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THE 2010 BRIAN SIMON MEMORIAL LECTURE^[1] Saturday 6 November 2010 Institute of Education, University of London

Legacies, Policies and Prospects: one year on from the Cambridge Primary Review

ROBIN ALEXANDER

Introduction

At home I have a tattered file bulging with material about Joan and Brian Simon, two remarkable people whose lives and work enriched mine, and who, like many others here, I still miss. There are offprints, photographs, press cuttings and - competing for illegibility - numerous handwritten letters from both of them (Joan wins that contest by a short head). Also in the file are two quotations which as a tale of political hopes raised and dashed are as dispiriting as they are familiar. In 1997, winding up his autobiography A Life in Education, Brian celebrated the end of what he called 'the long agony of the past 18 years'.[2] He was happy to believe that New Labour's 'new dawn' was celestial rather than merely dental – that is to say, that it reflected something more than the glow of Tony Blair's triumphant teeth. But then, barely two years later, this is how Brian opened an article for FORUM entitled 'Blair on Education': 'I approached writing this article with a feeling of disgust.'[3] His disgust, of course, was provoked by what he saw as New Labour's betrayal of the comprehensive ideal for which he, FORUM and the Labour movement had fought so hard.

In her excellent *Guardian* obituary on Brian Simon in January 2002, Anne Corbett wrote that he would be best remembered for 'his four-volume history of education from 1780 to 1990, and his lifelong advocacy of equal opportunities for all through comprehensive schooling.'[4] That's certainly true, but there's so much more for which he also deserves to be remembered. Brian was no less of an inspiration to those of us who have fought for the best

possible education for children in primary schools. *FORUM*, after all, promotes comprehensive education from 3 to 19.

So, in the 1960s, Brian and others successfully persuaded the sceptics on the Plowden Committee, headed by Professor A.J. Ayer, to recommend the ending of streaming in primary schools — a rigid and usually irreversible practice which could begin as early as age seven in preparation for secondary selection four years later, and which intensified social inequalities and for too many children became a self-fulfilling prophecy which suppressed their true potential. Bear that in mind today, because if selective secondary education returns to the agenda, primary school streaming won't be far behind.

Later, Brian co-directed the influential ORACLE project, Britain's first major programme of systematic classroom research.[5] Ahead of the game again, Brian and Joan had already brought the work of Vygotsky, Luria and their associates to Britain – with Joan providing the much-needed translations from the Russian – three decades before British educators jumped on the bandwagon of scaffolding and the Zone of Proximal Development (or the Zone of *Next* Development, as Joan and Luria insisted it should be translated).[6]

And, especially, Brian campaigned – and in its way it was no less of a campaign than that for comprehensive education – for the advancement of *pedagogy*, the science of the art of teaching, that nexus of action, evidence, value and principle which had for centuries guided the work of teachers and teacher educators in continental Europe but which in England had often been little more than an unedifying mix of pragmatism and half-baked ideology.

Thus it was that when I was involved in a rather different venture from the Cambridge Primary Review – the so-called 'three wise men' enquiry on primary education commissioned in 1991 by the then Secretary of State, Kenneth Clarke – Brian was almost alone among academics in not misrepresenting what our report [7] said on pedagogy, for his campaigning was leavened by awareness of how easily political prejudice can get in the way of scholarship. He preferred – in his words – to 'extract [the text of the report] from all the razzmatazz and hullaballoo surrounding its inception and ... publication.'[8] Brian applauded the report's 'emphasis ... on children's cognitive and linguistic competence'; and its argument that teaching should – his words again – 'start from the characteristics that children share rather than those which differentiate them one from the other ... in order to establish the general principles of teaching and, in light of these, to determine what modifications of practice are necessary to meet specific individual needs ...[to enable children] to experience a sustained intellectual challenge within the classroom'.

In seeking these 'general principles of teaching', Brian set himself firmly against the prevailing view that because every child is self-evidently a unique individual, teaching in classes of 30 or so must also be completely individualised, and teachers should 'facilitate' but not direct. Instead, Brian followed Vygotsky in arguing that while education must of course go with the grain of human development, it justified its name only when it intervened in the developmental process in order to open children's minds to experiences and

ways of thinking, knowing and understanding which they might not otherwise encounter, thereby bridging what Vygotsky called the 'natural' and 'cultural' lines of development: education, then, is both development and acculturation.

This particular campaign, I have to say, is far from won, and in many quarters the discourse remains as resolutely polarised as ever, not least since the coalition government started dropping hints about the character of the new national curriculum: children vs subjects, subjects vs topics, knowledge vs skills and – the ultimate pedagogical nonsense – teaching vs learning. As Courtney Cazden suggests, try replacing 'versus' by 'and' in each such case and you allow yourself to enter a much more productive realm of discourse and practice.[9]

Thus it was too, that when later during the 1990s I was working on a comparative study of the interplay of culture and pedagogy in England, France, India, Russia and the United States, Brian and Joan became enthusiastic and searching mentors. They commented on chapter drafts, and as visitors to the Soviet Union 40 years earlier they were especially eager to hear about post-Soviet education. They shared my excitement at observing, videotaping and talking to teachers in Kursk and Moscow who convincingly traced the essentials of their pedagogy back through Lev Vygotsky in the Soviet 1920s and 1930s and K.D.Ushinsky in the pre-revolutionary 1860s to that great 17th century Moravian educator Jan Komensky, whom we know as Comenius. Since Brian believed that Comenius was the founder of modern pedagogy this was doubly exciting, especially when the resonances of the principles of instruction in Comenius's Didactica Magna [10] were evident not just in my interviews with those Russian teachers but also in the videotapes and transcripts of their lessons. So it was fitting that when at Brian's and Joan's house in Leicester we discussed my data and drafts for Culture and Pedagogy [11] we did so under the gaze of Comenius, whose portrait hung above Brian's armchair. The alliance of historical and pedagogical consciousness, which Brian so profoundly exemplified, remains all too rare in English education.

You may be wondering what all this has to do with the *Cambridge Primary Review*. Apart from the fact that we are here to honour the memory of a great educator, campaigner and scholar and these things need to be said, what I've recalled about Brian has everything to do with the *Cambridge Primary Review*. For the Review follows Brian in placing pedagogy at the heart of its enterprise; and by insisting that pedagogy is about the way teachers marshall and apply evidence, ideas, values, principles and judgement, rather than the trading of tired dichotomies or capitulating to this or that national strategy which has been imposed from above in pursuit of a definition of educational 'standards' that nobody is permitted to question.

