The purpose of the proposed documentary is to show that,

“Education stands in danger of seeing people only as tools for economic progress, unless it is accompanied by a vision of individuals as creative, responsible, spiritual and society as the matrix within which genuine fulfilment is the goal for all.”

The Brilliance of Their Minds

A script based around 46 visual episodes

The comments in this script attributed to individuals other than Tony Little and John Abbott can only be regarded as fiction until the peoples concerned have confirmed them and the Producer is satisfied that these will form part of the argument.
The Brilliance of their Minds

Documentary Summary

This documentary has a most serious intent. Too often in the past education reform has been more concerned with addressing the obvious symptoms of a problem, rather than addressing the cause of the problem itself. Now in the early 21st century the present arrangements are so overlaid by layer upon layer of ‘quick fix’ solutions that to cut through to the underlying causes requires a level of knowledge and background most people simply just do not have. If ever it was true that a people who forget their history simply live to make the same mistakes all over again, it is now. The situation is serious.

The spectacular rise in the standard of living in recent years has created an extraordinary paradox. The busier and wealthier people have become the less time they seem to have for each other. This has created a crisis in how to educate the young. England which only two centuries ago led the entire world into the modern industrial age by merging the genius of the few with the applied creativity of countless self-taught craftsmen, has forgotten the adolescent’s instinctive need “to grow up” by so learning to do things for themselves that they emerge as responsible, skilful and thoughtful adults.

Instead of fostering such innate creativity the English, and subsequently other English speaking peoples, have started placing their faith in forms of institutional schooling that so go “against the grain of the brain” that they end up trivialising the very adolescents that they claim to be supporting. By ignoring recent research in the socio-biological sciences, schools continue to over emphasise conformity and standard procedures.

While the human brain has evolved to function effectively in complex situations - we naturally think big, and act small - modern education has become side-tracked into creating specialists who are well-qualified in their own narrow disciplines, but nothing like as good at seeing the wider impact of their actions. Because formal schooling has done its best to neutralise the impact of adolescence, recent generations of young people have been deprived of the strength of making difficult decisions, and learning to pick up the pieces if things go wrong.

Civilisation can never be taken for granted for it depends on a constant supply of responsible and tough new adolescents to replace the worn-out skills of their elders. Education is a multifaceted process that policy makers in many countries simplify and codify at society’s peril, for to put excessive faith in a highly prescriptive form of schooling inhibits the very creativity and enterprise needed for an uncertain future. This process has been exacerbated in recent years at National politicians have sought to take ever greater control over its delivery, almost regardless of what might be the specific circumstances of individual communities. It is not simply a crisis of schooling that has to be faced, but the much more serious problem namely a collapsed families and the emasculation of community.

Over the past decade several English speaking countries, have focused their reforming strategies on ‘breaking down’ the old structural arrangements in the hope that this shakeup will induce reform right across vast systems. The alternative is to concentrate on the minutiae of improving the personal motivation of individuals at all levels so as to ‘build up’ a widespread sense of community ownership, to create the energy for continuous improvement.
The larger the unit to be reformed, the more difficult it is to invest in a ‘building up’ strategy, yet it is only by investing in the intrinsic motivation of individuals in each community that entire systems develop the capacity for continuous development. Most regretfully England and the United States have progressively removed the control of education from local communities, thereby directly being answerable to large scale national directives, applying the ‘break down’ model of development.

**This documentary** aims to help the English find a way out of the ever deeper hole they have dug, by concluding with a study of the Canadian province of British Columbia. This province has progressively reinforced local community ownership as a way of reaching standards of achievement already well in advance of the English and United States systems. With only 4.5 million people – one twelfth of the population of the United Kingdom but scattered over the land area three times that size - British Columbia has no difficulty in finding sufficient people to stand as trustees of the 60 school districts, each administered with apparently greater efficiency than England can do with its ever more centralised government.

In placing its faith in local decision-making British Columbia is far better able to innovate than is possible in more congested England, where economies of scale too often prove to be a dangerous illusion. 20 years before the English established a tripartite system of secondary schooling in 1944, British Columbia had already started to adopt John Dewey’s belief that “education is life, not a mere preparation for life”.

England could also develop the brilliance of its children’s minds if it heeded the message of this programme and started to build the system up from the bottom by investing in the intrinsic motivation of whole communities, rather than being constrained by its draconian ‘command and control’ methodologies.

**So there is a technical challenge,** people are losing patience with printed text when there are more immediately attractive technologies. People look to television to give them quick, straight forward explanations. While a television documentary is the most appropriate of the present media to deal with this issue it has always to be remembered that if the audience’s attention is lost for even a couple of minutes they can simply turn it off... long before the main point has been concluded. The delivery of such material as this has always to be fascinating, fun and mentally challenging... which is itself, a challenge when we are aiming to change the very way in which people look at an old problem but with new insights.

*John Abbott, 30th December 2011*
The Brilliance of Their Minds

PART ONE - HISTORY

1. Opening title sequence

A montage of clips and photos that begins with cute babies and children gradually moving through learning situations; soundtrack of “watch children play” while a voice says....

VOICE OVER Tony: we all know that children learn through play.

Moving into young people in different locations – Eton College, St. Stephens Primary, Hadza encampment on the savannah in Tanzania, Nomad sons and fathers in Iran, Saturna ecological school BC, craftsman with apprentice, etc. Soundtrack “we don’t need no education” (Pink Floyd).

VOICE OVER Tony: it also seems that how we learn reflects different cultural traditions.

Fading to Tony walking across Eton quadrangle, talking to the camera

Tony: My name is Tony Little and I am the Headmaster of Eton College. Essentially I am a child of the 50s and 60s who grew up in --------, where my father was ---------, I’ve always been intrigued by how children learn. At the age of thirteen I got a scholarship to Eton and went on to Cambridge where I studied English and Education.

How humans learn, and subsequently how children should be brought up, has concerned the elders of society for longer than records have existed. It is referred to as the nature/nurture issue and I want to share my thoughts on this with you.

2. The Old School Room at Eton

Tony: I am standing in probably the oldest school room extant in the English speaking world. We think it was built in 1440; carbon dating of these timbers suggests they were growing at the time of William the Conqueror. In the centuries that have followed, ideas developed in rooms like this have shaped the education of the English speaking peoples – the repercussions can be felt across the world, such as in British Columbia in Canada which we will study later.

That there is no easy answer to the nature/nurture question concerned my predecessors in this room as it had done the Greeks long, long ago, and our recent Victorian ancestors. Current thinking polarises around three beliefs, each of which was articulated at least 2500 years ago.

Tony turns to looking at a bust of Plato

Tony: Plato taught that the effectiveness of the human brain was all to do with inheritance – those born to be leaders had gold in their blood, those to be administrators, with silver, while the common man (the vast majority) had only Iron. To Plato destiny was fixed at the moment of conception.
Turn to a globe, point out Greece, and then move over to the Ancient Hebrews

Tony: Not so, said the ancient Hebrews, it’s all far more dynamic than that, so “do not confine your children to your own learning, for they were born in another time”. Learning – to those ancient seers from the desert – was dependent on taking the wisdom accumulated by your ancestors and (and this was critical to the Jews) adapting it to ever-changing circumstances.

Shifting via the globe to China and a representation of Confucius

Tony: Half a world away in China, Confucius noted that “man’s natures are alike; it is their habits that carry them far apart.” Confucius reminded all those who would listen that “tell a child and he will forget; show him and he will remember; but let him do, and he will understand”. While any observant parent will readily agree with such an observation, some politicians will dismiss this simply as failed ‘child-centred’ or progressive dogma.

3. Charles Darwin’s study in Down House

Tony: In today’s world, do these conflicting explanations still have any value or can contemporary scientific research show how each actually expresses one aspect of what shapes human learning ... and what might this mean for pupils at Eton College, a comprehensive school, a bush school in Tanzania, or in the school districts of British Columbia on Canada’s Pacific coast?

I am standing in Charles Darwin’s study in Down House, where in 1859 Darwin published ‘The Origin of Species’. In this he set out that all life is a “work in progress” and subject to continuous, long-term adaptations. Only in the last half century (and essentially in the last 25 years) has biomedical technology, linked up with genetics, evolutionary studies, systems thinking and anthropology, to help explain how the human brain has been shaped by the way our ancestors adapted to their environment.

4. A modern science laboratory

Tony is drawing attention to suitable video and computer programmes running on computer screens to create the right image for the neural networks supporting language, CGI images of brains...

Tony: Equipped with such technologies, cognitive scientists now see the human brain as being like a veritable archaeological paradise. Varying mental predispositions, reflecting adaptations made thousands of generations ago, and subsequently laid one upon another like strata in a geological sequence and – this is the essence of so much recent research – transmitted genetically to subsequent generations. For instance, the neural networks we use for language ride piggy-back on those much older networks earlier developed for vision, meaning that today we find it much easier to think in terms of pictures and stories, rather than abstract theory, while our ability to “read faces” owes more to the development of empathy a million and more years ago, than to the much more recent development of using language to describe features.

Steadily, scientists are coming to appreciate that humans, together with all their likes and dislikes, reflect those deep-seated adaptations made by their early ancestors as they adjusted to ancient environmental problems. These ancient adaptations still shape the way we think and act today, and explain our preferred way of doing things. It is this variety of adaptations that account for the complex twists, turns and convolutions in the grain of our brain. We are enormously empowered by
ancestral experience but we consistently under-perform when driven to live in ways that are utterly uncongenial to such inherited traits and predispositions.

5. Born to Learn, or born to be taught?

Tony: From this perspective, most of the schools that today’s children attend were designed when prevailing cultures assumed that children were born to be taught rather than to learn. That distinction is important and it is why, for so many children, the wonder of learning has been replaced by the tedium of trying to remember what they are told by somebody else about something that really does’t interested them very much in the first place.

It has been estimated that it takes about 30,000 years for a significant genetic change to the structure of the brain to become universal. That is a sobering thought. We are trying to use – as it were – 21st Century thought processes on the ‘hardware’ of a brain still perfectly adapted to conditions of 30,000 years ago. “You can take man out of the Stone Age but you can’t take the Stone Age out of man.”

Clip from ‘born to learn’ animation possibly on same projection. www.born-to-learn.org

6. Mock-up at the Roman Baths

Tony standing next to a bust of a Greek philosopher adjacent to the Roman Baths in Bath, blank background

Tony: So what of the cultural factors that have shaped the way schools currently do things? Two thousand years ago the Greeks invented the modern school to supplement and regulate young people’s innate desire to reason things out for themselves. They defined a school as a place of pleasurable activity where children between the ages of 7-14 spent one-third of their time learning the arts of the grammarian (writing, mathematics and the art of oratory), one-third on drama and music, and one-third on gymnastics. Such a balanced education, the Greek believed passionately, would fit a man for the responsibility of being a citizen in a democracy.

Tony turns away from the bust and begins walking around the Baths...

Tony: I am standing here in a part of the complex set of hot baths the Romans built in Bath in the 1st Century AD. Because the Romans had little sympathy with Aristotle’s humanistic belief that “all men by nature desire knowledge” they treated their children somewhat as they treated their slaves – they frightened them into learning for fear of being beaten.

Actor St Augustine: “Oh my God, how I suffered. What torments and humiliations I experienced. I was told that because I was a mere boy, I had to obey my teachers in everything. I was sent to school. I did not understand what I was taught. I was beaten for my ignorance. I never found out what use schooling was supposed to be.”

Tony: fortunately for a few, however, such an environment did not quell the insatiable urge to think things out for themselves. In his old age Augustine wrote, ”I learnt most not from those who taught me, but those who talked with me”.
That seems to me to be about the most profound statement ever uttered by an educationalist—essentially we are a social species, and our ideas develop as we share thoughts one with another.

7. Windsor Castle, 1563

Tony looking across the river to Windsor Castle, moving to old room in Castle, Actors assembling- Historic reconstruction

Tony: The first book ever written in English about education was The Scholemaster by Roger Ascham in 1570. Here is one of the Queen Elizabeth’s private chambers. Imagine this as it was in December 1563. It was a particularly cold winter forcing the Queen and her Council to take refuge here from the plague that was raging in London. It was only five years since the death of Mary had brought to an end the attempt to stamp out the Protestant Revolution. King Philip of Spain and the rest of Catholic Europe were baying for the life of the young Queen Elizabeth. Unstable times indeed, for spies might well be hiding in the closet, traitors lurking behind the arras.

Gathering in this room are Sir William Cecil, the nearest Elizabeth came to having a Prime Minister, his Chancellor of the Exchequer, a number of noblemen and the Queen’s private tutor, Roger Ascham.

Actor Sir William Cecil: I have strange news brought to me this morning that diverse scholars of Eton College be running away from their school for fear of beating. Many times they punish rather the weakness of nature, than the fault of the scholar. So pupils who might otherwise prove strong scholars are driven to hate learning before they come to value knowledge; and so forsake their books and be glad to escape to any other kind of living.

Actor Sir William Peter: The rod only has to be the sword that must keep the scholar in obedience and the school in good order.

Actor Bishop Nicholas Wootton: In my opinion the School House should be indeed, as it is called by name the house of play and pleasure, and not of fear and bondage as I do well remember from my childhood.

Actor Roger Ascham (Classical Scholar & Queen Elizabeth’s private tutor): I think something similar. Teachers should cultivate hard wits rather than the superficial quick wits of those youngsters whose memories are good but who cannot work things out for themselves. In my old age I know that those which be commonly the wisest, the best learned, and best known also when they were old, were never commonly the quickest of wits when they were young.

Tony: It is extraordinary, isn’t it, that 400 years ago the debate was between those whose learning consisted of good memory (quick wits) and those who had learnt to work things out for themselves (hard wits). Too often education reform has been more concerned with addressing the obvious symptoms of a problem, rather than addressing the cause of the problem itself. Now in the early 21st century the present arrangements are so overlaid by layer upon layer of ‘quick fix’ solutions that to cut through to the underlying causes requires a level of knowledge and background most people simply just do not have. If ever it was true that a people who forget their history simply live to make the same mistakes all over again, it is now. We cannot afford to make these mistakes any longer.

Ascham was beneficially influential for many reasons but his third injunction shows how set in the new Protestant thinking he was -
**Actor Roger Ascham:** “in the attainment of wisdom, learning from a book, or from a teacher, is twenty times as effective as learning from experience”

**Tony:** he justified this saying that it was an unhappy mariner who learnt his craft from many shipwrecks but the truth of the matter was Ascham had been shocked to see in Rome the beautiful, but to his mind the unnecessarily lascivious statues being uncovered from Greek and Roman times. Consequently Ascham defined the responsibility of teachers as being to censor what the child learnt.

### 8. Old School Room in Huntingdon

**Tony:** It was only in the mid 16th Century that the word “education” entered the English language. The word is based on the Latin “educare” meaning to “lead out” in the sense of a general leading his troops out from the security of the defended camp on to the problematic field of battle. The Roman armies owed their success to the maintenance of perfect discipline and the insistence that every soldier do only that which he was ordered to do. Thus, by extension into the world of education, such a literal definition saw learning as doing what you were told.

