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The Manufacturing Metaphor

Framing the Issue

Jonathan Kozol, in *The Shame of the Nation: The Restoration of Apartheid Schooling in America*, his critique of American public education, writes of the contemporary influence of big business in school curriculum and instruction.[1] Kozol insightfully documents the ways in which business thinking narrows the curriculum and diminishes learning opportunities for children. This sad reality would be unfortunate enough if it were a recent phenomenon, but it is not. Business thinking has dominated American public schooling since at least the dawn of the Industrial Revolution. As Kozol illuminates its contemporary form, historians David Tyack and Larry Cuban, in their seminal work, *Tinkering toward Utopia: A Century of Public School Reform*, track it through the decades of the twentieth century, naming its various incarnations.[2]

Despite its harmful effects, business thinking, or, what we will call the manufacturing metaphor, has dominated discourse about public schooling for decades, and it continues unabated. The challenge for contemporary school leaders, as has been the challenge for many years, is to, somehow, effectively shift the language of schools to terms that are more appropriate to the learning of children and more constructive to the pursuit of public education in a democratic society.

To gain insight into this challenge, we begin by looking at two thoughtful school leaders and the successful steps they take to hold the manufacturing metaphor at bay, even though the schools they lead are situated in the heart of a manufacturing community, surrounded by other school systems and a state bureaucracy that are enamored with the manufacturing metaphor. As contemporary as these issues may feel, the "case in point" that focuses this chapter falls in the late nineteenth century. The story that follows, in almost all ways, could be the tale of a modern school system, maybe one just like yours. The fact that it took place over 100 years ago allows us to see the *whole* story from beginning to end. Such omniscience, impossible in the schools we inhabit today, since their stories are yet unfolding, is one of the great attractions of

history as a source of knowledge about contemporary challenges. We get to see how it turned out for others, thereby allowing us to avoid their mistakes and build on their successes.

Case in Point

For an extended moment in the 1870s and 1880s, a powerfully thoughtful impulse took hold of the Quincy, Massachusetts, schools. At a time when Boston schools and those of the communities within its orbit were succumbing to the intellectually numbing forces of mechanization and mass production, the schools of Quincy managed to resist the gravitational pull and, for a period, provided the pupils in their care with a nurturing and an intellectually stimulating environment.

Why, at a time when public schools were sadly falling in line with the industrial machine, did Quincy buck the trend? What are the forces that helped sustain the Quincy movement for as long as it lasted? What are the forces that tended to erode it? Finally, what implications do events in Quincy relatively long ago carry for contemporary school leaders seeking to infuse schools and school systems with thoughtful instructional practice and improved learning opportunities for their students?

The Adams family (of presidential renown) was, throughout the nineteenth century, a powerful force in local Quincy affairs where their family home stood. In the 1870s, their energies converged on the School Committee, with elder brother John Quincy Adams Jr. serving as chairman and younger brother Charles Francis Adams Jr. winning election to the committee in 1872. The event that seems to have catalyzed the Adams's interest in the schools beyond merely overseeing them in the accustomed patrician manner was a new examination system established by fellow committeeman Henry Farnum Smith. In 1872, Smith proposed that the School Committee assume direct control of the end-of-term oral examination of students, formerly conducted by teachers. The impetus for this action seems to have been a general disappointment among committee members with the poor performance of students in their school exhibitions.

The committee's new policy was essentially an end run around the teaching staff, and committee members seem to have taken some delight in the procedure. In the memoir of a teacher who worked in Quincy at that time, we learn "how the Adamses seemed to enjoy questioning pupils in American history, when they found any able to think and to express what they know in an original, natural manner. But oh, what frowns were cast on the class when most of them answered in single words or in the stilted sentences of the text-book."[3]

But committee members were not merely interested in outmaneuvering the teachers or catching students performing poorly. They sought, rather, to

infuse the school system with a habit of original thought. Their dismay at rote "text-book" answers was therefore great.

Smith's examination system gave the committee members a direct window on student learning and confirmed what they had suspected about the poor quality of education in the school system. Their lack of enthusiasm for the school system's work comes across in the annual report they submitted in 1873:

> A retrospect of ten years will discover no very remarkable results. Ten years ago, so far as we remember, the children read and wrote and spelled about as well as they do to-day; and the fundamental rules of arithmetic were as thoroughly taught then as now. And at present, as in the past, most of the pupils who have finished the grammar course neither speak nor spell their own language very perfectly, nor read and write it with that elegance which is desirable. This immobility seems to show that a point has been reached which is near the natural term of such force as our present system of schooling is calculated to exert.[4]

In contemporary terms, we would say that the Quincy School Committee was after transformative change, that is, not merely improvement of outcomes for existing standards but a whole new set of standards on which to base student learning.

