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ABSTRACT

In this lecture, the head of the Department of Education of the University of Liverpool (England) reflects upon the previous 100 years of the Department's existence and presents a vision of the Department for the 21st century. The notion of education as a science formed the foundation for the University Department of Education's intellectual and professional mission during much of its first century, but this idea has outlived its usefulness. An intellectual paradigm shift has occurred in recent decades, one in which knowledge is better understood not as comprised of absolute truths, but as transient and indeterminant, and affected by historical contexts. This new paradigm helps to structure the proper role of the University Department of Education for the next century. This role includes educating students to be reflective, critical thinkers, and preparing teachers to be professionals capable of responding flexibly to the contingencies that will affect knowledge, their classrooms, and the world. (DB)

Beyond the Millennium

(or Whatever Happened to the Ennoblement of Life?)

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(or Whatever Happened to the Ennoblement of Life?)[1]

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> For advancement of learning and ennoblement of life the Victoria Building was raised by men of Liverpool in the year of our Lord 1892.
>
> (The University of Liverpool's first mission statement, inscribed on the wall of the Victoria Building, Brownlow Hill, Liverpool)

On June 14th 1991, I picked up my copy of the Times Educational Supplement. Besides a full colour picture of the Education Secretary Kenneth Clarke, the front page carried three memorable stories. First, it led with the fact that the 'government has blacked publication of the results of a £21 million project [viz. Language in the National Curriculum] to set up a new system of teaching grammar in Britain's schools'. Secondly, it reported that the Trades Union Congress (TUC) had 'banned the use of its own equal opportunities booklet [produced two years previously] under pressure from the Department of Employment'. And thirdly, it claimed that, earlier in the week, the electricity supply of a Birmingham primary school had been disconnected for non-payment of the bill.

I have kept that front page. It is ideal material, I feel, for an educational time capsule [or, given that we are in

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[1]Inaugural Lecture delivered on 21st October, 1991.

Liverpool, a Willy Russell comedy or a Clive Barker horror film]. Its news is depressing, yet an elegant epitome of these difficult times. It is impossible for me to scoop such stories this evening. Instead, I would like to confront the present in a different way. Is it possible for me to recapture some of the intellectual excitement and optimism that brought many of us into teaching - in schools, in adult education and in higher education? It may be difficult. But let me try.

The wording of my application for the Chair of Education at Liverpool University was shaped by two developments. First, I was influenced by recent pronouncements on education, like the 1987 White Paper on Higher Education: Meeting the Challenge and the Educational Reform Act (1988) published in the following year. Secondly, I was coming to terms with a range of potent intellectual interventions - specifically those of critical theory, post-positivism, feminism and post-modernism - that had begun to suffuse the climate, conduct and literature of educational inquiry.

These different yet contemporaneous developments had set my thinking on edge. They seemed to reach in different directions. The terminology and phraseology of the White Paper and the Education Reform Act seemed to suggest that government ministers had seen the future and had deemed it well within their political reach. For them, the stipulation was indistinguishable from the deed. Nevertheless, I also felt this political prognosis of social change contrasted strongly with the more sceptical analyses offered by critical theorists and others. For them, as for us, the shaping of the future is a much more difficult enterprise.

After arriving in Liverpool in January 1990, my thinking about university life suffered another provocative disruption. Colleagues deftly drew my attention to the imminent 100th anniversary of teacher education in the University. Of course, we did not squander this welcome opportunity for convivial

celebrations. Yet, I still remained uneasy about the intellectual - rather than ritualistic - rationale of such commemorations. Longstanding members of the Department - especially the secretaries and technicians - could rapidly assemble a ripping yarn about past personalities. But was it also possible to produce a different kind of account: to interweave the challenges of the present with the events and aspirations of the last 100 years?

For me, this inaugural lecture is not only a symbolic event - a rite de passage. It also enables me to gain a measure of closure on the intellectual provocations stirred up as I drafted my letter of application. This occasion, then, allows me to ponder the life of a University Department of Education in the 21st century; that is, beyond the millennium.

To structure my argument, however, I would like to use the theological rather than the chronological sense of the word 'millennium'. From a theological perspective, a millennium denotes a period of one thousand years. Its onset is marked by the Second Coming of Christ; it unfolds as a messianic kingdom governed by Christ and the faithful; and the millennium eventual terminates with the Last Judgement - the return of Christ and the Saints to the Heavenly Kingdom, also popularly known as the New Jerusalem.

Throughout history, millenarian social movements have espoused a particular view of human salvation; and have projected a specific view of the accomplishment of such salvation. The deliverance of the faithful would be heralded by the Second Coming. It would be energised by supernatural powers. And such supernatural powers would fuel an apocalyptic transformation of life on earth.

Throughout recorded history, versions of the millenarian scenario have attracted would-be prophets and would-be messiahs. But, in the judaeo-christian narrative such movers

and shakers have always encountered the same credibility problem. The biblical authority for their claims has always been open to multiple interpretation. What social or natural events, for instance, would duly mark the Second Coming? What mystical transformative agencies would emerge? And how would the Christian Martyrs manifest themselves?

