
Presidential Address

RELATIONAL ECONOMIES OF SCHOOLING

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CHILDHOOD AS A RESOURCE

Between 40,000 and 30,000 years ago, modern humans shared the European continent with Neanderthals. However, when Europe plunged into another ice age, *Homo sapiens* survived, while their very closely related cousins did not. Similar stories are likely to have happened on other continents, because Earth was populated by several human species, only one of which survived. Jean-Jacques Hublin, director of the Dynamics of Human Evolution Laboratory in France, believes that the crucial difference was in the extent of their respective social networks (the modern humans had much wider, up to 500 kilometer-wide connections), and *sapiens's* ability to innovate (they were at a biological disadvantage, so they had to). He also points out that while Neanderthals used to make tools of many different, intermediate shapes (for example, ranging between a knife and an ax), our ancestors had learned to make many copies of the same type of tool based on one model; the types of tools are clearly distinguishable.¹ This allowed them to perfect the techniques of making the tools, so that not only a general idea of a tool, but also the fine details of tool making technique could be taught and thus accumulated in the cultural memory.

The *Homo sapiens* teacher had beaten the Neanderthal teacher. The ability to teach, to share knowledge across space and time explains the survival of our species in competition with other humans. It was not the difference in the individual ability to learn—Neanderthals were quite similar to us biologically and mentally—but the ability to teach that made all the difference.

Education quite literally has created humanity; what and how we teach defines the character of human social existence. Teaching is as substantial an advance as the use of fire, tool making, and the invention of agriculture. All other inventions would have been long forgotten if not for one invention that allowed knowledge to be made a property of large groups of people. Most animals can learn from their own individual experiences; many social mammals also have the ability to transfer collective experiences of a group to future generations. Like all other human gifts, teaching is not unique to us; we share it with other animals. Yet the extent and efficiency of teaching is certainly unparalleled, and sets us apart not only from existing primates, but also from other species of intelligent humans. Large brains, intellect, language, culture, social organization—Neanderthals and other human species possessed all of these. Yet only our ancestors made major advances in teaching, in a way of preserving vast amounts of knowledge against the death of its individual bearers.

From evolutionary perspective, the essence of teaching is in making learning selective. To teach is to determine what needs to be learned, and what does not. Paradoxically, teaching involves the restriction of learning; it involves channeling the omnivorous hunger of young minds into a narrower path of learning of what adults consider the most useful things. (Natural learning, by contrast, is indiscriminate; children learn everything in their environment). In other words, teaching begins when an adult selects what should be taught and how it should be taught. It involves a judgment about the important and unimportant, between knowledge specific to one person or to a narrow situation and generalizable knowledge applicable to many situations. For example, teaching how to make a perfect arrowhead eliminates much of the trial and error of individual learning. So, in a way, Neanderthals were a lot more creative than humans, because each individual experimented with the concept of an arrowhead, and developed his own sort of arrowhead. Restriction of creativity is at the very core of the teaching enterprise.

The success of teaching depends on the efficient exploitation of one crucial biological resource that humans possess—childhood. Human babies are born premature (so that they can grow huge heads and still be born without killing their mothers), and learn an extraordinary number of things. Again, the extended period of learning is not unique to humans, but we simply have a lot more of it. Humans retain the precious resource of childhood for some 10 years, while other mammals only for a couple of years, or only a few months even if their life span is similar to ours. Long childhood is a biological asset, which also imposes significant economic burdens on any human population; these burdens are paid off when youngsters become capable adults. These gifts of childhood are immaturity (the need for extensive care) curiosity and play; all three are powerful internal drives to learn.

- Immaturity ensures long and sustained interaction and a strong emotional bond with the primary caregivers; this pattern of relationship then extends to others and allows for flexible social bonds. Immaturity is a psychic resource; growing up gives our psyche the basic pattern of scarring and healing that is then used again and again for making and breaking selective relationships. On one hand, the high dependency on mothers makes us capable of love and ethics²; on the other hand, the unavoidable harsh separation creates the perpetual trauma called “the self.” The self is primarily the psychic scar tissue, a nod of congealed relationships, a pattern on the surface of psyche. It is essential for teaching purposes, because the self makes possible the separation of knowledge into more or less useful, because knowledge becomes attached to significant others. On the other hand, the self contains the memory of separation from the significant other, so humans are capable of constant rethinking of which relationships and associated with them knowledge are
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worth retaining. Thus, humans also possess the Neanderthal's creative impulses, and the possibility for different kinds of knowledge.

