengthen the 'contribution [of the national research base] to national competitiveness'. HEFCE recognises that '[m]easuring the outputs from the research that we fund is not straightforward'. But it notes that '[s]ome encouraging work has been done in recent years, for example in developing bibliometric indices and reasonably comprehensive output measures; and we intend to build on this. With other funding bodies, we will sponsor studies of the social impacts of research and develop tools for measuring the outcomes of investment in research.'³⁹

- *Non-HEFCE research and consultancy incomes*. The constraints on education funding imposed by government policies are not only a means to facilitate ongoing competitive restructuring in higher education. These constraints also provide an opportunity to channel

³⁹ See Harvie 2000 on 'research selectivity' as a neoliberal process of measure designed to strengthen the link between money and work.

the know-how, skills and expertise of staff to fulfil broader government targets: to have a competitive society geared to attract capital investment and out-compete others. While 'big player' universities, with their research-intense environment and resources, provide greater resources and time free from teaching so that their staff can bid for project-based research funding, in the 'lowly' ones, pressure is mounting to meet the demand for research funding with the new buzz word of 'knowledge transfer'. While this is interpreted by HEFCE as 'building on institutions' strengths', in reality it means conflating independent research with the dependency and subordination of academia to the priority of the market and competitiveness.

Measure across sectors and nation-states

As we have seen, within the 'national' economy, measure across institutions-as-nodes is implemented through a process of competitive funding processes designed either to simulate the market's homeostatic mechanisms or to create 'real' markets. We have also noted the intensification of competition for 'international students'. The struggle over measure also plays a role here.

This measure of the market is one aspect of the measuring process among HEIs across national borders. Such measure is facilitated by policy initiatives such as the *Bologna Declaration on the European space for higher education*,⁴⁰ which is driven by two underlying issues, 'compatibility and comparability' and global competitiveness. Next to the need to 'achieve greater compatibility and comparability in the systems of higher education' (mainly an intra-European issue), the Declaration expresses 'in particular' a desire to increase 'the international competitiveness of the European system of higher education'. It suggests that the 'vitality and efficiency of any civilisation can be measured by the appeal its culture has for other countries'. The signatory countries explicitly express their goal to 'ensure that the European higher education system acquires a worldwide degree of attractiveness equal to [Europe's] extraordinary cultural and scientific traditions'.

More generally, we can understand nation-states as essentially in competition with one-another to attract and retain capital.⁴¹ A key parameter of this competition is the presence of labour-

⁴⁰ See <http://europa.eu.int/comm/education/policies/educ/bologna/bologna.pdf>.

⁴¹ See, for example, Holloway 1996.

power that is both adequately educated and sufficiently compliant. Producing such labour-power is, of course, the function of the education system. (Labour-power also has to sufficiently healthy, which is the function for capital of health services.) Debates on the relationship between education, on the one hand, and productivity and international competitiveness, on the other, are now informed by a fast-growing literature that uses sophisticated econometric/statistical tools to measure the 'returns to schooling' and the 'returns to health'. Two types of return might be estimated.

First, the 'private' rate of return, which treats an *agent's* spending on health care or education as a 'private decision to invest in human capital' and then attempts to estimate the 'expected internal return to that private investment. It is possible to envisage universities using such estimates to guide their own fee-setting decisions. For example, two econometricians who use British Labour Force Survey data to estimate the rate of return to first degrees, Masters degrees and PhDs in various distinct disciplines conclude that their results 'reveal considerable heterogeneity in returns to particular degree programmes and by gender, *which have important policy implications for charging students for the costs of their education*'.⁴²

Second, the 'social' or 'public' rate of return, which is an estimate of the effect on growth rates or levels of GDP per head of schooling (or health services). Such studies already inform the World Bank policies. In the words of one Bank working paper:

The purpose of project economic analysis is to distinguish among potential projects and select that project which promises to contribute the most to the economic welfare of the country. The scarcity of funding makes it necessary for national decision-makers to be selective. This is especially true for poor developing countries. Even many good projects have to be passed up in the absence of resources for project funding. Only the best project should be selected, therefore, and when that project is underway, if additional financing is available then the next best project and so on.⁴³

42 O'Leary and Sloane 2005, p. 75; our emphasis.

43 Vawda et al. 2001, pp. 10–11. See also the special issue of the *Journal of Econometrics* on higher education, volume 121, nos. 1–2 (July–August 2004).