The true depth of their disappointment, not only with the Quincy schools but Massachusetts common schools in general, is signaled unreservedly by Charles Adams in a retrospective essay he composed several years later. "The school year has become one long period of diffusion and cram, the object of which is to successfully pass a stated series of examinations. This leads directly to superficiality. Smatter is the order of the day."[5] Adams's lament could easily be uttered, verbatim, by any principal or superintendent today faced with the strictures of the No Child Left Behind Act (NCLB) and the standardized testing mania that it is breeding in our schools.

If "superficiality" and "smatter" were the order of the day, then Charles Adams claimed to know where such thinking came from, namely, the mechanistic, highly centralized, batch process mentality of his increasingly industrial society, "the last new theory, so curiously amplified in some of our larger cities, that vast numbers of children should be taught as trains on a railroad are run, on a time-table principle,—that they are here now, that they will be at such another point to-morrow, and at their terminus at such a date;—while a general superintendent sits in his central office and pricks off each step in the advance of the whole line on a chart before him . . ."[6]

How familiar this all sounds to the contemporary ear! Substitute the railroad metaphor with the top-down accountability movement currently in vogue with

the Federal Department of Education and its counterparts at the state level and everything else fits: children taught on a timetable principle, vast numbers of them expected to all be at the same place at the same moment, while the commissioners of education sit in their central office pricking off each step!

Adams's reference to railroads was no casual allusion, as he had spent ten years (1869–1879) as a railroad commissioner for Massachusetts.[7] He was well acquainted with the industry. What is curious is that, contrary to many leaders of his day, he did not adopt the ethos of clocklike efficiency, mechanization, and centralized control so essential to the rail industry as the guiding ethos for social/institutional organization in general or for schooling in particular. In contemporary terms, it would be as if the chairman of the board of Wal-Mart stores said that schools should not in any way emulate the business model advanced by Wal-Mart. Although "clocklike efficiency" was, for Adams, a reasonable way to run a railroad, it was not a reasonable way to organize a school.

This conscious distancing from the industrial method says much about who Adams was. Though situated historically in the full current of the Industrial Revolution, his psyche seems to have been rooted in a preindustrial, eighteenth-century, agrarian America. While he acknowledged and even admired the power and efficiency of the factory system and the railroad in the production and distribution of goods, he seems wisely to have drawn a line between the ways of nineteenth-century commerce and the means of good schooling. Although most of us who work in schools today did not grow up on farms or in rural, pastoral settings, we can still draw on the agrarian metaphors that guided Adams's way of thinking about education. With our modern knowledge of ecology, we can more deeply appreciate the notions of interdependence, complexity, and developmentalism that both the preindustrial, agrarian worldview and a contemporary ecological worldview support. (We will say more about this later.)

Not surprisingly, Adams's view of the world in this regard stood at odds with that of most school committee members of his day. All around him, school committees, peopled most often by white men who led local businesses, fully embraced centralization, bureaucracy, clock-based efficiency, and orderliness not just as values in the industrial workplace but as ideals for their schools as well. To such men striving to be "modern," the values and practices of the industrial workplace were the wave of the future and needed as quickly as possible to be adopted by all social institutions, including the schools.

Again, how utterly familiar that school board members, who work by day in organizations guided largely by business practices, would suggest with knowing authority that, *of course, this is how one should also run a school.* The corollary also applies: *It's no wonder the school is failing, since it is not being guided by sound business principles!* And the corollary of the corollary applies too: *What this place needs is a good CEO to come in and bust heads!*

Adams and his older brother did not share this view. There existed, therefore, the possibility that if thoughtful leadership emerged within the schools, it would not be sabotaged and, indeed, might find warm support from the local school committee. Such leadership appeared serendipitously in the person of Francis W. Parker.

In 1875, the School Committee advertised for the newly created position of "superintendent" of the Quincy schools. The notion of a superintendency had grown increasingly popular in the Massachusetts schools of the time, and the Adamses, while not embracing the industrial order as the means to good schooling, nonetheless saw merit in the idea of a hired expert to organize the schools. Parker, recently returned from university study in Berlin and jobless, answered the ad in person and immediately impressed the School Committee, which had been unimpressed with previous candidates.[8] He was quickly hired and became the first superintendent of the Quincy schools.

There was a strong compatibility between Charles Adams and Francis Parker. Both were from old- line Yankee stock, and both appeared to have been psychically rooted in a rural, agrarian America. Although Adams was a blue blood, while Parker had grown up in relative poverty in New Hampshire, they had come to a similar place in their feelings about schools. Charles Adams, schooled at Boston Latin and Harvard, imagined that schooling ought to be conducted in the way he had experienced it, and that the results in the schoolchildren should be similar too. This meant small classes with lots of individual attention, capable teachers, and a pedagogy that nurtured the intellect. Parker, influenced by his own experiences as a young schoolmaster in New Hampshire and Ohio, had discovered early that children respond better to lessons that appeal to their curiosity and humor and are rooted in their own experiences. He found his instincts affirmed in his studies in Berlin, where it is likely that he read Pestalozzi and Froebel.