This absence of agreement is demonstrated, for instance, by the 900-year diversity of medieval millenarian movements examined in Norman Cohn's The Pursuit of the Millennium.[2] My millennium, however, does not appear on Cohn's time-line. It is of a more recent vintage. It relates to teacher education; and it came little more than a hundred years ago. By Cohn's criteria, too, it was also a little unusual in that it came in a secular guise. Its supernatural (or revolutionary) agency was the power of science. And its priestly protagonists were, I suggest, the emergent professional classes of the nineteenth century, themselves pillars of the urban bourgeoisie.

Liverpool, of course, fits readily into this millenarian narrative. Industrialisation and urbanisation brought disruption, disease and decay. Groups of influential reformers emerged. They diagnosed the deficiencies of modern life. And they campaigned to reorganise its fabric along more efficient lines. These were the muscular christian martyrs of the nineteenth century. Eventually, they acquired sufficient specialist knowledge and intellectual authority to claim social innovation as positive social reform. In the process, these reformers founded institutions dedicated to the codification and transmission of specialist professional knowledge(s). And, no less important, they created new professional structures, new professional associations and new professional values.[3]

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[2]N.Cohn, The Pursuit of the Millennium: Revolutionary Millenarians and Mystical Anarchists of the Middle Ages (3rd ed.), New York: Oxford University Press, 1970.

[3]Cf. the opening section of J. Swindells, Victorian Writing and Working Women, Cambridge: Polity Press, 1985.

Thomas Kelly's history of Liverpool University concisely summarises these social and intellectual processes. Medical practitioners, for instance, began their self-reform by replacing apprenticeship and pupillage training with courses offered by the Liverpool Royal Institution School of Medicine and Surgery, founded in 1834. And these localised developments were nationally networked by the British Medical Association, founded in the 1850s.

The School of Medicine and Surgery annexed itself to an earlier, enlightenment establishment - the Liverpool Royal Institution - which had been founded twenty years earlier to provide, in Kelly's terms, 'professional and liberal education for the middle classes'.[4] In these terms, the Royal Institution had a double purpose. To quote William Roscoe - one of its leading lights - the Institute's courses and lectures were destined not only for those intended for the 'higher and more independent ranks of life', but also for those who 'amidst the duties of an active profession, or the engagement of mercantile concerns, wish to cultivate their intellectual powers and acquirements'.[5]

These overlapping educational interests - professional and liberal - also survived another fifty years. In his 1871 evidence to the Royal Commission on Scientific Instruction and the Advancement of Science, Henry Roscoe (William's grandson) offered a justification for the mixed curricula that became a feature of new university foundations like Manchester, Leeds, Sheffield and Liverpool.

> It is difficult to see [he wrote] any sufficient reason why the applied sciences in their professional aspects should not have their proper place in the organisation of our

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[4]T. Kelly, For Advancement of Learning: the University of Liverpool 1881-1981, Liverpool: Liverpool University Press, 1981, p. 20.

[5]Quoted in T. Kelly, For Advancement of Learning, p.21.

> universities exactly as theology, law and medicine have long had their place - to the great advantage of these studies themselves and of the non-professional studies with which they have been brought into contact.[6]

Against this background, Liverpool University became a civic institution. It was to serve as the 'coping stone'[7] of a much wider educational framework that embraced the entire population of the city. Indeed, this breadth of civic vision was marked, even within the university, by the provision of woodwork classes for primary teachers in the Engineering Department in the late 1880s; the mounting of science classes for Lancashire teachers in 1891-2 ; the 1891 appointment of the vicar of St George's Everton, William Harrison Woodward, as Lecturer in Education; and, not least, Woodward's subsequent translation to the City of Liverpool Chair of Education in 1899.

It is also true, however, that these overlapping interests initiated a recurrent problem for the University. Were student teachers to be see as proto-professionals or proto-citizens? Should they follow professional courses? Or should they be engaged with liberal studies? In the event, professional studies seems to have featured most prominently. For instance, in an address delivered at University College, Liverpool on the seventeenth of July, 1892, the Edinburgh professor of Education, Simon Somerville Laurie, specifically identified teaching as a scientific practice:

> The University-trained schoolmaster [he wrote] imbibes some of the scientific spirit of the University and goes forth as a scientific worker, and not as a mere

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[6]Quoted in T. Kelly, For Advancement of Learning, p. 12.

[7]T. Kelly, For Advancement of Learning, p. 45.

craftsman.[8]

Schoolteaching, therefore, was equated with medical practice. Empowered with the lessons of science, schoolteachers would be able to dispense with schoolroom quackery and, by their improved methods, contribute to the furtherance of social progress. And, with this wider view of professionalism, the new civic Universities formed coalitions with their local School Boards, as in the case of Liverpool. Intending teachers, that is, were given opportunities to study the 'newly-developing science of education' and become 'properly professional students' in the universities.[9]

Perhaps the most important intellectual stimulus to this development had been the 1879 publication of Alexander Bain's Education as a Science in the Kegan Paul 'International Scientific Series' alongside works by Tyndall, Maudsley and Huxley. Bain, a philosophy professor at Aberdeen University, proposed that if the long-standing 'art' of teaching could incorporate the new-found 'laws of the mind' it would achieve the status and authority of an established science.[10] A few years later, Bain codified these views in his Practical Essays of 1884. Education, he concluded, was a 'precise and definite' process, itself based on the laws of 'intellectual growth or acquisition'.[11]

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[8]S.S. Laurie, 'The schoolmaster and University (Day) Training Colleges', in Teachers Guild Addresses and the Registration of Teachers, London: Percival, p. 211.