5. Conclusions: values, the struggle over measure and the production of commons

In the previous two sections we have tried to chronicle a few of the myriad ways in which the labour of higher education workers is quantified and compared and, through this, managed and disciplined. A few observations are worth making here.

First, these processes and tools of measure *are* myriad. These include: benchmarking, performance indicators, league tables, workload models, the rhetorics of ‘best practice’, ‘efficiency’ and ‘competitiveness’, construction of metrics (such as bibliometric indices), economic/econometric ‘rates of return’ analysis. There does not appear to be any *universal* measure.

Second, we have been able to distinguish several different *layers* of measure. We can thus understand individual academics as nodes constituting the social field of a single HEI. We can also understand HEIs as nodes within the national economy and nation-states as nodes within the global economy. But, of course, definitions of each ‘layer’ are fuzzy. Thus an individual academic might submit to measuring processes at national level (say, in applying for a research council grant) and at international level, as well as measure imposed by his or her own institution. Similarly, in the market for ‘international students’ institutions compete with one another directly.

Third, the processes and tools we have described as operating within higher education clearly have counterparts in every other sector of the economy and indeed, with the pervasiveness of the fractal-panopticon, any other sphere of social practice. This is most obvious within the education system generally and within the health and other ‘public’ services. But the struggle over measure is even evident in the state’s strategies to manage unemployed and precarious workers’ unwaged job search or in its management of the unwaged work of parenting. Unemployment benefit, for example, has now become job-seeker’s allowance and claimants must show evidence of adequate job-seeking activity in order to receive their pittance. Regarding adults’ relationships with their children, unsupervised play is increasingly denigrated; ‘expert’ pressure is mounting for replacing it with adult supervised ‘success-enhancing activities’ and exam-measurable schooling.⁴⁴

The rhetoric of ‘best practice’ permeates many private companies too. The practice of

44 See for example Furedi’s 2002 discussion of ‘paranoid parenting’.

benchmarking, for instance, was pioneered by Xerox, which defines it as ‘the continuous process of measuring products, services and practices against the toughest competitors or those companies recognised as industry leaders (best in class)’.⁴⁵ Parallels can also be found with management strategies in material production: ‘quality circles’, ‘workgroups’, and so on. Workers are granted more freedom to self-manage, but this freedom is always framed and constrained by management’s goals, i.e. to maximise profitability. Finally, permeating every ‘level’ of scale and every sector, is the measure of the financial markets, as financial derivatives allow the ‘commensuration’ of different forms of asset and heterogeneous ‘bits of capital’: derivatives ‘make it possible to convert things as economically nebulous as ideas and perceptions, weather and war into commodities that can be priced relative to each other and traded for profits.’⁴⁶

In higher education, as in other sectors, the struggle over measure operates through two processes. In the first place, there is a *diachronic* process that drives the labour time socially necessary for the ‘production’ of ideas (papers, validation documents, new courses) and affects (students’ ‘customer satisfaction’, educational ‘experience’ and so on) in a context of increasingly tight budgets. Such a process brings us ‘efficiency gains’, ‘improving standards’ and ‘better quality’ research. In the second place, this diachronic process is made possible by an ongoing *synchronic* comparison — or *commensuration* — of heterogeneous activities — within education and across the social field — on the basis of quantities of human labour in the abstract. Appearing in the discursive forms of benchmarks and norms across nodes of production, these enable capital to adjudge that a scholarly article (published in a ‘top’ journal) will ‘normally’ embody the same quantity of academic labour as two 20-credit modules, say. Thus socially necessary labour times are constructed.

Synchronic and diachronic processes are interrelated, each one facilitating the other. For example, the commensuration of research and teaching activities (synchronic) provides an ‘incentive’ (disciplinary spur) to the aspirant researcher. By ‘raising their game’ — i.e., working harder — in order to publish journal articles, they are ‘rewarded’ with a reduced teaching load. But the actions of this teacher-researcher also demonstrate that it is possible to ‘produce’ both

45 The Xerox Corporation, cited in Public Sector Benchmarking Service (PSBS), ‘What is benchmarking?’, at http://www.benchmarking.gov.uk/about_bench/whatisit.asp. [Accessed 6 April 2006].

⁴⁶ Bryan and Rafferty 2006, p. 12.

publications and new labour-power. Thus the socially necessary labour time of both activities is forced down, increasing the pressure on other researchers and teachers (diachronic process).