The strength of the alignment between the Adamses and Parker is borne out by the success of Parker's first major policy move as superintendent in 1876, which was, surprisingly, to *shorten* the school year. Upon his inspection of the schools, he had become concerned by the level of truancy. While he could have chosen to hire more truancy officers and stiffen the penalty for unexcused school absences, he instead reasoned that pupils were weary from a school term that wore on longer than they could endure. He, therefore, shortened the school year from forty-three to forty weeks and created a trimester school year. Just imagine, a superintendent of a medium-size city today suggesting that students might learn better if the required days of attendance were reduced! It clearly makes no sense if one's assumption is that seat time equals educational achievement—the more time your butt is in a chair, the more knowledge your head will fill up with. The longer you run the production process, the more parts you can fasten onto the frame. While this, sadly, is the dominant ethos in our own times, with

strident calls for a longer school day, a longer school year, less recess, and more "time on task," Parker's thinking was driven by a different set of assumptions. Among these were (1) children who are tired will not learn well; (2) learning seeded in schools may germinate and grow while children are elsewhere. This was not to dismiss the importance of time as an important factor in school organization. It was, rather, to understand it rightly among the full array of factors that ought to be considered in the equation that is school.

Thus Superintendent Parker reported in his first Annual Report to the School Committee in early 1876, "The shortening of the school year, and its division into three terms, with vacations at the close of each, has, I think, remedied this difficulty [truancy] . . ."[9] This single act and its warm acceptance by the School Committee are an extraordinary signal of the progressive instincts that drove both Parker and his committee. This was not a superintendent who wanted his workers at the factory for extended hours; Parker was, rather, an individual who understood children and sought to enhance their learning through an appeal to their developmental needs. A sharp rise in average daily attendance, which in 1874 hovered at 77 percent and by 1876 had rocketed to 95 percent, suggests that the innovation was having a positive impact.[10] Such data suggest, too, that even in terms of "time on task," Parker's solution was effective, since the number of days actually attended by children during his shortened school year exceeded the number of days attended under the previous (longer) school year.

Improved attendance may have been due also to changes in classroom instruction, which Parker inspired in his teachers. Parker's pedagogy did not embrace the industrial metaphor for learning, that is, a product assembly approach in which facts and subjects are attached to the child's mind (understood as inert) like parts to a frame. Instead, children were rightly understood to possess intelligence and imagination. Charles Adams reported the following:

The old "dame school" disappeared at once. In place of it appeared something as different as light from darkness. The alphabet itself was no longer taught. In place of the old, lymphatic, listless "school marm," pressing into the minds of tired and listless children the mystic significance of certain hieroglyphics by mere force of over-laying, as it were,—instead of this time-honored machine-process, young women, full of life and nervous energy, found themselves surrounded at the blackboard with groups of little ones who were learning how to read almost without knowing it;—learning how to read, in a word, exactly as they had before learned how to speak, not by rule and rote and by piecemeal, but altogether and by practice.[11]

> Straying farther still from the industrial ideal, Parker also altered student promotion policy to reflect the individualistic pace of student growth. Doing away with once-a-year exams, students were

encouraged to demonstrate readiness for the next level at any time. Parker wrote in the 1876 report to the School Committee, "Pupils are promoted whenever it is found, by examination, that they are well fitted to do the work of the next class above, without regard to the number of years they have attended school."[12]

In these pedagogical moves, we see how, at the instructional level, as well as the organizational level, Parker, with the Adamses' support, embraced a different way of thinking, a way of thinking attuned to the developmental needs of children, the varying rates of speed at which children show readiness for new concepts, and the organic way in which learning arises from the interface between experience and imagination. It's no wonder John Dewey called Parker the father of progressive education! How many of us who work in schools see children and learning essentially in this way also, and yet we allow ourselves to be overwhelmed by the language and culture of mechanization. We ought to take our cue from Parker, who faced an equal, if not a more potent, mix of mechanistic forces and was determined to rise above them in the interest of authentic learning.

Parker's departure from mechanistic thinking apparently had an enduring impact on the Quincy school system as an analysis of student age by grade level conducted by one of Parker's successors in 1888 (nearly a decade following Parker's departure from Quincy) showed an age range of four to eight years for each grade level from "Primary D" (first year of school), where students ranged from age five to ten, to "First Class," with students as young as fifteen and as old as twenty.[13]

While sensitivity to child development of the sort that Parker demonstrated is crucial to thoughtful schooling, all the sensitivity in the world will come to naught if a school leader fails to attend to public opinion. Long before the Bill Clinton campaign realized "It's about the economy, stupid," Francis Parker recognized that he would be granted enormous running room if he demonstrated tangible restraint in spending the townspeoples' tax dollars.

