

THOUGHTS CONCERNING STANDARDISATION AND THE ASSEMBLY LINE OF LEARNING

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ABSTRACT

The values, beliefs and customs that make up an organisation's culture are usually established in response to perceived problems that need addressing. Assumptions are made about how those problems can be solved. Solutions are found, and these form the conditions in which rituals and routines take seed, which in turn shape the way things are done.

The pervading culture in our schools today is built on shared assumptions about how to solve societal and economic problems that existed in the nineteenth century. When the Elementary Education Act 1870¹ was drafted, Britain feared losing its standing in world manufacturing and trade. It was assumed by those holding the levers of power that, in order to remain in pole position in the global race, a more educated workforce was needed: workers who could read, write and count more efficiently would help to ensure the country continued to be a global player in industry and commerce. These academic skills would bring greater prosperity for all. This solution to the prospect of economic decline led to the following assumptions, the legacy of which still forms the architecture of most school cultures even today:

1. The most effective way to bring about success for a society and its economy is to develop the *academic intelligence* of its younger generation.
2. The most accurate measure of academic intelligence, and therefore a predictor of future success, both for the individual and for the economy, is *academic qualification*.
3. The best way to incentivise children to achieve academic qualification is through a system of external *rewards* if they work hard and *sanctions* if they don't.

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¹ Elementary Education Act 1870, Forster, W.

CURRICULUM: THE SERVANT OF CULTURE?

The landscape and infrastructure of Victorian Britain was built on well-established and well-proven methods of mass production, standardisation and quality assurance. It is unsurprising then that the same factory-style approach was adopted when constructing a state education assembly line. But there were some unintended consequences, and these have been bequeathed to us even now in the way our schools are run and the culture that shapes the way we do things between 9 a.m. and 3 p.m., Monday to Friday.

The curriculum in any school is a servant to its culture; that is to say, the pipeline of content pumped into its classrooms must be compatible with the values, customs and practices that dictate how that content will be delivered, consumed and ultimately measured. In the case of the culture that has dominated our schools for one hundred and fifty years since William Forster's Act, only the content that can be mass-taught, mass-learned and mass-measured will be considered utilisable. Knowledge and skills that can be delivered in gobblet-sized chunks will always be favoured over content that is less easily pushed through the assembly line of learning. If it can be delivered in a lesson, evidenced in a book and recalled in some future quality assurance test, then it will be used. If it cannot, there is always an after-school club.

The least efficient content is that which cannot be standardised, and here lies the problem. Attitudes, behaviours and capacities that make up learning performance such as optimism, perseverance or creativity – what I shall refer to hereon as the 'real ABC' – are unlikely to feature in a school curriculum or syllabus while there is still a need for standardisation in school.

But the real ABC is enjoying more airplay and column inches than in previous times, as Ofsted elevate behaviour and attitudes to a discrete judgement area for their inspection visits. Teachers and leaders are required to identify the impact their lessons are having on the attitudes and behaviours of their children, and it is only a matter of time before this new 'topic' will be added to the assembly line of subjects, with its own success criteria, best-fit statements and resulting performance data. The success of a school must be measured, after all, and that which cannot be measured is given less value than that which can. One can foresee children moving from double science on a Tuesday morning into a single period of 'attitude building' in the classroom next door. I can imagine my own children returning home soon with a B- in curiosity or a C+ in optimism.

It is not the assembly line itself that is problematic – how else can you teach a large group of children gathered in one room in a manner orderly enough to achieve anything? Rather, the insidious element in the educational factory is the notion of a norm, a standard against which all products will be measured – and

this environment is non-conducive to the formation of an individual's attitudes to learning. Child development is fundamentally about growing, but nothing stunts growth more than sorting and ranking. To mature well is to develop attitudes, behaviours and capacities that bring you success, satisfaction and positive wellbeing in adult life, but such maturation is stifled the moment a leader board of competitors is introduced. (Freddie shows more optimism than Lena, but less resilience than Haneesh, who also came top of the class in curiosity.)

Voices continue to call for a paradigm shift in the way our schooling system operates and the way it prepares – or fails to prepare – students for life in the twenty-first century. The culture of competition in a classroom, where children compete for the top academic grades, is an unlikely place to champion creative or collaborative activities, with the inherent risks they bring both for the child being assessed and the teacher being held accountable.

