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INTERNATIONAL DEVELOPMENTS IN THE PURPOSE AND PROCESS OF THE DOCTORATE

CONSEQUENCES FOR SUPERVISION, EXAMINING
AND THE EMPLOYMENT OF GRADUATES

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INTRODUCTION

This chapter reviews the recent history of the doctorate, the pinnacle of university awards, considering the debates that contributed to geographically pervasive developments, current and forthcoming, as a prelude to engaging with their implications for all those involved with this qualification, particularly supervisors. However, the challenge of condensing a worldwide and far-reaching phenomenon raises problems of selection and interpretation of information for sharing with peers in similar or different roles from other institutions and nations.

The selection made herein is inevitably biased. It is the interpretation of someone who had excellent support as a doctoral student, and seeks the same or better for all such researchers. It is also a cautionary tale – with the caveat: ‘Be careful what you wish for’! Even the most adventurous, dedicated academics sometimes consider wistfully a prospect of less turbulent academic times, though few can remember when they were ever peaceful.

Further, the story presented reflects engagement with particular communities of practice and organisations involved with doctoral education, not only in the UK and further afield in Europe, but also in Australasia and North America in particular. The selection of highlights in government and professional initiatives tends to be a reflection of an academic career, from student, through supervisor, examiner, trainer of supervisors and examiners, manager of a university graduate school, to organiser/consultant in multi-university doctoral training partnerships. Each role has provided a distinctive viewpoint on the doctorate, focusing on different aspects, concerns and requirements. Thus the result is a multidimensional model that, in some respects at

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least, may resonate with each reader's own professional perspective while alerting them to alternative frameworks that require consideration if we are to work in productive harmony for the future.

This is a two-part narrative, the first more objective than the second, the latter reflecting a lived experience. Thus a summary of the stimulants of change and consequent policy development at UK national and European levels will, in the next section, provide an illustrative backdrop of detail to a discussion of the global developments in doctoral education and support. Further, some of the consistency of concerns between nations, despite diversity in structures, of doctoral education will be highlighted. The second section explores implications for the different actors in the process, raising questions about how the emergent dilemmas and contradictions might be resolved to produce insights to aid further improvement.

PART I. POLICY THROUGHOUT RECENT HISTORY

There is a tide in the affairs of men, which, taken at the flood, leads on to fortune ...

And we must take the current when it serves, or lose our ventures.

W. Shakespeare 1599 (?) *Julius Caesar* IV iii:218

Benign neglect followed by challenges with opportunities

Before the 1990s the number of doctoral students in UK universities, and similarly elsewhere, was a tiny proportion of the total student population, largely ignored by senior managers at the institutional level except for promotional purposes. Once recruited by departments, supervisors (called advisors in some countries) guided their degree progress with any formal training in methods or research skills being both rare and patchy. Government agencies had been almost silent on postgraduate research (PGR) matters as they and institutions focused on undergraduate provision. In 1987 Winfield led an inquiry about submission rates for social sciences, recommending that they be reduced and this interest was not expanded until 1996 when, in response to the burgeoning of numbers of postgraduates overall, a review of postgraduate education in general was conducted (Harris 1996). Recommendations about PGR were made, and subsequently implemented, establishing institutional codes of practice concerning appropriate facilities and supervision. This step marked the beginning of unprecedented interest in doctoral researchers and their support in the UK which was then mirrored across Europe with the signing of the Bologna Declaration in 1999, then globally, as PG researchers became key in a competitive market.

