

Déjà vu all over again: what next for universities?

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Unter den Linden is old Berlin's most picturesque boulevard. Its west end is marked by the imposing Brandenburg Gate, and the aisle of lime trees for which it is named runs down the centre to Schlossbrücke, bridge to the palace gardens in the east. In stone, Frederick the Great sits on horseback in the centre, glancing towards the rebuilt State Opera he inspired, his eyes averted from the neo-Baroque State Library, for which he cared little.

It is a street redolent with history. Napoleon's troops paraded through the Gate in 1806 after defeating Prussia; Hitler led a torchlight parade there when he became Chancellor. The Berlin Wall still divided the city in the early 1980s when I came to study in the State Library, and armed border guards watched from gun turrets at the Gate to see no-one approached too closely. All that has changed now. Yet one institution that has survived two centuries is in the rebuilt palace next to the Library: Berlin University, opened in 1810 and now renamed after its founder, whose statue graces the entrance—Wilhelm von Humboldt.

Philosopher, diplomat and admirer of the Enlightenment, Humboldt had travelled to Paris in 1789 during the storming of the Bastille. He was amongst the circle of reformers who, in the wake Napoleon's occupation of Berlin, were charged with rebuilding Prussia as a modern state. In 1809 he was appointed head of culture and education at the Prussian Ministry of the Interior, and he immediately proposed a reform of the entire Prussian education system, arranging it into three tiers. He resigned after just 16 months, too soon to see the lower tiers come to reality: the 30,000 free primary schools that spread across

Germany, and the rigorous secondary schools (*Gymnasien*) that still exist today. But he had already implemented his plan for a new kind of university.

Humboldt did not want his university to offer a rigid curriculum like the vocational Stuttgart Hochschule where his friend the poet Schiller had passed a miserable time. Nor did he want the traditional university pattern, where the focus was on the study of often ancient books, transmitted by the professor in lectures for students to copy, summarize and memorize, for he was sceptical of granting books unquestioned authority. One modern book he was in more sympathy with was Diderot's lively *Encyclopédie* (1751-80), which invited readers to educate themselves in any branch of knowledge, all contained in a single work. But Humboldt believed the discovery of knowledge was an unending scientific process, and doubted it could be codified in this way. Scientific discovery was pursued at meetings of the Royal Society in London and the Prussian Academy Sciences in oral demonstrations, but those he felt lacked the stimulation dealing with students would bring. His aim was to bring objective scientific discovery and subjective student learning together as one.¹

In his 1810 paper "On the Internal and External Organization of the Higher Scientific Institutions in Berlin," Humboldt explained his vision of "work on knowledge [*Wissenschaft*]" in the deepest and broadest sense of the word." Around a seminar table, students would orally report on projects they had chosen to work at under their own guidance. The successful work of one would thus inspire the others: it would be "a collaboration that is uninterrupted, constantly self-renewing, but unforced and without specific purpose." There would be no curriculum, no exams, and

no grades; the learning would be student-centred, with professors present not to lecture but to guide these “inherently undetermined and in a sense accidental activities.” The credential would be a new degree, the PhD, awarded for a dissertation demonstrating original research, orally defended in a seminar. Students would graduate as rational, critical and independent thinkers, ready to follow careers in law, medicine, education or the church. The professors, appointed and salaried by the State, would be required to give public lectures, but otherwise had “solitariness and freedom” to pursue topics as their curiosity dictated. The State was to refrain from prescribing them particular technical problems: it was to have “the inner conviction that when they achieve their final purpose, they will also fulfil its purposes, namely from a much more elevated perspective.” Basic research would take time, and the university’s autonomy was important.²

Needless to say, the student who could at once embark on independent research under his own guidance would require rigorous high school preparation to “bear within himself a yearning to lift himself to science.” And thus a problem was entrenched: while Humboldt had sought to end aristocratic privilege, the *Gymnasien* remained all-male, elite institutions throughout the 19th century, and thus admission to the university was socially restricted.