For any such educational revolution to succeed, it is necessary to revisit assumptions made in the nineteenth century that schooling is for developing academic intelligence and that this should be monitored through academic assessments at immovable milestones in a child's educational career.

THE FUNCTION OF 'SCHOOL' AND THE NATURE OF INTELLIGENCE

There has been much written over the centuries on the subject of rationalism versus empiricism, intellectual instruction versus play-based, experiential learning, or academicism versus creativity. Of course, rationalism has always won when it comes to schools, with a-posteriori knowledge playing second fiddle. But these seemingly mutually exclusive standpoints are hardly new. In Plato's *Republic*, lovers of wisdom and learning through Socratic dialogue are pitched against tyrannical sophists who educate and rule in the city by coercive force for private, economic advantage. Plato argues that philosophical 'play' is the best pedagogical means to educate a just citizenry.

Throttle forward to empiricist philosopher, John Locke, who argued in the seventeenth century that 'Curiosity should be as carefully cherished in children as other appetites suppressed'. An advocate of what he termed 'recreations', Locke² writes:

Farther advantage may be made by a free liberty permitted to [children] in their recreations, that it will discover their natural tempers, show their

² Locke, J. (1693) *Some Thoughts Concerning Education*. Indianapolis: Hackett Publishing Company, Inc.

THOUGHTS CONCERNING STANDARDISATION AND THE ASSEMBLY LINE OF LEARNING

inclinations and aptitudes, and thereby direct wise parents in the choice both of the course of life and employment they shall design them for . . .

(Locke, 1693:80)

The idea of natural tempers, inclinations and aptitudes shown in childhood directing future life and work choices seems logical but such an individualistic approach is rarely adopted in school. Locke was writing more than three hundred years ago, and yet the value of ‘play’ in education still continues to be both championed and derided, depending on one’s standpoint and how one chooses to interpret the word. Seen by many (from Piaget to Montessori) as an important building block for learning new knowledge and entirely in sync with the natural rhythms of childhood, *play* has also been dismissed by others as the kind of progressive ideology peddled in the 1960s by free-thinking radicals beset by anti-establishment, anti-knowledge, liberalist beliefs. The pendulum swings and the arguments are inflated to hyperbole in order to justify one’s own pedagogical preferences.

‘Child-centred’ – that is to say placing the child at the heart of the educational process, and, in Piagetian tradition, recognising that it is not enough to teach knowledge by simple reinforcement or practice, but by appreciating that the child has to be at a particular stage of his development in order to learn that new knowledge – has become conflated with ‘child-led’ education: ‘let the child discover knowledge for himself’ type clichés. To hold a rational debate on the need for education to reflect the natural processes of child development is as easy as steering a ship in high seas; it is always prone to oversteering. ‘Gradgrinds’ see any form of liberal play as an anathema, as welcome in the knowledge-centric, didactic classroom as weeds in a pavement; and progressive educationalists see any form of formal instruction as an affront to a child’s individualism – the authoritative machine presiding over ‘just another brick in the wall’ as Pink Floyd wrote.

But the idea of presenting knowledge and ideas to children at a level and style consistent with their current mode of thought is hard to counter, and it may be in this regard that the most gains can be found when assessing how and why children’s potential is lost in the formal school years. As Rousseau (1762) tells us, in his seminal work, *Emile or On Education*:³

The wisest men concentrate on what it is important for men to know without considering what children are in a condition to learn. They are always seeking the man in the child without thinking what he is before being a man.

(Rousseau 1762:43)

³ Rousseau, J. (1762) *Emile or On Education*. South Carolina: Createspace

Is our current education system predicated on the view that childhood is merely a preparatory stage for adulthood? Do we believe that a successful adult life is built on a carefully curated childhood spent preparing to be a grown up and that an untrammelled, uncalibrated childhood is doomed to failure? The truth may be quite different.

Children grow and develop and learn, quite apart from the ‘measured progress’ they achieve in school – that which is matched against the expectations and standards laid down by Rousseau’s ‘wise men’.