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The Bologna Process provided an opportunity for change so that it was later hailed as revolutionary, transformational, a metamorphosis of higher education (Park 2007; Denicolo 2010). In brief, the original 29 countries committed to enhancing the competitiveness of the European Higher Education Area (EHEA) by voluntary harmonisation of programmes and degrees without infringing the independence and autonomy of individual institutions. The intention was to develop transparent equivalence, comparability, compatibility and coherence rather than uniformity. The EHEA continued to expand, there now being 47 participating countries. The objectives were also enhanced, including linking the EHEA to the European Research Area (ERA), adding emphasis both to quality assurance and the third cycle, the doctoral level of study. These wider developments, as well as national concerns to remain competitive within Europe as well as in the wider world, led to a plethora of policy documents published in the last 15 years. The developments demonstrate an unprecedented escalation of interest, and some say interference, in issues pertaining to doctoral education. In a classical vein, those of us who wished to seize the day (*carpe diem*) to improve the support of the previously neglected doctoral community later wished we had been more circumspect (*caveat emptor*) when we found what a Pandora's Box of wild winds had been opened.

Despite between-nation dissimilarities, such as the balance of taught component and individual research and the mode of examination including or not a closed or public viva voce, one consistency across doctoral education is the challenge of pervasive, increasing change. What stimulated that change is addressed next, using the UK situation as an illustrative case in point.

Drivers of change

By 2000 the massification of higher education was already well underway in many countries including the UK. There the percentage of population attending university for a first degree had risen from 10% to 30% in the later part of the 20th century and there continue to be moves to raise that to 50%, despite increases in tuition fees. The increase in undergraduate enrolments had a knock-on effect on postgraduate numbers overall. The number of doctorates awarded across Organisation for Economic Co-operation and Development (OECD) countries rose from 158 000 in 2000 to 247 000 in 2012 (OECD 2014). Simultaneously in the UK, the diversity of the student population was increasing as more women and international (non-EU) students joined the cohorts while the number of mature students increased rapidly in some disciplines as new forms of doctorates, specifically structured to meet the

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needs of the professions, were devised. Qualification inflation and 'credentialisation' (Brown 2001) took hold.

Between 2000 and 2015 most countries for which data are available suffered wide fluctuation in their economies in what became the so-called 'boom and bust era'. Parallel correlation patterns occurred: as employment became scarcer the qualifications required for jobs rose; as financing for higher education reduced, institutions became more competitive, increasing the variety and support of doctorates; as national economies shrank competition grew between countries or groups of countries for good potential researchers. A cynic might even note that over that period it seems, in the UK and some other European countries at least, that the burden for keeping the country's economic head above water in the future has been squarely placed on the shoulders of researchers, and on universities to produce them, though with severely diminished resources. That simplification ignores, though, another related driver of change: the need to produce doctoral researchers not just expert in a specific, indeed small, aspect of a particular field with the skills needed to research it, but researchers more widely educated to meet the needs of wider employment including, but not restricted to, research within and outside the academy.

In the UK Roberts's 2002 *Set for Success*, with the subsequent 10 years of funding for employability skills training, recognised this. This training was originally based on the skills identified in the Research Councils UK (RCUK) Joint Statement 2001 and later on the Researcher Development Framework (see below). Such training support for doctoral awards was deemed necessary by all higher education institutions to uphold credibility in their university status. This became an expensive exercise for institutions, as Roberts's funding was provided only *pro rata* for state-funded researchers; yet all doctoral students in all disciplines, no matter their source of funding, were expected to engage with this learning support.

Economies of scale were sought so that generic and transferable skills training was organised for large groups, often at faculty or whole institution level rather than in departments. Departmental methods training was already common, replacing the labour-intensive, supervisor-provided model of previous years. In turn, this training was amalgamated into Graduate Schools, in a model similar to that in the USA. Woodward and Denicolo (2004) and Denicolo, Fuller and Berry (2010) traced the rise in number of these entities and described their diversity as well as their common aims/purpose and structures.

Blume (1986) had noted that doctoral education was in a paradoxical state, being both the subject of policy scrutiny and beset by uncertainty about its purpose. This

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paradox has become even more noticeable and uncomfortable during the last 10 years. What used to be a qualification demonstrating critical thinking about and within a discipline to serve as entry into the academy has transmogrified into one with a wider remit, one which demonstrates the acquisition of a broad range of researcher skills suitable for transfer to an extensive range of employment, as is described next.