Still, Humboldt’s university attracted brilliant professors and students from across Germany, from Schopenhauer and Hegel to Karl Marx and Albert Einstein. It inspired the German research university which, by the Great War in 1914, was admired throughout the world. To be sure, it was not the only locus for research at the time: Louis Pasteur in France had shown that important and useful science could thrive in free-standing research institutes too. But many British and American scholars were attracted to study in Germany in the 19th century, and the German research university model eventually came to reshape

their own universities, from Harvard in the USA to Oxford in the UK.³

In Australia, the German research university model was more slowly assimilated, the PhD at last adopted in the late 1940s and 50s. The early 1960s were halcyon days: student: staff ratios were a luxurious 8:1 and many classes were small, offering close encounter with a lecturer. The students arrived at university generally well prepared by school matriculation classes, and being supported by their families or on scholarships most had no need to work. The attraction of science was especially great; flushed from wartime achievements in the hour of national need, and confident of ongoing government funding for the Space Race and other ambitions, science seemed to offer limitless horizons. Staff were free to work at applied research or choose to follow their curiosities into long-term basic research, some of which was funded in the R&D departments of commercial companies as well. And not all needed to pursue research: it was accepted that some would be immersed in teaching instead. Universities catered for the traditional professions, while training for the growing number of skilled occupations and for teachers—where employment opportunities and demand were now strongest—were handled by technical institutes and teachers’ colleges. It was a steadily expanding binary system of higher education, a divide legislated by the Menzies government in 1958, as it later was in the UK in 1963.⁴ No-one much complained that just 4% of school leavers attended a university: concerns over social restriction in university participation were yet to become a major issue.

Contrast this with the present situation. Numbers in Australian universities now are huge—more than 1 million students are enrolled. The student: staff ratio averages 20:1, and classes of 1,000 or even 1,500 students are not unknown in first-year subjects. Few campuses have grown in proportion to accommodate such numbers, and not surprisingly, students are unhappy with their experience, expressing in the national Course Experience Questionnaires

and other surveys often modest levels of overall satisfaction. Few of them are on campus full-time, though most are enrolled as if they were, for the average student is now employed 12-15 hours a week, and a sizeable minority over 20. Not at the kind of work they want in the future, however: they are well aware that over a third of all employment in Australia now requires a professional qualification, and most worry that their courses are not specifically preparing them for work after graduation. They sit in classes often overtired from work, distracted by texting friends on ever-present laptops or smartphones, or even gaming which, as one recent study shows, some believe is a legitimate activity in lectures.

The digital world impacts students in other ways too. For a decade now fewer have bought prescribed textbooks, believing that if the lecturer's online materials fail to serve, then they can always make do with searching Google or reading Wikipedia which, despite its own disclaimers, some tend to treat as if it were no less reliable than a text by experts. They are thus ill equipped to read or understand the research literature in their field, and when an enterprising lecturer refers them to a research article, those that read it come away often mystified and irritated at its obscurity, and seldom energised by the idea of the search for new knowledge. The chance that independent research would play a significant role in such undergraduate teaching seems remote.

Moreover, the promises of e-learning have not yet captured their attention in ways we might have hoped. They love downloadable lectures, for they like being able to review and revise through that format, being free to skip, highlight, or replay passages as they wish—just as their forebears did with a textbook—or even play at double speed, to make the droning of a particularly ponderous lecturer more interesting. They also like on-line drills and quizzes where there is instant response. But they complain that other kinds of online learning resources are often poorly executed, boring, or only vaguely related to the subject.

Their lecturers are too often not skilled in the full potential of digital resources, using them simply to reinforce or substitute for face-to-face lectures.