The Cambridge Primary Review so far

The Cambridge Primary Review was conceived in 1997, the year which witnessed not just Tony Blair's 'new dawn' of 'education, education, education' (or should that have been 'basics, basics, basics'?) but also the 30th anniversary of the

Plowden report. The idea was shelved while I completed work on *Culture and Pedagogy*, then revisited in 2004, and the Review itself was finally launched in October 2006, after seven years of gestation and two years of consultation and planning.

The Review has been supported from the beginning by Esmée Fairbairn Foundation, and this has given it the independence which is essential to its credibility. Its remit was to investigate, report and make recommendations on the condition and future of primary education in England. Its scope was vast — ten themes, 23 sub-themes and 100 questions covering every aspect of primary education from aims, curriculum, pedagogy and assessment to school organisation, staffing, teacher training, funding, governance and of course policy. The strictly educational questions were framed by others about children, childhood, parenting and caring, the society, cultures and world in which today's children are growing up, and how all these bear on the education that young children receive. Hence the Review's strapline, which later became the title of its final report: *Children, their World, their Education.*[12]

About each theme we asked 'What is?' and 'What ought to be?' and these two questions were addressed through four complementary strands of evidence. First, following the usual convention of public enquiries we invited formal written submissions, and received well over 1000 of them from most of the country's educational organisations, both official and voluntary, and from many groups and individuals. The submissions yielded a vast compendium of experience and insight. Next, we commissioned 28 surveys of published research relating to the Review's themes and sub-themes. 66 academics in 20 university departments were involved in this strand, and between them they evaluated over 3000 published sources. Then we undertook what we called our 'soundings': 250 meetings all over the country with major educational organisations and official bodies including government, opposition parties and quangos, but also and especially with children, parents, teachers, heads, local authorities, voluntary agencies, religious leaders, community representatives, police and others with a perspective on children and their primary education. Finally, we assembled and re-assessed official demographic and statistical data relevant to our task.

Some reviewers have found the methodology of the Review opaque or muddled. Actually, it's straightforward. The ten themes are viewed through the four complimentary lenses I've mentioned — submissions, surveys, soundings and searches. Why that combination? Well, the range of themes and the kinds of questions about them which we posed — about fact and value, present and future, policy and practice — demanded it. Opinion surveys on their own wouldn't have been enough; nor would research reviews; nor would official documents. Our data needed to draw on, compare and triangulate both official sources and academic research; individual or collective opinion and the real or aspired-to objectivity of systematic enquiry; unmediated viewpoints and face-to-face discussion; the voices of primary education's main actors, especially children, teachers and parents; and to provide the essential comparative and

global perspective we needed evidence and insight from other parts of the UK and the wider world.

Where did all this lead? Between October 2007 and March 2009 the Review published 31 interim reports, including an account of what had emerged from the 87 regional community soundings, 28 reports on the commissioned surveys of published research, and a two-volume special report on the curriculum. These, with their accompanying four-page briefings and media releases, were published in groups on ten occasions over that 17-month period.[13] Each publication event provoked media attention, and independent media analysis shows that on five of the ten occasions the Review was top UK news story overall. In that, I suggest, rather than in what we actually reported, lay the seeds of the Labour government's growing impatience with the Review and its decision to reject our reports out of hand rather than engage with them. In suffering that fate we were not alone. Between 2007 and 2009 I followed the progress of other enquiries on a whole range of topics, some independent, some commissioned by government, and came to realise that all of them – all of us – were members of a rather special club. Each of us had produced reports which BBC Radio 4 'Today' deemed important enough to headline, only to add, with monotonous regularity, 'The government has dismissed the findings.' So much for evidence-based policy.

Incidentally, there's a story to be told about the relationship between research, policy and the media, but it will have to wait for another occasion. I'll note merely that the last government almost always responded to what the press claimed was said in the Cambridge Review's reports rather than to what those reports actually said. Since, understandably, the media imperative was to make sensational what might otherwise seem rather dry, and to elevate the hard-hitting story above cautious academic qualification, the gulf between the two versions of the Review's findings could be considerable. This also meant that when the press got it wrong — as they sometimes did, for example over our proposal to extend the government's Early Years Foundation Stage down to age two and up to age six — the government dutifully got it wrong too, bizarrely accusing us of wanting to keep children away from education until age six. As I say, so much for evidence-based policy.

In October 2009 we published the 600-page final report [14] together with an 850-page companion volume containing revised versions of the 28 research surveys.[15] Between them, the two volumes drew on over 4000 published sources as well as all the other evidence from the submissions, soundings, surveys and searches. Copies of the final report, published by Routledge, were sent to selected great and good, while a 42-page illustrated booklet about the Review and its outcomes [16] was sent to every school in the UK (not just England and not only primary), to every MP and their Scottish, Welsh and Northern Ireland counterparts, to every member of the House of Lords, and to all the major educational organisations.

The final report was prepared by a group of 14 authors headed by myself, drawing on data which had been sorted and analysed by the 18 full and part-

time members of the Cambridge team. Commentators like to personalise these things, and in our case Labour dragged personalisation down to the unworthy depths of personal smears and flagrant misrepresentation, but the report's conclusions and recommendations were finalised only when we had secured the full agreement of all 14 authors and all 20 members of the Review's advisory committee, chaired since early in 2006 by Dame Gillian Pugh. It remains important to stress that what the Review concluded and recommended was very much a collective matter.

After the final report's publication we entered an intensive phase of dissemination, discussion and debate. We gave the usual political, professional and media briefings, responded to numerous speaking invitations, and organised ten major events of our own: a national launch conference at the RSA, eight regional conferences for teachers and others, and a national seminar which took stock of the comments and concerns which all these events had generated. From all this activity we distilled eleven policy priorities for primary education which were published in the national press and sent to political and educational leaders shortly before the general election. I shall comment on the fate of each of these shortly.