Challenges and responses

Park (2007) recorded the particular demands impinging on doctoral education, only a year before the world became alert to the impending financially frugal times, as sustaining the supply chain of researchers, preparation for employment, and internationalisation. Factors embodied in these included the growth in inter- and multidisciplinary research, the escalating pace of knowledge production and ever-increasing means of disseminating it, and the dearth of academic posts combined with growing demands from business and industry that doctoral graduates should have a range of employment-related skills. These issues were not confined to the UK. The European Universities Association (EUA) was established in 2001 to promote the activities of European universities across 47 countries, each relishing their autonomy but seeking to enhance networking and influence salient policy. The EUA 2007 report acknowledged the UK's place in the vanguard of responding to the widespread challenges. It noted the increasing trend towards the establishment of graduate/doctoral schools and more structured programmes, the need to respond more effectively to demands from the wider labour market and the advisability of greater transparency and collaboration.

In 2008 the EUA-CDE (Council for Doctoral Education) was established, *inter alia*, to provide a structured framework to promote cooperation and exchange of good practice on issues of common concern related to the doctorate. Words and phrases such as 'critical mass', 'stimulating environment', 'codes of practice', 'quality assurance', 'transferable skills', 'supervisor support and training', and 'transparent rules, regulations and administrative structures' pervaded debates and documents thenceforth. Nor was this confined to Europe. For instance, commentators in Australia (eg Gilbert et al 2004) and the USA (eg Golde & Walker 2006) attest to similar challenges spreading across both these continents, challenges that were further exacerbated as the recession took hold and bit deep into higher education budgets. A Global Summit was convened in Canada in 2007, comprising representatives of graduate education from Australia, Canada, China, Europe and the USA, to discuss best practice. From that meeting the Banff Principles on Graduate Education

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emerged, intended to improve and strengthen global graduate education (http://www.cgsnet.org/ckfinder/userfiles/files/mtg_BanffPrinciples.pdf). The League of European Research Universities (LERU) produced a position paper in 2010 entitled 'Doctoral Degrees beyond 2010: Training talented researchers for society' and followed this document up in 2014 with an advice paper on good practice elements in doctoral training. From these and similar documents it was clear that the focus of doctoral education had shifted radically away from the notion of the lone scholar creating a small but significant contribution to knowledge through intensive study and research as a prelude to an academic career. Instead, the doctorate is purveyed as preparation for making a significant, innovative and ongoing contribution to society through a wide range of professional roles (Kompf & Denicolo 2013).

At a more grassroots level in the UK various organisations devoted to the support of postgraduate issues, particularly research, provided not only sources of support for those working in the field but also acted as conduits between them and policy-makers/government bodies such as research and funding councils and the Quality Assurance Agency (QAA). Organisations such as the UK Council for Graduate Education (UKCGE), the Society for Research into Higher Education Postgraduate Interest Network (SRHE PIN) and Vitae, supported by the RCUK, provided a range of conferences, workshops and network groups that further encouraged internal, nationwide debate, sharing of good practice, collaboration and creative responses as well as inviting or hosting international contributions and opportunities for fruitful mutual learning. Regular forums proliferated for graduate/doctoral school leaders, supervisors and examiners, administrators of doctoral programmes and skills trainers to share concerns and survival tactics as budgets decreased and demands multiplied. Recently, recognition has intensified that doctoral researchers themselves should be engaged in the debate and work with staff in transforming provision to meet developing requirements of business, industry and society at large.

One initiative that has had repercussions within the UK and Europe and now in many other countries was the development of the Researcher Development Framework in 2010, funded by the RCUK and managed by Vitae (2010). This drew on the experience and expertise of a large number and range of experienced researchers, augmented by feedback from the many stakeholders in the doctoral world, to produce a detailed, comprehensive description of the skills required of researchers across the whole research career. It was intended to be both inspirational and aspirational and has been adopted by the vast majority of UK universities (and in a range of other countries) as a guide for researcher training and development (Denicolo & Reeves 2014).

