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# Educational Challenges of the Liquid-Modern Era

*Zygmunt Bauman*

Poland being at that time, by widespread agreement, 'the freest and the most entertaining barracks inside the Soviet camp', the sociology department of Warsaw University was in the 1950s perhaps the sole place on either side of the Iron Curtain where all varieties of the current wisdom of social and human sciences – from the most petrified versions of the Soviet Marxist dogma to the latest fashions in 'bourgeois social science' – were taught side by side. It was left to the students to resolve the contradictions and to bridge the yawning gaps between the thoughts that followed their thinkers into the battlefield. On some occasions the differences between competing versions of human reality seemed overwhelming and the gaps between them unbridgeable; the heavily armed troops deployed along the power-blocks' boundaries added an otherwise inconceivable gravity and urgency to the dullest of scholarly disputes, inflating even minor clashes of opinions or approaches out of all proportions, into a life-and-death battle and a *casus belli* for an interminable war of attrition.

I distinctly remember, however, two allegedly opposing views, each basking in the authority of a different one of the two embattled superpowers, which despite all the magnifying and inflating pressures of the cold war mentality and my teachers' prompting and nudging I failed to see as mutually incompatible and exclusive. Both views aspired to unravel the mysteries of human behaviour, but each grounded its argument in laboratory experiments with animals. One view was Pavlov's theory of 'conditioned reflex', the other the 'reinforcement theory' originated in the work of a long succession of American psychologists from Watson to Skinner. Each theory occupied a dominant, uncontested and unassailable position in its own (political) camp, inside which it brooked no dissent and no opposition. The proponents of each theory saw the advocates of the other as enemy agents, charlatans or defenders of a lost cause, and their gospel as another manifestation of the enemy's pig-headedness or treachery. And yet, I repeat, the conflict seemed to me downright imaginary. The adversaries might have been locked in mortal combat, but the images of the human

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being-in-the-world they preached seemed to me strikingly similar – perhaps indistinguishable.

Both theories agreed on several truly crucial, in my opinion decisive, points. First, the human way of being-in-the-world is the process of learning. Second, learning is triggered by the organism's urge to satisfy its needs, which as long as they stay unsatisfied cause unpleasant tension seeking relief and relieved only when the need has been gratified. Third, learning consists of the re-forging of the world's regularity into the routine behavioural pattern of the learning organism. Fourth, through that transformation the organism adapts to the world and acquires the ability to pursue its purposes successfully. In short: to survive in the world the organism must surrender to its rules. The assumption underlying all those points was an essential regularity of the world, that could be challenged only at the living organism's peril and never successfully.

To demonstrate these propositions on which both sides agreed, the behaviourist version resorted mainly to experiments with rats in a maze. The maze was made of passages formed by firmly fixed, opaque and inflexible partitions. Each passage led to a junction with more than one turn, of which only one led in the right direction, that is, towards a pellet of food the hungry rats craved. The rats sought the right itinerary erratically, through a series of trials and errors, they chose the right turns by lucky accident, but once that itinerary had been found, the reward (the relief of unpleasant tension by gratification of the need that caused it) served as 'reinforcement' of the initially random choice. Since the partitions stayed in the same places throughout the experiment and food was always placed in the same corner of the labyrinth, the impulse to repeat the right choice and reject its alternatives was consistently reinforced with each run. The rats *learned*. One could measure their intelligence by the number of runs needed to learn and memorize the right itinerary and the speed with which the target was reached. Success was tantamount to the rapid adjustment of the rat's behaviour to the shape of the world that stayed the same all over and could not be challenged (any attempt to challenge or ignore the shape of the world would unduly prolong the time of learning). And given the immutable shape of the world, the successful rats (intelligent rats, fast-learning and retaining what they learned) were never again to stay hungry for long.

Pavlov aimed to demonstrate similar truths through a somewhat different route. He chose dogs instead of rats to experiment with. When hungry, all dogs salivate at the sight of food. In Pavlov's laboratory, the serving of food was preceded by ringing a bell. Once the bell-food succession was repeated a number of times, the dogs started salivating 'in anticipation' – right after the ringing, whether or not the sound was followed by the sight and smell of food. In Pavlov's experimental schedule, the artificiality and 'manipulability' of the learning situation, and above all the God-like stature of its manager, the veritable Creator of the dogs' world (it was, after all, the experimenter who decided that the bell would precede feeding time, and who set the intervals separating bell-ringing from food-serving) were more obtrusive than in the behaviourist experiments.