I am standing in the old grammar school in Huntingdon, attended in the early 17th Century by Oliver Cromwell. Later in his life Cromwell was much dependent on John Milton in his intellectual description of the Puritan view of democracy, and his formal duties as Secretary for Foreign Affairs which has subsequently shaped the thinking of the English speaking world. Most of us think of Milton in terms of his poetry but listen to him writing in 1642, in the midst of the Civil War...

**Actor Milton:** “I call a complete and generous education that which fits a man to perform justly, skilfully and magnanimously all the offices public and private of peace and war.”

**Tony:** wherever in the world we may be, I can’t think of a better purpose statement for education than that.

### 9. The Blacksmith's Forge in Culworth

*Northamptonshire. Tony talking against a backdrop of Martin Rowling, the present blacksmith, working in his forge.*

**Tony:** Like so many of his time Milton recognised that society was as dependent upon the skills of the artisan as it was on the scientist and academic. He was convinced that the old Elizabethan grammar schools and the ancient universities were becoming too intellectually elite and ungrounded in daily realities. His solution was radical:

**MILTON VOICE OVER:** “though a man should pride himself as having all the tongues that Babel cleft the world into, yet if he have not studied solid things in them as well as words and lexicons, he was nothing so much to be esteemed a learned man as any yeoman or tradesman”.

**Tony:** Milton proposed that in every town there should be established an academy paid for out of a tax levied on all households because he passionately believed that education was for the public good, not for individual advancement.

**MILTON VOICE OVER:** “where hunters, fowlers, fishermen, shepherds, gardeners, architects, engineers, mariners, and anatomists, as well as classical scholars would discover a real tincture of natural knowledge as they shall never forget”.

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Promoting a Vision, Knowledge, Experience and a Network
10. Village Green, Culworth

Tony leaves the forge, steps out onto the village green. A telephoto lens from top of church tower showing the green, (This scene needs further development, a little bit raunchy! Nell Gwynne running across village green)

Tony: Not 20 miles from this forge was to be fought the Battle of Naseby leading to the eventual capitulation of the Royalists, the execution of Charles I, the establishment of the Protectorate and then its collapse leading to the triumphant return of Charles II in 1660. Thoughts about a locally-elected democratic form of government were forgotten for a century or more. To the fore came Nell Gwynne and the elaborate, openly sensuous Restoration society of the late 17th century.

The aristocracy, supported by the expanding gentry class became ever more enamoured of their privileged existence. Interestingly it was amongst those Puritans who had fled England that the growth of the English school was to evolve across the Atlantic with the establishment in 1643 of the Boston Latin School.

Telephoto lens then zooms out and pans around to show countryside of fields then back to the forge

Tony: By the beginning of the 18th Century, England was a land of fertile farms and busy harbours where the energy, imagination and innovation of men like Martin the blacksmith behind me had been bred into the people by centuries of pushing the boundaries in an island where to do so always seemed to open up further opportunities. Far away from the classroom with its ever more sterile form of teaching, craftsmen and apprentices alike thrived through reciprocal behaviour, empathetic understanding, collaborative skills and a delight in experimentation.

11. Arkwright’s Textile Mill, Cromford, Derbyshire

Intro panel on screen: ‘current mature craftsman’

Current mature craftsman: No society in history has ever had to reinvent itself so quickly, or so often as did England as the eighteenth century began to merge with the nineteenth. Here was the spontaneous expression of a people’s energy, dependent not simply on the brilliance of an inventor but on the practical skills of carpenters and blacksmiths, goldsmiths, clockmakers and engineers, in hundreds of towns and thousands of villages ready instantly to turn such designs into new machines. England was full of thinkers who knew how to make their innovations work.

In 1759 the iron masters started to forge the new world by smelting iron ore, resulting in the first ever iron rails at Coalbrookdale. A Scottish engineer, James Watt, revolutionised the earlier steam engine and, by using separate condensers, turned a simple horizontal motion into a rotational force. “I sell here,” the exuberant engineer Matthew Boulton exclaimed in 1776, “what all the world desires, to have – power”.

Industrialisation changed every aspect of this equation. Robust individualism was replaced by an unthoughtful, de-motivated and unskilled mob of people, ready only for the life of a factory that was then being created. For millions of youngsters over several generations their innate predispositions
were totally ignored, so depriving them of that nurture which is essential to the brain’s natural functioning.

**Tony:** This was a disaster for which we are still paying the price.

### 12. Homerton College, Cambridge

**Tony walking in the gardens**

**Tony:** Wordsworth captures the mood quite brilliantly when in 1805 he wrote: “Milton! Thou shoudst be living at this hour: England hath need of thee: she is a fen of stagnant waters; /alter, sword, and pen / far side, the heroic wealth or hall and bower / have forfeited her ancient English dower of inward happiness”

In the minds of many people that could well be us in an England 250 years later.

Back in 1979 when I came here to Homerton College we Englishmen were far from the confident heirs of the commercial empire that these innovators had passed on to the Victorians. Things simply were not good.

It was that year that my path first crossed with John Abbott, a man 15 years older than I and already a Headmaster of five years standing. In a much quoted lecture that he had given in this college he claimed that a quality education is like the balance that can be achieved from a three-legged stool that can balance on any surface, however rough, providing the legs – home, school and community – were always of the same length.

### 13. In the Study

**Tony:** So how have we lost this sense of balance? It often seems that we’re so driven by materialistic goals that we have forgotten the importance of home and community. What are the root causes of our problems?

**John (pulling out a £20 note):** Since Boulton’s day England has experienced massive social meltdown. It is much to do with the influence of Adam Smith, the author of *The Wealth of Nations*. Adam Smith was effectively the apostle of the free market, and mechanisation. But what most people don’t realise is that Adam Smith was fearful that if all this were to happen then the earlier “alert intelligence of the craftsman” would be replaced by factory operatives who would be “generally as stupid and ignorant as it is possible for a human creature to become.” And he was correct; working men lost not only their dignity but also their sense of purpose.

### 14. The British School in Hitchin

*The mid-19th century in British Schools in Hitchin, Hertfordshire. Tony stands as a Computer Generated Imaging (CGI) school builds up around him and actors come on.*

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**The 21st Century Learning Initiative**

Promoting a Vision, Knowledge, Experience and a Network
Tony: 20 years after Boulton, a young Quaker Joseph Lancaster set up the first of what were to be called ‘monitorial schools’. It consisted of a single room, 39 feet wide and 106 feet long which accommodated 660 children in 33 rows of 20 desks. One teacher, relying on the services of his monitors, could supposedly teach all 660 children the three Rs at a cost of 7 shillings per annum per child.

As good a bargain as that might seem, the idea of educating the masses terrified those Parliamentarians who claimed that “giving education to the labouring classes and the poor would, in effect, be prejudicial to their morals and happiness. It would teach them to despise their lot in life instead of making them good servants in agriculture and rendered them insolent to their superiors.”

Tony walking into the Big Classroom, non-speaking children (7-10yr olds) Actors in Victorian costume with 2/3 teachers.

Charles Dickens was a vehement critic of many of these earlier teachers, and had Mr Gradgrind saying in Hard Times:

Actor Mr Gradgrind: “Now, what I want is facts. Teach these boys and girls nothing but facts. Facts alone are wanted in life. Plug nothing else.....you can only form the minds of reasoning animals upon facts; nothing else will ever be of any service to them.”

15. Nelson’s Father’s old Rectory in Norfolk

Wise Historian (academic with big beard): So out of touch were many of the ancient grammar schools, that by the late 18th century the gentry were forsaking the grammar schools and sending their sons into the navy to learn the ways of the world. (Shrewsbury School)

The Earl of Chesterfield was by no means unique when he wrote to his son (1746) (reading from a letter): “do not imagine that the knowledge which I so much recommend to you is confined to books.... for the knowledge of the world is only to be acquired in the world and not in a closet.” The young Humphrey Repton was removed from the decaying Norwich Grammar School at the age of 12 because “my father thought it proper to put a stopper to the vial of classical literate, having determined to make me a rich, rather than a learned, man.”

Tony: And here in this Norfolk Rectory in 1769 (pointing to a painting of Trafalgar) the relatively well-to-do rector, the Reverend Edmund Nelson, arranged for his 11 year-old ‘squeaker’ Horatio to join the navy as a midshipman – becoming in 1805 the hero of the Napoleonic Wars and dignified with a tomb in St Paul’s Cathedral.

While the country rejoiced at Wellington’s victory at Waterloo in 1815 the government was determined to cut costs and immediately started to reduce the size of the navy. There was nothing else for it but for the adolescent sons of the gentry to be sent back to the schools their fathers had forsaken. They so loathed it that both here and at Winchester there were several riots, one of which at Winchester in 1818 required two battalions of soldiers with fixed bayonets to quell the pupils.

16. In front of a 19th century engraving of Rugby School
Tony: To one of these ancient and decaying grammar schools came Dr Arnold in 1827 as Headmaster. With amazing foresight he saw that there was an enormous opportunity (a Unique Selling Proposition, if you like) in offering the emerging wealthy an education that would take their children off their hands for 8 months of the year, and prepare them to move into the upper ranks of the gentry which had always remained closed to their blue-collar fathers. Arnold devised an education at Rugby very different to the traditional values of a market town.

Actor Dr Arnold: “What we must look for in this school is firstly religious and moral principles, secondly gentlemanly conduct, and thirdly intellectual ability,”

Tony: Arnold was determined to convert the emerging middle classes to his vision of an England and an Empire led by Christian gentlemen. He overthrew the town’s ambitions and progressively filled Rugby with fee-paying pupils drawn from a distance and made possible by the rapidly expanding rail network. Within ten years local day boys comprised less than 10% of the total.

Progressively Arnold defined the Victorian public school as an elite, fee-paying boarding school (with no connection to its local community) exclusively for the sons of emerging gentlemen, and possessing a passionate commitment to Christian beliefs and ethics. He virtually banned the teaching of science:

Actor Dr Arnold: “Rather than having science as the principal theme in my son’s mind, I would gladly have him think that the sun went around the earth, and that stars were many bangles in the bright firmament.”

Tony: This was to be a devilishly narrow education for young men, who within 20 years would be reading Darwin’s thoughts on evolution. Arnold nevertheless had an immense impact both on education and the structure of Victorian society.

Actor Dr Arnold: “It is a fact beyond dispute that Englishmen of the upper classes send their children away from home to be educated....and the reason....is not the teaching [but that the boarding school is] a better place for a boy to grow up in than the home.”

Tony: By inference Arnold was implying that pupils who attended day schools were seen to be inferior. Additionally, Arnold feared creeping materialism.

Actor Dr Arnold: “There is no earthly thing more mean and despicable in my mind than an English gentleman destitute of all sense of his responsibilities and opportunities and only revelling in the luxuries of our high civilisation and thinking himself a great person.”

Tony: I can’t help thinking that all of us who head up such well provided schools as mine must constantly remind our students of such a truth. In 1865 Michael Faraday, the man who effectively discovered electricity, explained that such a curriculum “gives the growing mind a certain habit, a certain desire and willingness to accept general ideas of a literary kind and to say all the rest is nonsense and belongs to the artisan.”

17. Victorian Board School in industrial area (Manchester, Birmingham, Leeds etc)

Tony: To England’s long term shame, the solution in the mid-19th Century to establish two totally different systems of schooling was based essentially on the acceptance of a Victorian divided society.
Education for the masses was largely concerned to equip them with sufficient practical skills so as to start working at the age of ten. In 1832 parliament grudgingly made small grants to the church societies towards the cost of new buildings. The English Establishment had little time for teachers; (in a heavy accent, much exaggerated) “Little else is required of a teacher other than an aptitude for enforcing discipline...which a sergeant major is required to exercise over a batch of new recruits.” Lord Macaulay went further, describing schoolmasters as “the refuse of all callings, to whom no gentleman would entrust the key of his wine cellar.”

By the 1850s some 60% of the children below the age of 10 attended some kind of school though most would leave by the age of 11. A Commission was set up 1858 “to enquire into the present state of popular education in England and to consider what measures, if any, are required for the extension of sound and cheap elementary education for all classes of people.” What we might call a cheapskate compromise – and that was only five or six generations ago.

18. In front of an engraving of the House of Commons

*From the The Illustrated London News*

**Tony:** In the 40 years that followed from Arnold’s transformation of Rugby School some 30 other ancient foundations also turned their local grammar schools into boarding schools for the education of the elite. Amongst those whose interest this served these schools were enormously popular, but the rising and highly influential liberal politician, Benjamin Disraeli, expressed the fears of many

**Actor Ben Disraeli:** “we are becoming two nations, between whom there is no intercourse and no sympathy; who are as ignorant of each other’s habits, thoughts and feelings as if they were dwellers in different zones or inhabitants of different planets, and fed by different food. I speak of the rich and the poor.”

**Tony:** One man was determined to do something about it, the liberal politician W E Forster. Knowing *(Tony pointing to painting of Forster)* that quality education required well qualified teachers, Forster proposed drawing together some 2500 ancient charitable foundations so as to create a national training scheme for teachers, and that the funding of schools in the future should be dependent upon locally elected trustees financed through a local tax.

By 1869 there were several thousand schools that would have benefitted from such trained teachers, but the newly named ‘public schools’ that were following in Dr Arnold’s footsteps would have seen much of their funding confiscated for the benefit of everyone. One man in particular was incensed - the Rev Edmund Thring - the recently appointed Headmaster of the old Uppingham Grammar School.

**Actor Edmund Thring:** “You can’t break the laws of nature which have made the work and powers of men vary in value. This is what I mean when I ask, why should I maintain my neighbour’s illegitimate child? I mean by illegitimate every child brought into the world who demands more than his parents can give him, or to whom the government makes a present of money. The School Boards are promising to be an excellent example of public robbery.”

**Tony:** It would be impossible to be more dismissive than that!
But it did the trick, early in 1870 some thirty of these wealthy (and mostly recently reformed) schools bandied together as the Head Masters’ Conference. They defied Forster and the Liberal Party getting away with the funds earlier given for the education of the poor.

Plans for teacher education were delayed by decades. But in one way Forster succeeded. The resulting Education Act of 1870 enabled groups of citizens to come together and establish locally elected School Boards with the responsibility of providing a complete coverage for education of all children in their communities paid for out of local taxes.

19. A Yorkshire Board School

Current mature senior MP 1: It was amongst the growing industrial areas – Birmingham, Leeds, Bristol, Manchester - that enthusiasm for the Board Schools was at its highest. People increasingly wanted more out of education than elementary schools had earlier provided. Because the new school boards were frequently small, sometimes with fewer than five schools, rate payers could see what they were getting for their money, and the locally elected trustees often worked tirelessly to foster a strong sense of local community. More and more children began to stay on beyond the age of fourteen. Then evening classes were provided for older members of the community to study subjects that had not been available to them when they were young.