[9]J.B.Thomas (ed.), British Universities and Teacher Education: a Century of Change, London: Falmer Press,1990, pp. 8-9.

[10]A. Bain, Education as a Science, London: Routledge, 1879, preface.

[11]quoted in W, Humes, 'Alexander Bain and the development of educational theory', in J.V. Smith & D. Hamilton (eds.), The Meritocratic Intellect: Studies in the History of Educational Research, Aberdeen: Aberdeen University Press, 1980, p. 19.

Bain's optimistic - or positivist - stance reached back, through the Enlightenment, to the seventeenth-century Scientific Revolution. The writings of Francis Bacon, René Descartes, Robert Boyle, Isaac Newton and others had offered a fresh and dynamic view of the natural world. They presented it as a machine whose workings were law-like and whose future states were predictable. Moreover, seventeenth-century scientists were also aware that their propositions had a theological and millenarian significance.[12] Science was the anticipated supernatural agency. Its emergence from natural philosophy was symptomatic of the Second Coming. And its vigourous pursuit would eventually usher in the New Jerusalem.

The rhetorical power of these ideas about the dynamics of the natural world spread, in the eighteenth century, to the workings of civil society - spawning the term 'social science' in the 1790s.[13] And, following the example set by the social and natural sciences, the relentless search for further 'natural' laws and certainties continued into the nineteenth century. The workings of the human mind was a key focus of these efforts, and the emergence of psychology was one of its most significant consequences.

Alexander Bain's work, therefore, fitted clearly into this enthusiasm for a science of mental life. But, from our privileged viewpoint, the historical significance of Education as a Science derives not from its psychological rationale but, rather, from its physiological conclusions. Bain's work attracted wide attention because it claimed that the human mind is a 'plastic' - and therefore alterable - faculty.[14]

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[12]See for instance, C. Webster, The Great Instauration: Science, Medicine and Reform 1626-1660, London: Duckworth, 1975, chapter 1.

[13]see K.M. Baker, Condorcet: from Natural Philosophy to Social Mathematics, Chicago: Chicago University Press, 1975, Appendix B.

[14]A. Bain, Education as a Science, p. 11.

Taking strength from this rationale, local and national politicians began to see collective mind-altering - through the agency of schooling - as the Royal Road to spiritual, social and political salvation. Education and schooling acquired a refreshed political credibility - made manifest through the foundation of the civic universities, and the associated extension of teacher training.[15]

As noted earlier, Liverpool University's founders advanced the claims of both liberal and professional education. But was this University to be a seedbed and nursery of intellectual culture? Or was its primary purpose to put backbone into the new professions while, coincidentally, serving as a 'breeding ground of male privilege'?[16] A cursory glance at the evidence might suggest that, in the case of teacher education, Liverpool took the liberal option, thereby standing out against the national trend. Certainly, the first two Professors - W.H. Woodward and E.T. Compagnac - are remembered more as historians and classicists than as proponents of educational science.

Such attention to the writings of Woodward and Compagnac is, however, misplaced. Education students in Liverpool received their professional induction into scientific thinking elsewhere - in the physiology department of the University. Lectures in elementary psycho-physiology were introduced for science and education students as early as 1899. And this innovation received a considerable boost, no doubt, with the 1908 appointment - as Associate Lecturer in Physiology and Lecturer in Experimental Psychology - of a 25-year-old former teacher and graduate in classics and philosophy - Cyril Burt.

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[15]For a discussion of Bain's historical significance, see B. Simon, 'Why no pedagogy in England?', in B. Simon & W. Taylor (eds.), Education in the Eighties, London: Batsford, 124-145.

[16]A. Rich, 'Toward a woman-centred university', reprinted in A. Rich, On Lies, Secrets and Silence: Selected Prose 1966-78, London: Virago, 1980, p. 127.

Based in the Physiology Department, Burt's teaching encompassed the sense organs, hypnosis, psychoanalysis, sex differences, the inheritance of ability and human intelligence. According to Leslie Hearnshaw's researches, education students were the largest group enrolled in Burt's classes, alongside smaller cohorts of their medical, philosophy and social science contemporaries. Hearnshaw also suggests that five years in Liverpool also fostered a viewpoint that Burt 'stuck to throughout his life'; namely, that psychological test proficiency rests 'not upon training but mainly on innate ability'.[17]

Burt's hereditarian ideas, of course, have fuelled many subsequent debates. In the context of this lecture, however, they merit only one comment: Burt's assumptions about human abilities were drastically at variance with Alexander Bain's notions about the plasticity of brain processes and brain functioning.