I am inclined to think now that this was the reason for the rulers of a totalitarian state preferring it over the American approach. After all, the totalitarian rulers set about conjuring up an artificial and utterly manipulable world for which the

Pavlovian laboratory could serve as a metaphor. Keeping the role of the experimenter in the shade, the American experiments seemed on the contrary to sustain the fundamental liberal belief that it is and should be up to individuals to find their way, and to do that on their own. The rats-in-the-maze experiments fitted better than the salivating dogs' tests the social setting assumed to incarnate such belief. But otherwise the *axiom of the world as the immutable reference frame for learning*, the sole reliable *guide* for the learning pursuits and the supreme and incorruptible *judge* of the learning's effects, underpinned both experimental strategies in virtually identical form.

I was also taught as a student a cautionary tale, showing the awesome and eventually morbid consequences of that axiom being suspended and the world sending confusing signals and being ambivalent about the difference between right and wrong. The hero of that tale was a fish called a stickleback. Male sticklebacks build nests for the females to lay and store roe, and the males guard the nests until the eggs are hatched. An invisible borderline separates the home territory around the nest (that is the space that the male defends against intruders, attacking all trespassing stickleback males) from the foreign territory (that is all the rest of space, from which the male flees if coming accidentally across another member of the species). In laboratory experiments two male sticklebacks were put during the spawning season into a water-tank too small to keep their respective home territories apart. Confused males, getting contradictory and irreconcilable signals and so unable to choose unambiguously between fight and escape, tended to assume a 'neither-nor' vertical posture, burying heads in the sand – obviously a response completely irrelevant to the quandary, let alone its resolution. Sticklebacks, we have been told, lead their 'normal', happy life 'that suits them' thanks to the world around being straightforward (*eindeutig*, as the Germans would say), refraining from sending confusing signals, having no room for ambivalence, thanks also to the 'perfect fit' between behavioural routines and the world that allows them to be pursued. If such conditions were not met, learning would turn from the most powerful asset the living creatures deploy to stay alive into a most formidable liability that could jeopardize their survival.

I remember feeling uneasy at being taught of the ways humans live through the experience of dogs, rats and sticklebacks . . . So probably were many of my fellow students, perhaps even some of our lecturers. And yet I cannot recall objections being voiced, let alone students rebelling or teachers having second thoughts and expressing regrets. I often wonder why the stories were swallowed hook, line and sinker, and the most credible explanation I can come up with is that (our spiritual discomfort notwithstanding) we did suspect the plight of the laboratory rats and dogs to be remarkably similar to our own, and we did recognize in the stickleback's torments our own anxiety at the few painful moments when the world seemed to slip out of the orderly laboratory-like routine.

I guess we believed the world around to be immovable, tough, intractable and impenetrable, but also regular – with the right routes as well as blind alleys laid always in the same places, waiting to be discovered and mapped. What was left to us was to learn their positions by heart and then follow the first and avoid the second – and then perhaps, just like the rats and the dogs rewarded for their intelli-

gence and learning zeal, we should never need to fear hunger . . . And so the world as we saw it made sense of the Aristotelian rule that 'what we have to learn to do, we learn by doing'. The world and its rules seemed also durable, at any rate longer lasting than our own, laughably short, mortal lives, and so we believed that whatever we learned of the world had a good chance of serving us for the rest of our life. We hoped that the moment would never come when learning would seem in retrospect a waste of time, let alone a recipe for failure to respond properly to life's challenges.

Having compared the pedagogical ideas and educational settings of 13 different civilizations, Edward D. Myers<sup>1</sup> noted (in a book published in 1960)

the increasing tendency to view education as a product rather than a process. When it is regarded as a product it is conceived as something that can be 'got', complete and finished, or relatively so; for example, it is not uncommon now to hear one person ask of another, 'Where did you get your education?', expecting the answer, 'At such-and-such college'. The implication is that the graduate has learned all he [sic] needs to know of the techniques and skills of language and mathematics and of all the accumulated knowledge about man's relations to other men, his indebtedness to the past, the natural order and his relation to it, and about the realm of aspirations and values – all he needs to know, that is what is required for his particular job.