Tony: For the ordinary people of England the board schools of the 1890s were almost too good to be true. Here on the edge of the Yorkshire moors were the beginnings of the all-through school dreamt of by Milton two hundred and fifty years before. At long last it seemed that the working class dream of full education had a real chance of happening.

But it was not to be. The grammar schools became increasingly envious of these higher-grade elementary schools, for they saw in their pupils of thirteen and above the very youngsters that they were failing to attract to their own institutions. Meanwhile the Church schools were becoming jealous of what could be achieved by raising money through the rates. The elite public schools stood back and looked at this proliferation of technical and scientific education with disdain, and concluded complacently that technical education was none of their concern. Chaos was brewing.

[The same tensions were starting to fester in British Columbia as will become obvious in the following ten years.]

20. Smoking room in a London club

Tony: By the late 1890s nearly two thousand five hundred school boards had been established, educating nearly half of the country’s children with the other half being under the control of some fifteen thousand church schools each with a separate set of school governors. It was pandemonium. The haphazard administration of these two separate systems brought the schools virtually to their knees in 1899. No one was in charge. Parliament was struggling to maintain at arms’ length a national system of education with no clear idea of what it wanted to achieve.

Plus ca change, plus c’est la meme chose!

Current mature senior politician 2: In 1898 a new junior clerk was appointed to the Office of Education, Robert Morant. He had a strictly hierarchical view of society, believed that the education he had received at Winchester was the best in the world and thoroughly disapproved of the School
Boards as a threat to the class assumptions that he believed should shape social policy. Morant was the ultimate authoritarian.

**Current mature senior politician 2:** in a Department that really didn’t know its own mind and with very little actual work to do, Morant began sifting through piles of old files, and discovered that there had never been any formal parliamentary approval for the School Boards set up 30 years before to raise taxes for any form of schooling which went beyond the 3 Rs, or beyond the age of fourteen. Here was political dynamite. In setting taxes that could now be shown to be illegal, School Board members had unwittingly made themselves personally responsible for repaying such monies to government. Morant surreptitiously slipped parts of this information to the government’s official auditor, who confirmed that the school boards had indeed acted illegally, and that meant that individual school board members (some 25,000 across the country) would be personally responsible for paying back large sums of money.

**Current mature senior politician 2:** Many influential and powerful local people, who all the time had thought they had been acting in the public interest, faced imminent bankruptcy. They lost all stomach for any further advocacy of state-provided education. A whole swathe of respectable, middle-class people rapidly withdrew from public life. This was to prove a fatal breakdown in trust, because without the involvement of such people education became terribly susceptible to central government control... which was exactly what Morant wanted. Politicians were in a quandary. The Prime Minister, in an unprecedented move, before or since, promoted the young Morant to be in charge of the entire Office of Education......equivalent to promoting one of today’s parliamentary internees to Permanent Secretary within five years. But, perhaps, that is no longer quite as extraordinary now as it might once have seemed?

### 21. Committee room in House of Commons

**Tony:** In the preceding months Parliament had debated the possibility of encouraging the development of higher-grade elementary schools to the age of sixteen, giving an all-through education just as is now done with spectacular results in much of Scandinavia. This was the solution fervently preferred by those living in the cities. The alternative was to set up separate elementary and secondary schools which would involve the creation of new “provided” grammar schools.

Morant turned to those he knew and understood best for advice – the headmasters of the most prestigious public schools. They consistently stressed the need for a sharp distinction between secondary and elementary schools. Why? To such men the influence of the Greek philosophers was immensely strong. Children below the age of ten didn’t matter very much. What mattered were good secondary schools, uncontaminated by younger pupils.

**Current mature senior politician 2:** With this advice Morant set out to reshape England’s schools. The 1902 Act limited elementary education to pupils below the age of fourteen, so cancelling all teaching of science and technology in the higher-grade classes. The Act abolished the School Boards. It passed financial responsibilities to the newly-created county councils who in future would allocate money to education out of a general fund that also covered roads, sewers, libraries, cemeteries and public amenities. Morant’s solution limited the involvement of local people and was a massive first step towards consolidating the role of central government and reducing the influence of local democracy – a process which now seems to be coming to its conclusion.
22. Debate in the Commons, Talking outside houses of Parliament

Retired senior MP 3: The debate was the most heated and vehement ever heard in the House of Commons. Herbert Asquith, himself later to be Prime Minister, argued passionately in favour of the further extension of the upper-elementary school for all children from the ages of five to sixteen, and warned Parliament that if it voted against this “You’ll put an end to the existence of the best, most fruitful and the most beneficial educational agencies that ever existed in this country”. Morant and the centralist policies won in England, but the School Boards survived in the Americas, Australia and in their almost original state to this day 8,000 miles from London in British Columbia.

The 1902 Act left the public schools virtually free to go their own way, and a most dangerous polarity was established...if you had the money you bought yourself out of the state system. Having defined all former board schools as now being “elementary”, and limited to those below the age of fourteen, England was left with a tiny rump of mainly small, often rural, grammar schools out of which to create a national secondary system. Within six years Morant created 245 new “provided” grammar schools with 150,000 places. An impressive achievement, but actually catering for significantly smaller numbers of pupils than had earlier been accommodated in the higher-grade elementary schools. No wonder people were bitter and felt let down. By early 1939 only 18% of 13 year olds remained in school in England after their 14th birthday – almost the lowest figure for any European country.

There was one curious appendage to the Act. Faced with the almost impossible task of building sufficient new grammar schools, the 1902 Act provided for those ancient grammar schools who had few endowments, and were often in or close to industrial areas where industrial workers could not afford the fees, government saw an opportunity to offer such schools a Direct Grant on condition that 25% of their places were allocated, free, to youngsters passing an entrance exam. At a fraction of the cost of establishing a new school this was a bargain to central government, while to hard-pressed old grammar schools it was none other than a godsend. Everybody appeared to gain, but seventy years later this was to be the cause of the total unravelling of all previous arrangements and assumptions. It would also prove to be Prime Minister Callaghan’s downfall and provide the opportunity for Margaret Thatcher to win a stunning victory for the Conservatives.

Editor’s note: from this stage onwards we are coming into living history. The description changes with many more people speaking from experience
PART TWO – MODERN TIMES

23. Tony in his Study at Eton

Tony: we are coming into modern times. A kind of living history; the events that older members of society can remember hearing their grandparents talking about. The last 100 years.

The spectacular rise in the standard of living in recent years has created an extraordinary paradox. The busier and wealthier people have become, the less time they seem to have for each other. This has created a crisis in how to educate the young. England which only two centuries ago led the entire world into the modern industrial age by merging the genius of the few with the applied creativity of countless self-taught craftsmen, has forgotten the adolescent’s instinctive need “to grow up” by so learning to do things for themselves that they emerge as responsible, skilful and thoughtful adults.

The first 50 years of the 20th century were not good for English education. This was a time of so many conflicting theoretical ideas that to gain a consensus was almost impossible; and many of these ideas were not English in origin but came from America and the continent.

24. The evolution of Ideas (about four mins. of animation in total)

Animation clip from the Faustian bargain (1.24 to 2.32)...

Granddad: Well, in the 1890s an American called Frederick Winslow Taylor had an idea that literally changed the world. He realised that while machines made us more productive, humans were relatively slow. So, by timing people’s activity, he created what’s called the Scientific Management of Work. So, instead of taking pride and responsibility in how they did their jobs, everyone was told exactly what to do by experts.

Girl: Who in their right minds would agree to that? No one would give up their freedom for such mindless jobs!

Granddad: You’re right – so Winslow Taylor offered workers a deal. “Do it my way, by my standards, at the speed I say, and you’ll achieve an amazing level of productivity. I’ll pay you handsomely for it, beyond anything you might have imagined. All you have to do is take orders, and give up your way of doing your job for mine.”

Girl: But that’s just awful! No wonder we’re so bored!

Granddad: Yes but his methods caught on around the world and they lifted millions out of poverty. He helped us to become as wealthy as we are now. But it came at a terrible price...

The animation is then extended to include the Carnegie professor...

Cartoon Carnegie professor: With millions poverty stricken immigrants coming into America it is more and more necessary that every human being becomes an effective economic unit. What is needed is an education system that sorts people efficiently into various positions that need to be filled in a stratified occupational structure.
Cartoon WB Watson: Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in, and I’ll guarantee to take any one at random and train him to become any type of specialist I might select — doctor, lawyer, artist, merchant-chief, and yes, even beggar man and thief, regardless of his talents, penchants, tendencies, abilities, vocation and the race of his ancestor.

Animation ends, back to Tony in his study

Tony: The management of external motivation, and the construction of a closed environment, were the key components of the Behaviourists’ model of learning. Ignoring Darwin’s theory of evolution, behaviourist theoreticians gave overwhelming primacy to controlling the learning environment, the dominance of the teacher, and to the school as the pre-eminent place of learning. Behaviourists teamed up with the followers of Frederick Winslow Taylor to construct ‘the perfect system’ to equip millions of young people for a ‘straight forward’ life as producers and consumers in a modern society. Learning from henceforth became something schools did to you.

Animation restarts

Cartoon John Dewey (Huckleberry Finn-esk but wearing a PHD gown): I disagree profoundly with Watson. Education is life! Not a preparation for life – we learn most by being involved in life, not by studying it from the outside. That is essential for the perpetuation of a free society. I agree with Thomas Jefferson when he said “I know no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take that responsibility from them, but to inform their discretion”. If we Americans start treating people as if they are mere automatons then human nature will dry up and people will lose all sense of being responsible for their lives.

Cartoon Sir Richard Livingston (vice chancellor of oxford): agreed. The test of a successful education is not the amount of knowledge a pupil takes away from school, but his appetite to know and his capacity to learn.

Cartoon Albert Binet (background of the Eiffel tour): bon jour! I can separate the influence of inherited factors from those acquired from the environment by developing a test for intelligence based on vocabulary, comprehension and verbal relationships.

Cartoon Cyril Burt (very English accent): I agree! Approximately 80% of intelligence is determined by genetic factors, so I conclude that the social divisions in mid-twentieth century England are entirely natural. I recommend that we tailor different kinds of education to youngsters of different intellectual capabilities, a single intelligence test administered as early as the age of eleven would accurately predict future intellectual performance.

25. Inside the Imperial War Museum

Tony: while all those arguments were raging in the 1930s Hitler was coming into power. Many an Englishmen became disillusioned that what they had fought for in the 1914/18 war had subsequently been squandered by the politicians. So when the Second World War broke out there were no crowds wishing to enlist and the coalition government in 1940 realised that if people were to be rallied a second time they would need guarantees that their sacrifices really would lead to a better and more equitable society – better education, better health and better social security. In 1940, Churchill appointed R. A. Butler (RAB) as the new Minister of Education.
Few second shot of Butler pontificating

**Tony:** Paternalistic and late Victorian in nature, Butler favoured Livingstone’s ideas. His Permanent Secretary however was of a very different persuasion. A former classical scholar and an archetypal civil servant in the mould of Robert Morant, Maurice Holmes believed that he should control his Minister and persuaded Butler that Cyril Burt’s IQ tests could give scientific credibility to what he, with his classical background, really believed: that is, that Plato had it right in his tri-partite description of humanity.

**Actor John Newsome:** I was involved in implementing these political decisions. As a young man I had been more influenced by the academic humanism of John Dewey than I was by Watson and the behaviourists. It fell to me to combine something of this in the post-war Secondary School system. The school leaving age would be raised to fifteen at some point ‘soon’ but there was so much uncertainty about when it would be raised, Butler lopped three years off the old elementary school curriculum to make eleven, not fourteen, the age of transfer. Secondary education was then to be split into three different strands, entry to which would depend on the results of intelligence tests and the Eleven Plus examination: which combined questions of general intelligence, general knowledge, mathematical and literary assessment.

**Former HMI:** The impact of the Eleven Plus was frequently devastating as it was later shown that one child in six was misplaced. That became a national scandal as youngsters quickly slipped into performing simply at the level expected of them. Parents were instantly suspicious and spent much money on extra tuition to make sure that their children were well groomed to out-wit the testers. To understand England today is to remember that very many of the grandparents of today’s so-called “difficult” pupils had themselves, like me, been discarded by these earlier tests. It wasn’t their fault; it was a result of a system that was flawed from the start.

**Actor John Newsome (holding a copy of his book):** coming out of the army in 1945 I was appointed Chief Education Officer of Hertfordshire and one of the first things I did was to write a book to remind parents that “children are children first; they are only schoolchildren second. They are much more influenced by the conduct of their parents, than by their teachers. If you wish to help your child you should do this not by leaning heavily on his or her homework but by respecting your child’s efforts to find truth, and sympathise with his difficulties; in other words, it means going on with your own education.”

**26. Fireside chat**

*Speaking from his fireside...*

**Former HMI:** Labour’s idealism sought both to protect the child from the ravages of capitalism, whilst at the same time trying to build that meritocracy of talent that would be able to rise rapidly through the grammar schools. Children born in the years immediately after World War II grew up free from civil unrest, hunger or the extreme deprivation expressed in the rest of Europe. This was still a ‘make and mend’ society. Money and materials were in short supply, and boys learnt from their fathers how to repair boots, change washers on a tap and, as they grew older, how to maintain the engine of what was probably a very ageing family car. In the days before children were cautioned not to talk to strangers, we were free to roam. Our parents, if they ever stopped to think about it, wanted their children to grow up street wise.
Tony: In 1957 fifty percent of our parents rated themselves “very happy”, whereas now, half a century later and with all the material comforts with which we now surround ourselves, that figure has fallen to 33%. In the world before television became the ubiquitous form of evening entertainment — there were only a million sets in 1953 — families really did play endless board and card games together. They also read a lot. As the economy improved so many a child found a job at a market stall on a Saturday, delivered newspapers, cleaned cars or ran errands and not until the 1950s did most parents think in terms of giving their children pocket money. It was a golden age for the family.

We are now told that the average level of tension felt by today’s adolescence would have them placed in a psychiatric clinic in 1957. Whatever has gone wrong for children has gone wrong outside school, not inside.

Former HMI: Britain was driving its economy as hard as it could. “Let’s be frank about it,” mused Harold MacMillan, the Prime Minister, “most of our people have never had it so good.” But he then reflected, “What is worrying some of us is “Is it too good to be true, or perhaps I should say is it too good to last?” Perhaps a better question might have been, “Is this actually what England needs?”

Jonathan Sachs: “Without shared ideas on politics, morals and ethics no society can exist. If men and women try to create a society in which there was no fundamental agreement about good and evil, they will fail... for society is not something that is kept together physically; it is held by the invisible bonds of common thought.”

The England of 1965 was radically different to that of 1944. Increasingly it seemed that Butler’s Act was a solution to the 1924 problem than ever it was a preparation for the mid sixties.

27. Passing the Buck – Circular 10/65

Much-experienced older journalist: What had really changed by 1965 was the much reduced sense of what it now meant to be English. Increasing numbers of people sought more and more personal satisfaction in forms of hyper-individualism which wrought havoc on civil society. Parliamentarians seemed as confused and muddled as anyone else in envisaging the kind of world for which the country should be preparing its children. In comparison to the optimism with which the 1944 Act was announced the new arrangements in 1965 for comprehensive schools were publicised only by way of an official ‘Circular’. It was a very dull document.