Sensitive to the overriding budgetary concerns of the community, Parker strategically reduced per pupil spending each of the five years that he presided as superintendent. The School Committee's Report of 1881 shows that spending declined steadily from $23.19 per pupil in 1875 to $20.81 in 1880, Parker's last year.[14]

Budgetary constraints represented possibly Parker's greatest practical challenge to the effective enactment of a thoughtful pedagogy, since close attention to individual pupils requires an ample complement of teachers. The challenge was met with the establishment of a teacher training school, which infused the schools with a cadre of no-cost "assistants." This innovation seems to have resulted in an average class size in the Quincy schools that was markedly

less than many of its contemporaries. A superintendent from Lawrence, Massachusetts, commented at a meeting of New England superintendents in 1879 on the "reasonable number of scholars, say 10 or 12, constituting a class" in the Quincy schools, which he compares to "50 or 60 . . . too often the case in New England."[15] A visitor in 1883 corroborates: "normal girls in nearly every room as volunteer assistants."[16] The impact on classroom learning must have been enormously positive, as the student-teacher ratio sank apparently as low as one-fourth of that of other New England school districts. At the same time, the low cost of the "assistants" did not strain the budget.

The popularity of Parker's training school grew with the increasing notoriety of Parker's work, greatly easing the effort to bring in more teachers. B. G. Northrop, secretary of the Connecticut Board of Education, commented in 1883 that "the celebrity given to the [Quincy] schools . . . attracted many pupil-teachers, volunteering to teach that they might thus learn the methods. In this way it was easy to divide each school into small groups of ten or twelve, and secure the constant activity of every child, and an unusual amount of individual teaching."[17]

Contemporary school leaders would do well to note Parker's entrepreneurial behavior, if not the specifics of his solutions. While teacher training may not be the way to reduce class size in every school or district, Parker's strong determination to achieve his vision against what, at the time, must have appeared to be overwhelming obstacles is an inspiration. When we are faced with seemingly insurmountable barriers to thoughtful schooling (NCLB, lock-tight collective bargaining agreements, dysfunctional school boards, etc.), we will do well to consider what we might still do with the hand we are dealt instead of whining about our fate. Though whining is often justified, and sometimes therapeutic, it is rarely constructive.

The success of Parker's efforts seems to have been due in no small measure to Parker's personal charm. One contemporary wrote, "What does he do? How does he do it? He actually superintends,—not by means of reports and blanks and orders from the office, but by being a living presence in every school-room; and, more than that, by being a living power in the thinking of his teachers by his philosophical training-work with them."[18] Another commentator wrote, ". . . we see in Quincy a beautiful development of freedom and inventiveness in the teacher, which comes from the familiar and human way in which these methods are put to them by their superintendent."[19] In fact, contemporary appraisals of Parker create the portrait of a man who was robust, energetic, optimistic, good-humored, and gentle with children—a natural teacher and leader of teachers. As late as 1900, even as Parker's ideas had slipped nationally from the spotlight, a twenty-fifth anniversary celebration of Parker's arrival in Quincy prompted a page-one story in the *Quincy Patriot* that lionized Parker as civil war hero, transformer of classrooms, child prodigy, you name it.[20] The celebration

was sponsored not by the School Committee or the municipal government but, interestingly, by the Quincy Teachers Association, bearing testimony to Parker's enduring appeal among the women and men he had led.

Hearing about these charismatic qualities that Parker possessed, some of us might despair that our own tepid "personal charm" falls far short, and that if one of the job requirements for effective leadership is amazing charisma, then we may as well fold up our tent. If it were really about that elusive thing we call charisma, then tent-folding would be exactly the right move, but if we examine the particulars of Parker's actions, what emerges looks less like magic and more like the simple application of sound, widely recognized leadership principles. Consider, for a moment, what Parker actually did. Parker's success with his teachers was due perhaps in part to the departure of those he did not get along with. While school committees of the day seem to have made a habit of complaining about teacher turnover (perhaps as a way of explaining the disappointments they felt with their schools), Quincy also experienced its share of steady turnover throughout Parker's superintendency.[21] Whether teachers were leaving out of dislike for Parker's ways or reasons unrelated, their departure, together with the rising notoriety of the Quincy schools, ensured that with each year, Parker's teachers were ever more enthusiastically behind their leader, as with each year the percentage of the staff personally hired by Parker grew.