For their lecturers meanwhile, the pressures of research have come to dominate teaching. In an environment where available grant funding is far from adequate, competition is fierce, and calls for measures of “impact” alarm those committed to long-term basic research where no impact may be detectable for many years. Pressure to climb the university ranking tables adds to the focus on research, for most such tables rank research rather than teaching, which they cannot seem to measure directly.⁵

Meanwhile, the cost of researching some of the most important problems has exploded beyond the capacity of any single university to afford. What Australian university could purchase a \$200 million Synchrotron, or run a Very Large Array at \$15 million a year? In one of the welcome developments of the past decade, this has led to significant partnerships, where universities, research institutes, governments and corporations have formed consortia to jointly purchase and operate research facilities none could afford alone. Some such partnerships have brought institutions together around the world, constructing global research capacity of impressive size. But “Big Science” demands large numbers of staff too: a particle collider may need a hundred research-only staff to run it, and this stresses further the tension between research and teaching. Such facilities often offer too few properly-funded opportunities for students. Research-Only staff numbers have grown strongly, while nationally research higher degree student numbers have now started to decline, as they find more attractive rewards and more stimulating work outside universities.

Yet despite their massive size, universities cater for a participation rate of no more than 32% in Australia, so some social inequity remains. To achieve the goal of 40% set by government since the Bradley Report, let

alone the 50% aspiration in the UK, requires yet further expansion. Subjects with 2,000 students perhaps? Anything Humboldt would have recognised will then be very hard to find.

How did our universities come to this? The turning points were in the 1970s. The Oil Shock and the western economic crisis that followed brought the first significant constraints in government block grants to universities in Australia, and with those came the development of more rigorous selectivity measures and quality assurance control in national research grants. It was the worst possible moment for universities to expand, but a tidal wave of baby boomers reaching school leaving age had already struck: the capacity to accommodate more students was at an end. Entrance quotas were introduced, based on school scores, and for the first time high school matriculation no longer meant a place in university. Tension rose over social inequity in universities, and it was clear the binary systems would not last much longer. The end approached in 1988 (and in the UK around the same time) when under John Dawkins a “Unified National System” came into law. Funding would now significantly increase, but the colleges and technical institutes would all combine or be merged with existing universities; henceforth all higher education institutions would be called universities, and thus all would be required to adopt a research-intensive mission. In Australia and the UK, all higher education institutions were now shaped by a single mould.

Some countries had more nuanced ways of managing the enrolment explosion of those years. By far the most impressive was in the USA, where in California, the State’s university, teachers colleges and junior colleges had been coordinated under a Master Plan for Higher Education in 1960. The Plan mandated a tripartite system under a California Postsecondary Education Commission, in which the University of California would take the top eighth of school leavers, the state teachers colleges (now renamed California State University and

focussed on applied research) the top third and the vocational junior (now community) colleges would be open to all who had finished high school and are 18. All three tiers would be tuition-free, and each would have its separate governance. It was a bold, quintessentially democratic solution, which allowed significant and ongoing expansion of higher education, but based on academic merit rather than social class.

In the past few years the Master Plan has been revised, the California Postsecondary Education Commission abolished, the GFC has brought financial crisis, and the gap between access to a university and local junior college is substantial. But it remains a hugely admired model,⁶ and several other US States followed suit: in New York, the State University and the City University systems were created, bringing together senior and community colleges, and creating a hierarchy of merit which serves between them over a million students. At CUNY, despite its staggering size, the hierarchy of course types and teaching modes means that most undergraduate classes are under 30, and its graduate seminars usually less than half that.

What would Humboldt have made of Australia’s universities today? No doubt he would have marvelled at the complex questions and imaginative methods of our research, while likely censuring government for attempts to influence research autonomy. In large research centres he would have thought the lack of a teaching program the same shortcoming he saw in the science academies of his own day. Likely he would have thought the set curricula and limited scope in many courses a step back to the vocational institutions he disliked. He would have seen the current uses of online resources as little more than continuation of the text transmission model he sought to supersede, and in *Wikipedia* a compilation of information no closer to spreading true knowledge than the encyclopaedias of the 18th century. Everywhere he would have seen an urgent need to reconfigure teaching for small group seminars, to liberate curricula and

timetables for flexible learning, and to reinvent anew the close interaction of teacher and students in an uninterrupted, self-renewing collaboration of discovery.