Myers did not like what he found; he would rather have education treated as a continuous, whole-life endeavour, since he resented the tendency to cut the knowledge cake into thin slices, one for every trade or profession. The objectively accumulated and potentially available knowledge was enormous and still expanding, and the effort to assimilate it should not stop at graduation; 'the appetite for knowledge' should be boosted throughout life, for the person 'to continue to live and grow' and so to be altogether a better kind of person. That knowledge could be appropriated and made into a durable property of the person, Myers took for granted and did not contest. As with other property in the 'solid' stage of modernity, big was beautiful and more equalled better. All that Myers found wrong was the view that one should 'get education' in one go, as a 'one off' purchase, rather than being on a continuous look-out for ever more and richer possessions.

In its 'solid' stage, now bygone, modernity – itself a reaction to the frailty of the pre-modern *ancien régime* fast losing its holding power – was obsessed with durability. Durability, of course, had been highly valued since time immemorial (all upper classes in history wished to surround themselves with lasting possessions and make their family lineages and memory of their deeds last for eternity; the boundary between the upper and the lower classes coincided in all aspects of life with the line separating the durable from the transient). But the accelerating decomposition of the *ancien régime* added particular urgency and zeal to the worry about the durability of social institutions. The solidity once assured matter-of-factly by the autonomous reproduction of social order was ever less likely to take care of itself and apparently needed to be taken care of. To invoke and develop Karl Marx's famous metaphor, we may say that modernity melted the existing already deformed solids only in order to pour the melted reality into better-designed moulds, promising to make them last longer. The ultimate horizon of the modern overhaul of the human condition was a

society in the 'state of perfection', defined at the threshold of the modern era by Leon Battista Alberti as a state in which any further change could only be for the worse. The radical transformation was to result in a rationally conceived, scientifically designed and forcefully built order that would make all further transformation redundant and uncalled for.

Accordingly, the right to retain one's property was one of the crucial human entitlements proclaimed in the founding documents of the modern programme. Of John D. Rockefeller, arguably the most conspicuous incarnation of everything that solidity-obsessed modernity stood for, Richard Sennett would write a couple of centuries later that he 'wanted to own oil rigs, buildings, machinery, or railroads for the long term'.<sup>2</sup> Rockefeller, like the solid modernity whose spirit and ambitions he incarnated, wished to commit the future and could do so only by committing himself to it.

The image of knowledge reflected that commitment, and the vision of education replicated the tasks that commitment put on the modern agenda. Knowledge was of value since it was hoped to last, and education was of value in so far as it offered such knowledge of lasting value. Education, whether seen as a 'one off' episode or a life-long endeavour, was to be an activity aimed at the delivery of a product which like all other possessions could, and would be desired to, be held forever.

Here we come across the first of the many challenges contemporary education needs to face and withstand. In our 'liquid-modern' times, durable possessions, products meant to be appropriated once for all and never again replaced, have lost their past attraction. Once seen as assets, they are now more likely to be viewed as liabilities. Once the objects of desire, they have turned into objects of resentment.

The history of education has been full of critical periods in which it became evident that tested and seemingly reliable premises and strategies were losing their grip on reality and called for revision and reform. It seems, though, that the present crisis is unlike the crises of the past. The present-day challenges deliver heavy blows to the very essence of the idea of education as it was formed at the threshold of the long history of civilization: they put in question the invariants of the idea, the constitutive features of education that have thus far withstood all the past challenges and emerged unscathed from the past crises – the assumptions never before questioned, let alone suspected of having run their course and being in need of replacement.

In the liquid-modern world solidity of things, much as the solidity of human bonds, is resented as a threat: any oath of allegiance, any long-term (let alone timeless) commitment, portends a future burdened with obligations that constrain freedom of movement and reduce the ability to take up new, as yet unknown, chances as they (inevitably) come by. The prospect of being saddled with one thing for the duration of life is downright repulsive and frightening. And no wonder, since even the most coveted things are known to age fast, to lose their lustre in no time and to turn from a badge of honour into a stigma of shame. The editors of glossy magazines feel the pulse of time well: alongside the information about the new 'you must dos' and new 'you must haves' they regularly supply their readers with advice on 'what is out' and needs to be dumped. Our world is ever more reminiscent of Italo Calvino's 'invisible city' of Leonia, where 'it is not so much by the things that each

day are manufactured, sold, bought that you can measure opulence . . . but rather by the things that each day are thrown out to make room for the new'. The joy of 'getting rid of', discarding and dumping is our world's true passion.