VOICEOVER, archetypal civil servant: “The government are aware that the complete elimination of selection and separatism in secondary education will take time to achieve. They do not seek to impose destructive or precipitous change on existing schools; they recognise that the evolution of separate schools into a comprehensive system must be a constructive process carried through carefully by LEAs in consultation with all those concerned.”

Much-experienced older journalist: It was a massive cop-out. Ministry officials realised all too well that the devil would always be in the detail, and with that neither they nor the ministers wished to dirty their hands. It was a let-down.

In the breadth of its proposals Circular 10/65 should have been more beneficial for young people than had the Acts of 1870, 1902 and 1944 put together. But it wasn’t. Grand proposals require great sponsors, and both parties were at best equivocal in their support for comprehensive schools. No great champions emerged. Some of the most strident supporters of egalitarian comprehensive
education in their youth became, years later, just as ardent in their support of their rights to send their own children to grammar schools, or to public schools. The choice represented a bitter pill for many to swallow and now, more than forty years later, the issue is still unresolved.

28. The Great Unravelling or How a political blunder destroyed many of the best schools in the country, (spoken word to be relative to the changing graphics)

*Manchester Grammar School courtyard (clever use of computer generated graphics as the story unfolds)*

*Well-known public school Head:* When faced with a massive issue of which a person bitterly disapproves, they often find it prudent to attack from around the side, rather than with a full-frontal assault. This is what happened in the late 1960s when the Labour Party, in its enthusiasm for comprehensive education recognised the basic incompatibility of comprehensive schools operating in the same place as selective schools.

In the ‘60s there were in practice three kinds of selective secondary schools...

*Graphics begin to show behind him, already showing a column for the non-selective maintained school*

- The Maintained Grammar Schools were supported by national taxation, providing the pupil with free education if they passed their 11+ exam...

*Graphic pops up – an image of a school with “est. 1902”?
- ...there were also some 150 fee-paying Public Schools for which the only barrier was financial...

*Image pops up of school est. date on it*

- ...and a slightly larger number of Direct Grant Schools into which a pupil would enter based on their 11+ results, or pay for a place. As we know, these were mainly ancient grammar schools that had resisted the temptation to become independent public schools in the 19th century. They were often sighted in those cities which had expanded in the latter stages of the industrial revolution and saw themselves neither as controlled by government nor socially selective. More than anything they respected the connection with the local community; believed in rigorous educational standards, and saw themselves outside the influence of politicians consequently they had welcomed Morant’s proposal that they should receive a direct grant and had expanded and flourished.

*Image with school and “est. 16th C”*

In 1969 the Direct Grant schools statistics showed that they were the most successful schools of the country...

*Appropriate graphics to illustrate each point*

- 38% of their pupils were admitted to university
- in comparison to 27% from independent schools
- And 25% from maintained secondary schools.

Entry to Oxford and Cambridge was even more skewed...

- 8.7% of direct grant pupils gained places in comparison to
- 8.4% from independent schools
- and only 2.2% from maintained grammar schools.
As the government unveiled their plans for comprehensive schools, they saw these being undermined by the residual selective grammar and public schools. The public schools were still too strong to be taken on, but the 170 direct grant schools were a softer target for a Labour Minister who could simply withdraw their funding in support of Party policy.

Image of money being taken away from DG

To bring this about Callaghan, and his education minister Shirley Williams, went for a high-risk strategy in 1974. They gave notice that within 12 months the direct grant would be withdrawn – each school had a choice, either to join the LEA as a comprehensive or take their chances and go independent. The economic times were not auspicious. The government had been hoping that most schools would come under government control, reducing the size of the private education sector. Much to the government’s dismay more than 100 opted to go independent, trusting that better times would follow. Most of them did survive the next four years until a new Conservative government virtually restored the Direct Grant in 1979 through the Assisted Places Scheme.

Callaghan and Williams succeeded in destroying the direct grant schools but events were to show this to be an empty victory. Following the debacle of the assault on the DG schools, Conservatives support for comprehensive education became progressively ever weaker, if not downright antagonistic.

The most successful schools in the country had been abolished by a political mistake.

29. The ‘Great’ Debate, 1976 (or the Great Non-Event)

Former senior Labour Cabinet Minister: in 1976, as a way of restoring some public confidence in his party after so badly messing up the direct grant system Callaghan challenged the public to explore the nature of the curriculum. Unfortunately the debates lacked any energy and by that time the Labour government was losing the initiative and all eyes were turning on the Conservatives.

For their part, the educational establishment was aghast at having to explain itself to a potentially hostile populace and found their defence in so obfuscating the issues that the debate quickly lost focus and ran out of steam. There was an appalling lack of leadership, amongst head teachers and chief education officers many of whom were preoccupied with maintaining the status quo rather than planning boldly for a new system.

Current mature senior politician 2: the tripartite system of secondary education that had been proposed in 1944 was assumed to fit comfortably with the English assumptions of fixed roles within society and varying levels of intelligence were somehow innate – you’d either got ‘it’ or you hadn’t.

By 1965 the public were no longer satisfied with such an explanation. They wanted to know what ‘it’ was.... and how they could get more of it. They wanted more open access to secondary education, but had no real idea of what a comprehensive school was.

The British had lifted uncritically the concept of a comprehensive school from America, where High Schools, invented in the 1930s, had been partly a response to keeping children off the streets in an ever more industrialised society. They also owed much to John Dewey’s teaching and the psychologist’s belief that adolescents need opportunity for self expression. Although now seen as a natural stage in maturation psychologists in the early 20th century perceived adolescents as being a threat both to themselves and to society. Quite simply, Americans psychologists persuaded the
country at large that adolescents had to be “saved from themselves” by giving them so much school work to do that they wouldn’t have time to think about, sex or trying to work life out for themselves.

In Britain as the smoke stacks started to fall in the late 1970s, and the shipyards fell silent, the relevance of education to the well being of the nation was being fundamentally questioned; no longer would academic success alone be a guarantee that a young person would be empowered to tackle the challenge of a rapidly changing society. The country would need people with both a range of intellectual and social and practical skills together with flair, imagination, enterprise and the ability to work in teams as well as accepting individual responsibility. And it would need not just an elite group of such people, but rather whole generations of them, hundreds of thousands.

30. Lost Opportunities – technology in school

Computers in a classroom

Tony: during that difficult time, John, I think you were pushing some of your own ideas?

John: yes, people were starting to realise that computers might play a part in education. Growing up my own fascination was with those technologies that I could touch – like Meccano, the feel of a piece of wood or the edge of a chisel. I knew nothing about computers until the 1970s when I began to wonder if they would have a place in the classroom. Might not a skill in computer literacy replace the current use of paper and pencil technology? It took two years to raise sufficient money to build what became the first fully computerised classroom in England which I defined as being for the use of any subject other than computer studies.

We ran into our first hurdle at the end of week one, when an English teacher came up to me “Headmaster,” she said “I have been affronted. I set an essay for a group of 15 year olds to hand in next Tuesday. Now look at this. One pupil has given me what he says is a first draft of an essay done on his word processor. He wants me to read this through, comment on it, and hand it back to him on Monday. Then, believe it or not, he intends to incorporate my remarks into a redraft which he will then hand in alongside every other student on Tuesday afternoon. Tell me, headmaster, which do I mark? The one which is his own work or the one he has cheated on by incorporated my suggestions?”

I was stuck for an answer.

Tony: so what did you do?

John: I phoned the chairmen of Cambridge University Examination Syndicate. He was pensive; “do you realise that we have been making a good living by analysing peoples first drafts for more than 300 years? And now you are telling me that it is not the first draft that will matter so much in the future, but the second or third draft?” I nodded. “So what do you think should happen?” we talked for a while until he said “I just don’t know what we are going to do. We will just keep doing the same thing as we have done until the politicians tell us how to do it differently”. I was appalled. And that was more than 30 years ago. Posing such questions got me an invitation to open the annual conference of the Confederation of British Industry and I came up with what I thought was a good way in...

The below parag. to be turned into a short, humorous animation with voice over
VOICE OVER John: In 1927, I started, Mercedes Benz produced 17,000 cars. With amazing long term vision the directors called for a report on the company’s growth potential over the next 50 years. Eventually the report came back. By 1977 it said technological change could make it possible to produce 40,000 cars a year. The directors were appalled as they saw the report as totally naive... however could the schools train as many as 40,000 chauffeurs in a year?

31. The National Curriculum

A classroom with a weary teacher and hammered pupils

Recently-retired Labour Cabinet Minister: a vital part of education is fostering within children the desire to learn and some idea of how to acquire it and use it in the working world. But that is more easily said than done. It is easier to measure what has been learnt than it is to measure how it was learnt. Consequently it is much easier to tip a child off with ways it will extract good marks in an exam then it is to give children the skills to work things out for themselves. It is the old conundrum that Roger Ascham spoke of in 1563 when he contrasted ‘hard wits’ with ‘quick wits’

By the terms of the 1944 Act there were only 2 specific requirements for the curriculum – one period a week of religious education, and one period of physical education. In practise however most grammar schools had very similar curricular but it was the problem that started to evolve in the mid 1960s as to how to construct a standard, egalitarian curriculum for children who, for one reason or another, either didn’t fit into school or just didn’t want to be there. In a society that trusted its teachers the good school master “was known by the number of valuable subjects that he declines to teach” a teacher needs to be very confident to do that.

Tony: But by the 1980s too many people were no longer prepared to trust teachers. “Areas of experience – such as the aesthetic, the creative, the social, the political and the spiritual” was the response of Her Majesties Inspectorate. That, to politicians in a hurry, was far too liberal, far too difficult to provide an assessment system that would enable Ministers to establish a national system of assessment in which schools could be compared against everyone else.

John: Kenneth Baker, recently appointed Minister of Education in 1987, was in a hurry to “inject a new vitality into educational policy...and create a new framework which will raise standards, extend choice, and produce a better educated Britain”. Because Baker never questioned the appropriateness of transfer at the age of eleven he never stopped to think deeply about conflicting models of learning that were involved. Creating a National Curriculum to cover all possible needs meant that secondary schools were set to get ever larger and more complex. Of earlier attempts to create such a Curriculum it had been said “what an amazing and chaotic thing is our curriculum! One subject after another is pressed into this bursting portmanteau which ought to be confined to the necessary clothes for a journey through life but becomes a wardrobe of bits of costume, ready for any emergency”. Baker made the same mistake for rather than expressing the curriculum in terms of broad objectives he expressed it in terms of subjects, each of which wanted so much content that it was like continuously squeezing quarts into pint pots.

Recently-retired Labour Cabinet Minister: The detailed prescriptive documents to support all this, it was said, required a dumper truck to deliver it to each and every school. Now every child in England, regardless of his or her own dispositions and possible inadequacies would follow the rigid same syllabus. The Minister had made the cardinal mistake of any inexperienced teacher – he had punished the whole class rather than isolating the culprits.

The 21st Century Learning Initiative

Promoting a Vision, Knowledge, Experience and a Network
PART THREE – THE RESEARCH BASE

Editor’s Note: after many days of working on this, and reducing the text, I now feel that this has become too ‘bitty’. This can be corrected later but it will be much dependent on how the graphics hold it together.

32. The Problem of Knowledge Transfer

Downing Street, conversation between Tony and John

Tony: You once reminded your audience that humans have been using their brains to think for almost as long as they have been using their stomachs to digest food. Both are perfectly natural processes. In the past 40 or 50 years, medical science has discovered so much about the chemistry of food and the human digestive system that we are now empowered to eat more sensibly and as a consequence are living far longer. It seems to me that we are now posed in a similar situation with regard to human learning... understand it better and we open up quite enormous opportunities to people who never realised how well they could use their brains.

In the late 1980s you became much interested in the research emerging from the biomedical and cognitive sciences. When you were invited to meet with the policy group in Downing Street early in 1997 you contrasted the traditional role of schools as being concerned with the transfer of culture, with the new need to development in pupils of a range of skills, habits and attitudes evolved from the experience of earlier generations. Young people have to be equipped (with apologies to Star Trek) “to go where none of us has been before”.

John: Yes, schools now have to start a dynamic process through which pupils were progressively weaned from their dependence on teachers and institutions and given the confidence to manage their own learning. If we funded primary education with the same generosity that we fund the secondary sector then we could develop in the youngest children such a range of skills that they would no longer be so dependent on teachers to tell them what to do in their upper years.

Tony: that is a radical explanation and one I suspect doesn’t fit easily within conventional systems. How do we get from the present situation to such a new world? What reaction did you get from the Policy Unit?

John: for nearly two hours I was grilled on all aspects of my suggestion. At the conclusion the chairman said “we can’t fault your theory. You are probably educationally correct and certainly ethically correct. But the system you’re arguing for would require very good teachers. We don’t think there will ever be enough good teachers, and so we’re going for a teacher-proof way of organising schools. That way you get a uniform standard”.

Tony: that was quite awful.

33. The 21st Century Learning Initiative and the problem of Synthesis

In a library, John Abbott talking with Susan Greenfield, none of this has yet been discussed with her.
John: To many of us the political imperative to impose a highly prescriptive national Curriculum through the traditional practice of teachers transferring their knowledge into what were assumed to be the almost empty receptacles of children’s brains was always doomed to failure.

Many of us in the 60s and 70s had grown up on the theory of Constructivism; a child only forms a new understanding by building on the foundations of earlier knowledge. If a child can’t see the connection of a new idea to what they already know, they simply lose it. The problem for a classroom teacher is that none of the pupils sitting in front of them have had the same set of earlier experiences... and for many the new lesson means nothing. To persuade politicians that successful education would involve sharper, more focused tools to be developed than simply the dictates of a National Curriculum was extremely difficult. Professor Greenfield, I understand that your first degree was in philosophy?

Susan G: Yes, I then went on and became a neuroscientist at a time when a remarkable number of scientific studies into how the brain works were becoming available. With this broad background of philosophy and the neurosciences I was invited to give the Christmas lectures at the Royal Institute in London, entitled ‘Journey to the Centre of the Brain’.

John: those lectures were televised by the BBC. They made compelling viewing. If I might say so you made your very obvious knowledge palatable to a lay audience because you were so very obviously yourself, and communicated your ideas to children quite brilliantly. Can I remind you of just a 30 second clip from those lectures?

*Clips from Greenfield Christmas 1994 lectures*

John: this was highly influential on my own thinking. 12 months later, colleagues in the United States, knowing of my interest in these matters invited me to Washington for up to four years to draw together a team of specialists from many of these disciplines so as to create a synthesis of such findings that might be used by policy makers to transform the rather stale concept of ‘school reform’ into “education transformation”.