Aside from the debate about matters of educational substance, what most strikingly emerged from the dissemination conferences was that though teachers liked the report's ideas and wanted to take them forward, many claimed that they couldn't do so without permission from their Ofsted inspectors and local authority school improvement partners, or SIPs. These teachers told us that what they most needed, after thirteen years of being told what to do and how to think, was a chance to work with others who wished freely and without permission to explore ways of thinking and acting which were independent of the imposed pedagogical orthodoxies.

So we took that request back to Esmée Fairbairn Foundation and the Cambridge Review's National Primary Network is now pretty well ready to go. It is a two-year project, which will take us to 2012 and the Review's sixth year under Esmée Fairbairn sponsorship. The network has a national leader – Alison Peacock, head of an outstanding primary school in Hertfordshire – and nine regional centres based in universities which have well-established partnerships with schools and local authorities in their region.[17]

Alongside the network we continue two earlier strands of the Review's work: dissemination and policy engagement. Today's lecture is the 120th dissemination event since the publication of the final report a year ago, a further 140 are in the pipeline and invitations are coming in now almost daily, including from organisations which until the election didn't dare to be seen in our company.

On the policy side, the election marked a significant change in our relations with government, though contrary to what you may have assumed from Labour's reaction to our interim reports, we had regular discussions with government and official agencies between 2006 and 2009, and these meetings – all 43 of them – are documented in Appendix 5 of our final report. But they

were not always easy and there was a prevailing sense that policies existed to be endorsed rather than questioned, and that this expectation applied not just to officials, quangos, local authorities and schools but also to independent enquiries like ours which made no demands on the public purse. This novel definition of the word 'independent' was confirmed when the government set up its own review of the primary curriculum under Jim Rose, excluded from its remit vital matters like assessment on which curriculum is contingent, physically located it within the DCSF under the watchful eye of ministers, told QCA to have drafts of the detailed programmes of learning ready three months before public consultation on the basic framework ended, and without a trace of irony referred to all this as an 'independent review of the primary curriculum.'[18]

Actually, the political thaw began just before the election, when we met those same ministers who had followed the predictable though to rational mortals startling path of rejecting our final report without reading one word of it. But by March this year ministers had got round to looking at the document they had dismissed unread five months earlier, and this time they agreed to initiate a proper programme of discussion with senior officials about the report's findings and implications, away from the media spotlight and those unhelpful headlines — our request, incidentally, not the government's. This agreement was implemented after the election and we've been in regular consultation with DfE ever since. Don't read too much into that, though, for the government is talking to all kinds of people, as it should, and we don't know where such discussions will lead.

Legacies

Let's now consider some of Labour's policy legacies for primary education. Our final report charts many of the key policies in detail. Its penultimate chapter offers a balance sheet based on the written and oral evidence of the Review's witnesses, then a more forensic examination which draws on published research and the national and international standards data to assess the impact of Labour's flagship policies for raising standards in primary schools. Finally, there's a critique of the policy process itself.[19]

Broadly, the policies which sought to expand educational and welfare provision for young children, and protect those children who are vulnerable or disadvantaged, commanded greatest support. These initiatives were mostly introduced during Labour's second and third terms and included *Every Child Matters*, the Children's Plan, Sure Start, Narrowing the Gap and the expansion of early childhood care and education.

In tandem, there was widespread appreciation of Labour's financial investment in primary education, the level of which had been stable during the early and mid 1990s but rose sharply from 1998. One simple measure of this was the spectacular increase in the number of primary and nursery school support staff: 75,000 in 1997, 172,000 in 2008.

More controversial were those policies initiated during Labour's first term which aimed to raise standards in literacy and numeracy: the national literacy and numeracy strategies introduced in 1998 and 1999 – themselves adaptations of the Conservatives' national literacy and numeracy projects of 1996 – and the associated apparatus of targets, high stakes testing, closely-prescribed teaching methods, inspection for compliance, school performance tables and naming and shaming.

To this mix was added Labour's sudden decision to take over the review of the national primary curriculum on which QCA was due to embark as part of its statutory remit, and instead give the job to Jim Rose.

Thus, by the time our final report was published in 2009, Secretary of State Ed Balls was responsible for an ambitious childhood agenda which he had created and which was generally well-regarded, a standards agenda which he had inherited and was obliged to defend but which was more controversial and problematic, and a curriculum agenda which appears to have come from nowhere. I'd like to say a few words about these latter two – standards and the curriculum – not so much because they generated such controversy during the last government as because they remain relevant and contentious and during the months ahead we shall need to remind ourselves of lessons learned, or not, and of battles fought but not yet won.

Standards

New Labour's first Secretary of State upped the ante when he launched the standards drive in 1997, promising that he would resign if the 2002 literacy and numeracy targets were not met. They were not, but by then he had been moved to another ministry, so his successor resigned instead. A lot has been said and written about the impact on children and teachers of high stakes testing, but the standards drive was also high stakes for Labour, and they allowed themselves no room for manoeuvre. Thus, despite the failure to meet the targets, and despite questions about the numeracy and literacy strategies, especially the latter, and the tests themselves, the government claimed that its standards drive had been an unqualified success. For example:

- 'Today's newly qualified teachers are the best trained ever.' (Michael Day, of the TDA, 2006).
- 'Standards stayed the same for 50 years before rising sharply in the late 1990s' (Standards supremo Michael Barber, 2007).
- 'Primary standards are at their highest ever levels. This is not opinion: it is fact.' (Schools Minister Lord Adonis, 2007).
- 'Primary standards are at their highest ever levels ... This huge rise in standards since 1997 follows 50 years of little or no improvement in literacy and represents a very good return in our investment in the literacy strategy.' (Anonymous DCSF spokesperson, 2007)

 'Independent inspections show there have never been so many outstanding and good primary schools, and Key Stage 2 results show huge progress over the last decade.' (School Minister Vernon Coaker, in 2009).

Note the government's gung-ho relationship with eternity – the five speakers here use the words 'ever' or 'never' four times. To examine such claims, the Cambridge Primary Review commissioned, from senior academics at five universities and the National Foundation for Educational Research, six independent surveys of the test and inspection data, related initiatives and what research had discovered about them.

The Review's first three interim reports on the test data in November 2007 [20] were duly sensationalised by the media with headlines sharply at odds with the confident claims that I've just quoted: 'Primary tests blasted by experts' ... 'Literacy drive has almost no impact' ... 'Literacy drive is flop, say experts' ... 'Primary pupils let down by Labour' ... 'Primary schools have got worse' and – the one I like best of all – 'Millions wasted on teaching reading'. A tabloid sub-editor's Freudian slip?