The ability to last long no more speaks in things' favour. Things and bonds are expected to serve for a fixed term only and be shredded or otherwise disposed of once they outlive their usefulness – which they must do. And so possessions, and particularly the long-lasting possessions one cannot get rid of easily, are to be shunned. Today's consumerism is about not accumulation of things, but their 'one off' enjoyment. So why should the 'knowledge package' obtained during one's stay in school or college be exempted from that universal rule? In the whirlwind of change, knowledge fit for instant use and meant for 'one off' use, knowledge ready for instant use and instant-disposal knowledge of the kind promised by software programs coming onto and off shop shelves in an ever accelerating succession, looks much more attractive.

And so the thought that education may be a 'product' that is meant to be appropriated and kept is off-putting and most certainly no longer speaks in institutionalized education's favour. To convince their children of the use of learning, fathers and mothers of yore used to tell them that 'what you've learned, no one will ever take away'; that might have been an encouraging promise to *their* children, but it would look a horrifying prospect to the contemporary young. Commitments tend to be resented unless they come with an 'until further notice' clause. In a growing number of American cities building permits are issued only with demolition permits, while recently American generals opposed the engagement of their troops on the ground until a convincing 'exit scenario' was worked out.

The second challenge to the basic premises of education comes from the erratic and essentially unpredictable nature of contemporary change and adds power to the first challenge. At all times knowledge was valued for its faithful representation of the world; but what if the world changes in a way that continuously defies the truth of extant knowledge, constantly taking even the 'best informed' people by surprise? Werner Jaeger, the author of the classic exploration of the ancient roots of the concept of pedagogy and learning,<sup>3</sup> believed that the idea of education (*Bildung*, formation) was born of the twin assumptions of the immutable order of the world that underlies all the superficial variety of human experience, and of the similarly eternal nature of laws that govern human nature. The first assumption justified the necessity and the benefits of knowledge transmission from teachers to pupils. The second imbued teachers with the self-confidence needed to carve on pupils' personalities, as sculptors do in marble, the shape presumed to be, for all time, right, beautiful and good – and for those reasons virtuous and noble. If Jaeger's findings are correct (and they have not been refuted), then 'education as we know it' is in trouble, since it would nowadays take quite an effort to uphold any of these assumptions and even more effort to perceive them as self-evident.

Unlike the behaviourists' maze, the world as lived through these days feels more like a contraption for forgetting rather than a setting for learning. Partitions may be, as in that laboratory maze, impenetrable, but they are on castors and constantly on the move, carrying the tested, explored yesterday routes with them. Woe to people with retentive memory – yesterday's trusty tracks are found a short time later to end



up in blank walls or quicksand, and the habitualized, once foolproof behavioural patterns begin to bring disaster instead of success. In such a world, learning is bound to endlessly chase the forever elusive objects that in addition begin to melt the moment they are grasped, and since the rewards for proper action tend to be moved daily to different locations, reinforcements may mislead as much as they reassure: they are traps to beware of and avoid, since they may instil habits and impulses that in no time will prove to be useless, if not harmful.

As Ralph Waldo Emerson observed, when skating on thin ice your salvation is in speed. Salvation-seekers would be well advised to move quickly enough not to risk overtesting any spot's endurance. In a volatile world of liquid modernity, in which hardly any form keeps its shape long enough to warrant trust and gel into a long-term reliability (at any rate, there is no telling when and whether it will gel and little likelihood that it ever will), walking is better than sitting, running is better than walking and surfing is better yet than running. Surfing benefits from the lightness and sprightliness of the surfer; it also helps if the surfer is not choosy about the waves coming his way and is always ready to cast his former preferences aside.