As Piaget (1969)⁴ tells us, having to adapt to adult modes of thinking and learning may hinder the natural development of character and personality in a child:

Obliged to adapt himself constantly to a social world of elders whose interests and rules remain external to him, and to a physical world which he understands only slightly, the child does not succeed as we adults do in satisfying the affective and even intellectual needs of his personality through these adaptations. It is indispensable to his affective and intellectual equilibrium, therefore, that he have available to him an area of activity whose motivation is not adaptation to reality but, on the contrary, assimilation of reality to the self, without coercions or sanctions.

(Piaget, 1969:58)

The ‘affective and intellectual needs of [the child’s] personality’ may be the real ABC of school. As Piaget says, these are not best satisfied or developed through the child adapting to modes of behaviour or thought that are laid down by adults in the room – the coercions and sanctions of the classroom. Character is not best developed in this way and within an education predicated on the development of academic attainment.

But this study must not follow the well-trodden path of pitching an academic, curriculum-based education against a child-centred, play-based learning experience. It will not weigh the advantages of a child-centred, individualist approach against a knowledge-centric, rationalist one, or pitch rationalism against empiricism, since clearly *both* are valuable and necessary in teaching. For as long as the western world is focused on learning through formal instruction and logico-deductive reason (Robinson, 2001),⁵ and for as long as we prize conscious,

⁴ Piaget, 1969: 58). *The Psychology of the Child*. New York: Basic Books, Inc.

⁵ Robinson, K. (2001) *Out of Our Minds: Learning to be creative*. Chichester: Capstone Publishing Ltd

THOUGHTS CONCERNING STANDARDISATION AND THE ASSEMBLY LINE OF LEARNING

explicit, deliberate, logical thinking (Claxton, 2008)⁶ above anything else, then such a debate is ‘academic’ (note, the term ‘academic’ is often used derogatively to describe something that is not rooted in reality or of no practical use).

This study will not present an ‘either/or’ scenario: *either* academic rigour *or* creative expression; *either* cognitive skills *or* non-cognitive skills – because these are not mutually exclusive goals. Whether or not schools were originally built for the sole purpose of disseminating propositional knowledge in order to boost the ‘academic intelligence’ of their pupils, most of us know now that it is in the synthesising of academic instruction *with* sensory, creative experiences that the most gains can be made. As da Vinci tells us, ‘all our knowledge comes to us through our senses’. So the virtues of one need not be extolled over the other.

But understanding what intelligence is, how it manifests in children and how its growth requires more than imitation, and responding to rewards and sanctions is very relevant to this study. Developing the intelligence of younger generations is indeed an effective way of growing a society and its economy, but only provided those whom we charge to do this for us have a clear understanding of the true nature and scope of intelligence, which is as much related to attitudes and behaviours as it is to memory and rational thinking. As Guy Claxton writes:

Being smart is as much a matter of determination and self-discipline as it is of intellect. And the way learning and achievement are influenced or ‘capped’ is much more to do with one’s beliefs about ability than it is to do with any crude measure of ability itself.

(Claxton, 2008:71)

The crude measure of ability of which Claxton speaks, is the method of assessment most commonly used in schools – because it is manageable, quantifiable and progressive. It is neat and tidy. It is achievable. How could one assess a child’s ‘beliefs in their own ability’? How can ‘determination and self-discipline’ be assessed and quantified? Surely it is easier to say that intelligence is the ability to retain and recall academic knowledge. Such a definition allows schools to measure their pupils’ intelligence and grade them accordingly. Having spent the last twenty years preparing primary pupils for the threshing machine of national tests and 11+ papers, the writer can see how such a process operates efficiently, giving senior schools the data they think they need in order to sift through applications and decide who is ‘clever enough’ to come to their school. But one can also see how

⁶ Claxton, G. (2008) *What’s the Point of School?* Oxford: Oneworld Publications

the process woefully underestimates pupils' intellectual capacities and potential. As Maria Montessori⁷ puts it:

If education is always to be conceived along the same antiquated lines of a mere transmission of knowledge, there is little to be hoped from it in the bettering of man's future. For what is the use of transmitting knowledge if the individual's total development lags behind?

There is, of course, great hope in the bettering of a child's future if he completes his 11+ entrance exam and proves he can retain enough of the knowledge transmitted to him at prep school to pass into an elite public school. This is the reality, and it is shaped by those all-pervading assumptions again.