- Curiosity stores vast amounts of surplus information, the practicality of which is not immediately apparent. Teaching both limits this primary learning motive, and uses it. Much teaching consists of constructing an artificial environment, where stimuli to which a child is exposed are intentionally limited. In other words, being locked up in a classroom makes one curious about whatever teacher has to offer. Curiosity is omnivorous; it tells kids to consume whatever intellectual and spiritual food placed on their plates by teachers. As an adaptive mechanism curiosity requires an animal to explore whatever environment it is in; humans use this mechanism to teach things well beyond a child's immediate environment.
- Play creates a motive for practicing skills and sorting out knowledge. If curiosity is the mind's hunger, play is its digestive system. According to Bruner,³ play's function is to minimize the consequences of action, which enables children to learn in a less risky situation, by giving them the opportunity to try combinations of behavior that might not otherwise be tried. Winnicott connects play with the intermediate area where external and internal reality meet, and where a child learns to accept external reality. Whatever play's psychic mechanism is, it is clearly an invaluable resource that humans have learned to exploit. Teaching presents knowledge that seems to be inconsequential, removed from the every-day experience. Play is a unique gift that allows children to be preoccupied with the inconsequential. Children sort out, store, and apply the knowledge through play; while teachers only have to make sure that kids play with the selected information, at least partially.

The three gifts of childhood are elements of a biological resource that modern humans have learned to utilize well. Neanderthals probably had the same resource, did not learn to exploit it efficiently enough. Teaching is basically a technology that uses the gifts of childhood, just like well digging is a technology of underground water use. Animals can be walking on a large aquifer and still die of thirst if they do not possess the technology of getting it out of the ground. Whether a resource is scarce or plentiful is really a matter of technology, not a material property of the resource.

THE TECHNOLOGIES OF TEACHING

The technology of teaching has not remained unchanged since our survival competition with Neanderthals. Let me break the evolution of teaching into three stages: apprenticeship, classical schooling, and mass schooling. The first stage involves systematic, deliberate teaching, but does not have a specific social institution dedicated to teaching; teaching is embedded into the production process. This type of education appears first, but never completely disappears,

and is still with us today. In fact, most human occupations require certain periods of apprenticeship.

Classic schooling was the next step in refining the technology of teaching. It is characteristic of large societies with complex social structures. The emergence of the state and its ruling classes is generally linked to the beginning of organized classic schooling. Classic schooling evolved as an essentially selective technology; it implies and reproduces the class structure. This form of schooling is aimed at teaching a narrow class of schooled people to manage complex societies. Schooling added another dimension to the exploitation of childhood; use of force and threat of exclusion. The revolutionary significance of schooling is that it forces children to work beyond what the gifts of childhood compel them to do. The difference in social status between schooled and unschooled classes is a great extrinsic motivator allowing the society to cram even more knowledge into few selected heads. Schooling turned learning a form of labor.

Schooling is a form of artificially extending childhood as the time for learning beyond biologically determined first 10-12 years of life. The needs of growing civilization and literacy demanded going farther than the already generously lengthy period of childhood allotted to humans. At the same time, the work of schooled children had to be intensified beyond levels sustainable by natural curiosity, play and social connection. In a certain sense, the classical schooling is a revolution similar to the Neolithic revolution, the move from hunting and gathering to agriculture and animal domestication. In both cases, humans exhausted the natural methods of resource exploitation, and took upon themselves to reproduce the needed resources artificially. Schooling is a way of producing more childhood—both quantitatively and qualitatively—childhood understood as a capacity to learn outside of actual productive processes.

Mass schooling is an entirely new phase of educational technology; it is very young in historical terms, and its long-term success is still uncertain. Its aims are really paradoxical and may seem unachievable. Mass schooling seeks to force all children do what only elites used to do *because* they were the elites. The class difference was indeed the engine inside the technology of classical schooling; the promise to preserve the privilege and the threat of expulsion were the simple and reliable carrot and stick of a traditional school. With the shift to mass schooling, a new engine, a new motivating force had to be created, and it has been created, as I will later show.