All that goes against the grain of everything that learning, and education, stood for through most of their history. After all, they were made to the measure of a world that was durable, hoped to stay durable and intended to be made yet more durable than it had been to date. In such a world, memory was an asset, and the further back it reached and the longer it lasted the more valuable it was. Today such a solidly entrenched memory seems potentially incapacitating in many cases, misleading in many more, useless in most. One wonders to what extent the rapid and spectacular career of servers and electronic networks was due to the waste-storage, waste-disposal and waste-recycling problems that servers promised to resolve; with the work of memorizing resulting in more waste than usable products and without any reliable way to decide in advance which is which (which of the apparently useful products will soon fall out of fashion and which of the apparently useless will enjoy a sudden upsurge of demand), the chance of storing all information in containers kept at a safe distance from brains (where the stored information could, surreptitiously, take over control over behaviour) was a timely, tempting proposition.

In our volatile world of instant and erratic change, settled habits, solid cognitive frames and stable value preferences, those ultimate objectives of the orthodox education, become handicaps. At least they have been cast as such by the knowledge market, in which (as in all markets for all commodities) loyalty, unbreakable bonds and long-term commitments are anathema, so many hindrances to be forced out of the way. We have moved from the immutable maze modelled by behaviourists and the monotonous routine modelled by Pavlov into the open marketplace where anything may happen at any time yet nothing can be done once for all, and where successful steps are matters of luck and in no way guarantee another success if repeated. And the point to remember and appreciate in all its consequences is that in our times the market and the *mappa mundi et vitae* overlap. As Dany-Robert Dufour recently observed<sup>4</sup>

capitalism dreams not only of pushing . . . the territory in which every object is a commodity (water rights, genome rights, living species, babies, human organs . . .) to the



limits of the globe, but also of expanding it in depth to cover previously private affairs, once left to the individual charge (subjectivity, sexuality . . .) but now included in the merchandise.

And so we all are, most of the time and whatever our momentary preoccupations, sticklebacks exposed to conflicting and confusing signals. The bizarre behaviour of the male stickleback unsure where the boundaries separating contradictory behavioural patterns run is turning fast into the most common conduct of male and female humans. Responses tend to be as confused as the confusing signals are. In the absence of reliable precedents and tested patterns of behaviour, responses proceed as a rule in a trial-and-error fashion. Having pulled ourselves (mostly, like Baron Munchhausen, by our bootstraps) from one confusion, we immediately land in another. We do not learn much in the process, except the need to brace ourselves for more dubious, precarious situations and bear the consequences of new false steps. 'You are as good as your last success' – this is the life-wisdom in a world in which the rules change in the course of the game and few if any rules retain their value longer than it takes to learn and memorize them. Rates of success brought about by learned, drilled and routine responses fall rapidly; nowadays, the catchword is 'flexibility'. The ability to abandon present habits quickly becomes more important than the learning of new ones. We are all pressed to practise, as a norm, the life-style which Søren Kierkegaard, two centuries ago, found pathological in Don Giovanni: 'to finish quickly and start from the beginning'.

The trouble is that little, if anything, can be done about all that by the reform, however ingenious and thorough, of educational strategies alone. Neither the commonality of the stickleback's plight nor the sudden attraction of Don Giovanni's life-strategy can be laid at the door of educators and blamed on their faults or neglects. It is the world outside the school that has grown quite different from the kind of world for which schools, as described by Myers or Jaeger, used to prepare their graduates. In this new world, humans are expected to seek private solutions to socially generated troubles, not socially generated solutions to private troubles.

During the 'solid' phase of modern history, the setting for human actions was made to emulate, as far as possible, the pattern of the behaviourists' maze, in which the distinction between right and wrong itineraries was clear-cut and permanent, so that those who missed or rejected the right tracks were invariably punished on the spot, while those who followed them obediently and swiftly were rewarded. Massive Fordist factories and mass conscription armies, the two longest arms of panoptical power, were the fullest embodiments of that tendency to routinization of stimuli and responses. 'Domination' consisted of the right to set unbreakable rules, supervise their implementation, put those bound to follow the rules under continuous surveillance, bring the deviants back in line or expel them if the effort to reform failed. That pattern of domination required a constant mutual engagement of managers and the managed. In every panoptical structure there was a Pavlov who determined the sequence of moves and saw to it that it repeated itself monotonously, immune to any counter-pressures present or future. With the designers and supervisors of the panopticons guaranteeing the durability of settings and repetitiveness of situations and choices, it paid to learn the rules by heart and incorporate

them in deeply ingrained and automatically followed habits And 'solid' modernity was indeed the era approximating closely such closely managed and supervised, durable settings.