Parker was as popular with the community as he was with the teachers. Far more the populist than either of the Adamses could ever hope to be, he was admired by the working-class families of Quincy's stone-cutting industry as a man of humble origin, heroism in battle (he was, after all, a wounded veteran officer of the Civil War), and "hard-knocks" education. His very persona communicated credibility with townspeople, and he was, to at least some extent, active in town affairs outside of the schools.[22]

An additional crucial ingredient in the Quincy success was the promotional work carried out by Charles Adams. An already established public commentator on issues of the day, Adams became a public relations machine for Parker and what he called "the new departure" in Quincy. In the spring of 1879, he presented a speech for the Association of School Committees and Superintendents of Norfolk County, Massachusetts, which was reprinted elsewhere and became widely referenced as "The Quincy Method," gaining a national reputation. The highly influential Adams also saw to it that articles were placed prominently in newspapers in New York, Boston, and Chicago, often writing the articles himself. The *New England Journal of Education*, the leading professional journal of the day, shows fourteen citations for either "Parker, F. W." or "Quincy" during the period 1879–1880. For a single (noncity) school district to attract that many citations in a single publication is remarkable.[23]

Notoriety for the Quincy schools seems to have reached a peak in 1880 and 1881. Some 13,000 visitors observed classes in Quincy's six school buildings

in 1881 alone. While visitors remained a regular feature of school life after that, by 1885, the number of visitors had fallen to (a mere!) 5,271.[24]

Parker's departure in 1880 as the Quincy schools were riding the crest of a wave of popularity was prompted by an offer of more money and the likelihood of greater influence as a supervisor in the Boston school system. After five years of stunning success in Quincy, Parker likely felt he had completed a job well done and yearned to move on.

At the heart of the Quincy success was a pedagogy that embraced a humane, organic view of child development that stood starkly at odds with the mechanistic, batch-production mentality of the day. More than a pedagogy, it was a fundamental *anschauung*, asserting that people and human institutions are fundamentally different from widgets and widget production. Adams and Parker together asserted this view from their positions of leadership in both large and small matters, day in and day out. In sum, a liberal idealism prevailed in Quincy against all popular trends due to the presence of a capable, liberal-mindedschool leader who had the backing of a powerful, aristocratic dynasty.

Larger Lessons

Well over 100 years ago, the school leaders of an industrial community prevailed over the dominant industrial mind-set and fashioned schools attuned to the natural learning inclinations of children. Today we face surprisingly similar challenges. How we address these challenges, or fail to, will determine the extent to which our schools and our students are able to grow and flourish. In what follows, we step inside the contemporary dilemmas of three educators as they navigate three different realms—the classroom, the faculty room, and a public meeting. Industrial thinking has made a deep mark at all levels of the system, on our students, on ourselves as educators, and in the public mind. These three scenarios are illustrations, likely all too familiar, of the challenges we face. They also serve as an opportunity to explore how we may counter the dominant culture.

Classroom Encounters

Fresh from a wonderful, inspiring, professional development program, you return to your classroom to try out a new idea. The technique you have learned is designed to elicit student opinions—and their reasoning—on an issue of importance. It takes the figurative question, "Where do you stand?" and gives it literal meaning by having students get up out of their chairs and stand on a line marked across the front of the room, with one end of the line representing one opinion on the issue and the other end representing the opposite opinion

(capital punishment is an appropriate consequence for certain crimes; capital punishment is wrong). Students stand at one end or the other or somewhere in between, representing where on the continuum their opinions lie. Volunteers then offer their views and their thinking.

This activity worked marvelously well in the practice session with all of the teachers participating in the workshop. They heard views different from their own, listened respectfully to a range of opinions, and were encouraged to change their positions on the line if they felt "moved" by something someone else said. Your understanding of the issue and your awareness of and sensitivity to your fellow citizens were deepened. You saw how people with divergent views might begin to move toward consensus. New and contextualized knowledge was constructed socially, in the moment. It was a great experience.

Excitedly, you explain the activity to your class, framing the issue and the two opinions represented by the two ends of the continuum. You invite your young charges to come to the front of the room and "take a stand." This is where the activity begins to fall apart. Students are reluctant to get out of their seats. Several eye each other warily, as if to say, you go first, or as if to ask, where are you gonna stand? Slowly, the established opinion leaders rise and move to the front. With defiant looks, the leaders move to places on the line—mostly at the extreme ends—and stamp their feet into position with purpose and preparedness—as if for an assault. Others follow, representing a clear pecking order of social hierarchy within the student culture. Concerned, but undeterred, you press on. The group is standing in silence. You ask Richard, standing jauntily at one end, to talk about why he is standing where he is. Unsure what tone to adopt, he falls into a mock bravado. In the midst of Richard's comment, Jason, at the other end of the continuum, makes a taunting remark. There are titters up and down the line. Side conversations sprout here and there. You try to restore order: "It's important that we listen to one another." You are largely ignored. Other opinion leaders speak up, interrupting one another. There are now multiple speakers up and down the line, with others whispering conspiratorily. Most stand in silenced observation. Lamar, always quiet and thoughtful, looks at you as if to ask rhetorically, "*What* were you thinking?"