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Academics and doctoral researchers have always been expected to disseminate their work to peers working in similar fields but it now must be explained to a much wider audience in accessible language, to convince them of the value and applicability of research. The academic language register has also changed to one with a business overtone (Denicolo 2007:244). Academics must descend from ivory towers, preparing an 'elevator pitch' to engage with the public and with employers from all sectors, while inviting them to form 'collaborative partnerships' in the 'academic marketplace' by 'investing in' research endeavours. Academics must learn, alongside their doctoral researchers, to produce 'impact statements' to secure funding. While it is recognised that unexpected impact can occur, being able to defend to peers, funders and the public the actual, predicted and potential effects and influence of research projects demonstrates accountability, a complex requirement derived from a financially stringent environment (Denicolo 2013).

Further, academics must be enterprising, seeking research funding through links with business and industry or by forming international consortia capable of large-scale and multi-centred research. Doctoral researchers must learn these skills too, so universities have had added to their raft of challenging objectives the need to liaise with employers to solicit work experience visits, placements or, indeed, collaborative supervision on joint projects.

These new requirements relate to the expectation by governments that postgraduate education will contribute to their countries' economic growth and competitiveness in the global market, yet they are viewed as conflicting with the continuing pressure for timely doctoral completion. Simultaneously, academics are also acquiring these new skills, seeking to provide evidence of their own research impact (through publication, public engagement and grant winning) to contribute to their institutions' metrics. The current climate worldwide is one in which performance measures of individual academics, of programmes and of institutions are critical for survival. We have become an audit society (Deem & Brehony 2005), which has produced, Winter (2009) argues, schisms in academic identity.

Further repercussions are now evident: the emergence of a new academic-related career pathway, that of researcher-developer to complement the supervisor role, and the move towards institutional coalitions, doctoral training centres or partnerships, to enhance the training and experience of doctoral candidates. Together these contribute to the range of expertise and critical mass required by funding bodies while also facilitating sharing of resources from laboratory kit to employer links. However, such collaborations are not without challenges in themselves, especially for supervisors having to initiate and maintain these networks.

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Attention has become focused recently on the concept of doctorateness (Denicolo & Park 2013) and on the development of supervisors' and examiners' skills and expertise (eg Wisker & Kiley 2012). This latter debate recognises a proliferation of improvements in the way doctoral education is supported, in conjunction with a shift in its rationale and aims, begging consideration of whether the doctorate should still be examined in the same way. When the creation of new forms of doctorates is considered alongside the expectation that doctorateness should transcend national boundaries, the requirement intensifies to develop transparent criteria by which we judge doctorateness. Currently this is the subject of much, sometimes heated, discussion in the UK with academics concerned that, having lifted the veil on our previous (and current) arcane practices of doctoral examination, we must swiftly devise more accessible and detailed criteria within the academy before there is interference from without. We must also ensure that supervisors and examiners are working to the same script. Steps in that direction are contained in the QAA documents on doctoral examination and on doctoral characteristics (see www.Qaa.ac.uk/en/Publications/Documents).

PART II. HUMAN EXPERIENCE

It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair ...

Charles Dickens: *A Tale of Two Cities* (1859:1)

As the quotation above suggests, doctoral education in recent years has been fraught with contradictions for at least the staff involved, though perhaps less so for the doctoral researchers themselves. Since students have little prior knowledge about what it entails (unless they are themselves in the special case of academic staff), they are less aware of what it used to be like. Comparisons with the past are rare while comparisons with expectations, fulfilled or otherwise, are becoming much more common. Thus the impact on students is addressed first, before considering the institutional perspective (the dilemmas for senior managers), then the challenges encountered by academic staff. Readers are asked to compare with their own (and tolerate) the personal perspectives that interlace the documented evidence of impact presented below. Hard evidence is scarce while academic perspectives, usually tacit, are oftentimes deceptively influential.