Our interpretation of measure has several implications for the way in which we understand, not only immaterial labour, but also the production of value and the law of value, the circulation of struggles and the production of alternatives, and capitalist development. We conclude by hinting at some of these implications.

First, immaterial labour is not a practice that is inherently communist because it is 'outside' or 'beyond measure', which is what Hardt and Negri seem to imply. The political and strategic question for us is not whether capital measures immaterial labour, but at what level and with what frequency it does so in different contexts vis-à-vis different class compositions and organisational reaches of immaterial and affective workers.⁴⁷ Moreover, the overcoming of capital's measure is not a 'tendency' that will play itself out. Hardt and Negri's teleological determinism is misplaced.

Second, measure is a category of struggle. 'Products' both material and 'immaterial' only become commodities if they can be commensurated on the basis of quantities of human labour in the abstract. Otherwise they remain so many tonnes of wheat or barrels of oil, or... such and such a number of scholarly articles. The 'law of value' is wholly dependent for its continued operation upon measure against some universal equivalent. Thus capital's struggle to impose and reimpose the 'law of value' is always a simultaneous struggle to impose (a single, universal) measure. It may well be true that producing subjects produce both material and immaterial products that *they* value in forms and ways that are outside and beyond capital's own measures.

⁴⁷ For example, at one extreme there is Finland. In that country, schooling does not begin until a child is six-years old, there is no streaming or selection of pupils whatsoever and there are no national exams until the age of 18 or 19. At the other extreme is Britain, where selection of pupils/students is widespread and students face national exams from as early as age seven and proposals are discussed to introduce them earlier; by age 14, national testing is almost annual. Yet Finland's education system is still measured: the OECD publishes annually a ranking of the educational performance of industrial countries (Grace 2003). Moreover, in a global economy, the 'performance' of the Finnish state is compared with that of other nation-states, in terms of the costs of the labour-power reproduction. In short, high spending on state education must be funded by higher taxation, which threatens capital's profitability within that territory.

But it is also the case that capital — via its army of economists, statisticians, management scientists, etc., etc. — struggles to measure immaterial ‘outputs’ in its own terms (profit, efficiency, competitiveness and so on). In thus doing capital helps shape the forms immaterial labour, just as it shapes the form of material labour.

In higher education, as elsewhere, production depends upon some access over a common pool of resources, i.e. commons. But some of these commons are not *given*: they must be produced by the academic labourers themselves. The ways and forms in which commons are produced depend on the balance of forces among clashing values and measuring processes. At the moment those commons that are produced in higher education tend to be produced within the discourse of the coupling of ‘quality’ and ‘efficiency’. (As we have pointed out above, we are struggling against measure and for alternative values behind the façade of managerial discourse). We think that a first step is to make our opposition more public and visible, in order to de-couple as much as possible the priorities of competitiveness and profit seeking with those of knowledge social production. Just as capitalist measure is based on a social process that seeks to define the how, the what, and the how much, and subordinate these to accumulation, all the same a recomposition of the fragmented struggles in higher education must occur on the basis of alternative values and measures of the “what”, “how much” and “how”. Here, the “frontline” among these two conceptions of value and measure must become visible and the object of public open debate.

Third, acknowledging measure as a category of struggle suggests a basis from which to link or circulate struggles both within and outside the university, since capital’s measure is pervasive across social cooperation. The university has long been a site of struggle against capital’s measure. Most visibly, worldwide the latter has invaded the campuses in the form of the slashing of budgets and in the form of riot police (mostly in the global South) dispersing students protesting such cutbacks and ‘structural adjustment’ more generally. Capital’s measure also may appear in the suppression of ‘academic freedom’ — a recent example in the UK context was the six-day detention under terror laws of a University of Nottingham research student (and his administrator) friend for downloading an al-Qaeda document.⁴⁸ Less visibly, capital’s measure also invades the campus disguised in the rethoric of “customers satisfaction” and “value for money”. The managerial discourse itself needs to be openly contested and we must find a way

48. See, for example, ‘Research into Islamic terrorism led to police response’, *Times Higher Education*, 28 May 2008; at <http://www.timeshighereducation.co.uk/story.asp?storycode=402125>.

to articulate the “underground” struggle against/beyond capitalist measure within universities to struggles against/beyond measure in other contexts of social production.

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