What *do* we think of this sad demise of a promising classroom activity? Is it too advanced for these students? Is it developmentally inappropriate? Is it too "touchy-feely"? Is it just random opinion stating, void of "rigor" and "content?" Whichever one of these standard analyses we choose, we will miss the deeper dynamic at work in this and other classroom encounters where students are presented with opportunities for authentic learning. Sadly, our students have learned well the lessons of the larger system. They have nearly forgotten how to learn. The blunt force of the manufacturing metaphor lands finally and with greatest impact on the tender psyches of children. Children, unlike raw material headed for the assembly line, are not inert matter, but

mostly, in classrooms, teachers talk—in the interest of fixing content to children's minds. Student expression is often limited to the recitation of whatever fact or rudimentary concept is to be affixed in order to demonstrate that, indeed, it is affixed (even if only wobbily so and destined to fall off as soon as the test is passed). Of course, there are exceptions in every school and, for at least moments, in many classrooms, but the norm continues to be what, for over a century, an industrial mental model has led us to believe is the essential meaning of education. Our students adjust to this norm by denying on a daily basis their own interests, questions, and eagerness to engage with their age mates. We shush them into a state of deep alienation from their natural orientation to learning and socializing.

Given all of this, why is it any surprise to us that when we call on our students to ask questions and engage with their peers about important issues, to listen, to adjust their thinking, they don't know how. Such behavior, squashed in formal exercises, finds expression mostly through behavior that is secret and subversive of the official classroom norms: no talking, no copying, do your own work, follow directions, remain in your seat. When, occasionally, we organize our classrooms to nurture the natural learning inclinations of children, we get chaos, of course, because no one has coached them in how to do serious intellectual work in groups. Seeing the chaos, we conclude wrongly, "give them an inch and they'll take a mile." So we clamp down all the more, deepening their alienation from learning.

As thoughtful educators we need to acknowledge this history and the dynamics it has set in motion, in order to, first, counter the standard analyses for failed experiments with authentic learning, and, second, to begin to equip our students with the habits and capacities to re-embrace their desire to learn. We need to remember that when we design curriculum and classroom activities that call for real learning, our students will need significant coaching to help them remember what learning is and how to do it with their peers. In the aforementioned classroom encounter, when the proverbial "you" walked into the classroom to begin the continuum exercise, you forgot—against all logic—that your students were *not* accustomed to listening to one another as part of their work, that they had *not* been taught to express original ideas and were *not* expected by their teacher and classmates to do so, that they had *not* been made to feel safe in a context of intellectual give and take. Those are the skills we must coach them to develop and the beliefs we must persuade them are trustworthy. It takes time and requires a careful scaffolding of activities to develop. The key directive we need to remember is that while students have a powerful orientation toward learning, we should not assume that they possess the skills or experience to channel their creative energies. Those are skills that we, as more experienced persons, can teach them. If we are going to ask our

students to do work that requires such skills, then we need to check what's already in place and what's not.

Teacher Talk

"I've worked here for many years, and I believe we turn out a solid product here at the Green River School." Larry Patterson, a veteran teacher and beloved wrestling coach, is holding forth in the faculty room during lunch. You are seated with several colleagues at Larry's table, where heads bob in silent approval of Larry's summary statement. You know that at least two others at the table are wincing inwardly at the analysis implied by Larry's remark. Larry is a believer in "the basics"—basic math skills, good grammar, orderly, five-paragraph essays, and an ample dose of content in history and science—an uncomplicated and a serviceable formula in his mind. But you and your silent colleagues know that Larry's notion of basics is misguided. How do you tease it apart? How do you offer something different? How do you engage Larry?

The dominant culture of schooling, in particular, the omnipresence of the manufacturing metaphor, is perpetuated most powerfully through the routine interactions of educators with each other. To the extent that we fail to challenge it when confronted, we ensure its continuation. But challenging the industrial mental model in the midst of our routine interactions carries risks. You could say, "I'm sorry, Larry, but I don't think of my students as products." You *could*, but in so doing you would likely create a condition of permanent discomfort, since Larry is there every time you enter the faculty room. He also teaches just two doors down the hall and is your daily neighbor on the first floor of B wing. Also, there are many on the faculty who share Larry's viewpoint, not just the "old-guard," but also younger teachers. Larry is a powerful presence in faculty meetings and well regarded in the community. You anger Larry at your peril. But ignore Larry and school will continue to reflect the ill-fitting, mechanistic metaphor that has dominated educational practice since Francis Parker's day. What to do?