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The doctoral researchers' experience

In 2005 the Higher Education Academy in the UK commissioned a review of published research on the postgraduate researchers' experience. This systematic review (Leonard, Metcalfe, Becker & Evans 2006) noted that, while some 120 publications reported study of the UK doctorate, few considered the students' perspectives and fewer contained direct evidence from the students themselves. These findings were updated by John and Denicolo in 2013, noting overall an increased interest worldwide in the higher education student experience. While the vast majority of recent research focused on undergraduates' perspectives or comparisons of supervisors' and researchers' views on particular topics, a Finnish study (Stubb, Pyhältö & Lonka 2012) foregrounded the doctoral researchers' views across three disciplines, finding that each student and discipline had a range of different concerns. Focusing on student agency Jazvak-Martek, Chen & McAlpine (2011) found that research students reported receiving support for their studies from many individuals beyond their supervisor and often unacknowledged by them, raising questions about the previously assumed singularity of the supervisory relationship. International and intercultural perspectives (eg Walsh 2010; Trahar 2011) also received increased attention, with researchers in Australia contributing most on a range of other facets of the research student experience (eg Platow 2012).

An analysis of abstracts included in the 2012 Research into Higher Education Abstracts publication (SRHE), which draws from over 100 peer-reviewed academic journals, revealed that, amongst nearly 750 abstracts cited, 47 focused on the student experience (all levels included) plus 26 on student perceptions (all levels). In the edition covering only the last quarter of 2014, 25 concerned the student experience and expectations in general. Of these, six focused on the doctoral student experience, the research having taken place in Australia (2), Finland (2), Canada and Africa. The African article (Stackhouse & Harle 2014), a research survey and a desk review, drew attention, *inter alia*, to the experience of increasingly fragmented research (interrupted by demands of employment) and longer completion times, and the inadequate support felt by some participants as the number of experienced supervisors declines.

In the UK an annual survey conducted by the Higher Education Academy since 2007 specifically seeks to map the experience of doctoral researchers: the Postgraduate Research Experience Survey (PRES). However, although PRES does indicate an overall improvement in satisfaction with experience over recent years, it masks the variation in experience from dire to sublime encountered by individual students. Generally students do not question what academics perceive as 'additions' to their activities

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but then PRES seeks only information on how they experience the various support and training provision. That different people study for the doctorate for different purposes, not all of which are employment-related, receives little or no attention in these surveys. Doctoral students who choose to study simply as a personal challenge or to gain knowledge for its own sake have become an endangered species.

With the exception of the African and the UK PRES surveys, the vast majority of studies have been in-depth studies involving a small number of participants, restricting judgment about the pervasiveness of the personal, detailed issues thus revealed. There are still mysteries to be solved by investigations that use mixed methods approaches in designs combining large-scale surveys that produce quantitative data with techniques that drill down for rich, qualitative data. We also lack evidence from comparative studies within countries of student experience of different degree types and between nations with similar degree types. A burning question for this section of the paper is, then:

How can we ensure that all doctoral candidates benefit from comparable and equivalent positive experiences?

(See for a start on this: http://www.eua.be/Libraries/publications-homepage-list/eua_frindoc_leaflet_)

Challenges and dilemmas for the managers of institutions

The challenges facing the managers of institutions can be subsumed under the headings of internal restructuring, and external collaboration-in-tension-with-competition. Both the 2010 Hodge Report and the review by Kemp, Archer, Gilligan and Humphrey (2008) extolled the benefits that UK institutions had derived from their efforts to provide broader, more employment-focused training for doctoral researchers through the development of internal graduate schools which have raised the profile of postgraduate researchers and fostered intra- and inter-disciplinary collaboration, including the sharing of expertise and more tangible resources such as research kit. More recently, Vitae (2012) emphasised the importance of building an evidence base for the successful implementation of researcher development, part of the continuing imperative to measure or audit activities and outcomes in order to demonstrate quality of provision and thus gain further funding for research and teaching.

