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The school as we know it is not a law of nature. It is a design — one made in the nineteenth century, refined by industrial logic, and inherited almost unchanged by every generation since. We were born into it, and so were our parents, and theirs before them. Its rhythms, the bell, the desk, the grade, the exam. Feel as inevitable as the seasons. But inevitability is not the same as necessity. What has been designed can be redesigned. What has been built can be questioned. What has been inherited does not have to be kept.

This book gathers voices that have looked at that design with clear eyes: philosophers and psychologists, researchers and teachers, radicals and reformers, some writing decades apart and some in the same year, some from inside the institution and some from well outside it. What they share is a refusal to take the school's own terms for granted — a refusal to ask only whether schools are working, without first asking what, exactly, they are working for.

The texts collected here do not agree on everything. Some want to tear the system down; others want to build something better inside it. Some speak from data, others from experience, and a few from the unsettling place where both meet. There are those who believe children are being failed by a lack of rigour, and those who believe rigour itself is the failure. There are those who have built alternatives and watched them flourish, and those who have documented, quietly and carefully, the small daily damage that conventional schooling does to the people it claims to serve.

But together these voices form a map of the questions that official education discourse tends to avoid, questions about power, about creativity, about what children actually need, and about who the school is really for. The debate we usually have about education, about test scores, about standards, about which method works best, takes the institution itself as a given. These texts do not. They ask the prior question: what is this place, and why does it exist in the form it does?

The point is not nostalgia for something that never was, nor a fantasy of a school without structure or difficulty. It is something harder and more necessary than that: an honest reckoning with a system that shapes, in the most formative years of human life, how people learn to think, how they learn to fail, and whether they learn to love the act of knowing at all. A system can only be reimagined once it has been honestly seen.



GUERRERO, S., VALENCIANO-VALCARCEL, J. & RODRÍGUEZ, A. (2024)
UNVEILING ALTERNATIVE SCHOOLS: A SYSTEMATIC REVIEW

The structure of the typical contemporary classroom does not differ substantially from the most widespread and commonly known version in use since the introduction of mass schooling. Most classrooms today continue to function structurally and conceptually as they did a century ago, with a teacher at the front and students as listeners; the former presents content and the latter study it at the same time and with the same material (usually a textbook), to be later assessed and graded, with the score as a criterion of the extent to which something has been learnt.

IT HAS TO BE BUILT UP
AS MUCH AS IT NEEDS
TO BE TORN DOWN
BRICK BY BRICK.

HAROUNI, H. (2013) — "A QUESTION OF SILENCE": WHY WE
DON'T READ OR WRITE ABOUT EDUCATION.

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HAROUNI, H. (2013) — “A QUESTION OF SILENCE” WHY WE DON’T READ OR WRITE ABOUT EDUCATION

Nothing in the public debate on schooling suggests that education matters. Whether test scores do or don’t measure learning; whether schools should be privatized; whether Wikipedia will replace the teacher; whether we will ever escape Algebra; whether we can measure the ways in which kids of color “fail” or “succeed” on exams; whether to teach like a “champion”, a “guide”, or a “pirate”; whether the arts are a right or a privilege: all these questions owe their importance to the system of schooling that turned them into questions in the first place. The entire debate keeps folding back onto itself. It takes its own parameters for granted. The more one asks such self-referential questions (without, say, asking what on earth sets “success” apart from “failure”), the more one contributes to the education system as is—a system that has stagnated for seven generations.

It’s a bloody mess trying to distinguish a trivial discourse on education from a significant one (whereas in most other areas of culture, to make such a distinction is just a plain mess). This is because no matter the state of the discussion, we know that education matters. The evidence of its importance is derived not from books but from lived experience. Education matters because seven hours a day, five or six days a week, people sit in classrooms; because there is real confusion and anger about why schools teach what they teach; because working class students and students of color are attacked by a compulsory system that purports to serve them; because succeeding in school often entails forfeiting the right to develop integrity; because it seems there have been more school shootings in the last twenty years than school walk-outs; because, whether it ever pans out or not, education carries the promise of grace, intelligence, and social behavior, et cetera, et cetera.

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Let’s be clear, though—the promise of grace and so on does not justify the existence of the modern education system. Philosophers of education (e.g., John Dewey) do a bang-up job of hiding their complacency behind idealistic cants on the potential of schooling. It endears them to educators. However, the only factor that can perhaps justify the existence of schools as distinct spaces is the absolute dissolution of communities in urban areas. There are no communities of adults—even of children—to raise a human being during the ten or so hours that most parents are away, working. As you can see, even this is a self-referential argument. Public schools have played their own significant part in destroying communities.

If in recent years one type of writing has managed to at least hint at the genuine problem in education, it is the adolescent fantasy novel. Most popular specimens of that genre feature a school as their main character. Harry Potter’s success has more to do with Hogwarts (the school) than with Harry and Hermione. The structuring desire of every novel of this sort is the same: a well-resourced school that offers a meaningful education. The anxiety that eventually takes over the story is also the same: that the school will turn out to be just as authoritarian, just as banal and arbitrary as its real-life counterparts. Amazing in how many novels the heroes have to first run away from the school and then return to burn the building down to the ground. Also fascinating that at the end, the school is triumphantly rebuilt to be... exactly what it was before.

The lack of imagination evident in these narratives reflects the lack of real-world alternatives. In the real-world fantasylands of schooling (e.g., Finland, Cuba, Massachusetts) education looks more or less the same as it does everywhere else. In short, the system is missing—or ignores—its real antithesis, its own real death. Without that counter-argument, educational writing loses focus. Educationalists present schooling as being in a constant state of crisis. Ignoring for a second the obvious fact that without a crisis most educationalists would be out of a job—i.e., closing our eyes to their vested interest in the problem’s persistence—what does this crisis consist of? Apparently, the failure of schools to do what they are supposed to do. But what are they supposed to do? What is their purpose? And why should we stand behind their purpose? This is the line of inquiry that—can you believe it—is ignored.



GUERRERO, S., VALENCIANO-VALCARCEL, J. & RODRÍGUEZ, A. (2024)
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Several authors agree on certain characteristics that may define a typical conventional school: 1) the central role is that of the teacher, who is physically located in front of the students; 2) the number of students in the classroom is typically large and relationships with teachers are not particularly close; 3) the content is focused on knowledge that is not very meaningful to children; 4) it is based on rules, the aim of which is to maintain calm, control and structure in the classroom; 5) autonomy and the expression of adventurous options are limited: the teacher tends to present tasks whose resolution involves a single answer that is marked as correct; 6) the activities and grading system encourage competition, rather than cooperation, between pupils.