Getting key specialists together was not difficult and we assembled some 60 researchers, policy makers, politicians (including five former Ministers) practitioners and philosophers. They talked a lot, but the first conference hit a problem that almost sunk us. Although the brain has evolved over millions of years to process ideas both by dividing them up into constituent bits while also to draw apparently scattered ideas together to create a new picture. We westerners are no longer good at doing this. This is because western epistemology (that is, how we have been trained to handle ideas) has progressively over valued the first skill (reductionism) but desperately underplayed how we draw conclusions from disparate bits – ‘synthesis’... and those specialists we had assembled were ill-equipped to synthesise.

The problem was exemplified when a keen, certainly naive, first year student at the LSE remarked “economics is a science. Economic models have to be developed uncluttered by such intangibles as value systems. There the concern of...” and here the young man was silent for a moment, “maybe its ethics, or sociology, or even religion. But such things are of no concern to economists – they only clutter the theory up”.

An extreme view, but at the first Conference in Wisconsin there was a lot of talk... which often completely failed to register the specialists from other disciplines.

Promoting a Vision, Knowledge, Experience and a Network
A conversation of specialists can be like a version of the incoherent Tower of Babel. It took us several months to realise that this was the root of our problem – virtually all of us had grown up, and then become, reductionists. We just did not know how to assemble the key pieces of this valuable material into a new theory which could guide education and teachers.

Susan G: but surely there has to be a solution? Unfortunately it needs skill that most conventionally educated people did not have...the ability to step outside your comfort zone and say something so radical that most of your colleagues thought you were crazy. Fortunately we were encouraged by what the great Nobel winning quantum theorist, Irwin Schrodinger had said in 1944

Text to appear on screen as the words are spoken – like in the news...

EAST EUROPEAN VOICE OVER: “a scientist is supposed to have a complete and thorough knowledge at first hand, of some subject, and therefore is usually expected not to write on any topic of which he is not a master...we feel clearly that we are only now beginning to acquire reliable material for welding together the sum of all that is known into a whole... I can see no other escape from this dilemma than that some of us should embark on a synthesis of fact and theories, albeit with a second hand and incomplete knowledge of some of them – at the risk of making fools of ourselves...”

34. Neural Darwinism

Rapidly changing support images of brain scans, jungles, great apes and classrooms and varies sounds off screen... old and new cars...

(Sir Gus Nossal – FRS former President of Australian Academy of Sciences, and former President of the World Immunology Association – none of this has yet been discussed with him)

Sir Gus Nossal: you were right to take as your starting point the work of Gerald Edelman. I know him well and worked with him in the late 1960s. Then in the early 1970s he gained a Nobel Prize for his work on the human immune system in which he had shown that, as a result of chemical interactions in the brain transmitted genetically from generation-to-generation, the human body is born with a vast number of specific antibodies each of which has the capacity to recognise and respond to particular types of harmful viruses. The human immune system doesn’t just build new responses every time a new threat appears; it simply searches its vast repertoire of defence mechanisms built up in deep evolutionary history until it finds an antibody that is appropriate.

It is here where Edelman is highly significant to the understanding of human learning for, in 1992, he went on to argue that human learning proceeds in a very similar way. Rather than understanding that our brain is like a computer programmed from outside, he suggested that change in our brain occurs solely through the interaction of internal mental processes with those aspects of the environment that attract its attention. In other words the drive comes from within the brain, not outside. It is rather like the way organisms respond to the rich, layered ecology of the jungle environment. What happens in the jungle is the result of natural selection. All trees have the innate capacity to reach the sunlight and extract nutrients from the soil; those that do so thrive and reproduce - the others simply die. They are not following specific instructions, but selecting the appropriate options.

John: Such a model of our brain is especially intriguing because it suggests that a jungle-like brain might thrive best not in classrooms designed so that teachers can deliver a specialised segment of a
pre-determined curriculum, but by recognising that however good a class or a school may be, it can never be good enough to give children the width of experience and challenge they need to activate their phenomenal learning capabilities. Our ancestors, after all, came from those jungles, not from something that resembles a shopping mall.

**Gus N:** by this theory, we are each inheritors of these structures and processes that enabled our ancestors to think intelligently. This ability is probably our greatest evolutionary achievement, even though the concept of intelligence is hard to pin down. Some psychologists define it simply as the ability to know what is the right thing to do as the environment changes. The Greeks called it *nous*, and we sometimes call it gumption. It’s more than just cleverness. It's when someone has the ability to be clever, even cunning, as well as practical. It is, of course, about balancing thinking with doing.

**John:** We are now coming to understand that intelligence is only partly controlled by inheritance. Some cognitive scientists would allocate about fifty per cent of what we observe as intelligence to genetic factors, factors that condition whether you are born with a Rolls Royce of a brain, or a clapped-out Morris Minor. Cognitive scientists point out that a significant proportion of being intelligent relates to content knowledge; I may, for example, be moderately good at writing a book, but in my understanding of electronics I’m nothing like as competent as is the electrician who rewired our house. Undoubtedly part of intelligence does relate to our field of expertise. *I often liken it to the kind of map you have in front of you as you explore a new piece of country.*

An eminent educationalist at Harvard, David Perkins, argues that there is a third component to intelligence, and it's our ability to be reflective, to know how to mull things over, to know, as it were, *how to read the map.* To have the ability to look at something from an alternative perspective and ask the question no one else thought about. It's the mental activity often referred to in books about brain compatible learning strategies as ‘Reflective Intelligence’.

Perkins believes that as much as twenty five per cent of what we loosely call ‘intelligence’ lies in this reflective capability. In his book *Outsmarting I.Q.* with its forceful subtitle ‘the emerging science of learnable intelligence’ he argues that all three forms of intelligence act together, but that it is in the practice of how we think that we can best enhance our ability to act in wise, thoughtful and considered ways. "Learning is the consequence of thinking”. It's what the great Danish physicist Niels Bohr meant when he once remonstrated with a young PhD student, "You're not thinking, you're just being logical!"

**Gus N:** We learn best when we are intrigued and have the opportunity to find things out for ourselves. When our sophisticated natural instincts have the opportunity to react vigorously with our cultural expectations, we see how extremely powerful human learning can be when left to its own innate devices.

Learning, it is said, is so much more powerful than instruction; that’s a thought worth careful pondering. Young minds, inheriting all the inquisitiveness of their ancestors, are essentially reflective; at the age of three or four a child is as much inclined to tell you how they solved a problem as they are to describe their conclusion.

As teachers, children have to see us as being more transparent in what we do... particularly making the point that we frequently use subject material as a ‘stage-prop’ to demonstrate good thinking. That means we have to show that we value the process of learning, every bit as much as we value what is learnt.

**35. St Stephens**
Hopefully St. Stephens Primary School, Bath with Headmaster Pete Mountstephen; plenty of shots of different classrooms and children

Tony: In the late 1990s statistics showed that in comparison with other Western countries, Britain and the United States currently came bottom of the Tables. Other English speaking countries weren’t doing too well either. So was there something endemic that was wrong in the Anglo-American version of Western educational thinking? The reaction against formal school started in the mid 80s in the States with a government report on schooling claiming that “if a foreign power had inflicted this upon us, we would have defined it as an act of war” an eminent American responded “To blame schools for the rising tide of mediocrity is to confuse symptoms with disease. Schools can rise no higher than the expectations of the communities that surround them.” Yet few of them were prepared to admit that many of their economic policies were running counter to what had been the natural learning of children within functional communities.

Pete MS: Young people, especially adolescents, are caught up in the vortex of this whirling mass of conflicting expectations and aspirations. The most stunning change for adolescents today is actually theiraloneness – it may not seem like that when you listen to their excited chattering when in a mass, but beyond their own peer group there is less inter-generational connections now than there have ever been. They talk endlessly to one another, but to the rest of society they seem a tribe apart. Youngsters of today are growing up in a world in which the values of mutuality and reciprocity that were once an integral part of British life have been over-whelmed by a shoulder-shrugging individualism that excuses most adults, and society as a whole, from what we used to think of as the responsibility to respect, nurture and support youngsters as they gradually edge into adulthood.

It seems that while reductionism focused on breaking the world apart, the new sciences are helping to explain the nature of human learning dependent upon ever changing dynamic relationships. I am not a scientist but I do understand that mathematical models based on self-referring systems reveal incredible complexity arising from simply algorithms. In other words complex structures emerge from simple arrangements – not the other way around. If we get the basis of learning correct then young people will have it in their capacity to ultimately create structures and ideas of incredible complexity. Genetics don’t determine everything, nurture is very important.

Unfortunately increasingly centralist and politically prescriptive policies in the US and England began to limit the influence of professional educators. ‘First it was the Conservatives who told us what to teach, and now it is Labour who are telling us how to teach’ groaned a much experienced local education advisor.

36. The heart of the new research

In a lecture theatre with many appropriate pictures projected – Hadza children on the savannah etc.

John: Putting political differences to one side, more research in 2002 about the biological nature of the adolescent brain was becoming available – a process called Synaptogenesis. This came at a most significant moment as I returned from time in Tanzania with an expert anthropologist, and had lived in close proximity of one of the few groups of genuine Hadza hunter/gatherers left in Africa. They were living in the same environment, experiencing the same climate and hunting the same animals, in exactly the same way as their ancestors had done for hundreds of thousands of years. To ensure
that their own children could do the same thing, ‘education’ under such circumstances meant the orderly transfer of ages-old knowledge to the youngest generation.

**Editor’s Note:** The next 8 paragraphs are absolutely critical to the argument being advanced but I need help in knowing how to make them exciting. The audience needs to get to the end of this and simply groan “I follow all that, but we are just not doing it”.

This new research showed the implications of what happened when the hunter/gatherer’s predictable world had been shattered by the coming of the Ice Age. Our confused ancestors were driven into an ever smaller area of increasingly cold, inhospitable savannah. Geneticists believe that the reason our species did not become extinct was due to just a few of our ancestors having the imagination to stop doing the predictable things their parents had taught them to do.

**Picture of hunter/gatherers**

To do this the most active and virile of those young people had to stop thinking logically like their fathers, or sensibly like their mothers, and developed the confidence to do the unexpected. What happened is an intriguing story, only now just starting to be understood. It is what makes, in curious way, adolescent rebelliousness the driving force for developing civilisation...and that has to sound downright stupid to many of today’s parents. Adolescence as a survival mechanism? How could that possibly account for their irrationality, their hot-bloodedness, their reckless behaviour and their emotional instability?

**Picture of adolescents experimenting**

Steadily, through a process of genetic mutation over that sixty-thousand-year period, the blueprint for our species has apparently changed. Earlier in the human story women had selected men who, through the use of multiple intelligences, made more thoughtful and successful mates than the men who were full of bravado. Now it started to change again; the men who had absorbed everything that their parents could teach them when young, but had the independence of mind during their teenage years to find their own direction, emerged in their twenty’s as highly dependable husbands ready for a lifetime of disciplined and routine work. It would seem that the adolescent brain, being “crazy by design”, is the most recent of the evolutionary adaptations that are so vital to our species’ survival. Adolescence, by forcing young people in every generation to think beyond their own self-imposed cultural limitations, and exceed their parents’ aspirations, is what really drives human development.

**Picture of an apprentice working with a draftsman**

Neuroscience has taught us a lot in the past seven or eight years to corroborate this story as told by archaeologists, anthropologists and geneticists, about the “imprint” of that experience which still exists like a shadow in the brain of every new-born baby. It goes like this. Scientists have known for years that the infant brain has many more neurons than the adult brain. Circuits that are exercised and used repeatedly grow to become complex and healthy, while circuits that are under-utilised simply wither away. A child’s brain to be sculpted by his or her interactions with the outside world. All these systems develop rapidly in the first two or three years of life, and all are vastly dependent on external stimulants to activate them. From the age of two onwards the child’s brain exhibits well-defined developmental phases through to the restless fives, the inquisitive sixes, and the enthusiastic tens.
Until very recently scientists considered that this meant that the adult brain was already in place by the age of twelve, and that the turmoil of adolescence could be explained by the growth of the sex hormones that threw the otherwise responsible youngsters off course. New research shows that the teenage brain remains a “teeming ball of possibilities, raw material which is wildly exuberant and waiting to be synthetically shaped” up to the late teens. These changes are so profound that they may rival early childhood as a critical period of development. But are a complete reversal of the processes that had been so successful earlier on in shaping the brain up to the age of about twelve.

Images of brain scans

There is a vital relationship here for it is the relationship that adaptation has enabled the young to learn easily in their earliest years through intense emotional connection with older people, had to be balanced to prevent children from becoming mere clones of their parents. In other words unless those close bonds which had characterised the earliest years were ruptured (forcibly if necessary) the young would not grow to be adaptable to new situations. Those changes in the brain in the adolescent years make it both essential and possible for the young to go off to start lives of their own. Adolescence is a time-limited pre-disposition. In other words if the adolescent is prevented, (by over-careful parents or too rigid a system of formal schooling or by the restrictions imposed by the Health and Safety regulations), from experimenting and working things out for itself, it will lose the motivation to be innovative or take responsibility itself in adult life.

This is what the past has made us. Every one of us. To the table of the affairs of everyday life we bring all the mannerisms, behaviours and confusion of pre-dispositions - we can be collaborative or competitive; big thinkers or nit-pickers; we can love to distraction, and hate to our (and the planet’s) destruction. For better or worse that is the raw material of the self.

37. Meandering – the Helicoidal Brain

Following a fast moving stream to its ultimate meanders, sunny day

Tony: much of what you say about the way the brain works seems to run counter to what we teachers often assume, namely that learning proceeds in a linear, straightforward way. Have we got it wrong? Or at least partially wrong?

John striding down a Pennine valley: it’s worth remembering that our brains have evolved over vast periods of time – something like a third of a million generations since parting company with the great apes if that number seems to vast to comprehend it is roughly equivalent to the number of minutes we are each awake for in the course of a year. In that incredibly long story each of us is only likely to know personally some six or seven minutes of that story – ourselves, our parents, grandparents, maybe great-grandparents and then our own children, grandchildren and, who knows, perhaps our great-grandchildren. At the most, that amounts to only 8 minutes of a yearlong story. The predisposition to learn in particular ways in my granddaughter born last year has been shaped by the way all those ancestors used their brains as they were moving around.

Until less than 200 years ago most people walked at 2 ½ or 3 miles per hour. At walking speed you notice things that are hidden to a driver of a car; you hear sounds, smell scents, and watch the ‘gaite’ of other travellers in case of trouble. Our brains have evolved over millions of years to monitor, control and protect our identities within the limitations of our fragile bodies as we move from point A to point B by way of any interesting diversions that attract our attention. To meander is
the balanced state of mind and body. Meandering, be it in the country or a shopping mall is simply what humans do well.

A meander is a geographical term describing the wide, sweeping, gentle banks in the lower course of a river. They are features that make you wonder why, given the very obvious energy of the river in its upper stages as it tumbles over waterfalls and cuts through gorges in its rush to the sea that it suddenly seems to lose its energy. Well?