Funding from the disciplinary research councils has become even more dependent on collaboration, now in the form of inter-institutional partnerships that focus on expanding and improving postgraduate researchers' experience and training,

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especially in relation to employment and outreach/public engagement, over and above excellence in improving knowledge and research practice. It is understandable that such initiatives are met with some suspicion since they are clearly driven by economics, yet it is hard to dispute the virtuosity of students benefitting from improved support and provision. It is the means rather than the end that set up ripples, waves or squalls within systems.

Despite the internal polemic within the sector there is little, if any, research and public documentation of the huge challenges faced by managers as they try to wrest autonomy from internal units that were formerly fiefdoms or to coalesce formerly antagonistic tribes of academics (Becher 1989). Nor are evident any published research documents about the struggles undergone by smaller, less research-active universities to join the clubs of the more prestigious universities, themselves unwilling to risk reputation and resource dilution by supporting their less well-endowed cousins. Yet, at conferences and through networks, undercurrents make us well aware that such challenges are rife.

Competition among institutions has long been an integral part of the higher education scene, and indeed is still encouraged through ranking/league tables and exercises to focus funding in what are deemed 'the best' institutions. Thus there is a sense in which collaboration among institutions is translated into collaboration with the enemy. Johnson and Hirt (2014) provide a spark of hope by suggesting from their study of reforms in Kenyan universities that the West might learn from the complementary efforts of public and private interest they have uncovered. Nevertheless it is important to maintain variety in the sector to meet the range of current needs within our communities as well as needs not yet apparent. Thus my question for this section is:

How can institutions reap the benefits of economies of scale and shared expertise while maintaining their autonomy and diversity?

Challenges and dilemmas for leaders of schools, centres and partnerships

Another little explored and barely evidenced dark corner is inhabited by the frustrated deans/directors of graduate schools/research centres and partnerships. They have to persuade, cajole and impress the benefits of resource sharing upon colleagues, many of whom enjoyed their former independence, some of whom perceive no personal gain in sharing, and a few of whom feel threatened by exposure to new ways of doing things. Among their colleagues are champions of new approaches and methods, pragmatic and reluctant engagers in addition to hostile challengers of anything new, all with something to offer the enterprise, if only they would or could.

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This state of affairs is inevitable because previously 'lone scholar doctoral research' used to be successful. Further, the relationship between institutions and research funding councils is patently dynamic, the latter responding to the caprices of government policy steers with unpredictable governance as a result (Lunt, McAlpine & Mills 2014). Thus the reluctance to embrace new structures and regimes that stem from cyclical econo-political upheavals is understandable. Inertia, until the wheel turns again, could appear to be a reasonable strategy. Unfortunately, in the meantime, reputations might be lost or the inert might be perceived as a sitting target when economic cuts are required, while current students suffer disadvantage when compared to their peers elsewhere. Therefore a more pertinent question might be:

How can leaders of collaborative entities (schools, centres and partnerships) develop sustainable productive collaboration with colleagues to identify and promote developments that have relevant but yet ill-defined long-term advantage?

Challenges and dilemmas for supervisors and examiners

Academics at the sharp end/chalk face of doctoral education are perhaps the ones most sensitive to its recent challenges. When the apprenticeship model of supervision became ubiquitously recognised as no longer viable, supervisors were asked to adapt to working in supervisory teams; engage in more frequent and demanding assessment of their doctoral candidate's research progress and development of generic, transferable skills; contribute to large group teaching of research skills rather than 'on-the-job-training' of individual students; broaden their own understanding of research approaches and methods; share their students' time with other trainers; and support their students in finding and benefitting from opportunities such as employer and public engagement (Denicolo 2007). Concerns about distractions from the main research task add to suspicions that institutional money that could be spent directly on research is being used for additional generic training.

Some 30 years on, Blume's (1986) uncertainty of purpose seems still to prevail. Further, supervisors face pressures within their organisations, passed down from external funders, to ensure that their doctoral candidates successfully submit their theses on time while those very funders also expect them to encourage students to participate in an expanding range of development activities. At the same time, these supervisors are pressurised by increasing demands in their other academic roles. In order to alleviate some pressure, particular institutions have provided students with 'coaches' or mentors to whom they can have recourse for non-academic problems (Guccione 2014); students find this helpful but supervisors have varied responses, partially related to role incursion and loss of control.