In the 'liquid' stage of modernity the demand is fast drying up for the orthodox managerial functions. Domination can be gained and assured with much less expenditure of effort, time and money, through the threat of disengagement or refusal to engage, rather than by obtrusive control and surveillance. The threat of disengagement shifts the *onus probandi* onto the other, dominated side. It is now up to the subordinates to behave in a way likely to find favour in the bosses' eyes and entice them to 'buy' their services and their individually designed 'products' – just as the other producers and traders seduce the prospective customers to desire the commodities put on sale. 'Following the routine' would not suffice to achieve that purpose. As Luc Boltanski and Eve Chiapello found out,<sup>5</sup> anyone who wants to succeed in the arrangement that has replaced the 'rat maze' kind of employment setting needs to demonstrate conviviality and communicative skills, openness and curiosity – offering for sale one's own person, the whole person, as a unique and irreplaceable value that would enhance the quality of the team. It is now up to the current or would-be employee to 'monitor oneself' in order to make sure that the performance is convincing and likely to be approved, and stay being approved in case the taste of the viewers change; it is not up to their bosses to smother the idiosyncrasies of their employees, homogenize their conduct and lock their actions within the stiff frame of routine.

The recipe for success is 'to be oneself', not 'like all the rest'. It is the difference, not the sameness, that sells best. Having knowledge and skills 'ascribed to the job' and already shown by others who did the work before or are applying for it now would not suffice; most likely, it would be considered a disadvantage. One needs instead unusual ideas, exceptional projects no one before suggested, and above all the cat-like inclination to walk one's own solitary ways. Such virtues are unlikely to be gleaned and learned from textbooks (except for ever more numerous handbooks defying the received knowledge and wisdom and mustering courage to go it alone). By definition, such virtues ought to be developed 'from inside', through letting free and expanding the 'inner forces' presumably hidden in the personality and waiting to be awoken and set to work.

This is the kind of knowledge (*inspiration* rather) that men and women of liquid-modern times covet. They want counsellors who show them how to walk, rather than teachers who make sure that only one road, and that already crowded, is taken. The counsellors they want, and for whose services they are ready to pay as much as it takes, should (and would) help them to dig into the depth of their character and personality, where the rich deposits of precious ore are presumed to lie clamouring for excavation. The counsellors would probably reproach the clients with sloth or negligence, rather than ignorance; they would proffer the 'how to' kind of knowledge, *savoir être* or *vivre*, rather than the 'know that' kind of knowledge, *savoir*, which orthodox educators wished to impart and were good at transmitting to their pupils. The current cult of 'lifelong education' is focused partly on the need to update the 'state of the art' professional information – but in an equal, perhaps greater, part yet it owes its popularity to the conviction that the mine of personality

is never exhausted and that spiritual masters, who know how to reach the yet unexploited deposits other guides could not reach or overlooked, are yet to be found – and will be found with due effort and enough money to pay for their services.

The triumphant march of knowledge through the world inhabited by modern men and women proceeded on two fronts. On the first, new yet unexplored territories of the world were invaded, captured, domesticated and mapped. The empire built thanks to the first front's advances was that of information meant to represent the world: at the moment of representation, the represented part of the world was assumed conquered and claimed for humans. The second front was that of education: it progressed by expanding the canon of education and stretching the perceptive and retentive capacities of the educated. On both fronts, the 'finishing line' of advance – the end of war – was clearly visualized from the start: all blank spots will be eventually filled, a complete *mappa mundi* drawn, and all the information necessary to move freely through the mapped world will be made available to the members of human species through the provision of the needed number of educational transmission channels.

The further the war progressed and the longer the chronicle of victorious battles became, the more the 'finishing line' seemed to recede. By now we are inclined to believe that the war was and is unwinnable, and on both fronts.