Let's just say that you can't get compelling literature out of a mind that is not interested in compelling itself. However, the problems of educational literature are not limited to untempered careerism. Education poses some special difficulties of its own.

A fundamental problem is that education demands a scientific foothold for practice, and yet science has rarely been able to offer much help. Things get complicated because good teaching is basically an art and deals with human capacities such as love, respect, honor, wonder, community, and all those other fine things on which science remains quite speculative and rudimentary.

Don't be confused. Schooling, in its current form, is primarily neither a science nor an art. It's a public service industry, and a traditional one to boot. When educationalists talk about "science", they are often talking about industrial analysis. No one can say clearly what constitutes the "product" or the "service" in this case—and any concentrated attempt would arrive at some inhumane conclusions. But imprecision does not frustrate these measurements. Most educational research relies on measuring imaginary "products". These are simple and preferably quantifiable representations—test scores being the most common example.

This type of quantitative research is occasionally very useful as a critical tool—it exposes imbalances and deficiencies. However, when it comes to practical solutions, the only thing this type of research can help with is measuring efficiency and effectiveness (it's an administrative tool through and through). The problem is that in education most imbalances were caused precisely by the administrative attitude that underlies quantitative research: a desire for efficiency, the denial of social complexities, the willingness to eradicate real relationships from human situations and replace them with codified interactions, and the viewing of individuals as isolated statistical bodies.

HAROUNI, H. (2013) — “A QUESTION OF SILENCE” WHY
WE DON’T READ OR WRITE ABOUT EDUCATION

In education, as in other industries, every intervention will have to be subject to quantitative evaluation, and eventually the evaluation will end up reshaping the intervention in its own image.

Let me describe with an example. Quantitative research has shown that low-income children lose some of their literacy skills during the summer vacation (something any teacher who is allowed more than a year with the same group of kids would already be aware of). So far, so good to know. But for years now, some researchers have been trying to figure out if it’s a good idea to give books to children who don’t have books at home and so don’t get to read when they leave for the summer. You can already see the problem: is it ever a bad idea to give books to kids who can’t afford them? There is no ethics involved here other than the ethics of efficiency. The measuring rod in this research is standardized test scores. It’s a randomized trial. Some kids get books, others don’t: will their scores differ? But remember that what causes kids to not learn to read—something that they do perfectly well if only they are put in a social environment that values reading—is precisely the constant mindless measuring of their skills.

Because what are these books that the kids are taking home? Not the books you loved reading as a kid, or any book that a child would choose on her own—they are instead the “age-graded” asinine booklets that Texas publishing houses pump out and school districts lap up. The very same books that are written to make quantitative measurement easier. The very same that turned kids away from reading in the first place. This project has been awarded over sixteen million dollars in public money. It now has the resources to really exacerbate the problem it studies.

All this is to suggest that educational discourse needs critical theory in order to overcome its own solipsism. Radicalism conjures a set of contradictions that—unlike those I have discussed so far—are not internal to the institution of schooling.

Consider in this light the pussyfooting in contemporary education literature around the issue of skill and labor. Conservatives, who have always been more honest than liberals, hold that there is little correspondence between what children learn in school and what they need in the job market. Specifically, they mean that future workers learn too much, too freely, while future managers and technicians learn too little, too rigidly.

The strict setting of working class schools trains kids to look at work as something-other that descends upon them—like foul weather or a heavy blow—that must be reckoned with and endured; it is a chore to be knocked out as quickly as possible. Middle-class schools present work as a project to be performed. Upper-class kids are trained to look for their own meaning in self-initiated work, and so on. The lack of imagination evident in these narratives reflects the lack of real-world alternatives. In the real-world fantasylands of schooling (e.g., Finland, Cuba, Massachusetts) education looks more or less the same as it does everywhere else. In short, the system is missing—or ignores—its real antithesis, its own real death. Without that counter-argument, educational writing loses focus. Educationalists present schooling as being in a constant state of crisis. Ignoring for a second the obvious fact that without a crisis most educationalists would be out of a job—i.e., closing our eyes to their vested interest in the problem’s persistence—what does this crisis consist of? Apparently, the failure of schools to do what they are supposed to do. But what are they supposed to do? What is their purpose? And why should we stand behind their purpose? This is the line of inquiry that—can you believe it—is ignored.

HOBLEN, T. (2024) — THE CHALLENGES OF THE
PUBLIC EDUCATION SYSTEM

Teachers receive students who are two, three, and four years behind in reading and mathematics but are still expected to teach grade-level material. How, then, should teachers determine mastery? How, then, should he or she issue grades fairly? This has many implications, notably that student grades and graduation rates do not accurately represent student performance.

Moreover, discipline inside public schools is out of control. Students are not held to a standard of behavior by the school system, at least not one the average person would agree to. Worse, schools self-report discipline, so they are incentivized to underreport discipline issues. Out-of-school suspensions and expulsions are all but unheard of. They wouldn't make the district look very good now, would they? So where are all the unruly, ungovernable students sent after they've mistreated other students and their teachers? Right back to class, with a warning.

Is it any wonder we're experiencing a national teacher shortage? Our educators are suffering in a system that requires them to continue to grin and bear it, over and over again, year after year.

Parents are dissatisfied and would prefer an alternative to their current educational situation. Many do not compare their schools to others — why would they, if they feel they have no choice? Transparency is a real problem; the public doesn't have a clear picture of performance or discipline. And you can add to that list that they are frequently kept in the dark about curriculum and instructional materials and most certainly do not have the wherewithal to attempt to understand district budgets, convoluted as they are.

YouTube is awash with school board meeting recordings of parents demanding to know what curriculum is being taught in their schools, what books are being placed in school libraries, and what professional development is being purchased for teachers. Why do they have to show up at school board meetings to get this information? Should the schools not be willing to freely share it with those they serve, those whose tax dollars the entire enterprise relies on?

Teachers are stressed beyond belief, and families are dissatisfied and want better options because they lack confidence that their students are graduating with the necessary preparation to enter college or the workforce. And no one can figure out exactly how the billions in taxpayer dollars are being spent.