Matters were not helped when in February 2008 we published the three reports on inspection, governance and the overall trajectory of the standards drive up to that point.[21] 'Failed!' shouted the newspaper headlines, 'Political interference is damaging our children's education' ... 'An oppressive system that is failing our children' ... 'School system test-obsessed' ... 'England's children among the most tested' ... 'Our children are tested to destruction' ... 'A shattering failure for our masters' ...

The truth of the matter, of course, lay somewhere between the political hype and media scaremongering, and indeed our reports were careful to give credit where it was due. In fact, we offered the one thing which neither politicians nor sub-editors find it easy to handle: a mixed message. The national and international evidence on standards in England's primary schools, we found, was both positive and negative, and also in certain respects methodologically problematic, especially before 2000. The standards drive itself was also suffused with myth and informed by a definition of 'standards' which was misleading and inadequate. Among the myths were these:

- Testing of itself drives up standards. (It doesn't, but good teaching does. The impact of testing on standards is oblique and possibly temporary, as the trajectory of test results from 1997 to 2009 shows).
- Parents support testing. (Not true: many parents who gave evidence to the Review were as worried about high-stakes testing as were teachers. They wanted to know how their children are getting on, but that's not the same as wanting their children their children to be subjected to high-stakes tests.)
- Tests are the only way to hold schools to account and monitor the performance of the system as a whole. (Not true: tests are one way among several).
- The pursuit of standards in the 'basics' is incompatible with a broad, balanced and enriching curriculum. (Dangerous nonsense: inspection

evidence and test data show that our best primary schools achieve both high standards in the 'basics' and a broad and balanced curriculum. The folly of that claim was first exposed in the 1985 government white paper *Better Schools* – yes, 25 years ago).

- Literacy and numeracy are valid proxies for the curriculum as a whole. (How can they be?).
- England now has the best-trained teachers ever. (That may well be the case, though it is empirically unsustainable, as the current measures of newly qualified teacher competence go back only three or four years. And four years is a rather eccentric definition of 'ever').
- England has the highest standards ever. (Need I say more?)

The question begged by all this is what we mean by 'standards' and here I can't do better than quote Warwick Mansell, and indeed our final report did so. Mansell writes:

The word 'standards' ... has been routinely abused in the last few years, by politicians and others. 'Raising standards' ... is implied to stand for improving the *overall quality of education* in our schools. That, in the public mind ... is what the phrase means. The reality ... however, is that 'raising standards' means raising test scores, as measured by a set of relatively narrow indicators laid down more or less unilaterally by ministers, and often subject to disproportionate influence by the performance of a small group of schools. These scores represent only a sub-set of schools' work. Therefore it is not clear that they stand, reliably, for schools' overall quality. The two meanings are not interchangeable, and should not be treated as such.[22]

The Cambridge Review's evidence shows how the pursuit of this narrow concept of 'standards' at the primary stage, in which test scores in literacy have been treated as proxies for the quality of primary education as a whole, has over the past 13 years compromised children's legal entitlement to a broad and balanced national curriculum. Educational standards, our final report argues — and this argument is central to our proposals on curriculum and pedagogy as well as assessment and standards — must be redefined as the quality and outcomes of learning in the entire curriculum to which children are statutorily entitled. Put it another way:

children have a right to an education in which each aspect of the curriculum is taught to the highest possible standard regardless of how much or little time is allocated to it, and regardless of whether it is formally tested.

That principle, surely incontrovertible, has implications for how we approach not just assessment and the curriculum, but also teacher training and the staffing of primary schools, for the premise on which all of these has for too long and too often been based is that what is not tested does not matter. The advancement of our more generous and indeed more demanding concept of educational standards in the primary phase is central to the aspirations of the Cambridge Review's new national network. Will the government's new assessment review heed this principle, and the evidence that drives it?

The Curriculum

On the rise and fall of the Rose review of the primary curriculum, I would make four points.

First, contrary to the Rose Review's remit and 'quarts into pint pots' premise,[23] the current primary national curriculum may be tightly packed, and many schools may have difficulty managing it, but it is not *inherently* unmanageable. If it were, then Ofsted's evidence would not show, as it does, that many other schools successfully plan and teach the current national curriculum to a high overall standard.[24] Indeed our best primary schools achieve both high standards in literacy and numeracy and a curriculum which is broad, well-managed and experientially rich. The problem of curriculum manageability has more to do with schools' curriculum leadership and expertise, and this raises questions about the generalist class teacher system inherited from the 19th century elementary schools. But the problem also stems from the way the standards drive has been allowed to impoverish the wider curriculum, a trend which has been exacerbated by the relative neglect of other than literacy and numeracy in initial teacher training, CPD, Ofsted inspection and national policy. But then Rose's remit placed all such matters off limits.

Second, though we always suspected that the Rose review was a preemptive strike against the Cambridge review, we didn't want to risk accusations of paranoia by saying so. Now we learn from QCDA's former Director of Curriculum, Mick Waters, that we were right. In their recent book based on interviews with those close to New Labour education policy, John Bangs, John MacBeath and Maurice Galton tell us:

Mick Waters is clear that the government's decision to initiate their own review of the primary curriculum was triggered by Robin Alexander's decision to initiate the Cambridge Primary Review.[25]

Further, according to Waters, the government refused to allow QCA to provide a public forum at which the Rose and Cambridge proposals for the primary curriculum could be properly debated, and it prevented Rose 'from publicly acknowledging the significance and depth of the Cambridge Review' in his final report. [26] Adding insult to injury, the Rose report itself claimed that there was little difference between the twelve carefully researched, deeply pondered and extensively discussed aims for primary education which the Cambridge review had proposed and the secondary school aims that the Rose team took off the QCA shelf, dusted down and said would do nicely for primary as well, thank you. [27] The QCA aims, of course, were themselves lifted from an OECD

paper and you'll find variants of them in Scotland, Singapore, Australia and no doubt other countries too. This, I've said before and will say again, is quintessential Mrs Beeton: first catch your curriculum, then liberally garnish with aims.