This study is concerned not only with what intelligence is, but also how it is best nurtured in the classroom. It is concerned not only with the teaching methods designed to develop intelligence in schools, but also with the attitudes, behaviours and capacities that are developed along the way. No one can argue that knowledge is not a part of intelligence. The writer does not share the radical view that 'knowledge in schools is dead; all you need is Google'. No one genuinely thinks this; it is another example of exaggeration on the part of the traditionalists in order to ridicule their opponents. It is a familiar mantra, translated into various motions for lively debate – how a skills-based curriculum is vacuous and devoid of context, how a knowledge-centric curriculum delivers no skills other than memory and recall, or how attitudes and behaviours are 'soft skills' and cannot be taught, they just 'happen' as a by-product of the invisible curriculum in school. Of course a sound knowledge is valuable, not to mention the learning skills and disciplines employed by the pupil whilst learning that knowledge and the attitudes that are modelled by good teachers; all of these elements are an integral part of a good education.

But academic knowledge should be passed to children at the right time (when they are ready to receive and process it) and within the right context, that is to say framed in such a way that this new knowledge has meaning, purpose and relevance to the child, beyond the fact that it happens to be on the syllabus for Year 5, for example. As Jerome Bruner (1977)⁸ puts it:

Research on the intellectual development of the child highlights the fact that at each stage of development the child has a characteristic way of viewing the world and explaining it to himself. The task of teaching a subject to a child at

⁷ Montessori, M (1949) *The Absorbent Mind*. Adyar: The Theosophical Publishing House

⁸ Bruner, J. (1977) *The Process of Education*. Cambridge: Harvard University Press

THOUGHTS CONCERNING STANDARDISATION AND THE ASSEMBLY LINE OF LEARNING

any particular age is one of representing the structure of that subject in terms of the child's way of viewing things.

(Bruner, 1977:3)

Bruner highlights the clear link between knowledge and the real ABC. If knowledge is taught to children without proper attention to the child's emerging character traits, attitudes and behaviours, then not only will that child's curiosity and creativity be stifled in the learning process, so too will their ability to understand that knowledge, since this understanding is inextricably linked to the child's characteristic view of the world and their place within it. We do not live in a vacuum and we do not learn in a vacuum. Though a school curriculum or syllabus will set out neatly what the children need to learn and in which term they need to learn it, *the way the child responds* to that learning – how he assimilates and accommodates it, how he responds emotionally and intellectually to it – is what counts, but it cannot be counted and so it will often go unnoticed. There isn't time to consider such matters; there is too much knowledge still to get through, to be taught in the standard syllabus. One needs to get on. Perhaps this is why, as John Dewey⁹ identified more than a hundred years ago, in a school curriculum:

Facts are torn away from their original place in experience and rearranged with reference to some general principle.

(Dewey, 1899:106).

No one, and least of all the writer, would argue that academic knowledge is not a crucial part of a good education, nor that pupils' ability to retain knowledge should not be tested in schools and should not form part of the academic qualifications they ultimately earn; but until we start looking not only at how much knowledge pupils can remember, but also at how they *respond* to that knowledge, how they assimilate and accommodate it, and what they do with it next, then the academic qualifications gained in schools – Claxton's 'crude measure of ability' – can never be interpreted as an accurate measure of a pupil's intelligence or of their creative potential. But, sadly, what a child shows she knows in an examination is so often taken as an accurate measure of her learning ability.

Professor Lauren Resnick, whom Claxton describes as the 'doyenne of intelligence researchers in the USA', highlights succinctly the nature of intelligence, and her words have very real significance for the way we currently assess pupils'

⁹ Dewey, J. (1899) *The School and Society*. Chicago: The University of Chicago Press

intelligence in schools. In an article called ‘Making America Smarter’¹⁰ she writes:

Intelligence is the habit of persistently trying to understand things and make them function better. Intelligence is working to figure things out, varying strategies until a workable solution is found. Intelligence is knowing what one does (and doesn't) know, seeking information and organising that information so that it makes sense and can be remembered. In short, one's intelligence is the sum of one's habits of mind.

(in Claxton, 2008:62)

This illustrates clearly how the methodologies used in formal education need to be focused as much on pupils' attitudes, behaviours and capacities in school as on their ability to remember the academic information we teach them, since it is within a synthesis of the real ABC *and* academic knowledge where true intelligence hides.