LILLARD, A.S. (2021) — MONTESSORI AS AN ALTERNATIVE EARLY CHILDHOOD EDUCATION

In typical schools, they “make learning difficult for children by trying to teach them by means of grown-up methods; the natural and happy way for children to learn, however, is by touching and moving solid objects, not by trying to memorize rules.” In the Montessori system of education, children play with hands-on materials in order to learn academic content. In this sense, Montessori education is play.

Conventional school as originally conceived is very structured; the teacher sets the agenda, and children are taken through a schedule and curriculum that is specified from minute to hour to school year. In highly structured classrooms, children typically sit in desks, facing the teacher, listening or reading from designated textbooks.

THE CLASSROOM BELONGS TO THE CHILDREN, NOT THE ADULTS.

ZAVALA, J.G. (2022) — MONTESSORI SCHOOLS: HOW AND WHY DO THEY IMPACT STUDENT RELATIONSHIPS AND COMMUNICATION SKILLS?

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We are pushing the limits of children's adaptability. We have pushed children into an abnormal environment, where they are expected to spend ever greater portions of their day under adult direction, sitting at desks, listening to and reading about things that don't interest them, and answering questions that are not their own and are not, to them, real questions. We leave them ever less time and freedom to play, explore, and pursue their own interests.

I'm an evolutionary developmental psychologist. That means that I study child development from a Darwinian perspective. I'm particularly interested in those aspects of children's nature that equip them to learn, on their own initiatives, what they must in order to survive and do well in the culture into which they are born. Stated differently, I am interested in the biological foundations of education. To this end, I have studied education as it occurred in the original kinds of human societies, hunter-gatherer societies, where there was nothing like schools, and children always took charge of their own learning. I have also studied education as it currently occurs at a remarkable alternative school near my home in Massachusetts, where hundreds of children and adolescents have educated themselves successfully through self-directed activities, with no adult-imposed curriculum or testing. In addition, I have looked at education in families that practice a version of homeschooling called "unschooling," and I have looked deeply into and contributed to the biological and psychological research on the functions of play.

All of this work tells a remarkably consistent and surprising story, a story that defies modern, mainstream beliefs about education. Children are biologically predisposed to take charge of their own education. When they are provided with the freedom and means to pursue their own interests, in safe settings, they bloom and develop along diverse and unpredictable paths, and they acquire the skills and confidence required to meet life's challenges. In such an environment, children ask for any help they may need from adults. There is no need for forced lessons, lectures, assignments, tests, grades, segregation by age into classrooms, or any of the other trappings of our standard, compulsory system of schooling. All of these, in fact, interfere with children's natural ways of learning.

This is a book about children's natural instincts to educate themselves, about the environmental conditions required for those instincts to operate optimally, and about how we, as a society, can provide those conditions at far less expense than what we currently spend on schools. The drive to play is a huge part of children's natural means for self-education, so a portion of this book is about the power of play.

KOHN, A. (1994) — THE RISKS OF REWARDS

Many educators are acutely aware that punishment and threats are counterproductive. Making children suffer in order to alter their future behavior can often elicit temporary compliance, but this strategy is unlikely to help children become ethical, compassionate decision makers. Punishment, even if referred to euphemistically as “consequences,” tends to generate anger, defiance, and a desire for revenge. Moreover, it models the use of power rather than reason and ruptures the important relationship between adult and child.

Of those teachers and parents who make a point of not punishing children, a significant proportion turn instead to the use of rewards.

As with punishments, the offer of rewards can elicit temporary compliance in many cases. Unfortunately, carrots turn out to be no more effective than sticks at helping children to become caring, responsible people or lifelong, self-directed learners.

Research and logic suggest that punishment and rewards are not really opposites, but two sides of the same coin. Both strategies amount to ways of trying to manipulate someone’s behavior—in one case, prompting the question, “What do they want me to do, and what happens to me if I don’t do it?”, and in the other instance, leading a child to ask, “What do they want me to do, and what do I get for doing it?” Neither strategy helps children to grapple with the question, “What kind of person do I want to be?”

Rewards are no more helpful at enhancing achievement than they are at fostering good values. At least two dozen studies have shown that people expecting to receive a reward for completing a task (or for doing it successfully) simply do not perform as well as those who expect nothing. This effect is robust for young children, older children, and adults; for males and females; for rewards of all kinds; and for tasks ranging from memorizing facts to designing collages to solving problems. In general, the more cognitive sophistication and open-ended thinking that is required for a task, the worse people tend to do when they have been led to perform that task for a reward.

In one representative study, young children were introduced to an unfamiliar beverage called kefir. Some were just asked to drink it; others were praised lavishly for doing so; a third group was promised treats if they drank enough. Those children who received either verbal or tangible rewards consumed more of the beverage than others did, as one might predict. But a week later these children found it significantly less appealing than they did before, whereas children who were offered no rewards liked it just as much as, if not more than, they had earlier. If we substitute reading or doing math or acting generously for drinking kefir, we begin to glimpse the destructive power of rewards. The data suggest that the more we want children to want to do something, the more counterproductive it will be to reward them for doing it.

Deci and Ryan (1985) describe the use of rewards as “control through seduction.” Control, whether by threats or bribes, amounts to doing things to children rather than working with them.

If the question is “Do rewards motivate students?”, the answer is, “Absolutely: they motivate students to get rewards.” Unfortunately, that sort of motivation often comes at the expense of interest in, and excellence at, whatever they are doing.



HOLT, J. (1964) — HOW CHILDREN FAIL

I have mentioned Emily, who spelled “microscopic” MINCOPERT. She obviously made a wild grab at an answer, and having written it down never looked at it, never checked to see if it looked right. I see a lot of this one-way, don’t-look-back-it’s-too-awful strategy among students. Emily in particular has shown instances of it so striking that I would like you to know about them.

Some time after the spelling test in question I wrote MINCOPERT on the blackboard. Emily and one other student—a good speller, interestingly enough—said that it was supposed to be “microscopic.” Everyone found this very amusing, including Emily. She is a child who shows in her voice, look, coloring, and gestures much of what she is thinking and she has not shown the least indication that she knows she is the creator of MINCOPERT. In fact, her attitude suggests that she rejects scornfully the idea that she would ever be so foolish as to spell the word in such a way.

This child must be right. She cannot bear to be wrong, or even to imagine that she might be wrong.