Third, teachers and others have expressed surprise and dismay that the Rose proposals did not survive the pre-election legislative 'wash-up'. But they should not have been surprised, for when he was Shadow Secretary of State, Michael Gove made it clear that he did not like Rose's report, believed it to be fundamentally weak on the place of knowledge in the curriculum, and that if elected the Conservatives would drop it.

Fourth, it was surely irresponsible of Labour to push ahead with the huge and costly programme of implementing Rose when implementation depended on legislation which because of its timing might not get through Parliament. Instead, and ignoring the clear warnings of both Michael Gove and the opinion polls, schools were told: the Rose curriculum *will* be introduced into all primary schools in September 2011, so start preparing for it now. That was a political gamble too far, and primary schools are still paying the price.

Incidentally, you may be shocked by Mick Waters' revelations, or you may be cynically unsurprised. But shock and cynicism aren't enough. It's more important to ask 'Why?' *Why* did the Labour government work so hard to preempt, marginalise and discredit the Cambridge Primary Review, and to airbrush it from the vital debate about the future of the primary curriculum? What exactly was the government afraid of? And why did some of the supposedly 'arms-length' non-departmental public bodies so cravenly fall into line behind this strategy? So much, I say yet again, for evidence-based policy.

Priorities and Prospects

In April 2010 we crystallised, from all the discussion that the Cambridge Review's final report had provoked up to that point, eleven policy priorities for primary education.[28] These we published and commended to leaders of the main political parties and of course to schools. As a measure of how far we may or may not have progressed since our final report came out in October 2009, let's now run a quick check on each of them.

1. Accelerate the drive to reduce England's gross and overlapping gaps in wealth, well-being and educational attainment, all of them wider in England than in many other developed countries. Understand that teachers can do only so much to close the attainment gap for as long as the lives of so many children are blighted by poverty and disadvantage.

Although the list is not necessarily in order of priority, we did place this at its head, for Britain's well-documented compound inequalities stand stubbornly in the way of the educational progress to which all recent governments have aspired.[29] So what has happened? This, we must immediately acknowledge, was a priority for Labour too – witness projects like Sure Start and Narrowing

the Gap. Now the coalition government has earmarked £7 billion for its Fairness Premium which aims through early intervention and expanded preschool provision to compensate for poverty and social disadvantage.

The big question though, now as always, is how far specifically *educational* policies targeted at disadvantage are supported or frustrated by policies which are beyond the DfE's remit. After all, the last government's Narrowing the Gap initiative came at a time when its economic policies appeared to be *widening* the gap between rich and poor, and between social advantage and disadvantage. The same question must now be asked about winners and losers in the coalition government's spending review, especially in relation to changes in the benefit arrangements.

2. Make children's agency and rights a reality in policy, schools and classrooms. Apply the UN Convention on the Rights of the Child in ways which reinforce what we now know about how children most effectively learn, but do so with common sense and an understanding of context so that 'pupil voice' does not degenerate into tokenism or fad.

The new government, like its predecessor, is committed to the UNCRC. However, action on this priority is as much the responsibility of schools as of government. Many schools are now in UNICEF's Rights Respecting Schools scheme, but in the end what we are talking about here is the transformation of pedagogy, and that may be a long haul — especially if we return to a curriculum which favours transmission over dialogue.

3. Consolidate the Early Years Foundation Stage, extending it to age six so as to give young children the best possible foundation for oracy, literacy, numeracy, the wider curriculum and lifelong learning.

The government has launched a review of the EYFS under Dame Clare Tickell. This will report in Spring 2011. Meanwhile, the Fairness Premium will extend pre-school provision for disadvantaged two-year olds, as the Cambridge Review also recommended. Whether the Tickell review will follow Wales and our recommendations in extending the EYFS upwards remains to be seen.

[Postscript 1. The Tickell report was published in March 2011. Bafflingly, it does not mention the evidence, discussion and recommendations on the EYFS from the Cambridge Review, even though these were forwarded to the enquiry.]

4. Address the perennially neglected question of what primary education is for. Aims must be grounded in a clear framework of values – for education is at heart a moral matter – and in properly argued positions on childhood, society, the wider world and the nature and advancement of knowledge and understanding. And they should shape curriculum, pedagogy, assessment and the wider life of the school, not be added as mere decoration.

Governments have a poor track record on educational aims. Their published statements tend to be bland, cosmetic or — as with all the nonsense about 'World Class Schools' — overblown and imperialistic. So we urge schools themselves to take hold of this one and use the opportunity created by the dropping of the Rose framework to explore their aims and values and to assess how these are enacted in school and classroom life. But we hope they will do so on the basis of the kinds of evidence and argument that are marshalled in the Cambridge Review's final report rather than merely by pooling staffroom sentiments. However, let's not pretend that because governments publicly opt for the grandiose, anodyne or cosmetic they don't have firm priorities for primary education. These are evident in what they do rather than what they say; in what, for example, they choose to test, inspect and back with billion-pound national strategies, and what in contrast they leave to fend for itself. So we need a bit more honesty, as well as greater rigour, in this essential part of the debate.

5. Replace curriculum tinkering by genuine curriculum reform. Seize the opportunity presented by the dropping of the Rose curriculum framework. Understand that the Rose review's narrow remit prevented it from addressing some of the problems of the primary curriculum which are most in need of attention, especially the counterproductive sacrificing of curriculum entitlement to a needlessly restricted notion of 'standards', the corrosive split between the 'basics' and the rest, the muddled posturing on subjects, knowledge and skills, and the vital matter of the relationship between curriculum quality, expertise and staffing. But don't think that the minimalism of the 1950s (or 1870s) is an adequate alternative.

Well, Rose has come and gone, schools have been told to carry on with the existing curriculum until 2012, and a new review of the national curriculum is anticipated, with hints about minimal entitlement, the importance of subjects, and professional freedom and flexibility, together with darker rumours of a return to the 1950s. So this is a moment of great opportunity, and we are urging schools to grab it with both hands. The Cambridge Review has set out its own curriculum framework, but it's not the only one worth considering, and others are entering the fray with offerings both serious and bizarre.