Insofar as Burt's ideas achieved widespread currency, they underwrote of a new version of the science of education. Henceforth, the professional training of teachers was less concerned with human potential, and more concerned with an administrative science - the person-sorting aspirations of the political state. Teachers were recast as social gate-keepers. Their activities were guided by psychological assumptions about human abilities, and by philosophical assumptions about individualism, notably those expressed in a teacher training text that went through twenty reprintings between 1920 and 1940, Education: its Data and First Principles, by the Principal of the University of London Institute of Education, Percy Nunn. Through this complex rationale, political harmony, personal salvation and social progress would be duly realised.

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[17]L.S. Hearnshaw, 'Sherrington, Burt and the Beginnings of Psychology in Liverpool', Bulletin of the British Psychological Society, 1974, 27, p.12; and L.S. Hearnshaw, Cyril Burt, Psychologist, London: Hodder & Stoughton, 1979, chapter 3.

Schooling would help all children to find their rightful - or should I say predestined - places in the social and economic order.

Whatever Burt's contribution to the furtherance of this rationale, his ideas about the science of heredity were undoubtedly expressed with confidence and self-assurance.

> By intelligence [Burt proposed in a 1933 version of a radio talk], the psychologist understands inborn, all-round intellectual ability. It is inherited or at least innate, not due to teaching or training; it is intellectual, not emotional or moral, and remains uninfluenced by industry or zeal; it is general, not specific, that is, it is not limited to any particular kind of work, but enters into all we do or say or think. Of all our mental qualities it is the most far-reaching; fortunately it can be measured with accuracy and ease.[18]

Meantime, another confident and influential voice had begun to be heard. Again, it was projected by a one-time schoolteacher (Rugby and Haileybury), Ronald Fisher. From 1919, Fisher was employed at Rothamsted agricultural research station (35km north west of London) to examine whether the station's long-term records were, in its Director's words, 'suitable for proper statistical examination'.[19] In a fashion reminiscent of Burt's early productivity in Liverpool, Fisher's efforts at Rothampsted generated a series of seminal papers concerning, among other things, the design and interpretation of field experiments. Eventually, Fisher brought these ideas together in a single volume, The Design of Experiments, which was first published in 1935. Essentially, Fisher saw experimental

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[18]C. Burt (ed.), How the Mind Works, London: George Allan & Unwin, 1933, pp.28-29.

[19]E.J,Russell, quoted in J.F.Box, R.A. Fisher: the Life of a Scientist, New York: John Wiley, 1978, p. 96.

design as a means of eliciting 'decisive conclusions'. By dint of randomisation and the internal replication of experimental treatments, Fisher believed that investigators could control uncertainty and achieve 'rigorous and unequivocal inference'.[20]

In time, fisherian ideas spread from the agricultural sciences to other areas. Indeed, Fisher probably played an unwitting part in promoting their migration into the social sciences. The first worked example in The Design of Experiments is a 'psycho-physical' investigation of the claim that 'by tasting a cup of tea made with milk', human beings can 'discriminate whether the milk or the tea infusion was first added to the cup'.[21]

After the Second World War, Fisher's ideas did much to reinforce the claim that, suitably designed, social experiments can yield unambiguous conclusions. In turn, advances in experimental design became conflated with advances in experimental certainty. Yet, to be fair, Fisher did not share this view, despite using phrases like 'unequivocal inference'. The procedures originally articulated in The Design of Experiments assisted the clarification of uncertainty, not its elimination. By then, however, it was too late. The assumed certainty of psycho-statistical experimentation had become another illusion of the epoch. And its new-found status as common sense underwrote the technocratic hopes and the millenarian optimism of generations of educationists.

Note, for instance, the unashamedly millenarian rhetoric of Michael Dunkin and Bruce Biddle's The Study of Teaching published in 1974. 'To paraphrase a famous American [they wrote in their preface], we have a dream....Our dream is of an educational system whose procedures are governed by research

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[20]R.A. Fisher, The Design of Experiments (5th ed.), Edinburgh: Oliver & Boyd, 1949, pp. 2 & 4.

[21]R.A. Fisher, The Design of Experiments (5th ed.), p.11.

and by theories that are empirically based'.[22] Presumably, Dunkin and Biddle selected this imagery because, like Martin Luther King, they had succumbed to the prospect of the Second Coming. But, I wonder, were they also aware that Martin Luther King's invocation echoed the archetypical dream allegory - John Bunyan's Pilgrims Progress (1678)? And did they also realise that, as befits a calvinist/puritan narrative, Bunyan's opus also included 'the way to hell' as one of the distractions situated on the final approaches to the gates of the Heavenly City?[23]

Whatever the portentous subtext of Dunkin and Biddle's prose, my own feeling is that the highpoint of scientism in British educational thought came in 1976 with the publication of Teaching Styles and Pupil Progress by Neville Bennett, then a lecturer at Lancaster University. In less than two hundred pages, Bennett claimed to have identified causal connections between teaching (cf. teaching styles) and learning (cf. pupil progress). Armed with a millenarian magic bullet - 'research evidence' [his words], and bolstered by the kind of intellectual confidence inspired by Fisher and Burt, Bennett offered results that, according to his co-director (Noel Entwistle), had 'unequivocal' implications. 'Formal methods of teaching' are, by contrast with 'informal' pedagogic procedures, associated with 'greater progress in the basic skills'.[24]

Bennett and Entwistle's claims, like Burt's, seem to have had a profound effect on British schooling. They have not yet had the same degree of attention that Hearnshaw and others have given to Burt. Nevertheless, the current National Curriculum in

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[22]M. Dunkin & B. Biddle, The Study of Teaching, New York: Holt Rinehart & Winston, 1974, preface.