When she is wrong, as she often is, the only thing to do is to forget it as quickly as possible. Naturally she will not tell herself that she is wrong, it is bad enough when others tell her. When she is told to do something, she does it quickly and fearfully, hands it to some higher authority, and awaits the magic word right or wrong. If the word is right, she does not have to think about that problem anymore; if the word is wrong, she does not want to, cannot bring herself to think about it.

Children in school are like children at the doctor’s. He can talk himself blue in the face about how much good his medicine is going to do them; all they think of is how much it will hurt or how bad it will taste. Given their own way, they would have none of it.

So the valiant and resolute band of travelers I thought I was leading toward a much-hoped-for destination turned out instead to be more like convicts in a chain gang, forced under threat of punishment to move along a rough path leading nobody knew where and down which they could see hardly more than a few steps ahead. School feels like this to children: it is a place where they make you go and where they tell you to do things and where they try to make your life unpleasant if you don’t do them or don’t do them right.

HOLT, J. (1964) — HOW CHILDREN FAIL

For children, the central business of school is not learning, whatever this vague word means; it is getting these daily tasks done, or at least out of the way, with a minimum of effort and unpleasantness. Each task is an end in itself. The children don't care how they dispose of it. If they can get it out of the way by doing it, they will do it; if experience has taught them that this does not work very well, they will turn to other means, illegitimate means, that wholly defeat whatever purpose the task giver may have had in mind.

Most children in school fail.

For a great many, this failure is avowed and absolute. Close to forty percent of those who begin high school, drop out before they finish. For college, the figure is one in three.

Many others fail in fact if not in name. They complete their schooling only because we have agreed to push them up through the grades and out of the schools, whether they know anything or not. There are many more such children than we think. If we "raise our standards" much higher, as some would have us do, we will find out very soon just how many there are. Our classrooms will bulge with kids who can't pass the test to get into the next class.

But there is a more important sense in which almost all children fail: Except for a handful, who may or may not be good students, they fail to develop more than a tiny part of the tremendous capacity for learning, understanding, and creating with which they were born and of which they made full use during the first two or three years of their lives.

Why do they fail?

They fail because they are afraid, bored, and confused.

They are afraid, above all else, of failing, of disappointing or displeasing the many anxious adults around them, whose limitless hopes and expectations for them hang over their heads like a cloud.

They are bored because the things they are given and told to do in school are so trivial, so dull, and make such limited and narrow demands on the wide spectrum of their intelligence, capabilities, and talents.

They are confused because most of the torrent of words that pours over them in school makes little or no sense. It often flatly contradicts other things they have been told, and hardly ever has any relation to what they really know—to the rough model of reality that they carry around in their minds.

HOLT, J. (1967) — HOW CHILDREN LEARN

My seventeen-month-old niece caught sight of my ballpoint pen the other day, and reached out for it. It has a plastic cap that fits over the point. She took hold of it, and after some pushing and pulling, got the cap off. After looking it over, she put it back on. Then off again, then on again. A good game! Now, if I want to be able to use my pen, I have to keep it out of sight, for when she sees it, she wants to play with it. She is so deft in putting it back on that it makes me wonder about all I've read about the lack of coordination in infants and the imprecision of their movements. Under the right circumstances—when they are interested—they may be much more skillful than we think.

These quiet summer days I spend many hours watching this baby. What comes across most vividly is that she is a kind of scientist. She is always observing and experimenting. She is hardly ever idle. Most of her waking time she is intensely and purposefully active, soaking up experience and trying to make sense out of it, trying to find how things around her behave, and trying to make them behave as she wants them to.

In the face of what looks like unbroken failure, she is so persistent. Most of her experiments, her efforts to predict and control her environment, don't work. But she goes right on, not the least daunted. Perhaps this is because there are no penalties attached to failure, except nature's. A baby does not react to failure as an adult does, or even a five-year-old, because she has not yet been made to feel that failure is shame, disgrace, a crime. Unlike her elders, she is not concerned with protecting herself against everything that is not easy and familiar; she reaches out to experience, she embraces life.

Watching this baby, it is hard to credit the popular notion that without outside rewards and penalties children will not learn. There are some rewards and penalties in her life; the adults approve of some things she does, and disapprove of others. But most of the time she lives beyond praise or blame, if only because most of her learning experiments are unobserved. After all, who thinks about the meaning of what a baby is doing, so long as she is quiet and contented? But watch a while and think about it, and you see that she has a strong desire to make sense of the world around her. Her learning gives her great satisfaction, whether anyone else notices it or not.

This idea that children won't learn without outside rewards and penalties, or in the debased jargon of the behaviorists, "positive and negative reinforcements," usually becomes a self-fulfilling prophecy. If we treat children long enough as if that were true, they will come to believe it is true. So many people have said to me, "If we didn't make children do things, they wouldn't do anything." Even worse, they say, "If I weren't made to do things, I wouldn't do anything."

It is the creed of a slave.

When people say that terrible thing about themselves, I say, "You may believe that, but I don't believe it. You didn't feel that way about yourself when you were little. Who taught you to feel that way?" To a large degree, it was school.



GRAY, P. (2013) — FREE TO LEARN

Children are biologically designed to learn through self-directed play and exploration. The evolutionary argument is straightforward: for hundreds of thousands of years, human children learned everything they needed to know through their own play, curiosity, and social interactions with others. Formal schooling is a recent invention, and there is no reason to believe that it has replaced—or improved upon—the natural learning capacities that evolved over millennia.

At the Sudbury Valley School, where students of all ages are completely free to decide how to spend their time, research has found that graduates go on to successful lives in higher education, careers, and personal relationships despite—or because of—never having followed a curriculum or taken a test. The key properties of such environments are intrinsic motivation (learning for its own sake rather than for external rewards), personal control over the learning process, and the absence of external evaluation.

These are precisely the properties that conventional schooling lacks.

“WE ARE FACED WITH THE PARADOXICAL FACT THAT EDUCATION HAS BECOME ONE OF THE CHIEF OBSTACLES TO INTELLIGENCE AND FREEDOM OF THOUGHT.”

BERTRAND RUSSELL, SCEPTICAL ESSAYS, 1928

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These are precisely the properties that conventional schooling lacks.

ZAVALA, J.G. (2022) — MONTESSORI SCHOOLS: HOW AND WHY DO THEY IMPACT STUDENT RELATIONSHIPS AND COMMUNICATION SKILLS?