We have three particular worries about what lies ahead; first, that 'minimal entitlement' may be defined as little more than the 3Rs, thus consolidating the historic gulf between the so-called 'basics' and the wider curriculum; second, that misplaced nostalgia for past educational certainties may prevent schools from addressing the difficult but necessary questions about the relationship between human development, culture, social change and the curriculum which — in the very different context of today's uncertain and perilous world — the Cambridge Review has explored; third that not all schools have the capacity or will to explore such questions and may prefer to settle for minimalism, the recycling or those tired dichotomies I referred to earlier, or ready-made curriculum packages which may be right for their circumstances and well founded educationally, or they may not.

Entitlement *must* secure a broad and rich array of educational experiences for all primary pupils: as a necessary foundation for what follows; because we know that breadth and standards go hand in hand; but above all because young children deserve nothing less. A 'minimum entitlement' can reduce the detail that is specified for each aspect of the curriculum, but it should not reduce the curriculum's overall scope. Whatever may be said about the first national curriculum, it did at least end the lottery exposed by HMI during the 1970s, when children's access to science, art, music or history, or to a broader account of language than the mechanics of reading and writing alone, depended on where they went to school. With all the current talk of recovering long-lost curriculum freedoms, let's not forget that.

Anyway, seeing where the Cambridge Review was heading, the previous government sought to close down the debate about the primary curriculum. But for the moment that debate is open again, though we hope this isn't the moment that precedes the slamming of the door. We even hear that Latin is being proposed as an alternative to a modern foreign language in primary schools. Well then:

Dum loquimur, fugerit invida Aetas: carpe diem, quam minimum credula postero. [30]

[Postscript 2, January 2011. The new national curriculum review was launched on 20 January 2011. Its phasing (phase one to deal with the 'essential core' of English, mathematics, science and physical education, phase two to cover the rest, and the review to decide what if anything, should be specified beyond the core) might seem to confirm our anxieties about minimalism, as might the clear implication of the review's remit and strategy that curriculum priorities can be settled without consideration of aims. On the other hand, the government has taken the unusual step of setting up an 'expert panel' to oversee the process which is exclusively composed of academics, two of them members of the CPR implementation team. At the same time, while repeating their wish to see the specified curriculum reduced to essential and mainly propositional knowledge, ministers have also been at pains to acknowledge the need for breadth. This review, then, is one in which we must all fully engage.]

6. Abandon the dogma that there is no alternative to SATs. Stop treating testing and assessment as synonymous. Stop making Year 6 tests bear the triple burden of assessing pupils, evaluating schools and monitoring national performance. Abandon the claim that testing of itself drives up standards. Initiate assessment reform which draws on the wealth of alternative models now available, so that we can at last have systems of formative and summative assessment – in which tests certainly have a place – which do their jobs validly, reliably and without causing collateral damage. Adopt the Cambridge Review's definition of standards as excellence in all domains of the curriculum to which children are statutorily entitled, not just the 3Rs. And understand that those who argue for reform are every bit as committed to rigorous assessment and accountability as those who pin everything on the

current tests. The issue is not whether children should be assessed or schools should be accountable – they should – but how and in relation to what.

This was the part of our work which most upset the previous government, and it's easy to see why, for the reputation of a succession of ministers – and the jobs of a whole army of officials at DCSF, QCA and the national strategies rested on the very claims that we challenged, and the more we challenged the more stridently they insisted, like Margaret Thatcher, that There Is No Alternative. But at last there are signs of change. On 5 November 2010, Michael Gove announced the remit and membership of the external review into Key Stage 2 testing, assessment and accountability which he trailed in September. We recommended such a review and it's good to see that its remit includes some of the concerns that we listed. However, I'm disappointed that not one of the country's acknowledged assessment experts is on the panel. Organisations like the Assessment Reform Group have done a great deal of work on valid and reliable alternatives to current arrangements, and their expertise should be tapped. So, will the government's assessment review look carefully at the evidence which the Cambridge Review has assembled? Will it join us in debunking the myths and inflated claims? Will it engage with our central argument that the current definition of standards is far too narrow and that we need a new definition which aligns with the curriculum to which children are entitled and thus helps to raise standards across all areas of their learning? Since mindsets as well as procedures need to change, you may not be particularly hopeful. Yet we have a review, so let's contribute to it, not prejudge

[Postscript 3, January 2011. The CPR submitted written evidence to the assessment review[31] and followed this up, on 28 January 2011, with an oral presentation to the review panel.]

7. Replace the pedagogy of official recipe by pedagogies of repertoire, evidence and principle. Recognise that this is no soft option, for in place of mere compliance with what others expect we want teachers to be accountable to evidence so that they can justify the decisions they take. As the Cambridge report says: 'Children will not learn to think for themselves if their teachers are expected merely to do as they are told.'

Again, there's everything to play for. Funding for the national teaching strategies will cease in April 2011. The government has told Ofsted to drop its time-consuming School Evaluation Form, or SEF. And there's that larger government promise to respect professional freedom and expertise. So far, so good. But this is one of those priorities which depends for its successful implementation more on the capacity of teachers than on announcements by government, and especially on what knowledge, understanding and evidence about pedagogy schools and their leaders are able to command. It also has major implications for teacher training, which for over a decade has been no less straitjacketed than schools by the official pedagogical orthodoxies.

8. Replace the government's professional standards for teachers, which have limited evidential provenance, by a framework validated by research about how teachers develop as they progress from novice to expert. Retain guidance and support for those who need it, but liberate the nation's most talented teachers — and hence the learning of their pupils — from banal and bureaucratic prescriptions. Balance the need to give new teachers the necessary knowledge, skill and confidence for their first appointment with the vital ingredient that teacher educators have been forced to drop: critical engagement with the larger questions of educational context, content and purpose.

Again, there's notional movement, for TDA is now reviewing the professional standards of which we were so critical, though the future of TDA itself is uncertain. However, since TDA rejected our critique of the current professional standards its review may not go as it should. We would therefore urge the government to make this, like the assessment review, an external exercise.

[Postscript 4. The DfE announced a further review of the standards in March 2011, this time led not by TDA but by Sally Coates]

9. Grasp at last the primary school staffing nettle. Recognise that the generalist classteacher system inherited from the nineteenth century confers undoubted educational benefits, but that in terms of the range and depth of knowledge required by a modern curriculum it may demand more than some teachers can give. Initiate a review of primary school staffing which assesses expertise, roles and numbers against the tasks which primary schools are required to undertake. Consider more flexible ways of staffing primary schools using a mix of generalists, semi-specialists and specialists, and exploit opportunities for professional partnerships and exchanges, especially for small schools. Re-assess, too, the balance of teachers, teaching assistants and other support staff. Give head teachers time and support to do the job for which they are most needed: leading learning and assuring quality.