John with a blackboard and chalk: Water never flows in a straight line. It’s all to do with what is called ‘helicoidal flow.’ Imagine for a moment in a laboratory constructing a long, straight channel across a bed of sand and then letting water flow in at one end. Stand back and watch. The water, rather than flowing smoothly, quickly becomes turbulent. It is all to do with friction. The water in contact with either bank, or along the bottom of the channel, is held back by friction and can’t go as fast as the water in the middle of the channel. Drop a piece of paper near to one bank and see how it is remorselessly pulled into the centre by the faster moving water and then caught up in an ebbing current and deposited on the other side. The water actually moves like a corkscrew, and by taking particles from one bank and mixing them up with other bits they get deposited on the other side. As the river reaches the flat ground near the sea it uses all its energy to create those beautiful, sinuous meanders... made up of an apparent chaotic muddle of bits and pieces drawn from many sources.

The brain works like that – I call it helicoidal flow. Contrary to the best expectations of endless education Ministrators learning is never linear; it is much more like the meandering river, shaped by helicoidal flow. Reflect on that. When you are gentle meandering and going where the mood takes you, you will frequently find that you solve mental problems which, while sitting uncomfortably at your desk, you just couldn’t work out.

That is why young children need playgrounds, adolescents need mountains to climb and adults prone to get up tight by being in their offices too long need to get out and meander, not in a straight line, but wherever the mood takes them. To meander is critical – always following a straight line can all to easily take you to the wrong place.

38. Education – a question of democracy

In a pub by the river...joined by several people able to speculate on the future of democracy – well known political commentators... (This may have to be incorporated in different parts of the whole documentary)

Tony: you and I see eye to eye on many things but you raise a critical question when you said recently that “To send your child to the local school, or decide to go private, is a question that splits families apart.”

John: yes, it raises a fundamental question is education primarily for private gain, or for the public good. Although we rarely see it in these terms, isn’t this actually a question about our faith in democracy?

Tony: yes

John: recently an experienced journalist said to me “I’ve never thought of it like that, as far as I’m concerned I just want what is best for my child.” Which sounds so very obviously right, could
anybody ever challenge it? But there is a problem; within any closed society what may be best for one may create a problem for the others. How is that resolved and – critically – by whom? This is what democracy should be all about.

**A short video of the reconstruction of Britain in the late 40s**

I grew up in post-war Britain as it struggled to clear the bomb sites and build a welfare state. The message of my schooling was that the more privileged you were, the greater the obligation on you to assist the less well off, and to build social capital. In the spirit of the time my generation had great faith in democracy for, after all, had not the War been fought to prove the superiority of democracy over totalitarianism? We also had a deep faith in what is called social capital – those nebulous and largely invisible sets of relationships that hold families and communities together.

To people of my way of thinking education, social capital and democracy are all part of the same piece. It is why my wife and I thought that to send our children to a ‘socially segregated’ independent school weakened the kind of society we thought it was our responsibility to build. Democracy can’t flourish unless each new generation is well-nurtured in the affairs of the mind, and appropriately inducted into the responsibilities of adulthood and the maintenance of the common good. To me important as school is, it is only one of the key three components of a child’s life – home, community and life in school.

Important as we believe is the education of our own children, so inevitably has to be the education of everyone else’s children. As John Donne expressed it so eloquently in the 17th century: “No man is an island, entire of itself; every man is a piece of the continent, a part of the main. Any man’s death diminishes me, because I am involved in mankind.” Woe to democracy if we continue to ignore such an age old reality.

**Tony:** you think there is a threat of that?

**John:** Yes - up to the end of the 19th century Englishmen had showed considerable interest in local politics. Aspiring MPs often “learnt their trade” by first becoming local councillors. For as long as local and national politicians held roughly the same overall expectations (the creation of a welfare state and a national system of education) things worked relatively smoothly and there was a level of trust between Westminster and Town Halls. This partnership was soon shattered and as the economy picked up in the late 1960s local politics became the battleground between those who wished to see increased expenditure in areas of greatest need, and those younger politicians with aspirations of being elected to Westminster, who generally accepted the Conservative argument that high taxes were not a solution to poverty.

At the first sign of government reducing support to local councils many Labour councillors, mainly in the large and often decaying urban areas, voted to increase local rates to restore equity. The Conservatives then introduced legislation to “rate cap” such authorities - for every extra pound they raised from local taxes the government central grant was reduced by a similar sum. Local government was being emasculated and was positioned to become the favourite bogeyman who, through inefficiencies, was to be blamed for the country’s economic crisis. As an increasing proportion of the electorate were becoming more interested in their bank accounts than in social equality, so there was an increasing political will to denigrate “town hall” politics.

Which is why in 1988, Kenneth Baker was able to introduce legislation for schools who wanted to opt out of LEA control to become Grant Maintained Schools. To those schools in favourable areas this was a deal too good to miss. But to schools in deprived areas it was to become a disaster as the
LEA lost the ability to extend help in building a level playing field. Once LEAs lost the Robin Hood principle, taking from the rich to support the poor, they were setup to lose much of the justification for their existence.

This partially explains why Baker wanted to establish inner-city technology colleges in 1987, supported by industrial sponsors so as “to show people just how awful local authority schools were, and how much better they would be if run by business people” (Th. 73). When Labour was returned to power, they placed excessive emphasis on choice, and seemed to start from the assumption that pupils needed more to motivate them than simply a good, well-balanced, rounded curriculum well taught, they needed an opportunity to specialise in any one of a diverse range of subjects — from technology to rural studies, or from tourism to music. 2,000 secondary schools then became specialist colleges.

In July 2005 the Prime Minister extended this principle to 200 of the least successful secondary schools becoming City Academies within five years. Fair enough, but only if they were likely to demonstrate what could be the shape of all good schools in the future. To be separated totally from the LEA, Ministers initially found it difficult to find private sponsors willing to put up roughly 1 million pounds of the total 25 million pounds needed to establish a school. Tony Blair saw these as his “legacy”. But if they are, why were they sold off so cheaply? And why make their location totally dependent on the whim of a sponsor.

**Tony:** Is not all this a final insult to local democracy? Has not parliament usurped the power of local government comparable to that seizure of parliamentary rights by the monarchy in the 1640s that resulted in civil war?

**John:** But when that war came it was to be ‘won’ by parliament so stacking the case against the local authorities that there was no final battle, just a continuous attrition of the necessary resources to justify the local authorities and by 2008 they simply disappeared. There were no spokespeople left to justify their case as the role of the chief education officer had systematically been reduced. Consequently hardly anyone noticed when they too were abolished. By the summer of 2011 there were over 800 academies with the Minister for Education claiming with delight that there were a further 860 in the pipeline...what seemed to please him most was that already he had made more than 1/3 of the secondary schools directly answerable to him and no longer being part of local area partnerships.

**39. When the wrong medicine kills the patient**

*Institute of education in London with 3 or 4 current pupils who commented on the website including Yolande*

**Tony:** What does Big Society mean if it is not the involvement of the people to what is essentially the key to their well-being?

**John:** The more power was centralised the heavier the prescriptions passed to the schools. When one centralist minister makes a mistake the fallout affects the whole country. When one LEA had made a mistake, only a small part of the country had suffered. Six years after the introduction of the national curriculum, an embarrassed Minister had to admit...

While it is true you can fool some of the people all of the time, and all of the people some of the time, you certainly can’t fool everybody all of the time... and statistics can very easily backfire.
Graphics of exam results, children celebrating – everyone got good grades!

With ministers constantly pledging to raise standards and to suggest that in the interest of transparency the public can trust examination results (and when the examination boards are competitive businesses each seeking to make more money by persuading schools that their boards award the best marks) the scene is inevitably set for grade inflation. When government, seeking to get a good headline, announce that the A Level results had risen – for the 25th consecutive year to reach a 95% Pass rate, at least some of the people recognised that, given the vagaries of ability in different age cohorts of the population this was simply a statistical impossibility. The exams must be getting easier.

Turn the below paragraph of statistics into easily read graphics

In 2006 twenty-five thousand English 11 year-old were given a series of tests that had been given to similar youngsters 30 years before. The results were very troubling in 1976 1/3 of the boys, and ¼ of the girls had high overall scores. By 2004 the figure had fallen to only 6% for the boys and 5% for girls. What could be the explanation for such a startling fall in results? ‘By over stressing the basics, reading and writing, and testing like crazy you eventually reduce levels of cognitive stimulation.’ Another researcher added “children know the facts but they are not thinking very well”, they had been so overschooled as to forget to think for themselves.

It seems that, in politicians search to improve our social and economic performance they are indulging in an overdose of prescription. Too much telling us how to think, as if we can’t think for ourselves, destroys our humanity and eventually weakens our confidence. Human learning is organic, and we know that we don’t learn in a strictly linear fashion.

There is a subtle difference between managing organic and inorganic processes. The efficiency of an inorganic process, such as a production line in a factory, is similar to measuring an athlete’s effectiveness in putting the shot. The athlete bends down, picks up the shot, weighs it and carefully calculates the angle and velocity needed to land it in the previously defined spot. The more skilful the shot-putter the greater the accuracy.

Film clip of a shot putter exercising and then some pigeons – don’t tie them up!

Managing an organic process like a school, hospital or even parliament itself, is like picking up a pigeon rather than a lead shot. The skilful shot-putter does all the right calculations but, half way into its trajectory, the pigeon decides to flap its wings and go somewhere else. The shot-putter is given one more chance. Fearing relegation if he misses a second time, he decides to tie the pigeon’s wings and legs together. His pitch is as good as the first time, and the pigeon lands exactly where he was told to put it. He gets full marks for accuracy. But the pigeon was killed on impact as it had no way of de-accelerating. It had been prevented from thinking for itself.

Just doing what someone else tells you to do – “because it will get you good marks” – may well destroy your ability to do the sensible thing.

We humans have infinitely bigger and more complex brains than pigeons. Constrained to follow an over-prescriptive curriculum kills a pupil’s creativity while telling a newly qualified teacher that there is only one way to teach causes the most creative of young teachers to flee the profession... and it’s all because we are thinking beings.
Yolande (writing in November 2011): “I worry about the current education system in England (where I live.) I am sixteen, going on seventeen, have finished all of my GCSEs and am now working through A Levels. I find that now I'm in sixth form, I'm meeting more interesting people and learning about things that actually matter to me, but sixteen is FAR TOO LATE! We should allow our children to be passionate from day one! Don't push them into roles so young; they've got adulthood for that. It's easy to learn how to fit in, it's harder to think outside the box.”
PART FOUR – PUBLIC PERCEPTION AND POLITICAL DOGMA

40. Why are we in this chaos?

Why aren’t things getting better? Why is there so much political shouting? What do the words really mean? Are our politicians simply reordering an old agenda because they can’t face the scale of the changes which a proper understanding of the human learning process should, by now be making obvious?

Surely Yolande’s plea merits serious attention? If a 16 year-old can reflect on her current experience in today’s schools and claim “I worry about the current education system in England (where I live.) I am sixteen, going on seventeen, have finished all of my GCSEs and am now working through A Levels. I find that now I’m in sixth form, I’m meeting more interesting people and learning about things that actually matter to me, but sixteen is FAR TOO LATE! We should allow our children to be passionate from day one! Don’t push them into roles so young; they’ve got adulthood for that. It’s easy to learn how to fit in, it’s harder to think outside the box.” (scene 39)

1 – Most people find it hard to think outside the box and we are paying the price for generations of inadequately educated people unable to make appropriate decisions on complex issues. Before the 1944 Education Act Richard Livingstone, about to become Vice Chancellor of Oxford, wrote “chief uses of our present elementary system are to enable a minority to proceed into a further education and for the rest to read the cheap press... but unless schooling leads on to something else, it is as useless as a ladder which has no rungs beyond one or two at its bottom, or as a railway from Oxford to London were to end at Didcot.

2 – Discarding the Eleven Plus on the basis that it was manifestly unfair left a void and many didn’t have a clear idea of what should replace it. Furthermore when Callaghan and Williams knocked out the Direct Grants in 1976 before first raising the standards in the comprehensive schools, it proved an absolute disaster.

3 – An “anti-science” attitude 20 or 30 years ago has now given way to an undue addiction to scientific materialism.

4 – Politicians and policy makers have always underestimated the capability of teachers, from Lord Macaulay (scene 17) in the 1850s to the response of the Policy Group (scene 32) in Downing Street in 1997.

5 – Most policy makers and politicians lack a sufficient understanding of biomedical and cognitive research to recognise the significance of innate predispositions to learn in particular ways. Even fewer are able to make a synthesis that recognises the biological significance of innate predisposition.

6 – In the year 2000 Chris Woodhead, the controversial Chief Inspector of Schools, was disconcerted by the public interest in biomedical research. He decided to turn this into a “bogeyman”. He referred to those people as the “blob” a disparaging word that he had borrowed from the States to describe “the elders of the tribe. An entity that defends its turf with the tenacity of a wolverine, yet is as slippery as, and hard for reformists to wrestle down, a greased cow in a swamp”. He was particularly dismissive of what the Initiative was saying and implied that he was rising to the challenge “of exposing the emptiness of educational theorising that obfuscates the classroom realities that really
matter”. Note his use of the word obfuscate... a word that most readers of the popular press would not understand, and would therefore assume he knew what he was talking about.

7 – Subsequent Ministers have had little sympathy from the general public; Charles Clarke (2002-04), then Minister of Education, said of the research “this seems dodgy to me”.

8 – Academics in England come traditionally from the humanities – psychology, philosophy, history etc – few have direct knowledge of biomedical or the cognitive sciences. In 2009, after four years and some three million pounds, the Cambridge Primary Review set out to recommend that the school starting age should be raised from five to six and that the examination load should be lessened. It was dismissed within a matter of hours, however, by Ed Balls, then Minister of Education, as being based on totally out of date statistics. Three days later Michael Gove, then the Conservative spokesman for Education, under the ambivalent title of “another academic exercise divides opinion”, simply damned the report with faint praise. He suggested that a future Conservative government would actually lower the school starting age to four (and he has subsequently explained that he would do this to make it easier for parents to work longer), and would never slow down on the rigorous assessment of teacher and school performance.

To a public only vaguely conscious of what these issues might mean, to hear a determined and articulate politician implying that he, or she, is strong enough to do all that it takes to overcome a problem which they have conveniently defined for themselves as being appropriate to their dogma, is indeed to confuse the public.

So where might politicians now stand on all these issues, especially on Episode 38 – A Question of Democracy? This is an area of great confusion in Coalition policy. On one side the Prime Minister hyped up the need for ‘Big Society’ while all the time the Secretary of State for Education is pushing ever-harder at a policy that so forces schools into competition with each other that the resultant civil wars in every community will further break-up what residual there might be of a community belief that ‘we are all in this together’.

It is such a fast changing scene that at this stage in writing a script we can only call upon the most recent responses of key politicians to what they think these ideas mean. In a speech on the 4th January at Haberdashers’ Aske’s Hatcham College, Michael Gove made a key speech much covered by the National Press... (Extracted from the Guardian 5th January, but checked against the Departments text of the fourth of January)

The education secretary, Michael Gove, has risked infuriating thousands of teachers and councillors by describing those opposed to academies as “ideologues happy with failure”.