[23]See the final paragraph of Part One of The Pilgrims Progress.

[24]N. Bennett, Teaching Styles and Pupil Progress, London: Open Books, 1976, pp.ix, viii-ix.

primary schools is probably as much a footnote to Bennett as western philosophy is, in Whitehead's aphorism, a footnote to Plato. Note, for instance, that less than three weeks ago Keith Hampson (Member of Parliament for Leeds North-West) recalled the political impact of Bennett's 'irrefutable' evidence that there are 'striking differences in attainment levels using different types of teaching'.[25]

It is a pity, therefore, that Hampson fails to recall that Bennett eventually broke with this account of his 1976 evidence. This is not, however, surprising. The media attention surrounding 'The Bennett Report' was, and still is, notable for its tacit denial of subsequent reanalyses of Bennett's data. A 1981 reanalysis, for instance, suggests that Bennett's findings were perhaps a little less unequivocal than Noel Entwistle envisaged. The research team, which included Neville Bennett himself, were moved to modify the conclusions presented five years previously. They found 'convincing evidence' that Bennett's sample of teachers should be divided not into two distinct groups (formal and informal) but, rather, into three 'overlapping' clusters (formal, informal and mixed). Further, the response patterns of the various groups did not consistently - nor statistically - favour formal teaching over informal methods.[26]

So much for certainty. So much for accuracy and ease of measurement. So much for rigorous and unequivocal inference. And so much for the government of education by research.

In the late 1970s, then, the anglo-saxon paradigm for educational science suffered a crisis of confidence and legitimacy. Although never a unified or coherent movement, its proponents had seen themselves as a vanguard in the educational

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[25] Times Higher Education Supplement, 4th October, 1991.

[26] M. Aitken, S.N. Bennett & J. Hesketh, 'Teaching styles and pupil progress: a re-analysis', British Journal of Educational Psychology, 1981, 51, pp. 170,173.

community. Excited by a range of millenarian prospects, they colonised the moral high ground of educational thought. They paraded ex cathedra pronouncements as unambiguous and conclusive answers. They muddied the pursuit of clarity with the obfuscations of jargon. And, above all, they oozed the assured confidence - or benign arrogance - that is characteristic of a male professional elite.

In many respects, of course, these scions of the learned aristocracy were a throwback to nineteenth-century paradigms of professionalism. By the end of the twentieth-century - and in the wake of a new scientific revolution instigated by Albert Einstein - the search for absolutes of truth and reality, certainty and completeness has become fruitless. The establishment of panaceas for practice has proved elusive, if not illusory. And the efforts of educational scientists to formalise, systematise and universalise the methods and empirical conclusions of educational research have been countered by the increasingly informed analyses of the sceptics listed in my letter of application.

Let me offer two examples of this sea-change in intellectual outlook. The first is Donald Campbell and Julian Stanley's classic paper on 'Experimental and quasi-experimental designs for research on teaching', which originally appeared in a 1963 volume sponsored by the American Educational Research Association.

Typically, Campbell and Stanley's efforts are presented as falling within the fisherian tradition; that is, their proposals are seen as a contribution to the establishment of 'decisive conclusions'. Like many classic papers, however, 'Experimental and quasi-experimental designs' is probably as oft-cited as it is little-read. To claim it falls within the fisherian paradigm is a serious mis-reading. Indeed, it is only necessary to reach the third sentence of their paper to find that it is 'not a chapter on experimental design in the

fisherian tradition'. On the following page, too, Campbell and Stanley write of their 'disillusionment' with 'experimentation in education'.[27] Accordingly, their paper has a different focus. It is about the validity of inferences made under conditions of uncertainty. The key term in the title of their paper is 'quasi-experimental' not 'experimental'. The fundamental question that they raise is: What kind of inferences can be drawn from quasi-experiments conducted under conditions of quasi-control?

My second illustration relates to contrasting statements made by Lee J. Cronbach, another distinguished educational researcher based in the United States. In 1957, Cronbach's Presidential Address to the American Psychological Association advanced a newtonian rationale:

> Our job [he wrote] is to invent constructs and to form a network of laws which permits prediction. From observations we must infer a psychological description of the situation and of the present state of the organism. Our laws should permit us to predict, from the situation, the behaviour of [the] organism-in-context.[28]

By 1974, however, Cronbach took a different view - when he addressed the American Psychological Association in acknowledgement of an award for his 'Distinguished Scientific Contribution' to psychology. In the intervening decades, Cronbach had encountered 'inconsistencies' which led him to confess that the 'line of investigation I advocated in 1957 no

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[27] D. Campbell & J.Stanley, 'Experimental and quasi-experimental designs for research on teaching' in N.Gage (ed.), Handbook of Research on Teaching, Chicago: Rand McNally, 1963, p. 171-2.