For a large part of the day, children are engaged in self-directed learning and are free to utilize their classroom, peers, and teachers as needed to foster their understanding of a topic. At least three hours are given each day for children to do independent work. As opposed to being strictly directed by a teacher, students are given the opportunity to take in new information and learn at their own pace. In fact, students are frequently encouraged to act as teachers for each other, whether that be by presenting information they've learned to a group or just helping a peer with something they may be struggling with.

Montessori instructors pay special attention to each student, making sure to introduce them to new topics when they believe they are ready or interested, but making sure to let students come to conclusions and work things out independently.

Contrary to the majority of conventional schools, Montessori programs mainly employ a system in which students are placed in the same class for multiple years, with age groupings spanning three or four years. This type of classroom setup where children stay with certain instructors and peers for more than one year is also known as looping. The multi-age aspect of the classrooms also encourages children of different ages to work together, with older children potentially functioning as models for their younger classmates.

Montessori classrooms are usually supplied with a range of materials specifically designed by Maria Montessori to teach different concepts. These materials are displayed on low, organized, and open shelves that children can easily access. The materials are usually organized based on difficulty, and students use the materials in a way that lets them progress through the understanding of a topic first in a more concrete way, and later in a way that is more abstract. Many of these materials are self-correcting, meaning that the child can frequently figure out their own errors without the intervention of a teacher.

Children in Montessori classrooms are also much less likely to receive grades, though in some schools children can choose to receive grades, and tests are fairly uncommon in these programs. Montessori believed the motivation to be a good student should come from intrinsic factors, mainly an innate love for learning and the "respect for self, others, and the environment."

The Montessori environment not only works to develop the academic skills of children, specifically reading and math, but it also attempts to produce strong practical life skills and cultural knowledge in students. Students take responsibility in caring for the classroom environment, helping to clean the classroom, prepare for meals, and even create classroom rules and events in later years.

A key part of Montessori is really allowing the children to ground themselves in the space. The classroom belongs to the children, not to the adults.



LILLARD, A.S. & ELSE-QUEST, N. (2006) — EVALUATING MONTESSORI EDUCATION

On several dimensions, children at a public inner city Montessori school had superior outcomes relative to a sample of Montessori applicants who, because of a random lottery, attended other schools. By the end of kindergarten, the Montessori children performed better on standardized tests of reading and math, engaged in more positive interaction on the playground, and showed more advanced social cognition and executive control. They also showed more concern for fairness and justice. At the end of elementary school, Montessori children wrote more creative essays with more complex sentence structures, selected more positive responses to social dilemmas, and reported feeling more of a sense of community at their school.

At least when strictly implemented, Montessori education fosters social and academic skills that are equal or superior to those fostered by a pool of other types of schools.



LILLARD, A.S. (2012) — PRESCHOOL CHILDREN'S DEVELOPMENT IN CLASSIC MONTESSORI, SUPPLEMENTED MONTESSORI, AND CONVENTIONAL PROGRAMS

Children in Classic Montessori programs gained an average of 11.28 points in Letter-Word Identification, whereas children in Supplemented Montessori programs gained an average of 5.61 points and children in Conventional programs gained an average of 5.90 points across the school year. On the Head-Toes-Knees-Shoulders test of executive function, children in Classic Montessori programs gained an average of 13.72 points, whereas children in Supplemented Montessori programs gained on average 7.34 points, and those in Conventional programs 7.85 points. The results show a better performance in children from alternative schools or no differences with their counterparts in conventional schools.



DOHRMANN, K.R. ET AL. (2003) — OUTCOMES FOR STUDENTS IN A MONTESSORI PROGRAM

Students who had participated in the Montessori program significantly outperformed the Peer Control group on Math/Science scores. Attending a Montessori program from the approximate ages of three to eleven predicts significantly higher mathematics and science standardized test scores in high school. This result was found five to seven years after the students had exited the Montessori programs and enrolled in traditional public schools.



LILLARD, A.S. (2021) — MONTESSORI AS AN ALTERNATIVE EARLY CHILDHOOD EDUCATION

The lower income half of the sample that went to Montessori performed significantly worse than the higher income half at age 3, caught up to a degree by age 4, and was no longer significantly lower than higher income children in the study at age 5. By contrast, the lower income children at business as usual schools remained significantly poorer in performance throughout preschool.

While racial disparities still exist in Montessori schools, they show a large reduction in disproportion of punishment compared to matched traditional schools. Although Black children were still two to three times more likely to be suspended than White children in Montessori schools, their counterparts in traditional schools were six to seven times more likely.

“PLAY IS THE
HIGHEST
FORM OF
RESEARCH.”

— ALBERT EINSTEIN

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WOODS, P., ASHLEY, M. & WOODS, G. (2005)
STEINER SCHOOLS IN ENGLAND

The premise from which Steiner education starts is that “each human being comprises body, soul and spirit.” Education is meant to be part of the process whereby “the spiritual core of the person [strives] to come ever more fully to expression within and through the organism he or she has inherited and must individualise.” Integral to Steiner school education is encouragement of balanced growth towards “physical, behavioural, emotional, cognitive, social and spiritual maturation.”

Steiner pedagogy recognizes “willing” (the control of limbs and bodily movement), “feeling” (the affective domain of the aesthetic and emotional senses), and “thinking” (the cognitive domain of rational thought). Willing dominates pedagogy up to age seven when learning by imitation is very important. Between 7 and 14, children learn through their aesthetic senses, whilst from 14 upwards attention is given to the rapidly awakening senses of reason.

Possibly the most distinctive single element of Steiner education is the two hour main lesson that is held at the beginning of each day. The purpose of the main lesson is to allow sustained concentration on a topic for a significant block of time—ideally one month.



NEILL, A.S. (1960) — SUMMERHILL:
A RADICAL APPROACH TO CHILD REARING

My view is that a child is innately wise and realistic. If left to himself without adult suggestion of any kind, he will develop as far as he is capable of developing. Logically, Summerhill is a place in which people who have the innate ability and wish to be scholars will be scholars; while those who are only fit to sweep the streets will sweep the streets. But we have not produced a street cleaner so far. Nor do I write this snobbishly, for I would rather see a school produce a happy street cleaner than a neurotic scholar.

What is Summerhill like? Well, for one thing, lessons are optional. Children can go to them or stay away from them—for years if they want to. There is a timetable—but only for the teachers.