In his sharpest attack yet on those against academies – one of the coalition’s flagship education reforms – Gove warned that he would plough on with the programme regardless of critics.

"Change is coming. And to those who want to get in the way, I have just two words: hands off," Gove said he was frustrated by some "obstructive" local authorities and areas, such as Haringey in north London, where he said he had been asked "not to challenge the leadership of the lowest performing schools".

Gove, who is often described by his adversaries as an ideologue, entitled his speech: "Who are the ideologues now?".
"The new ideologues are the enemies of reform, the ones who put doctrine ahead of pupils’ interests," he said. "Every step of the way, they have sought to discredit our policies, calling them divisive, destructive, ineffective, unpopular, and unworkable – even ‘a crime against humanity’… they are putting the ideology of central control ahead of the interests of children.

“They are more concerned with protecting old ways of working than helping the most disadvantaged children succeed in the future. Anyone who cares about social justice must want us to defeat these ideologues and liberate the next generation from a history of failure."

"It’s time we called them what they are: ideologues… it’s the bigoted backward bankrupt ideology of a leftwing establishment that perpetuates division and denies opportunity. And it’s an ideology that’s been proven wrong time and time again."

The shadow education secretary, Stephen Twigg, "A longer school day appears to be a smart way forward for a number of reasons… A long hours culture has its drawbacks, but how many employers expect their workers to leave the office at 3.30pm? A longer day can be progressive in nature. Too many pupils who suffer from poor housing conditions struggle to find a quiet place to study or do their homework. Providing a longer school day will give these students a haven away from what in some cases can be chaotic and troublesome home lives… it can take young people, quite literally, off the streets.

Numerous studies have shown that gang activity is often most prevalent in the hours immediately after schools close, and providing longer school based activities may prevent some from getting into trouble.”

This is a very fluid situation. It almost seems as if Michael Gove believes he can’t get any more traction by blaming the LEAs and is now moving on to the criticism of a more amorphous group of critics. It is interesting that he has sought a word to describe this group – namely ‘ideologues’ – which doesn’t actually figure in the Shorter Oxford Dictionary (2 volumes) but, rather like Woodhead’s use of the words ‘blob’ and ‘obfuscate’, gives the impression that he knew what he was describing, and assumes that the public wouldn’t like them. It was no surprise that the Initiative and its thinking were at the heart of the criticism he was making.

41. Gove and ‘Yes, Minister’

‘Survival of the fittest’, business people argue, as do increasingly politicians, is the only way to go. But Darwin knew that human life was more complicated than that; species evolve when they can build on opportunities created by others, as do today’s evolutionary psychologists who note “selfishness beats altruism within groups; [but] altruistic groups beat selfish groups every time.” By sweeping away all the local authority arrangements for creating a fair balance of resources, Michael Gove could find himself having to sort out the endless contentions that will inevitably arise between all the warring factions. With so much at stake they will appeal to natural justice, not to the laws of economic survival. Even Solomon, in all his wisdom, wouldn’t want to do that job.

Tony: Do you remember the BBC series Yes, Minister? It was some of the finest political satire ever seen on television. Hacker (Paul Eddington) infuriated his Permanent Secretary (Nigel Hawthorne)
by his ability to pick up what seemed the right issues, and then confuse these with his need to win votes.

**With a clip from Yes, Minister playing on a TV nearby...**

In one particular episode Hacker, as Minister of Administrative Affairs, is given the additional responsibility of sorting out local government. Interviewing him on *The World at One* the redoubtable Ludovic Kennedy says, “You have, Mr. Hacker, an ever increasing empire; it has been said that you are now Mr. Town Hall as well as Mr. Whitehall!”

**John:** it was my turn to smile as the poor Hacker completely missed the irony of the comment. “Well, it’s awfully flattering of you to put it that way...” Then comes Kennedy’s shattering response. “It wasn’t me who put it that way Mr. Hacker, it was *The Daily Mirror*. I was merely seeking confirmation that you are now this country’s chief bureaucrat...”

Gove in his crusade to enable schools to think for themselves must not destroy all the middlemen (locally elected officials) or else he will be driven crazy by some 20,000 head teachers banging on his door, all at the same time, pleading that they are special cases. The last thing he wants (or we need) is for him to be Chief Bureaucrat.
PART FIVE – BRITISH COLUMBIA HAS THE X FACTOR

Editorial Explanation: the following text is hypothetical at this stage, but the kinds of scenes are most likely those that will be required to consolidate the programme – they will be recorded pieces, when edited would probably be less than ten minutes in total. 3-4 mins each. two or three Students *to act rather as a kind of Greek chorus, throwing back to the participants the kind of ‘gutsy’ reactions that the audience might be wishing to make themselves*

42. British Columbia *recorded. This episode could be scripted in the following way.

Tony standing in front of the Public Art Gallery in Vancouver, the skyscrapers rising behind him, talking with Steve Cardwell, Superintendent of Vancouver City.

Tony: I’m feeling slightly jet lagged. John Abbott, who had guided me so much through this story, has another side to his experience in the UK, and the work he did in Washington. Over the past ten years he has made more than a dozen visits to British Columbia, the western-most Province on the Pacific coast. In many ways he is better known in Canada than here at home, and the reason is fascinating. It seems that the people in British Columbia, for a variety of reasons, are far quicker in understanding the significance of the research on learning and, being less caught up in historical prejudice, can act on this far quicker than we English.

This is my first visit to Canada, I flew into Vancouver after a 9 hour flight last night and found myself staying in the sumptuous surroundings of the Hotel Vancouver which, to my untutored eye, surprised me to find as comparable to a very well established London hotel. I have standing next to me a senior superintendent.

Steve C: it is good to welcome you, although Vancouver was a little more than a logging camp in the 1850s by the time the Canadian Pacific linked this coast to the rest of Canada in 1870 the place boomed, and your hotel is symptomatic of that. But look around you, so is this very fine art gallery and look at the scale of the buildings. This is a highly successful 21st century city and John will remind you that we hosted the 2010 Winter Olympics.

Steve Cardwell joined by two head teachers

Steve C I first met John 8 or 9 years ago when he gave a series of lectures in Surrey, my old job.

Tony: Surrey? I thought you were here in Canada?

Steve C: my apologies, Surrey is a district of BC but so too is Richmond... and Vancouver’s original name was New Westminster. Most confusing! In fact, Tony, yours and my path might have crossed years ago because I went to Batley Grammar School in Yorkshire before my parents emigrated here in the early 1960s. John’s ideas resonate very strongly here in BC because although our structure of having some 60 semi-autonomous school districts was set up to mirror the British system in 1872 we in British Columbia were far quicker I believe than your English to accept the significance of John Dewey's concept that “education is life, not a mere preparation for life”.

Head teacher 1: my school is in what you would call the ‘inner city’ part of Vancouver; I think at the latest count we had some 50 languages spoken...
Tony: 50 languages? How come?

Head teacher 2: well, to start with we have students from several different tribal groups, but that doesn’t present any real problem. Vancouver has had since the time of the building of the railways a strong Chinese community and in the 1930s developed and extensive Japanese community. Then of course there were the Russian settlers that came from Siberia through Alaska and they’re still represented by at least one Russian orthodox parish. But the largest numbers are political refugees from Eastern Europe, from Somalia and almost every other troubled spot in the world. You see we Canadians have been very good in responding to the social problems around the world. It does mean that we have a large drug problem and because Vancouver has traditionally served such people well we do unfortunately act as a magnet and draw people from other parts of Canada.

Head teacher 1: my school looks to be situated in a very civilised, moderately wealthy suburban area. But behind those closed doors there can be some pretty awful things going on. Not least of our problems are that Canadian ‘entrepreneurs’ have always been the first to respond to the demand for illegal drugs from across the American border; it is sometimes said that half the kitchens in our school district are growing marijuana in flowerpots on the kitchen windowsills. But our students are essentially inquisitive and the problem we have to face is that too many of them come from pretty weak home backgrounds.

Steve C: it’s time for me to show you some of the rest of our province.

Get into a taxi, drive past the old railway station and Grand Ocean Terminal where some of the world’s most enormous cruise ships taking up to 2,500 passengers leave for a ten day cruise north to Alaska. Stop at the sea plain terminal where Senior superintendent introduces Tony to James Thiebault, a recent graduate of the Gulf Island School System who has just completed an internship with the Canadian delegation at the UN in New York and is now studying politics at McGill University.

James T: we’re about to take a 20 minute flight in this sea plane across to the little town of Ganges on Salt Spring Island where I used to go to school… and where I first met John. I think you will enjoy the flight enormously as we fly low over some spectacular scenery and we will pull up at the landing stage in Ganges alongside the water taxis that everyday bring in a hundred or so of students from the outlying islands.

As they board the little sea plane (only 5 seats) Tony leans James T and says

Tony: did you say Ganges?

James T: (with a smile) yes, Ganges. When a British warship anchored here in the 1840s to make a map of all these islands, and the Northwest Passage the sailor camped here. The ship was called HMS Ganges! It’s a good illustration of how close we are to our history and many of us had parents or grandparents who came here as part of the hippy trails in the 1960s. We also understand more clearly that a generation or so ago the nature of our links to the native peoples of this region who it is thought came here from Siberia between 12 and 15,000 years ago… and that of course means that whether we are of European or native origins we have the same genetic material inherited from Africa 60,000 years back.

Plane takes off to fly at 2,500 feet
Tony: I have never flown as low as this. It’s a fascinating way of seeing the country and these vast cargo ships coming in from the Pacific.

Plane does a quick climb to pass over a high hill

That mass of water to the south must be the waterway to Seattle. Isn’t it called Puget Sound, and wasn’t he one of Captain Vancouver’s crew?

James T: yes, in 1791 he was already first lieutenant on Vancouver’s ship HMS Discovery. Vancouver came from Yorkshire. Puget was forced to join the navy when he was 10 years old; before that he’d received a very good classical education but when his father went bankrupt he had to earn his own living. He was a quick learner and by the age of 22 he piloted the Discovery all the way from London down around Tiella Del Fuego and all the way up the pacific coast. While Vancouver gave his name to what would become the city, Puget gave his name to all the Straights that he mapped. Of the five islands you can see, three of these are Canadian but the two just beyond that piece of water are part of the US – the international boundary passes through that narrow straight, less than a mile in width. A very popular book was written about that island some years ago describing the experience of Japanese fishermen – you may remember it, it was called *Snow Falling on Cedars*.

Plane lands and taxis across to the pier where Eva Olynyk, a recent graduate, and several others await, one of last year’s graduating students greets him. They talk animatedly and walk to 200 yards through the village (cf “Murder she wrote” compare lookalike) to the school board office where Jeff Hopkins, Superintendent of Gulf Islands School District, greets him. They walk into the conference room and Jeff H explains...

Jeff H: The five islands of Maine, Salt Spring, Saturna, Pender and Galliano give us a total population of between 20, and 30,000 depending on the time of year which means that we are significantly smaller than the districts which comprise Vancouver. We have a totally of some 2,500 students. We have six elementary schools, one high school... but it is more complex than that. The high school has three alternative schools here in the town which have been set up to provide more appropriate opportunities for different kinds for children, and I don’t simply mean difficult children, I mean children who may be very bright but just don’t respond to being stuck in a classroom. Whatever kind of location they’re in, they all have access to the same curricular opportunities and almost any child is able, if they so desire, to use some of our distance learning facilities rather than to be tied to a classroom. It is all very flexible and student orientated quite frankly, because no two students ever do learn at the same pace. Then we have a very special school on Saturna. The original school was literally a replica of what Canadians treasure, namely “the one-roomed schoolhouse” catering for children from five to seventeen. The Saturna school still caters for 5-17 but there are only about 20 of the on the island so we have turned it into an ecological centre and high school students from any of the islands can come here either for a term or for a year.

Tony: you mean they travel on water taxis every day?

Jeff H: not necessarily. We have recently built two “housing pods” each of which accommodates six young people around a common eating place.

Tony: that sounds fine, are other districts jealous?

Jeff H: no, not really, you see the arrangement here are so fluid that if children from another district want to go to one of our schools they can easily do so and the other district funds them.
Tony: that sounds pretty enlightened, does it often happen?

Jeff H: yes, it’s been going on for quite a time. To support it we have a registry of “home-stays” so that a child from another district can stay in a home within the district, probably for four nights in a week returning to their own homes for weekends. But there is a further variant on that, so popular are our schools that we have some 40 students from Germany and other European countries that come here for a year to study our curriculum so this enhances the experience our children have in an already rich curriculum. But let me take you to see one of our elementary schools and I thought that because you once taught English you would like to join in an English literature class with some of our grades 10 or 11. If you do, they are studying Catcher in the Rye by JD Salinger.

Tony: that will be fascinating.

NB. So far this conversation is entirely fictitious, and the final text would be heavily dependent on what the participants actually wished to say.

43. The Monthly Meeting of the Gulf Island School Board *recorded

That evening Tony sits in on a meeting of the school district on Salt Spring where there would be a most interesting discussion between the elected members of the school board and some of the student representatives on the subject of cognitive apprenticeship (this to be worked out later on)

May Mackenzie, chairman. Charlie Hingston, captain of one of the BC ferries. Pete Williams and six others.... include Evan Olynyk and two parent reps.

May: it is five years since we moved from a five day curriculum based on 8.15 to 3.45 to a four day week comprising four days from 8am to 5.30pm... the same number of hours in school but giving everybody a much longer weekend to do all the things they are interested in. Can you, Jeff, explain how well this is working and if there are any problems?

**

May: there is one other aspect of our policy we should review – the way in which we extend to 9 and 10th graders the freedom to skip a semester if there is something else they feel will be more valuable to their education and the way in which we enable such students to substitute up to three distance learning packages for up to three units of study which were conventionally done in a classroom.

***

Charlie H: I would like to add a further point. Although I have been captain of several of the largest BC Ferries that plough the tricky waters of these coasts I was educated at an English Public School, Wellington. What intrigues me about what we are doing here is the way in which people who want to start a school of their own can do so but, very unlike England, that school becomes part of the Districts arrangements... I’d like to talk about Windsor House...

Tony to join in discussion...

NB. So far this conversation is entirely fictitious, and the final text would be heavily dependent on what the participants actually wished to say.
44. The Ministry of Education

Meeting of senior Ministry staff in the Bengali Room of the Empress Hotel; with additionally Adele Diamond (Professor of Neuropsychology at UBC), Sherry Ellwood (Superintendent, School District 59), Keven Elder (Superintendent, School District 63)

This session will start with someone explaining that Vancouver Island, and in particular the Township of Victoria was settled in the early 19th century by Ex-Indian Army Englishmen who, coming into the end of their time in India, could not abide the thought of returning to the political tensions in England, but longed for a climate that felt ‘like home’ in the mid 19th century these Ex-pats created almost a fictitious ‘little England’ in Victoria. They were so influential that when the Confederation of Canada was established in 1867 Victoria was named the capital of the vastly expanded British Columbia that included a vast chunk of the mainland. While the present city of Vancouver took a long time to grow an almost English type Capital City was developed in Victoria. Out of the window you can see the Victorian granite of the state Legislative building (a miniature house of Commons); half a mile away they started to build a replica of the Norman Durham Cathedral, and when the Canadian Pacific Railway eventually joined Pacific coast to the rest of Canada the enormous and opulent Empress Hotel was built adjacent to the pier head where the ships from India could land. This most magnificent room, reminiscent of a Scottish castle was called the Bengali Lounge and here to this day, every day, there is a running buffet of real Indian curries – a cuisine left over from early days.