[28] L.J. Cronbach, 'The two disciplines of scientific psychology', American Psychologist, 1957, 12, pp.681-682.

longer seems sufficient'.[29]

Cronbach's unease arose from the same kind of interpretative problems encountered by Campbell and Stanley; namely, difficulties associated with open systems of quasi-experimentation and quasi-control. In the event, Cronbach abandoned the confident newtonian stance he had adopted in the 1950s. Investigators, he suggested, should eschew the erection of 'theoretical palaces':

> The goal of our work [he concluded]...is not to amass generalisations atop which a theoretical tower can someday be erected. The special task of the social scientist in each generation is to pin down the contemporary facts. Beyond that, he shares with the humanistic scholar and the artist in the effort to gain insight into contemporary relationships, and to realign the culture's view of man with present realities.[30]

In these different arguments, Campbell, Stanley and Cronbach broke with the dominant tradition in American educational research - a tradition which lived and flourished by 'false anticipations'(Campbell and Stanley's phrase[31]) rather than by the 'present realities' identified by Cronbach. Despite clinging to the coat-tails of nineteenth-century scientific respectability, and despite suffering recurrent bouts of physics envy, educational research seems to have come to the end of a millenarian episode.

Or have I missed something? Should we still be living in hope and anticipation? Is the New Jerusalem still present, but below

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[29]L. J. Cronbach, 'Beyond the two disciplines of scientific psychology', American Psychologist, 1975, 30, pp. 119, 116.

[30]L. J. Cronbach, 'Beyond the two disciplines of scientific psychology', pp. 123, 126.

[31]D. Campbell & J. Stanley, 'Experimental and quasi-experimental designs for research on teaching', p.172.

the historical horizon? And should we still wait expectantly for the saints to come marching in?

My own view - the thesis of the first part of this lecture - is that the social mission ascribed to University Departments of education at the end of the nineteenth century has lost its meaning. Indeed, some of you may feel that present realities are now closer to a reprise of the biblical Fall than to the consolidation of the glorious millennium. For you - or perhaps I should say for most of us - the most pressing task is to ensure that the university auditors do not enact their own version of the Second Coming, and return again as official receivers?

How, then, might we go beyond the millennium? How can we recapitalise ourselves - morally and intellectually? How do we account for our future work - its utility and economy? And where are we to find fresh energy and ideas?

I do not believe, for instance, that the viability of public educational institutions can be assured by casting contract monies spasmodically in their direction. As a recipient, such forms of funding remind me more of the feudal distribution of alms than of the bourgeois circulation of venture capital. So-called 'soft' monies undoubtedly assist our hand to mouth survival. But can we appropriate them in a more constructive light? How, given their paucity, can they serve in a small-scale yet catalytic role? And how can such catalysis help us to broach the inertia of the status quo and enable us to create, and sustain fresh organisational and intellectual structures?

Since my arrival in Liverpool, I have gained a clear sense of the enormity of this task. Yet, equally, I have also been inspired by the imaginative initiatives that colleagues had already set in train before my arrival. My task, both tonight and in my stewardship capacity as Head of Department, is to comprehend tomorrow's tasks and to render them graspable,

manageable, achievable.

Let me start by offering a viewpoint on the collective purpose of a department of education. As I have already noted, a cluster of niversity Departments of Education emerged in the late nineteenth century to service their local communities. Further, the foundation of those departments was energised by the assumption that all members of a community are educable, including schoolteachers. And it is this vision of life-long - or continuing - educability that underpinned the creation of the civic universities, their belief in liberal education, and their attention to the 'ennoblement of life'.

I feel that we can usefully recall this part of our original mission. We should celebrate our status as a civic university - albeit one, like our host city, with an international reputation. Necessarily, we should be outward looking. And we should endeavour to make a modest and recurrent return to the community that has funded, nurtured and nourished us for more than a century.

To this end, I feel we might readdress ourselves to the university motto: This leisure fosters our studies.[32] I see no reason, for instance, why we cannot regard the Department of Education as part of an inner-city, intellectual leisure complex that comprehends a wide range of a gymnasia where weighty matters of personal, local, national and international import can be confronted, explored and evaluated. Within this context, a department of education should be a fount of challenging ideas, a locus of rigorous and democratic debate, a refuge of doubt and deliberation and, not least, a source of measured yet elegant proposals.

But how might these practical purposes be realised in, and through, our research activities, our teaching and our

[32]The University motto, in turn, answers the city motto: God has provided for us this leisure (Virgil).

curricula? How, therefore, might we practice what we preach?

If departments of education abandon their one-time search for a constellation of absolute truths, what can be offered in its place? One approach would be to convert our mission into a covenant - between higher education and the rest of the community. Granted intellectual rights under the law, institutions of higher education would be organised around a double commitment. On the one hand, they would pursue the advancement of publicly-relevant learning; and on the other hand, they would willingly commit their inquiries to peer disputation, to public scrutiny and to the rigours of dialogic teaching.