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Some supervisors fear that their contribution to their doctoral students' progress has been diluted, yet they are still perceived to bear the responsibility for well-timed and successful completion. Others are relieved that they are now able to draw on a range of expertise to prepare their students for more complex futures but worry then whether they have the expertise in all facets of doctorateness to advise on the readiness of a thesis for submission. Fewer of them, but an increasing number, examiners fear, are under pressure to uphold institutional statistics, and thus focus more on timely submission than on ensuring that the thesis has been crafted to the requisite quality, leaving examiners to suggest corrections or amendments to bring it up to standard for completion. Examiners then complain to one another that they are tacitly assessing the supervision but overtly penalising the candidates, though some are also concerned that their own understanding of the criteria may be adrift or out of date (SRHE 2015).

Indeed, as Tinkler and Jackson (2004) have found, academics in both the supervisor and examiner roles harbour suspicions that the criteria for successful completion of the doctorate are changing. On the positive side these developments are forcing the recognition that the traditional criteria have until now been only rarely articulated and shared. They also report that confusion is caused for all by variability within the UK and internationally between institutional procedures and between examiners' understanding of the role as well as by the lack of common criteria other than vagaries such as 'a contribution to knowledge' and 'merits publication' found in institutional guidelines. Jackson, Tinkler and Denicolo (2007) later called for more sharing of understandings, suggesting that doctoral assessment is manifestly in transition.

Most universities now provide some training for supervisors, albeit usually for new or newer recruits to the academy, and/or provide a more experienced mentor within the supervisory team, while a few provide workshops on examining. A very few institutions do indeed insist on attendance at a relevant workshop to gain a licence to practise as a supervisor or as an examiner, internal or external, before letting staff loose on live students. While recognising that each doctorate is intended to provide a unique contribution to knowledge, it seems odd that our most prestigious degree is so nebulously defined given that for all undergraduate and master's level degrees there are very clear learning objectives and marking criteria to assure quality, consistency, reliability and equivalence. That academics are concerned is attested to by the number attending, on a voluntary basis, workshops, courses and conferences to debate and explore with peers how these important roles can be improved (cf SRHE, UKCGE, and Vitae provision as well as the biennial Stellenbosch Supervision Conference.) This brings us to a key question:

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Given that all doctorates, regardless of their origin and particular structure, should be equivalent/comparable, should supervisors and examiners engage in continuous professional development to share, maintain and develop their practice?

CONCLUSION – UNRESOLVED QUESTIONS

In reviewing global trends in doctoral education, Thomas Jorgensen (2014), Head of Unit at the EUA, responsible for the EUA Council for Doctoral Education, noted three common threads: a shared discourse about knowledge and society, a growth in registration of doctoral candidates, and a growing interest in strategic collaboration. He suggested that, as competition for talent increases, we will all need to provide better access to improved research training. Similarly, Clarke and Lunt (2014) identified in postgraduate education worldwide the challenge of providing good access to realise the potential of human capital. They revealed that, although particular problems were addressed differently depending on history, traditions and economies of each of the eight countries studied in detail, most dilemmas faced were common to all. They mention balancing tensions inherent in increasing access while managing budgets; providing for diversity within limited resources; providing education for employment but also for the public good; and developing quality through cooperation in a globally competitive market.

This leaves us with a broad but important question:

Have we lost sight of the purpose and value of doctoral education and who has the experience to lead it?

At this point, to complement these questions with a note of optimism, readers might consider a famous academic's reflections about the danger of the PhD becoming only another "bread-winning degree" through the "Tyrannical Machine" of graduate education rather than being, as intended, an indicator of intellectual distinction. That academic was William James writing in the Harvard Monthly ... in March 1903. Thus we are confronting an ever-present danger. *Plus ça change, plus c'est la même chose!*

So my final challenge to readers is:

For (re-)defining doctoral education, if not us, who; if not now, when?

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