Summerhill is possibly the happiest school in the world. We have no truants and seldom a case of homesickness. We very rarely have fights. I seldom hear a child cry; because children when free have much less hate to express than children who are downtrodden. Hate breeds hate, and love breeds love. Love means approving of children, and that is essential in any school. You can't be on the side of children if you punish them and storm at them. Summerhill is a school in which the child knows that he is approved of.

The British Government Inspectors reported: "The children are full of life and zest. Of boredom and apathy there was no sign. An atmosphere of contentment and tolerance pervades the School." Yet the report also noted that the children's achievements in conventional subjects were "rather meager" compared to mainstream schools—though they also noted that when children decided to take exams, they generally passed.



ROBINSON, K. (2006)
DO SCHOOLS KILL CREATIVITY? (TED TALK)

Good morning. How are you? It's been great, hasn't it?

There have been three themes running through the conference which are relevant to what I want to talk about. One is the extraordinary evidence of human creativity in all of the presentations we've had. The second is that we have no idea what's going to happen in terms of the future. No idea how this may play out.

I have an interest in education. Actually, everybody has an interest in education. Partly it's because education is meant to take us into this future that we can't grasp. If you think of it, children starting school this year will be retiring in 2065. Nobody has a clue what the world will look like in five years' time, yet we're meant to be educating them for it. The unpredictability is extraordinary.

The third part is that we've all agreed on the really extraordinary capacities that children have—their capacities for innovation. All kids have tremendous talents. We squander them, pretty ruthlessly.

So I want to talk about education and I want to talk about creativity. My contention is that creativity now is as important in education as literacy, and we should treat it with the same status.

I heard a great story recently of a little girl who was in a drawing lesson. She was six, at the back, drawing. The teacher said this little girl hardly ever paid attention, but in this drawing lesson she did. The teacher went over to her and asked, "What are you drawing?" The girl said, "I'm drawing a picture of God." The teacher said, "But nobody knows what God looks like." The girl said, "They will in a minute."

A child's confidence in their own capacity for creativity is striking. And if you don't believe me, just watch a young child at play. They are not afraid to be wrong. Now, I don't mean to say that being wrong is the same thing as being creative. But what we do know is that if you're not prepared to be wrong, you'll never come up with anything original. By the time they get to be adults, most kids have lost that capacity. They have become frightened of being wrong. We run our companies like this. We stigmatize mistakes. And we're now running national education systems where mistakes are the worst thing you can make. The result is that we are educating people out of their creative capacities.

Picasso once said that all children are born artists. The problem is to remain an artist as we grow up. I believe this passionately—that we don't grow into creativity, we grow out of it. Or rather, we get educated out of it.

Why is this? I lived in Stratford-on-Avon until about five years ago. We moved from Stratford to Los Angeles. You can imagine what a seamless transition that was. We lived in a place called Snitterfield, just outside Stratford, where Shakespeare's father was born. You don't think of Shakespeare having a father, do you? You don't think of Shakespeare being a child, do you? Shakespeare being seven? He was seven at some point. He was in somebody's English class. How annoying would that be?



ROBINSON, K. (2006)
DO SCHOOLS KILL CREATIVITY? (TED TALK)

I'm focused on this because I think it's a very interesting question: why is it that we don't get the best out of people? I grew up in Liverpool. There's a famous group of Liverpool musicians who went to a school called Liverpool Institute—the school I went to—and they had a band called The Beatles. That's not a bad band, is it? So why is it that Paul McCartney, John Lennon, George Harrison, and Ringo Starr came out of one school? Because the school had no music program. It was an academic school. It's a question about the nature of creativity.

I believe our only hope for the future is to adopt a new conception of human ecology, one in which we start to reconstitute the richness of human capacity. Our education system has mined our minds the way we strip-mine the earth: for a particular commodity. For the future, it won't serve us. We have to rethink the fundamental principles on which we're educating our children.

There was a wonderful study done recently of divergent thinking—the capacity to see lots of possible answers to a question, lots of possible ways of interpreting a question. They did this test with 1,500 kindergarten children. These children scored at the genius level—98% of them. When they were re-tested five years later, at age ten, that number had dropped to 50%. When they were re-tested five years after that, at age fifteen, it had dropped to 10%. What this tells us is that we all have this capacity, but we are educated out of it.

Now, I know a lot of people feel they don't have this capacity. But I promise you, you do. You just haven't used it. The reason is that our education systems are based on a hierarchy of subjects—math and languages at the top, humanities in the middle, and arts at the bottom. Within the arts, there's another hierarchy: music and art are higher up, drama and dance lower down. There isn't a school system on the planet that teaches dance every day to children the way we teach them mathematics. Why not? I think it's because as children grow up, we start to educate them from the waist up. And then we focus on their heads. And slightly to one side.

If you were to visit education as an alien and ask what it's for, I think you'd have to conclude—looking at who succeeds by this system, who gets the best grades, who are the winners—that the whole purpose of public education throughout the world is to produce university professors. I used to be one, so there you go.

I like university professors, but we shouldn't hold them up as the high-water mark of all human achievement. They're just a form of life, another form of life. There's something curious about professors—not all of them, but typically—they live in their heads. They live up there, and slightly to one side. They're disembodied. They look upon their body as a form of transport for their heads. It's a way of getting their head to meetings.

ROBINSON, K. (2006)
DO SCHOOLS KILL CREATIVITY? (TED TALK)

Our education system is predicated on the idea of academic ability. There's a reason. The whole system was invented in the 19TH century to meet the needs of industrialism. So the hierarchy is rooted in two ideas.

Number one: the most useful subjects for work are at the top. You were probably steered benignly away from things you liked at school on the grounds that you would never get a job doing that. Don't do music, you're not going to be a musician; don't do art, you're not going to be an artist. Benign advice—now, profoundly mistaken. The whole world is engulfed in a revolution.

Number two: academic ability has come to dominate our view of intelligence, because the universities designed the system in their image. The whole system of public education around the world is a protracted process of university entrance. By the time you get to the top, they've sold you the idea that academic ability is the measure of your worth. We can't afford to go on that way anymore.

We have to learn to be creative. We have to learn that creativity is not a single thing; it's a process. And we have to learn how to foster it. I believe we have to change our whole conception of intelligence. There are three things I'd like to say about intelligence.

First, it's diverse. We think about the world in all the ways we experience it—visually, in sound, kinesthetically, in abstract terms, in movement.