To start with, mapping of each freshly conquered territory seems to increase rather than diminish the size and number of blank spots, and so the moment of drawing a complete *mappa mundi* seems no more imminent. Besides, the world 'out there', once hoped to be incarcerated and immobilized in the act of representation, seems now to seep away from every recorded shape; a player (and a crafty and cunning player to be sure) in the game of truth, rather than the stake and the prize human players hoped to share. In Paul Virilio's vivid description, 'Today's world no longer has any kind of stability; it is shifting, straddling, gliding away all the time'.<sup>6</sup>

Even more seminal news comes however from the second, the distribution-of-knowledge, educational front. To quote Virilio once more<sup>7</sup> – 'The unknown has shifted position: from the world, which was far too vast, mysterious and savage' but into 'the nebular galaxy of the image'. The explorers who are willing to examine that galaxy in its entirety are few and far between, and those able to do so are even fewer. 'Scientists, artists, philosophers . . . we find ourselves in a kind of 'new alliance' for the exploration [of that galaxy]' – a kind of alliance which ordinary people could as well abandon all hope of ever joining. The galaxy is, purely and simply, unassimilable. Not so much the world of which the information tells, but the information itself has become the prime site of the 'unknown'. It is the information that feels 'far too vast, mysterious and savage'. It is the gigantic volumes of information vying for attention that ordinary men and women feel nowadays considerably more threatening than the few remaining 'mysteries of the universe', of interest solely to a small bunch of science addicts and an even smaller one of Nobel Prize contenders.

All things unknown feel threatening, but they prompt different reactions. The blank spots on the map of the universe arouse curiosity, spur into action and add determination, courage and confidence to the adventurous. They promise an interesting life of discovery; they augur a better future freed gradually from the life-poisoning nuisances. It is different with the impenetrable mass of information: it is

all here, available now and within reach, yet tauntingly, infuriatingly distant, obstinately alien, beyond hope of ever being grasped. The future is no more a time to look forward to: it will only magnify the present trouble, adding exponentially to the already stultifying and stifling mass of knowledge, barring the salvation it seductively offers. The sheer mass of knowledge on offer is the main obstacle to taking up the offer. It is also the main threat to confidence: surely there must be somewhere, in that awesome mass of information, an answer to the haunting problems, and so if the solutions fail to be found, self-deprecation and self-derision immediately and matter-of-factly follow.

It is the mass of accumulated knowledge that has become the contemporary epitome of disorder and chaos. In that mass all orthodox ordering devices – topics of relevance, assignment of importance, usefulness-determining needs and value-determining authorities – have been progressively sunk and dissolved. The mass makes its contents look uniformly colourless. In that mass, one may say, all bits of information flow with the same specific gravity, and for people who are denied the right to claim expertise for their own judgements but are buffeted by cross-currents of contradictory expert claims there is no way to sift the wheat from the chaff.

In the mass, the parcel of knowledge cut out for consumption and personal use can be evaluated by its quantity only; there is no chance of comparing its quality with the rest of the mass. One bit of information equals another. TV quizzes faithfully reflect that new appearance of human knowledge: for every right answer the same number of points is awarded to the contestant, regardless of the topic of the questions.

Assigning importance to various bits of information, and even more assigning more importance to some than to others, is perhaps the most perplexing task and the most difficult decision to take. The sole rule of thumb one can be guided by is momentary topical relevance, but then the relevance shift from one moment to another and the assimilated bits lose their significance as soon as they have been used. Like other commodities in the market, they are for instant, on-the-spot and 'one off' use.

Education in the past took many forms and proved able to adjust itself to changing circumstances, setting itself new goals and designing new strategies. But let me repeat – the present change is not like the past changes. At no turning-points of human history did educators face a challenge strictly comparable to the one the contemporary watershed presents. Simply, we have not been in such a situation ever before. The art of living in a world over-saturated with information has still to be learned. And so has the even more difficult art of grooming humans for such a living.

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## Notes

1. Edward D. Myers, *Education in the Perspective of History*, New York, Harper 1960, p. 262.
2. Richard Sennett, *The Corrosion of Character*, London, W. W. Norton 1998, p. 62.

3. cf. Werner Jaeger, *Paidea, Die Formung des griechischen Menschen*, Berlin, Walter de Gruyter 1958.
4. Dany-Robert Dufour, 'Malaise dans l'éducation', *Le Monde diplomatique*, November 2001, p. 11.
5. Luc Boltanski and Eve Chiapello, *Le nouvel esprit du capitalisme*, Paris, Gallimard 1999, p. 171.
6. 'From modernism to hypermodernism and beyond', in *Virilio Live: Selected Interviews*, edited by John Armitage, London, Sage 2001, p. 40.
7. Interview with Jérôme Sans, in *ibid.*, p. 118.