In the wake of the spending review it may be unrealistic to expect movement on this one. But as far as the Cambridge Review is concerned, this is indeed the nettle that successive governments, going right back to the 1931 Hadow report, have failed to grasp, or at least grasp with sufficient vigour. There have been promising moments, most notably after the 1978 HMI Primary Survey, but these have been countered during the past decade by the way teacher training and inspection have concentrated less and less on the curriculum beyond literacy and numeracy. Again, this is for schools and teacher training providers as much as for government. But they must avoid the temptation to reduce the debate to 'generalists vs specialists' – another in our catalogue of unhelpful dichotomies.

[Postscript 5, January 2011. Pessimism was in this case premature. Following the CPR's recommendations on this matter, and our subsequent representations to ministers and officials, the Secretary of State agreed on 14 January 2011 to launch a DfE investigation into primary schools' capacity to provide a broad curriculum taught to a consistently high standard, and to address associated

questions about school leadership, the focus of school inspection, and primary teachers' initial training and continuing professional development. The CPR will be closely involved.]

10. Help schools to work in partnership with each other and with their communities rather than in competition, sharing ideas, expertise and resources – including across the primary/secondary divide – and together identifying local educational needs and opportunities. End the league table rat race and – since Finland is the country whose educational standards policy-makers seek to match – note Finland's paramount commitment to social and educational equity through a genuinely comprehensive school system of consistently high quality.

So we come to the nub, and back to what both Brian Simon and *FORUM* have stood for: on the one hand there's a great deal of talk of localism and partnership, and there's encouraging evidence of the benefits of clustering and federation, some of it funded and advanced by the last government's national strategies; on the other, there's a growing fear that emerging policies for academies and free schools, and the ending of national strategy funding, will pit school against school and deny teachers the support that they need.

11. Re-balance the relationship between government, national agencies, local authorities and schools. Reverse the centralising thrust of recent policy. End government micro-management of teaching. Require national agencies and local authorities to be independent advisers rather than political cheerleaders or enforcers, and to argue their cases with due rigour. Re-invigorate parental and community engagement in schools and the curriculum. Abandon myth, spin and the selective use of evidence. Restore the checks and balances which are so vital to the formulation of sound policy.

This final priority takes us from the specifics of policy to the policy process itself. The malaise to which this priority refers is exhaustively charted in the Review's evidence. The Cambridge Review's final report spoke of the way that education policy illustrated some of the 'wider problems in Britain's political culture' and the 'erosion of the democratic process' charted by the 2006 Power Enquiry and commentators like Anthony Sampson and Eric Hobsbawm. It went on:

The prosecution of policy relating to primary education does not stand apart from [these trends] ... Indeed, it convincingly exemplifies many of them: centralisation, secrecy and the 'quiet authoritarianism' of the new centres of power; the disenfranchising of local voice; the rise of unelected and unaccountable groups and individuals taking key decisions behind closed doors; the 'empty rituals' of consultation; the replacement of professional dialogue by the monologic discourse of power; the politicisation of the entire educational enterprise so that it becomes impossible to debate ideas or evidence which are not deemed to be 'on message', or which are 'not invented here'.

These trends appear to be endemic to England's political system in 2009. In addition, the Review and its witnesses have highlighted variations on this larger theme of democratic deficit, many of them centering on the nature and quality of the information on which both sound decision-making and effective education depend: the less than complete reliability of official information, particularly in the crucial domain of standards; its lack of independence; the creation and/or perpetuation of educational myths in order to underwrite an exaggerated account of political progress; the key role of the media in shaping the information that reaches government as well as the information that flows from it; the reluctance of decision-makers to countenance or come to grips with alternative information on which better policies could be founded; the use of misinformation to marginalise or discredit ideas running on other than approved lines, and evidence from other than approved sources.

This, surely, is not the way that education policy should be made.[32]

Quite an indictment, I acknowledge, but every one of these conditions can be illustrated from the Review's evidence or its direct experience up to the election. For its part, the coalition government has promised less central control, intervention and prescription, more professional freedom and greater respect for local decision-making. QCDA, GTCE, BECTA and TDA are to go; Ofsted is to stay; the National College, the Office of the Children's Commissioner and six other educational quangos are under review. But if their functions are taken into the DfE will this really encourage local empowerment? Will it secure the promised accountability? Or will it amount to direct ministerial rule? And will we still have the 'empty rituals of consultation', and those 'unelected and unaccountable groups and individuals taking key decisions behind closed doors'? The handling of assessment reform and the new national curriculum will be good tests. Again, watch this space.

The uncertainty surrounding this final policy priority illustrates just how critical a moment this is for primary education. Since the election, initiatives have been launched or promised in relation to several of the Cambridge Reviews' priorities, sometimes along the lines that we recommended. This is encouraging. But it's early days and as yet little has been delivered. Promises have been made, reviews have been set up and rumours are circulating, but where they will lead we do not yet know. And note this further warning from our policy priorities paper:

These priorities are not just about policy. They will be advanced only if teachers, and the communities they serve, seize the opportunity and the evidence provided by initiatives such as the Cambridge Primary Review, and use them to debate the central educational questions which too often go by default: what primary education is for; what constitutes an enabling and balanced

curriculum; how research on learning and teaching can be translated into effective classroom practice that engages every child; in what kinds of decisions about their lives and learning young children can or should be involved; how educational quality and standards should be defined and assessed; and how – individually and in partnership – schools should be organised. Equally, these questions are the stuff of an initial teacher education which, while not deviating one jot from the vital task of building young teachers' classroom knowledge and skill, helps them to become thinking professionals rather than unquestioning operatives.[33]

This, Brian Simon would tell us, is what pedagogy entails and education requires, at the very least. Not just the *will* to engage with the big questions, but also the intellectual and professional *capacity*. After 13 years of prescription, micromanagement and compliance, are we up to it?