Second, intelligence is dynamic. The brain is wonderfully interactive. Creativity—the process of having original ideas that have value—more often than not comes about through the interaction of different disciplinary ways of seeing things.

Third, intelligence is distinct.

There was a great study done of a woman named Gillian Lynne. She was a choreographer for *Cats* and *Phantom of the Opera*. She was a dancer. When she was at school, she was really hopeless. The school wrote to her parents saying, "We think Gillian has a learning disorder." She couldn't concentrate; she was always fidgeting.

So they took her to a doctor. The doctor interviewed her for twenty minutes, then asked to speak to her mother alone. He turned on the radio and said, "Just watch her." They left the room, and Gillian immediately got up and started moving to the music. The doctor turned to her mother and said, "Your daughter isn't sick. She's a dancer."

He recommended she go to dance school. She did. She went on to become one of the most successful choreographers in the world.

What this tells us is that Gillian Lynne found her element. Our task in education is to help children find theirs. The only way we'll do that is to radically rethink our view of intelligence and to recognize the creative capacities of all children.

Thank you.



GRAY, P. (2013) — FREE TO LEARN (LESSONS FROM SUDBURY VALLEY)

In the early to mid-1960s, Daniel Greenberg was a young professor, first in physics and then in history, at Columbia University and a rising star in the newly developing field of history of science. Everyone who knew him predicted a long, stellar academic career. Greenberg was also a popular teacher, and it was teaching that got him thinking about something that seemed even more important than the new translation of Aristotle he had been working on. Undergraduates claimed they loved his courses, but he couldn't help but observe the passive approach they took to their studies. Here, even in this Ivy League school, students taking physics or history seemed motivated to get the highest grades rather than to truly learn. This observation led him to help found Sudbury Valley School, where students of all ages are free to decide how to spend their time, with no curriculum, no grades, and no required classes.

GRAY, P. (2013) — FREE TO LEARN (THE HUMAN EDUCATIVE INSTINCTS)

On January 29, 1999, Sugata Mitra, then science director of an educational technology firm in India, initiated a fascinating experiment on children's capacity for self-education. He turned on a computer he had installed on an outside wall of the building where he worked, facing one of the poorest slums in New Delhi—a community where most children were unschooled and illiterate, and had never previously seen a computer. Mitra turned the computer on, left it on, and told the children who crowded around that they could play with it. He then used a permanently installed video camera to monitor activity around the computer.

Children, mostly between the ages of seven and thirteen, immediately began to explore this odd installment, which looked to them like some kind of television set. They touched some of the parts and, by accident, discovered that if they moved a little device on the computer, something happened on the screen. Within hours, they had taught themselves how to use the mouse to navigate around the computer. Within days, they had found the paint program and were drawing on the screen, had opened various other programs, and had taught each other the names of things in English. Within weeks, they had taught themselves to browse the internet, to download and play games, to send and receive email, and to use the computer for a variety of other functions. They did all of this without any adult instruction. They learned because they were curious and because the computer was there for them to explore.

This is the power of self-directed learning when the environment provides the right tools and freedom.



ILLICH, I. (1971) — DESCHOOLING SOCIETY

Universal education through schooling is not feasible. It would be no more feasible if it were attempted by means of alternative institutions built on the style of present schools. Neither new attitudes of teachers toward their pupils nor the proliferation of educational hardware or software (in classroom or bedroom), nor finally the attempt to expand the pedagogue's responsibility until it engulfs his pupils' lifetimes will deliver universal education. The current search for new educational funnels must be reversed into the search for their institutional inverse: educational webs which heighten the opportunity for each one to transform each moment of his living into one of learning, sharing, and caring.

Many students, especially those who are poor, intuitively know what the schools do for them. They school them to confuse process and substance. Once these become blurred, a new logic is assumed: the more treatment there is, the better are the results; or, escalation leads to success. The pupil is thereby "schooled" to confuse teaching with learning, grade advancement with education, a diploma with competence, and fluency with the ability to say something new. His imagination is "schooled" to accept service in place of value. Medical treatment is mistaken for health care, social work for the improvement of community life, police protection for safety, military poise for national security, the rat race for productive work. Health, learning, dignity, independence, and creative endeavor are defined as little more than the performance of the institutions which claim to serve these ends, and their improvement is made to depend on allocating more resources to the management of hospitals, schools, and other agencies in question.

In these essays, I will show that the institutionalization of values leads inevitably to physical pollution, social polarization, and psychological impotence: three dimensions in a process of global degradation and modernized misery. I will explain how this process of degradation is accelerated when nonmaterial needs are transformed into demands for commodities; when health, education, personal mobility, welfare, or psychological healing are defined as the result of services or "treatments."

ILLICH, I. (1971) — DESCHOOLING SOCIETY

Not only education but social reality itself has become schooled. It costs roughly the same to school both rich and poor in the same dependency. Rich and poor alike depend on schools and hospitals which guide their lives, form their world view, and define for them what is legitimate and what is not. Both view doctoring oneself as irresponsible, learning on one's own as unreliable, and community organization, when not paid for by those in authority, as a form of aggression or subversion. For both groups the reliance on institutional treatment renders independent accomplishment suspect. The progressive underdevelopment of self- and community-reliance is even more typical in Westchester than it is in the northeast of Brazil. Everywhere not only education but society as a whole needs "deschooling."

The poor have always been socially powerless. The increasing reliance on institutional care adds a new dimension to their helplessness: psychological impotence, the inability to fend for themselves. Modernized poverty combines the lack of power over circumstances with a loss of personal potency. This modernization of poverty is a world-wide phenomenon, and lies at the root of contemporary underdevelopment.

The paradox of the schools is evident: increased expenditure escalates their destructiveness at home and abroad. This paradox must be made a public issue. It is now generally accepted that the physical environment will soon be destroyed by biochemical pollution unless we reverse current trends in the production of physical goods. It should also be recognized that social and personal life is threatened equally by HEW pollution, the inevitable byproduct of obligatory and competitive consumption of welfare.

Equal educational opportunity is, indeed, both a desirable and a feasible goal, but to equate this with obligatory schooling is to confuse salvation with the Church. School has become the world religion of a modernized proletariat, and makes futile promises of salvation to the poor of the technological age. The nation-state has adopted it, drafting all citizens into a graded curriculum leading to sequential diplomas not unlike the initiation rituals and hieratic promotions of former times.