Rob Evans, psychologist, educational consultant, author, and former teacher, speaks to this issue with deep understanding of the interpersonal challenges involved in changing a culture. There is a *human side* to school change, as the title of one of his books reminds us.[25] Evans suggests that people and systems are conservative by nature, mainly because change involves risk and discomfort. Therefore, someone who wishes to initiate change must establish that there is risk and discomfort associated with *not* changing, indeed, greater risk and greater discomfort. Change must be viewed as the preferred path, the path of less risk and less discomfort than maintaining the status quo, and not just by persons who are advocating for change but by others in the system who

must implement the change. This sounds like a threat. It is not. It is quite the contrary, a warning that a train is coming, and folks had better get off the tracks. Once people recognize the danger, the next step is to begin to think about alternative courses of action. By taking this approach, organizations and the people in them begin to "unfreeze."[26]

So what are the risks associated with not changing? What are the risks associated with continuing to live inside the manufacturing metaphor and to imagine our work and our schools as a mechanistic system of production? What are the risks of Larry Patterson's view of schooling? Richard Murnane, professor at the Harvard Graduate School of Education, has studied the skills that are necessary in the new economy. He concludes that the traditional "basics" of reading, writing, and arithmetic are insufficient to equip high school graduates with what they will need for most middle-class jobs. Our economy has changed. Murnane's research shows that the number of blue-collar jobs, work that traditionally requires an ability to follow directions and to learn simple "basic" skills, has declined sharply since 1969—from 38 percent of employed adults to just under 25 percent.[27] Meanwhile, jobs that require higher-level thinking skills (managers, administrators, professional occupations, and technicians) are on the rise. Murnane concludes, "The three Rs are not less important, but they need to be tools for knowledge acquisition and communication. Expert thinking and complex communication are not new subjects to add to the curriculum. They should be at the center of instruction in every one of the existing subjects."[28]

In our terms, what Murnane has identified here are the consequences of the manufacturing metaphor, which has done a good job of preparing graduates to follow directions, read a training manual, and do fractions and decimals—Larry Patterson's view of school—but not to think beyond. Murnane's analysis requires us to imagine some very different metaphors if we are to help our students succeed as adults. But we don't want to alienate Larry Patterson because, as a career educator, Larry is not likely to leave, and if change is going to come to our schools, then Larry Patterson is going to need to be part of it. We want to win his partnership in the work that lies ahead. We must disabuse him of a view that is at best out of date. We must engage with him about the meaning of a public education at the dawning of the new millennium.

Public Engagement

"I'm looking at flat test scores. How do we get those up? You're the educator. You tell me," says Marissa May, parent and vocal citizen. As the superintendent of schools pondering how you will respond to a caustic question from a member of the public at a Board of Education meeting, you face a dilemma with well more than the usual two "horns." This particular beast has at least five. The first is that learning is reduced in this comment/question to test scores.

We know learning is more than that. The second is that talking about learning solely in terms of test scores—a la manufacturing metaphor—narrows the focus of education, and the extent to which we persist with that narrowed focus leads to a narrowed learning experience for our students and the sort of deep alienation apparent in the continuum exercise described earlier. The third is that the education establishment, as represented by state and federal departments of education and commercial publishers, endorses and promotes the reductivist analysis implied by the speaker's remark. Test scores have become the coin of the realm, minted in government offices and widely in circulation throughout the publishing industry. A comment that might in more reasonable times be dismissed as a crackpot idea suddenly reflects official state and federal policy! A fourth horn of this beastly dilemma is that test scores are viewed within the frame of this remark as an end in themselves. The question is not, how do we improve the learning that is measured by these tests, but how do we improve the test scores. Though these may seem like the same question, they are not, in terms of their practical consequences. If our goal is to improve test scores, then we will engage in a host of test-prep activities, the goal of which is to squeeze maximum test performance out of test takers. If our goal is to improve the learning measured by the tests, then we will redesign instruction to better meet stated objectives. A fifth horn sprouting from the remark is the apparent lack of agency by the person offering it. This problem is *yours*, Dr. Superintendent! In the world of education as industrial process, such an attitude is no surprise. What would any layperson know about the manufacturing process that goes on behind those brick walls?

So how *does* one answer this remark? To just answer it, of course, means to become complicit in its troubling analysis, but to challenge it in the moment presents hazards not dissimilar to the ones we face in challenging Larry Patterson's remark. In the moment, it is probably best to follow common sense by acknowledging Ms. May's concerns and reassuring her that you share those concerns and that you are doing everything you can to address them. However, the greater challenge lies in addressing the worldview that stands behind the remark. This is where we, as educators, must recognize that our work is not just about educating children, it is about educating the public and, more than that, it is about advocating for a thoughtful commitment to education within our schools and communities. No small task, as it runs counter to culturally embedded beliefs and dominant public policies.