Attitudes, behaviours and capacities for learning are not just of equal importance to knowledge retention, they are *inextricably linked to it* – because our state of mind, and our habits of mind, impact greatly on what we know, what we understand and what we can remember. Children are not empty sponges of varying qualities, some more absorbent than others; or pails of varying sizes, some with leaks in and others without. It is not just a case of what a child can remember of the knowledge he has been taught, it is the attitudes, behaviours and capacities he displayed at the point when the knowledge was being taught to him that count. Again, as Dewey (1938)¹¹ writes,

Collateral learning in the way of formulation of enduring attitudes, of likes and dislikes, may be and often is much more important than the spelling lesson or lesson in geography or history that is learned. For these attitudes are fundamentally what count in the future.

(Dewey 1938:48)

Not only will such ‘collateral learning’ – the real ABC – improve the child's level of understanding of the knowledge he is taught by setting him in the right mindset to learn and bringing better *habits of mind* – it will also allow his curiosity and creativity to flourish at the same time. It would be very much easier for teachers if

¹⁰ Rusnick, L. (1999) Making America Smarter in Claxton, G (2008) *What's the point of school? Rediscovering the heart of education*. Oxford: One World Publications

¹¹ Dewey, J. (1938) *Experience & Education*. New York: Simon & Schuster

THOUGHTS CONCERNING STANDARDISATION AND THE ASSEMBLY LINE OF LEARNING

they could assume that all children will receive new knowledge in the same way, behave in the same way in class, listen and retain in the same way, and so on. Manifestly this is not true, but our assessment procedures seem to be built on this false assumption and the resulting scores mirror this – perhaps this is why so many successful entrepreneurs say they found success despite their education rather than because of it.

Of course, the academic examinations which children need to pass in order to progress in their educational career – from SATs to 11+ and 13+ Common Entrance in some pupils' cases, through to GCSEs and A Levels – pays more attention to pupils' ability to retain and recall knowledge than to their habits of mind, or their real ABC. This has the unintended consequence of encouraging the kind of 'teaching to the test' which creative teachers dislike so much, and propagates the message that 'intelligence' is principally concerned with what you can remember and write down in the exam (children cannot take their books in with them, which is why they spend weeks annotating them with multicoloured highlighter pens in the faint hope that the knowledge will 'stick in their head'; the more difficult it is for knowledge to stick, the more stupid the child considers himself to be).

Academic knowledge is more deeply embedded in children's minds when it is delivered and accessed in creative ways, and when teachers are able to pay as much attention to pupils' attitudes to learning as to their memory and recall skills.

The best way to raise academic standards (if that is what drives schools) is to build on, rather than filter out, children's natural curiosity and creative potential. It is not 'either/or', it is 'and'. Knowledge can be delivered and academic intelligence can be developed in such ways that tap into children's innate learning capacity and creative potential *at the same time* – learning through sensory experience and driven by a child's emotional state.

Again, this is not new. As Locke tells us, the *only* knowledge humans can have is a-posteriori, based upon experience; or, as Scottish philosopher David Hume (1739)¹² suggests, all knowledge cannot be conclusively established through reason. But as tempting as it is to descend into a philosophical discussion on the origins and nature of epistemology, this study is concerned with the reality of the classroom – and the real ABC that feeds children's curiosity and creativity and enables them to become lifelong learners. This is not a study of knowledge; rather it is a study of *learning* and how children's natural capacity for learning and potential for creative thought and activity are being stifled by

¹² Hume, D. (1739) *An Enquiry Concerning Human Understanding*. Oxford: Oxford University Press

the conditions, values or practices of the classroom – a room in which, traditionally, a specific model of learning is promoted (relying heavily on reading/listening, retaining and recalling factual knowledge), to the detriment of other modes of learning, and certainly to the detriment of those essential character traits.

A bridge connecting the seemingly mutually exclusive pedagogies of teaching for academic rigour *and* teaching attitudes and behaviours for learning must provide such a system of assessment; without it, the current system of assessment will prevail: a system which filters out cognitive from non-cognitive and assigns higher value to the skills of reading, retaining and recalling knowledge than to any other skill or intelligence, creative or otherwise. And yet, as Robinson (2001) tells us, ‘if there was no more to intelligence than academic ability, then most of human culture would never have happened’.