Two centuries ago the United States led the world in a movement to disestablish the monopoly of a single church. Now we need the constitutional disestablishment of the monopoly of the school, and thereby of a system which legally combines prejudice with discrimination. The first article of a bill of rights for a modern, humanist society would correspond to the First Amendment to the U.S. Constitution: "The State shall make no law with respect to the establishment of education." There shall be no ritual obligatory for all.



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The success of disciplinary power derives no doubt from the use of simple instruments; hierarchical observation, normalizing judgement and their combination in a procedure that is specific to it, the examination.

The examination combines the techniques of an observing hierarchy and those of a normalizing judgement. It is a normalizing gaze, a surveillance that makes it possible to qualify, to classify and to punish. It establishes over individuals a visibility through which one differentiates them and judges them. That is why, in all the mechanisms of discipline, the examination is highly ritualized. In it are combined the ceremony of power and the form of the experiment, the deployment of force and the establishment of truth. At the heart of the procedures of discipline, it manifests the subjection of those who are perceived as objects and the objectification of those who are subjected. The superimposition of the power relations and knowledge relations assumes in the examination all its visible brilliance.

“IT IS, IN FACT, NOTHING SHORT OF A MIRACLE THAT THE MODERN METHODS OF INSTRUCTION HAVE NOT YET ENTIRELY STRANGLED THE HOLY CURIOSITY OF INQUIRY.”

— ALBERT EINSTEIN, AUTOBIOGRAPHICAL NOTES, 1949

FOUCAULT, M. (1977) — DISCIPLINE AND PUNISH (PART III, CHAPTER 2: THE MEANS OF CORRECT TRAINING)

The chief function of the disciplinary power is to “train,” rather than to select and to levy; or, no doubt, to train in order to levy and select all the more. It does not link forces together in order to reduce them; it seeks to bind them together in such a way as to multiply and use them. Instead of bending all its subjects into a single uniform mass, it separates, analyses, differentiates, carries its procedures of decomposition to the point of necessary and sufficient single units. It “trains” the moving, confused, useless multitudes of bodies and forces into a multiplicity of individual elements—small, separate cells, organic autonomies, genetic identities and continuities, combinatory segments. Discipline “makes” individuals; it is the specific technique of a power that regards individuals both as objects and as instruments of its exercise.

The success of disciplinary power derives no doubt from the use of simple instruments; hierarchical observation, normalizing judgement and their combination in a procedure that is specific to it, the examination.

The examination combines the techniques of an observing hierarchy and those of a normalizing judgement. It is a normalizing gaze, a surveillance that makes it possible to qualify, to classify and to punish. It establishes over individuals a visibility through which one differentiates them and judges them. That is why, in all the mechanisms of discipline, the examination is highly ritualized. In it are combined the ceremony of power and the form of the experiment, the deployment of force and the establishment of truth. At the heart of the procedures of discipline, it manifests the subjection of those who are perceived as objects and the objectification of those who are subjected. The superimposition of the power relations and knowledge relations assumes in the examination all its visible brilliance.

FOUCAULT, M. (1977) — DISCIPLINE AND PUNISH (PART III, CHAPTER 2: THE MEANS OF CORRECT TRAINING)

The examination introduced a whole mechanism that linked to a certain type of the formation of knowledge a certain form of the exercise of power.

1. The examination transformed the economy of visibility into the exercise of power. Traditionally, power was what was seen, what was shown and what was manifested. Those on whom it was exercised could remain in the shade; they received light only from that portion of power that was conceded to them, or from the reflection of it that for a moment they carried. Disciplinary power, on the other hand, is exercised through its invisibility; at the same time it imposes on those whom it subjects a principle of compulsory visibility. In discipline, it is the subjects who have to be seen. Their visibility assures the hold of the power that is exercised over them. It is the fact of being constantly seen, of being able always to be seen, that maintains the disciplined individual in his subjection. And the examination is the technique by which power, instead of emitting the signs of its potency, instead of imposing its mark on its subjects, holds them in a mechanism of objectification.

2. The examination also introduces individuality into the field of documentation. The examination that places individuals in a field of surveillance also situates them in a network of writing; it engages them in a whole mass of documents that capture and fix them. The procedures of examination were accompanied at the same time by a system of intense registration and of documentary accumulation. A "power of writing" was constituted as an essential part in the mechanisms of discipline.

3. The examination, surrounded by all its documentary techniques, makes each individual a "case": a case which at one and the same time constitutes an object for a branch of knowledge and a hold for a branch of power. The case is no longer, as in casuistry or jurisprudence, a set of circumstances defining an act and capable of modifying the application of a rule; it is the individual as he may be described, judged, measured, compared with others, in his very individuality; and it is also the individual who has to be trained or corrected, classified, normalized, excluded.

The examination as the fixing, at once ritual and "scientific," of individual differences, as the pinning down of each individual in his own particularity clearly indicates the appearance of a new modality of power in which each individual receives as his status his own individuality, and in which he is linked by his status to the features, the measurements, the gaps, the "marks" that characterize him and make him a "case."

Finally, the examination is at the centre of the procedures that constitute the individual as effect and object of power, as effect and object of knowledge. It is the examination which, by combining hierarchical surveillance and normalizing judgement, assures the great disciplinary functions of distribution and classification, maximum extraction of forces and time, continuous genetic accumulation, optimum combination of aptitudes and, thereby, the fabrication of cellular, organic, genetic and combinatory individuality. With it are ritualized those disciplines that may be characterized in a word by saying that they are a modality of power for which individual difference is relevant.





The research in this book is not new.

John Holt documented what school does to curiosity in 1964. Ivan Illich named what school is actually for in 1971. Alfie Kohn demonstrated what grades do to learning in 1993. Ken Robinson described what is lost in the process in 2006. The systematic reviews confirm what the philosophers argued. The neuroscience confirms what the teachers already knew.

None of it has changed the school.

The classroom looks the same as it did a century ago. The grade looks the same. The timetable, the examination, the graduation ceremony — all of it intact. Not because the evidence is weak. Because the school is not primarily an educational institution. It is, as this research makes clear, an institution for sorting, credentialling, and producing people accustomed to being evaluated by others.

That function it performs very well.

The question this book cannot answer — the one the research raises and then leaves open is what a school would look like if it were designed for the other thing. For learning rather than sorting. For revision rather than completion. For curiosity rather than compliance.

That question is the subject of the next document.



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