Notes

- [1] This version of the lecture includes brief updates in light of policy developments up to April 2011.
- [2] Simon, B. (1998) A Life in Education, p. 175. London: Lawrence & Wishart.
- [3] Simon, B. (2000) Blair on Education, FORUM, 42(3), 91.
- [4] Corbett, A. (2002) Brian Simon, *The Guardian*, 22 January,. http://tiny.cc/b1372
- [5] Several publications, notably, Galton, M., Simon, B. & Croll, P. (1980) Inside the Primary Classroom. London; Routledge; Galton, M. & Simon, B. (Eds) (1980 Progress and Performance in the Primary Classroom. London: Routledge.
- [6] Simon, B. (Ed.) (1957) Psychology in the Soviet Union. London: Routledge & Kegan Paul; Simon, B. & Simon, J. (1963) Educational Psychology in the USSR. London: Routledge & Kegan Paul; Luria, A.R. & Yudovich, F. (trans. J. Simon) (1971) Speech and the Development of Mental Processes in the Child. London: Penguin Books.
- [7] Alexander, R.J., Rose, J. & Woodhead, C. (1992) Curriculum Organisation and Classroom Practice in Primary Schools: a discussion paper. London: DES.
- [8] Simon, B. (1992) Curriculum Organisation and Classroom Practice in Primary Schools: a discussion paper (review article), *Curriculum Journal*, 3(1).
- [9] Cazden, C. B. (2001) Classroom Discourse: the language of teaching and learning, Portsmouth, NH, Heinemann, 56. The problem of dichotomous discourse in education is explored in 'Beyond dichotomous pedagogies', Alexander, R.J. (2008) Essays on Pedagogy, pp. 72-91. London: Routledge.
- [10] Comenius, J.A, [1657] tr. M.W.Keatinge (1896) *The Great Didactic*, especially chapters 16-19. London: A. & C. Black.
- [11] Alexander, R.J. (2001) Culture and Pedagogy: international comparisons in primary education. Oxford: Blackwell.

- [12] Alexander, R.J. (Ed.) (2010) Children, their World, their Education: final report and recommendations of the Cambridge Primary Review. London: Routledge.
- [13] All this material can be found on http://www.primaryreview.org.uk
- [14] Alexander, R.J. (Ed.) (2010) op. cit.
- [15] Alexander, R.J. with Doddington, C., Gray, J., Hargreaves, L. & Kershner, R. (Eds) (2010) *The Cambridge Primary Review Research Surveys.* London: Routledge.
- [16] Hofkins, D. and Northen, S. (ed) (2009) *Introducing the Cambridge Primary Review*, Cambridge, University of Cambridge Faculty of Education, may be downloaded at http://www.primaryreview.org.uk/downloads/CPR_revised_booklet.pdf
- [17] For information about the network and how to join it: http://www.primaryreview.org.uk
- [18] Rose, J. (2009) The Independent Review of the Primary Curriculum: final report, London, DCSF.
- [19] Alexander, R.J. (ed) (2010) op cit, pp. 458-484.
- [20] Tymms, P. & Merrell C. (2007) Standards and Quality in English Primary Schools over Time: the national evidence, Cambridge Primary Review Research Survey 4/1; Whetton, C., Ruddock, G. & Twist, L. (2007) Standards in English Primary Education: the international national evidence, Cambridge Primary Review Research Survey 4/2; Harlen, W. (2007) The Quality of Learning: assessment alternatives for primary education, Cambridge Primary Review Research Survey 3/4. These are available in revised form in Alexander, R.J. with Doddington, C., Gray, J., Hargreaves, L. & Kershner, R. (2010) The Cambridge Primary Review Research Surveys, pp. 435-483.
- [21] Wyse, D., McCreery, E. & Torrance, H. (2008) The Trajectory and Impact of National Reform: curriculum and assessment in English primary schools, Cambridge Primary Review Research Survey 3/2; Balarin, M. & Lauder, H. (2008) The Governance and Administration of English Primary Education, Cambridge Primary Review Research Survey 10/2; Cunningham, P. & Raymont, P. (2008) Quality Assurance in English Primary Education, Cambridge Primary Review Research Survey 4/3. These are available in revised form in Alexander, R.J. with Doddington, C., Gray, J., Hargreaves, L. & Kershner, R. (2010) The Cambridge Primary Review Research Surveys, pp. 727-817.
- [22] Mansell, W. (2007) Education by Numbers: the tyranny of testing, p. 26. London: Politico's.
- [23] Rose, J. (2009) Independent Review of the Primary Curriculum: update from Sir Jim Rose, http://www.dcsf.gov.uk/primarycurriculumreview (accessed 4 February 2009). Rose wrote: 'Where the sceptics are silent, of course is in voicing constructive views on solving one of the key problems we are trying to fix. How can we best help primary class teachers solve the 'quarts into pint pots' problem of teaching 13 subjects, plus RE, to sufficient depth, in the time available?'
- [24] Ofsted (1997) National Curriculum Assessment Results and the Wider Curriculum at Key Stage 2: some evidence from the Ofsted database. London: Ofsted; Ofsted (2002) The Curriculum in Successful Primary Schools. London: Ofsted.

- [25] Bangs, J., MacBeath, J. & Galton, M. (2010) Reinventing Schools, Reforming Teaching: from political visions to classroom reality, p. 157. London: Routledge.
- [26] Bangs et al, pp. 157-158.
- [27] Rose, J. (2009) *The Independent Review of the Primary Curriculum: final report*, pp. 32-34. London: DCSF.
- [28] Cambridge Primary Review (2010) *After the Election: policy priorities for primary education*. Cambridge: University of Cambridge Faculty of Education. http://tiny.cc/sktxi
- [29] See the Cambridge Primary Review final report but also: Layard, R. & Dunn, J. (2009) A Good Childhood: searching for values in a competitive age. London: Penguin; Wilkinson, R. & Pickett, K. (2010) The Spirit Level: why equality is better for everyone. London: Allen Lane.
- [30] Horace, Odes, Book 1, 11.
- [31] The submission from the CPR to the government's 2010-11 KS2 assessment review is at http://tiny.cc/intul
- [32] Alexander, R.J. (ed) (2010) Children, their World, their Education: final report and recommendations of the Cambridge Primary Review, pp. 481-482. London: Routledge.
- [33] Cambridge Primary Review (2010) *After the Election: policy priorities for primary education*, Cambridge, University of Cambridge Faculty of Education, 2. http://tiny.cc/7hhiu

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