So what can be done? Fundamentally, we need to **affirm the vital importance of small-group learning and close encounter with a teacher** in high-quality university learning. By this I mean finding a place in our courses for the self-renewing, open-ended collaboration Humboldt described—the oral seminar or interactive group encounter where students take part in content design, peer assessment, and quality evaluation and where the teacher is a guide and partner rather than a lecturer.

We need to **recapture the excitement of discovery in undergraduate programs**. There should be some chance even for the first year undergraduate to experience learning through independent inquiry and sharing their findings in a small group. Graduate research training also needs to be made more attractive, finding ways to improve its rewards and widening opportunities for RHD students to work alongside staff in our most exciting research frontiers, including even the most complex of our “Big Science” projects.

We need to **embed cultivation of the character we wish for in our graduates**. Most universities have statements of graduate attributes, some only thinly connected with the actual learning. Every course needs to contribute in some way to producing independent, critical, tolerant and open-minded thinking; to learning the skills of acquiring knowledge by navigating, analysing, and discerning credibility in information sources; and to developing interpersonal and communication skills, motivation, and the personal attitudes and work ethic essential to successful collaboration, discovery and—as it happens — to graduate employment.

We will also need to **develop e-learning resources that better support discovery and collaboration**. Beyond presentation software like PowerPoint we need easily-usable design tools and software that enable interactive discussion environments, runnable

simulations, guided analysis tools, process change exercises for example. These will enrich face-to-face teaching, and enhance flexible learning, improving a university's ability to cut loose from set class timetables to serve the growing number of students whose work commitments or geographical location prevent them from attendance.⁷

Inevitably we will also need to **intensify academic staff development in teaching**, to equip staff with small group, collaborative teaching strategies and new IT skills. Academics typically spend most of their time teaching yet are least trained for it, and often least rewarded for it too. Universities need to **professionalise teaching and its rewards**, so staff who choose to pursue teaching excellence may enjoy the same status as those who pursue research excellence.⁸

Finally, we need to **share the excitement of discovery with the public**, by more often placing our leading academics on the public lecture podium or in the media to speak of their work.

Of course, no single model is right for all students: in a truly inclusive university we are unlikely to have Humboldt's restriction to rigorously-prepared students ready to work independently. As they move towards 40% participation rates, Australian universities will increasingly need to adapt to students of varying aptitudes, achievements and interests. And in any case, ratios of 8:1 are unlikely to be seen again. How then do we simulate the small cohort experience where it is appropriate in the midst of a diverse, mass enrolment?

Some are trying to address this. At UC-Santa Barbara, a university ranked No. 32 in the world (ARWU) with 5 Nobel Prize winners on its current staff, there are dual paths through undergraduate degree. Most students choose from amongst majors taught in the customary classes; a smaller group, having met additional entry requirements, take independent work from the outset, working closely with full professors. Santa Barbara

calls it “graduate school for undergraduates”; it does not let all have a taste of small cohorts, however. Elsewhere, content from Massive Open Online Courses (MOOCs) is starting to free staff time for closer contact with students.