Such forms of accountability, particularly dialogic teaching, will not arise from the mere tinkering with university pedagogic structures. Rather, their introduction represents a fundamental break with determinist pedagogic rationales; that is, with teacher-dominated or teacher-driven forms of instruction that, like so many other determinist assumptions, also emerged in the seventeenth-century Scientific Revolution.[33] At that time, it began to be assumed that if the laws of teaching could be divined, the workings of a didactic machine were no less predictable than the motion of the planets.[34] In the words of Jon Amos Comenius (a close contemporary of René Descartes), the 'universal requirements... [are] a method of teaching and learning with such certainty that the desired result must of necessity follow'.[35]

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[33]See, for instance, R. McLintock, 'Towards a place for study in a world of instruction', Teachers College Record, 1971, 73, 161-205.

[34]For a history of determinist thinking about natural and social events, see I. Hacking, The Taming of Chance, Cambridge: Cambridge University Press, 1990.

[35]J.A. Comenius, The Great Didactic (english edition), London: Adam & Charles Black, 1896, p. 263. See also D. Hamilton, 'The pedagogical juggernaut', British Journal of

Fortunately, exemplars of dialogic teaching can be found in pre-newtonian practices, notably the ideas associated with the greek philosopher Socrates. As represented by Socrates' followers, formalised education should be built around learning rather than teaching. Socratic teachers, that is, merely provide the intellectual, moral and emotional space for learners to educate themselves.

I remain happy with this reading of Socrates. And, as a consequence, I hold the view that British universities can be validly characterised as centres of study, rather than as institutions uneasily combining teaching and research. Similarly, I am comfortable with the socratic presumption that, through study, students can take over their own education, thereby transforming themselves and the world they inhabit.

But how might such teaching be characterised and organised? One pertinent model - the seminar - emerged in the German Enlightenment. A seminar is a collaborative self-teaching activity. Groups of students unpack or peel away the interpretations conventionally attached - often superficially - to the object of their attention.

Historically, seminar methods are linked with two further eighteenth-century intellectual practices: criticism and hermeneutics.[36] Pedagogically-speaking, unpacking, unpeeling, criticism and hermeneutics are synonymous. They denote the active and sustained scrutiny of the world and its workings.

Moreover, teachers who join or convene such seminars cannot have a monopoly on textbook knowledge. Nor can they operate a

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Educational Studies, 1987, 35, 18-29.

[36]See, for instance, R. Koselleck, Critique and Crisis: Enlightenment and the Pathogenesis of Modern Society, Oxford: Berg, 1988 (originally published in 1959); and K. Mueller-Vollmer (ed.), The Hermeneutics Reader: Texts of the German Tradition from the Enlightenment to the Present, Oxford: Basil Blackwell, 1985.

pedagogy based on teacher transmission or an assessment ritual built around student regurgitation. Their procedures, that is, cannot be focused unilaterally on 'learning that' or 'learning how'. Rather, they must also allow students the possibility of 'learning from'. Further, the promotion of self-study and collaborative inquiry requires particular institutional resources, like working bibliographies and well-stocked libraries, themselves networked across the electronic campus.

Finally, what are the curriculum implications of this pedagogic rationale? The term 'curriculum' originally derived its legitimacy from two epistemological assumptions. First, that there is a preordained, unchanging and mappable world of knowledge. And, secondly, that the world of knowledge is easily subdivided into sovereign states - entities that are conventionally known as 'subjects'. In these terms, a curriculum - or course of schooling - denotes a pre-ordained map of knowledge, a journey across subject territories, and a set of social purposes that governs the choice of intermediate routes and ultimate destinations. And the historical framework of modern - that is, post-reformation - British schooling owes a great deal to the power of these educational notions - map, journey and destination.

Today, however, we no longer live in an age of geo-political absolutes. Subject sovereignties, like national sovereignties, have become conspicuously fragile. And subject boundaries are no more permanent that the Berlin Wall [or managers of Liverpool Football Club]. How can our present and future work be justified against a pre-ordained map of knowledge criss-crossed with deeply-rutted programmes of study? In what sense can higher education continue to market 'programmes of study' rather than to offer a different kind of educational service - opportunities for study.

Yet, if universities merely offer opportunities for study, how do they differ from sophisticated public libraries? Do they

offer students a quasi-curriculum package comprising a library ticket and assisted access to well-found laboratories and data bases? Or do they offer something else?

I feel that they should. In departments of education, for instance, I believe we have the added responsibility of initiating our students into a discipline - or self-discipline - that can be deemed both professional and liberal. Our work becomes rather more than the uncritical transmission of a received set of psychological presumptions and shibboleths. It might also include, for instance, responsibility of alerting students to the transience of knowledge and to the indeterminacy of knowing.

Equally, our work should recognise - or, should I say, continue to recognise - that professional practice is a highly contingent activity. It is not so much based on the application of psychological laws as upon the identification and harnessing of situational possibilities. In a formulation I have borrowed from the geologist and zoologist Stephen Jay Gould, professionals must respond to 'an unpredictable sequence of antecedent states, where any major change in any step of the sequence... [alters] the final result'.[37] In fact, Gould was commenting upon the evolutionary significance of the ancient fossils to be found in the Burgess Shale, British Columbia. But, I must confess, I also find his words to be another elegant epitome - in this case of the onset of the National Curriculum.