IN SEARCH OF THE INVISIBLE

For the real ABC to be valued as highly as reading, writing and arithmetic, it needs to be ‘assessable’; it needs to be evidenced and reported on. That is not to say that attitudes need to be scored, which would inevitably lead to the aforementioned B- in curiosity and C+ in optimism. But in digging deeper into what such attitudes, behaviours and capacities are, what they ‘look like’ in the classrooms and how they can be commented on meaningfully, we are able to provide a richer discourse when reporting on learning performance and progress to all stakeholders in a school, not least the students themselves.

It would be wrong to offer a thought piece such as this without at least attempting to rise to this challenge. Over the past twenty years of teaching and leading in schools, I have seen for myself children presenting positive attitudes that help them in their learning, and I have also witnessed the harmful effects on a student’s learning performance when negative attitudes and behaviours take hold. How a school identifies such ‘deep-down-things’ is key to its success in preparing its students for life. Having a ‘script’ when reporting on the performance of its students to an Ofsted inspector, or to parents and carers, is desirable, and it can be achieved without the need to descend into percentages.

The real ABC of attitudes, behaviours and capacities for learning can be written down. Clearly there are myriad words one could use – we are complex organisms and the number of attitudes alone would be infinite. But to select some and hold them up as being useful for lifelong learning is better than to ignore them all and hope these things happen by chance, incidental to academic teaching and learning.

THOUGHTS CONCERNING STANDARDISATION AND THE ASSEMBLY LINE OF LEARNING

I humbly offer readers a list for the real ABC:

Attitudes	Behaviours	Capacities
curiosity	adaptability	creativity
optimism	self-motivation	self-management
pride	perseverance	critical thinking
trust	collaboration	communication

Such a list can be read vertically but can also be read laterally too: the curious child will learn to be adaptable to the different situations his curiosity leads him into, and his ability to embrace new things and new places will develop his creativity. Similarly, when a child lacks optimism in her learning, she will lack the self-motivation to continue and will see little point in self-managing her learning, believing that she will fail regardless. A child who is proud of her learning achievements will persevere and be open to thinking critically about both her own work and the work of others. The student who trusts others will be more open to collaboration, and this in turn will develop his communication skills.

A semantic discussion around this nomenclature is tempting but may be unproductive; what matters more is that we use these words as discussion prompts, shedding light on what lies behind the grade, at what makes up a student's learning performance.

So how can we evidence such things, and how may we report on them? My suggestion is that all of the elements that make up the real ABC are played out in the classroom, every day. There are 'key observables' that indicate to us whether a child has high optimism or low optimism, whether she is able to persevere or whether she gives up quickly. These can be discussed and shared among colleagues. A list of key observables can be drawn up.

But we are getting dangerously close to compiling a set of success criteria with which we can score the children! This will return us to the very culture of standardisation and quality assurance that we wish to leave behind.

There is no simple solution, but we have a responsibility to raise the status of attitudes, behaviours and capacities in our schools and to articulate more meaningfully the impact which our teaching has on our students' personal development. This will not happen unless we shed some light on what such attitudes, behaviours and capacities look like – how we are able to lift the platitudes from the page.

A great deal lies behind an academic grade, much of it more valuable to a student's future than the grade itself. It is time we recognised the very positive work being done every day by teachers, acting as model learners, modelling the characteristics of effective learning to their students. Just as the success and

efficacy of a teacher cannot be measured by her students' performance data alone, so children are more than the sum of the academic grades they achieve in school.

To close, Leonardo da Vinci described himself as an '*omo senza lettere*', a man without letters. Rather than feeling disadvantaged by a lack of formal qualifications, he felt unsullied and untrammelled. His famous proclamation may be a lesson for us all: 'I have been impressed with the urgency of doing; knowing is not enough, we must apply. Being willing is not enough, we must do.'

Such 'doing' requires positive attitudes, behaviours and capacities that are too easily eclipsed by academic scores.

Were we to see a young Leonardo or Leonora in school today, it would be hard to identify them from the attainment or progress data available to us. The way in which we measure intelligence today is so narrow that it would hide the voracious and prolific creative talents of another da Vinci.

Neither the models of assessment adopted, nor the methods of teaching and managing behaviour employed in schools are receptive or conducive to creative impulses and disruptive, rebellious thinking. But this will change in time. It must.