Countering the Culture

What are some practical and effective ways to engage with the Larry Pattersons and Marissa Mays of our schools and communities?

1. Most of the time, people have good intentions, and most of the time it is fitting to affirm those intentions, to show solidarity in our common cause of student learning. (For those times when a person does not have good intentions, a different approach is probably warranted, but that is a different subject!)

2. In our own talk and our own actions, we need to demonstrate our commitment to thoughtful educational practices. We need to avoid manufacturing language and adopt language that better represents the complexity of learning and respect for students and adults engaged in it. Personally, I have found that language associated with child rearing and ecology provides a more appropriate metaphorical framework for education than the language of manufacturing. We nurture the growth of children. We till the soil and tend the seedlings. We cannot *make* them grow, but we can create conditions that are conducive to growth. They will not grow at the same rate or in the same ways. We celebrate the different ways in which they grow and express their beauty. The language we choose to employ is not a trivial matter. Linguist George Lakoff argues persuasively that, in fact, the metaphors we use to frame phenomena profoundly shape our thinking. He writes, ". . . the way we think, what we experience, and what we do every day is very much a matter of metaphor."[29] Though Lakoff has most recently gained public attention for his writing about language "framing" in the world of politics, the idea is applicable to education as well. The way we frame the discussion determines its outcome. We as educators need to reframe the debate just like politicians in order to make room for new and constructive possibilities.

3. We need to be active, not simply reactive, in our efforts to redirect education in more constructive ways. Responding to Larry Patterson or Marissa May in the moment is not a good way to educate the public. It only shames those we need as allies. Rather, we should design activities into the agendas of our meetings, the purpose of which is to advocate on behalf of thoughtful school practice and to make the case through evidence, demonstration, and expertise, as well as to cast the discussion with language that promotes a more thoughtful and respectful understanding of the nature of learning.

Case Closed

It is encouraging to observe that even with Parker's departure from the Quincy schools in 1880, there seems to have been a certain resiliency to the Quincy schools' humane approach to schooling. Two successive superintendents retain in their annual reports the language, at least, of thoughtful schools. One, for example, writes in his 1884 report, "It has been shown that a school in which the utmost uniformity of position is to be seen, and deathlike stillness prevails, may not be a well-governed school. The constant aim has been to give pupils

such a degree of self-control as would enable them to govern themselves."[30] No doubt, the continuing presence of at least one Adams on the Quincy School Committee as late as 1882, as well as the family's omnipresence in community affairs, played a significant role in the endurance of Quincy's humane and thoughtful approach to schooling.

Today, the industrial mentality is more deeply embedded in the culture, even as the means of production in the United States are shifting in significant ways away from the centralized, product assembly, mass-production mode of the industrial era. The citizens of Quincy, though caught up in the industrial order in the 1870s, were still but a generation or two removed from an agrarian society, and the cultural imprint of the industrial world had not fully blunted their imagination. Today, the industrial system serves as *the* dominant metaphor for social organization. Thoughtful school people who advocate for humane schools must fight a deeply embedded popular conceptualization of schooling that includes not only industrial thinking but the "successful" application of industrial thinking to schools going back now several generations. For the vast majority of Americans today, it is hard to imagine something else. Nonetheless, the factors that promoted Quincy's success have relevance today. A related observation: as the industrial era fades, eventually, inevitably, so too will the power of its metaphors for social organization. What will replace them? Already, the language and thinking of the information age are permeating our social institutions. The information age *zeitgeist* offers the potential of both greater connectivity and depersonalization. As educators, we must proceed with an awareness of both the possibilities and perils of emerging technologies and the metaphorical power they will assert over social institutions.

Just as the Adams family provided money and respectability for Parker, so philanthropic organizations today can leverage the impact of humane and thoughtful school causes. Such national efforts as the Coalition of Essential Schools and the Annenberg Institute for School Reform have benefited from the largess of private foundations.

Thoughtful and imaginative school leaders, too, remain essential to the promotion of thoughtful school practice. Examples such as Ernest Boyer, John Goodlad, Theodore Sizer, and Deborah Meier have succeeded in effecting large-scale change through a combination of wisdom, charm, political savvy, and a deep personal commitment to the lives of children. At the school level, faculty self-selection continues to be a noted condition for effective learning communities. Also, various approaches to reducing class size and/or student load are repeatedly cited as significant forces behind improved learning.

Perhaps the most important understanding to take from the impressive accomplishments of the Quincy schools so long ago is to heed Francis Parker's warning that we not view the work there as a method or a system but as the natural consequence of thoughtful and humane reflection by those adults most closely

involved in that institution where childhood and formal education intersect. Indeed, the Report of the Quincy School Committee for 1881 summarizes well Parker's legacy in its commentary on Parker's impact on the schools over the five years he served as superintendent. "He found them machines, he left them living organisms."[31]