In these terms, the advancement of professionalism is rather more than a training in the delivery of government

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[37] S.J. Gould, Wonderful Life: the Burgess Shale and the Nature of History, Harmondsworth: Penguin, 1991, p.277ff. Cf. the concept of 'situational understandings' used in J. Elliott, 'Three perspectives on coherence and continuity in teacher education', paper presented to the Annual Conference of the British Educational Research Association, Nottingham, August 1991.

stipulations. Rather, it is an educational process designed to prepare professionals for surprises - the unplanned and unforgiving outcomes of the circumstances in which they work. For them - as intending or actual schoolteachers - the contingencies of schoolteaching are the realities of schoolteaching. And schoolteacher professionalism derives its peer legitimacy and public credibility from the manner in which practitioners keep faith with their pedagogic aspirations while stylishly overcoming the day by day contingencies of their working lives. To describe a teacher as a 'real pro' is, I suggest, to pay a fitting tribute to the sophistication -even nobleness - of their professionalism.

It is time to bring this lecture to a close. To do so, I would like to take you back to some of my opening remarks. During my eve-of-interview visit to the Department of Education I was given a copy of the University's mission statement. I read its twentieth-century terms closely. But my attention was also caught by its reproduction of the University's 1882 mission statement. I already knew that the advancement of learning echoed the sentiments of Francis Bacon. But what about the imagery of ennoblement? Did it owe anything to the educational writings of Matthew Arnold? Or did it reach back even further - through Hegel's writings to assumptions about culture and education that engaged the Prussian bourgeoisie of the eighteenth century.

Despite searching through a variety of sources - and enlisting the assistance of the University's archivists - I am afraid that I an unable to trace other uses of 'ennoblement of life'. Nevertheless, it seems reasonable to assume that, in the nineteenth century, the rhetoric of 'advancement of learning' appealed to the emergent professions; whereas equivalent reference to the 'ennoblement of life' reaffirmed the wider enlightenment ideals of human educability, political progress and social emancipation.

Early proponents of educational studies at Liverpool University, however, had difficulty in accommodating these parallel propositions. The curriculum of educational studies was undoubtedly shaped by nineteenth century stereotypes of professionalism. But how, for instance, did Woodward and Compagnac reconcile nineteenth century professional values with their apparent enthusiasm for the civic humanism of the sixteenth and seventeenth centuries. Worse still, how did they reconcile the male-ness of nineteenth century professionalism with the gradual admission of women students of education?

Throughout the twentieth century these problem have remained. Arguably, however, one novel solution has been prefigured in recent - and impending - innovations. By the terms and consequences of the Educational Reform Act (1988), by the pronouncements of the Council for the Accreditation of Teacher Education (CATE) and by the likely terms of the forthcoming White Paper on Teacher Education, schoolteaching is being reconstituted as neither a professional nor a liberal endeavour. In a terminology I have already used, it is little more that a quasi-profession based on a quasi-science. And such nineteenth-century echoes are also to be heard in another domain. It seems that schooling is beginning to recover another memorable nineteenth-century purpose - the gentling rather than the emancipation of the masses and their schoolteachers.

This is a dismal - and unequivocally ignoble - perspective on schooling and schoolteaching. But, it may be worth remembering, the contingencies of the present prefigure more than one future. The decay of social harmony brought about by the unbridling of market forces (cf. the 'survival of the fittest') has, for example, rekindled long-standing cross-curricular debates about the economic and social significance of citizenship. These debates, I believe, are historically important. They are a renewed recognition that schooling has always served to turn out citizens rather than wage labourers.

Thus, I remain optimistic that schooling - at all levels - will gradually recover this social purpose and priority - the promotion of humanism and the ennoblement of life.

But what might this re-evaluation mean for the schools of Merseyside, and for ourselves as a civic university? What kind of humanism, for instance, is appropriate to the economic, political and social contingencies - the unforeseeable futures - of the twenty-first century? How can it prepare participants for the production, distribution and service economies of that epoch? And how can it assist young learners in the ethical and political responsibilities that they must shoulder as consumers, creators, companions, campaigners and carers?

There is no time to take these ideas any further - except to recall that, in Liverpool University and elsewhere, the place of humanities in the school curriculum was widely - and presciently - debated in the 1970s. In one powerful formulation that accords with my own thinking, Lawrence Stenhouse advanced the notion of 'vernacular' humanism. Its educational practices, he suggested, would celebrate forms of inquiry and communication that are 'domestically familiar' to students. They would express knowledge in forms and activities that 'invite and strengthen the judgement of learners'. Such practices would value teaching based on support without constriction. And they would confront the absolutes of received wisdom by inviting learners to undertake 'commitment in the face of uncertainty'.[38]

In such imaginative ways, I believe that primary, secondary, tertiary and continuing educational institutions can defensibly serve and resource the short- and long-term hopes of their local communities. And they can legitimately prepare all students for the responsibilities - and indeterminancies - of

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[38]L. Stenhouse, Authority, Education and Emancipation, London: Heinemann, 1983, p. 166.

professionalism and citizenship.

I accept that this prospect is not simple. But I believe that if we can take it seriously, our intellectual, social and spiritual salvation may, indeed, be beckoning beyond the millennium.

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