The following conversation is at this stage entirely fictitious, having been designed as a way to interest a wide range of audiences.

John: it may be helpful as someone who has spent much time in both BC and of course in Britain if I were to give you some statistics relating to educational performance across the OECD. These figures should always be used with great care as they fall into the trap of only measuring those things which are most easy to measure, and often ignored many of the extraneous details. But in the 2009 OECD results, BC students were amongst the five top scoring countries worldwide; in science only Finland, Hong Kong and Shanghai were above BC’s range, while in maths nine jurisdictions were above BC. In comparison, Britain in 2009 was ranked 25th for reading, 16th for science and 28th for maths. The US had almost comparable figures to Britain.

Senior ministry staffer: we have been working on the ideas which John once enumerated in the document that I believe you have seen. We work on the following beliefs: (pointing to a table on the wall) intelligence is more than just a general capacity to learn. We believe it is essentially about the ability to apply intelligence in a self reflective and meaningful way.

Neuropsychologist: If we want the best academic outcomes, the most efficient and cost-effective route to achieve that is, counter intuitively, not to narrowly focus on academics, but to also address children’s social, emotional, and physical development. Similarly, the best and most efficient route to physical health is through also addressing emotional, social, and cognitive wellness. Emotional wellness, similarly, depends critically on social, cognitive, and physical wellness.

Senior ministry staffer: most importantly we have spent several years stressing to our newly qualified teachers that because of the experience of our ancestors, deeply etched into our genetic structure, children have predispositions, something like windows of opportunity, that open up...
different stages of life. It is important that all our teachers are skilled in finding what the most appropriate opportunity is for children.

**Jeff H:** we make a reality of what educationists should have understood from recent research that children’s search for meaning starts very young. They are essentially “sense makers” and want to relate their personal experiences to think things they may learn in school. We try and make sure that children’s parents understand that as well as anyone. Then, secondly, we are at pains to stress that adolescence is an opportunity, not a threat. It is adolescence that by forcing young people to think beyond their own self imposed limitations they can eventually exceed their parents aspirations.

**Sherry E:** like several others here I am a Yorkshire lass, born and grew up in Leeds and pride myself on calling a spade a spade. My district is further north on the island and we work extraordinarily hard on seeing the relationship between the young child needing to learn like a clone and then that extraordinary period of adolescence when the child’s biology is constantly forcing it to move away from simply sitting still and being told something towards getting out and doing it for itself. That is not only a messy process but if children and their parents had been too conditioned simply to sitting down and taking notice then too many adults react extraordinarily badly to young adolescents who want to simply “get away” and do things for themselves. That is why I so admire the alternative high school arrangements that exist in Salt Spring island. My district has suffered terribly from not having had that – suffered in terms of high school suicides which send shudders through everyone around us.

**45. The faculty club, University of Victoria *recorded**

*Under the chairmanship of Ted Rieken, Dean of Education a 7/8 min extract from a discussion about the needs of BC education will take place between a wide range of citizens in the province these will include;*

- Ronald Wright, author of A Short History of Progress
- Robert Bateman, an internationally renowned wildlife painter
- David Suzuki, international award winning scientist, broadcaster and environmentalist
- Dr Martin Brokenleg, professor of native ministries and first nations theology; chief Seattle “we have no inherited this world from our parents, we have been loaned it by our children”
- Professor Kieran Egan, research into practical technologies to make education more effective
- Professor Adelle Diamond
- Sean Atleo, traditional exponent of first nations wisdom
- Dr Gordon Neufeld, clinical psychologist

**NB. The following conversation is entirely fictitious, and the final text would be heavily dependent on what the participants actually wished to say.**

**Eminent conservationist:** when I look at young people I fear for the ever growing disconnection of the human race from the rest of nature. The link is not only being diminished but is being completely eliminated for the first time in the history of our species. This is going to change the world in a horrible way...

**Famous scientist and broadcaster:** it is a paradox for it was human intelligence and foresight that got us into our present ecological pickle by enabling us to invent such efficient ways of exploiting
nature that our population growth went into overdrive. Now human intelligence and foresight are all we can rely upon to see us through the tight bottleneck we are fast approaching...

**Author and broadcaster:** if civilisation is to survive it must live on the interest, not the capital, of nature. Ecological markers suggest that in the early 1960s, humans were using 70% of nature’s yearly output; by the early 1980s we’d reached 100% and in 1999 we were at 125%...

**Multi-cultural theologian:** I bridge at least two traditions, I am a member of the Haida tribal group and some three generations back English loggers, being unable to pronounce the family name, called my great-grandfather ‘Brokenleg’. Right now I’m rather proud of the name. As a native Indian I grew up to respect humanity’s relationship to the planet. In the Indian tradition Mother Earth is the most significant factor and we humans are lowest in the chain of being. My parents converted to Christianity, and I have grown up in that ethical tradition and have been pleased to combine the two ways of thinking – both Indian and Christian place great importance on faith, hope and charity. As a PHD student years ago my thinking was much shaped by the biblical tradition that money itself was not evil, but it was the love of money that was the root of all evil. We Canadian-Indians are suffering most terrible because biologically we are driven by a lust for sugar, and our peoples have been almost destroyed over the years by their easy addiction to alcohol.

My concern with education is how it can help our young people to think through the difficulties of living in such materialistic society as we have... and as you probably know, the suicide rate amongst adolescent Indian males is quite horrendous. So I see in what Robert and Ronald have said that the merciless way in which the planet is being exported, something which gives hope to the Indian people, that at last you are waking up to these ideas. Like many in this country I could be said to have an identity crisis... I can as equally be wearing tribal costume as I could my PHD robe or the clerical costume I wear in the cathedral... we kid ourselves as Canadians when we just dress up in grey suits and try to look anonymous. I think I’m in a stronger position... I accept the ambiguity of my different persona and don’t feel the need to roll all that up into being a conventional grey-suited citizen.

*The conversation will roll on...*

**46. The Ministers Office in the Legislative Building *recorded***

*George Abbott, Minister, James Goreman Deputy Minister, Jeff Hopkins superintendent Gulf Islands, Sherry Ellwood superintendent Comox district, John Abbott, Tony Little, Rod Allen, senior official.*

*This discussion cannot be scripted in advance, but the contributions of each person will have to be carefully thought through in advance.*

As they discuss Fullan’s report someone, or some people, need to make the following points:

- when dealing with schools the best teachers are just like the best pupils... they give of their best when they are captivated by the excitement of what they are doing, feel totally in control, yet confident enough to ask for help when they need it. poor teachers, like poor
pupils, however perform even more sluggishly when they are swamped by a veritable tsunami of instructions and directions that mean very little to them and to which they cannot emotionally commit. Supporting well-motivated teachers beats top-down direction every time and I have to agree with Fullan, but always providing this is seen in a whole-system context. As I understand it this is what this Province is all about?!

- Intrinsic motivation is critical to raising the bar for all students and giving them those higher order skills and competencies needed to become successful world citizens. This has to be our moral imperative. “Unless everyone can feel involved, and see the ideas as being valuable, nothing much will happen”. Those jurisdictions that, in their hurry to be seen to be doing something, adopt what Fullan calls “the wrong drivers”. They start by calling everybody to account: they use test results, teacher appraisal, rewards or punishments and emphasise individual schools’ improvement rather than investing in the overall capacity of the whole system. They concentrate on individuals, rather than building group solutions.

- Someone quotes Fullan, “flat out that there is no way such ambitious and admirable nationwide goals will be met... for they cannot generate on a large scale the kind of intrinsic motivational energy. As aspirations they sound great but they fail to get at changing the day-to-day culture of school systems”.

The following points come up on a screen and everyone comments on them:

1. Individualized learning paths versus pre-programmed paths from which students choose their course of study.
2. A much greater emphasis on experiential and situational learning, especially as students get older.
3. A much greater emphasis on constructivist and inquiry-based practices.
4. A much greater use of community members and organizations in the direct delivery of educational programs, and in the support of apprentice-like learning outside the school.
5. The evolution of the teacher from the role of instructor when children are young to a much more complex and professional role of learning facilitator as students get older.
6. A student-teacher ratio that varies greatly depending on age and learning activity (this is NOT about class size as we know it)
7. A de-emphasis of courses from Reception through to Grade 12 and a move toward ensuring deep learning that matches developmental levels, and is naturally interdisciplinary.
8. Rich assessment and reporting based on competencies rather than courses or disciplines, and that uses language and artefacts rather than scores to show achievement.
10. A sliding scale of student dependency on teacher and school-as-place that decreases with age, so allowing growth in student choice and responsibility.

The conversation continues,
• The ‘right drivers’, according to Fullan are defined as Capacity Building, Teamwork, Pedagogic Improvement and System-wide Solutions. By applying these ‘right drivers’ communities inevitably generate personal and collective motivation, and the collective determination to involve everybody in transforming what they then come to regard as the desirable system. Fullan claims that “the fallacy –to which the US, with its rugged individual traditions, is particularly susceptible – is that success does not come from ad hoc individuals beavering away, but rather from strategies that leverage the group”. Seeing this as a collective ‘good’ is vital. Systems that embrace the four right drivers and then go on to use the so-called ‘wrong drivers’ in a supportive role, can achieve outstanding results.

• Although Fullan does not quote this directly, he acknowledges the findings from evolutionary psychology reported by E.O. Wilson in 2007 that, “selfishness beats altruism within groups; altruistic groups beat selfish groups every time”. As with empires in the past so today with individual schools competing within jurisdictions with high levels of internal interdependence; teams of schools within functional jurisdictions pull together, whereas those who are continuously in open competition with their neighbours finally pull apart. It is a truth that school reformers are slow to recognise that it is only through altruistic, collaborative behaviour that systems can thrive.

• Getting the balance between concentrating on capacity-building and what can easily become an excessive dose of accountability is difficult. Whole system success requires the commitment that comes from intrinsic motivation and improved technical competences of groups working together. Excessive testing crushes the enthusiasm for innovation in a veritable tsunami which squelches any possibility of teachers leading by what they do best, demonstrates that with sufficient backing they can devise far better strategies than can any distant administrator.

Then there is the question of scale... although we have sometimes had to amalgamate the very smallest schools districts we are proud to have avoided the problems experiences in Toronto, in New York, Los Angeles and Boston of creating vast Unified School Boards sometimes comprising several hundred thousand pupils. I think you had the same problem in London with ILEA. The strength of British Columbia is the strength of numerous small, autonomous districts each intelligent enough to think through for itself what needs to happen.

• The power of the group is in the long run always superior to the power of the individual; it is positive culture that drives reform as it involves the parallel development of social capital linked to individual skill development “that gets things done... because they develop the entire teaching profession”. This is critical; while there is a widespread belief that “all we need are a few inspirational leaders” - unless this is combined with social-capital, Fullan suggests, is like the driver of a high-powered car who never takes his foot off the break. “Social capital is not a characteristic of the individual, but resides in the relationship among teachers and between teachers and principals. High social capital and high human capital
must be combined, and of the two the former is more powerful”.

- There is heaps of evidence that it is the collaborative group that accelerates performance while at the same time squeezing out underperformance as teachers become less private and more collaborative. Fullan stresses that “The essence of whole systems success is continuous instructional improvement closely linked to student engagement and the success of all students. Once you dwell on instruction the whole system can be mobilised to that end”. And that is what it is all about.

Fullan accepts that this is often more difficult at the beginning because it is out of sympathy with a political wish “to get it done, and quickly”. Many find his more “steady as you go” strategies hard to accept but “feeling awkward at the beginning seems a small price to pay, compared with feeling miserable and worse through persistent failure.”

- Fullan concluded his paper with an interesting point; “jettison blatant merit pay, reduce excessive testing, don’t depend on teacher appraisal as a driver, and don’t treat world-class standards as a panacea. Instead, make the instruction – assessment nexus the core driver, and back this up with a system that mobilises the masses to make the moral imperative a reality. Changer the very culture of the teaching profession... The essence of whole systems success is continuous instructional improvement, closely linked to student engagement. If the wrong drivers have their way they undercut intrinsic motivation and group development. If accountability and assessment don’t kill you, individualistic appraisal will come along to make sure you are dead”.

The Minister would need to close this discussion by drawing together some of the students and saying,

“All this is very important to us, as it is everything to do with the development of intrinsic motivation, and local ownership. “If you want to break the cycle of distrust you have to respect others before they have earned the right to be respected... and then do the things that build competences and trust over time”. Because, as the McKinsey Report states so emphatically, “It’s a systems thing, not a single thing”... it’s organic”

John then adds: “English education is one among a number of English-speaking countries to have become an ever more self-referencing system swamped by statistical analysis, and so dominated by top-down political directives, that is has become detached from the social- and human-capital that exists within communities at large, so robbing young people of a vital introduction to adult life.”

Minister: “British Columbia, always having had a far-greater belief in the critical importance of local accountability, had been tempted up to some five or six years ago to strengthen Ministerial prescription until it became abundantly obvious that it was only in those Districts (perhaps feeling themselves furthest away from Ministerial oversight) that had the confidence ‘to do their own thing’ that were making the most progress, and setting the pace for others to follow. What most separates the response of BC from that of the British Government’s response to the Proposals is the belief in
British Columbia that powerful reform emerges from strong communities, while the English seem to want to accept this but have little appreciation of what Government might mean by ‘Big Society’.

Tony: now that is something I would much like to discuss with English politicians.

Tony then asks John privately...

Tony: could you explain why you think the ‘building up’ strategy works so well in BC, and why the ‘breaking down’ strategy in England doesn’t work.

John: I’ll give you four points. Number one – the English influence in 1872 created your school district system, which built upon a small version of the English public schools brought in probably from British India. But as BC was a frontier Province the autonomous school boards served the needs of the people far better than a top-down system.

Number two – back in 1924 the people of BC started to follow the curriculum and pedagogy that had been set up by John Dewey, and they did this in a more natural environment than the English who never had the space to let children learn for themselves.

Number three – British Columbia is so concerned with environmental issues that its people have a natural understanding of scientific environmental issues which bring them back very close to the Native Indian tradition that ‘we have not inherited this world from our parents, we’ve been loaned it from our children’.

Number four – and finally, British Columbia seems to have the confidence not to too-closely follow what either the English or the Americans recommend and has the courage to do its own thinking.

It has to be reiterated that these comments can only be regarded as fiction until the peoples concerned have confirmed them, and the director is satisfied that these will form part of the argument.