Ultimately, **governments need to sanction a broader variety of missions** from universities, instead of the single, research-intensive mould. Universities elsewhere choose their characteristics based on their location and their environment: in the USA over half the 4,400 degree-granting institutions focus entirely on teaching. Australian universities need to be able to choose where they wish to place themselves on the continuum between teaching and research, between transmitting known knowledge and discovering the unknown, between short-term applied and long-term basic research, between cultivating students’ character and deepening their specific expertise, as well as between building international scholarly reputation and building national identity, between serving the professions as they exist and changing their social shape, between partnering with the community and standing apart as its independent critic.⁹

In Australia, we have not suffered from the model described by Harry Lewis in *Excellence Without a Soul*, where in some elite US universities the leading professors are seen only in graduate seminars, while green doctoral students handle the bulk of undergraduate teaching.¹⁰ Yet at present Australia staff are not much motivated about teaching. In a survey of academics in 18 countries, US academics had the highest preference for teaching, while Australian had the fourth lowest. Australian students report much less frequent communication with staff than American students, they are less likely to receive prompt feedback, and thus are not motivated to work as hard to meet their teacher’s expectations.¹¹ All in all, American universities offer students closer interaction with a lecturer. The single mould of government funding which has concentrated Australian focus on research means staff

struggle to see teaching as a satisfying alternative.

Like much else on Unter den Linden, Humboldt University suffered from the years of Nazism. Einstein and other distinguished professors fled and its academic standing plunged, to be rebuilt only slowly during the years of Communism that followed; today it does not feature among the Top 100 of the ranking tables. And across the world the university model it inspired has all but drowned in the flood of massed enrolments and the weight of research demands. Sensibly, the way forward is going back to Humboldt’s ideal.

Thus history repeats itself. Search for “historic recurrence” and Google will lead you to long lists of sayings, including “There is nothing new under the sun,” “Those who cannot remember the past are condemned to repeat it,” and “Its déjà vu all over again.” Wikipedia will tell you the authors of these are respectively Ecclesiastes, Santayana, and Yogii Bera. But to grasp the different context and significance of each—the ancient pronouncement whose power transcends translation from Hebrew, the ironical aphorism of the Spanish-American poet, or the comic malapropism of the American baseball legend—requires knowledge not so easily extracted from an online search engine. Which to choose to summarize this paper and why? Perhaps the question for a seminar.

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NOTES

¹ Ian McNeely and Lisa Wolverton, *Reinventing Knowledge: From Alexandria to the Internet* (New York: W.W. Norton, 2008).

² Wilhelm von Humboldt, *Schriften zur Politik und zum Bildungswesen [Writings on Politics and Education]*, (Darmstadt: Wissenschaftliche Buchgesellschaft, 3rd ed., 1982), IV, 253-65.

Translated by Thomas Dunlap, *German History in Documents and Images*, vol. 2.

³ Robert Anderson, *European Universities from the Enlightenment to 1914* (London: Oxford University Press, 2004); see also "The 'Idea of a University' Today," in K. Withers, ed., *First Class? Challenges and Opportunities for the UK's University Sector* (London: Institute for Public Policy Research, 2009).

⁴ Frank Larkins, *Australian Higher Education Research Policies and Performance, 1987-2010* (Melbourne: Melbourne University Press, 2011).

⁵ Andrejs Rauhvargersm, *Global University Rankings and Their Impact* EUA Report on Rankings, (Brussels: European University Association, 2011).

⁶ John Aubrey Douglass, *The California Idea and American Higher Education 1850 to the 1960 Master Plan* (Stanford, Cal.: Stanford University Press, 2000).

⁷ Diana Laurillard, "Rethinking Teaching for the Knowledge Society" *EDUCAUSE Review* 37/1 (Jan-Feb 2002), 16-25.

⁸ Peter Seldin, "Improving College Teaching," www.olemiss.edu/depts/vc_academic_affairs/improve.html.

⁹ Ian McNeely "The Unity of Teaching and Research: Humboldt's Educational Revolution," *Oregon Humanities* (Fall 2002), 32-35.

¹⁰ Harry Lewis *Excellence Without a Soul: How a Great University Forgot Education* (New York: Public Affairs, Perseus Books, 2006).

¹¹ Andrew Norton, *Mapping Australian Higher Education*, (Melbourne: Grattan Institute Report, 2012), 65-67