It is important to emphasize that classical schooling and mass schooling are two very different social technologies. They may appear remarkably similar, and coexist within the same society, and yet are two different approaches to childhood exploitation. They are no more similar than competitive track and jogging for exercise: in both cases people run, but the motive, the aim, the attitude,

the meaning are quite different. The classical school was and is motivated by the drive to advance socially. Mass schooling uses some of the mythology of social advancement, but it is quite clear that the majority of students cannot advance above average without creating the Lake Wobegon Effect, where all the children are above average. The ideology of social mobility does not have much credence among the lowest social classes: poor kids understand that no matter how much you learn, someone has to remain at the bottom.

When we think about the contemporary institution of schooling, it is important to keep in mind that it is one specific institution, one particular technology of teaching, with its own limitations and capacities. Because in our times, the three technologies of teaching coexist and mingle, our generalizations about education may become confused. In this paper, I am trying to isolate mass schooling from other teaching technologies in order to understand the following: What mechanisms does mass schooling use? How does it differ from previous ways of using the resource of childhood?

THE TECHNOLOGY OF MASS SCHOOLING

From a theoretical point of view, a “normal,” moderately successful, boring school is infinitely more interesting than a chronically failing school on one end, and a spectacularly successful one on the other end of the spectrum. Normality always contains a bigger mystery than abnormality, because by very definition, normality lacks prominent features and thus is more difficult to understand. We call “normal” what no longer requires and yields an explanation. Students have been going to schools for many centuries, and despite perpetual school reforming and the sense of perpetual educational crisis, most students most of the time manage to come to school, and do their work. But why do they?

My interest is very far from examining learning motivation in the psychological sense, which is covered extensively in the educational psychology literature. Rather, I would like to consider it as an economic question. Schoolwork does not serve any immediate needs of the worker, and therefore does not fall into the category of immediately rewarding activities like eating, resting, or having sex. It does still rely on exploiting the three gifts of childhood, especially in the early grades: the need for a caregiver, curiosity, and play still play an important role in mass schooling. However, just like the classical type of schooling, mass schooling goes well beyond the distance to which the gifts of childhood can propel. Schoolwork does not usually satisfy such needs as the need for entertainment, or curiosity. Of course, schoolwork may entertain or fascinate, but we may safely assume that in most cases, especially in higher grades, it does not. Many students do their work anyway, and I want to understand why.

When individuals engage in large-scale, systematic, and prolonged activities that do not bring any immediate satisfaction, this could be considered work (labor), and an economic explanation could reasonably be expected. Many policymakers and practitioners base their understanding of schooling on a misleading analogy: students (and their parents) are consumers who receive educational services from schools. Schools are public or private service providers—the analogy goes—who serve the client. No doubt, schools can be understood in such a way. However, this is not a particularly useful analogy. The truth is, most students perceive school as a chore, and rightfully so. School learning is something one has to do, like taking out trash, or doing dishes, or cleaning one's room. This is something they are required to do, something that eats away at free time, energy, takes years to complete, does not bring much pleasure, and consists of tasks that are almost impossible to connect to any future use.

It used to annoy me to no end when students expect a certain grade for a certain amount of academic work. It just struck me one day that they may be right if one looks at academic work as a form of labor. There are customary levels of work that normally yield the equivalent of an “A” or a “B,” and if a teacher violates these levels, students perceive it as unfairly raising the price of a grade as measured in the amount of work required.

I have argued elsewhere that from the macroeconomic point of view, K-12 students provide much more services than they receive.⁴ The schoolwork is really a chore performed by students rather than a service provided to them, because the economic benefits of students' efforts are enjoyed mostly by their future employers. Yet even if one refutes this claim, and the work of students is found to benefit them significantly in the future, one still has to describe what students do as a self-serving labor, not an act of receiving services. Simply put, students do most of the work associated with learning. They greatly outnumber teachers and administrators, while working for about the same time, or greater number of hours per day, counting the homework. If school was like a restaurant, a patron would have to bring her own groceries, rent a stove and pots, cook her own food, serve herself a dinner, and clean the dishes when done. Of course, there would be still an element of service provided here: the restaurant would provide supervision, advice, and assistance. However, the client would rightfully walk away with a feeling that she worked—for her own benefit, and with outside assistance, but still the element of work greatly outweighs the element of service. I will assume from this point on that schoolwork is work, and that schools should be considered not service providing organizations, but places of employment for students.

Students, teachers, and administrators can be viewed as economic agents. School as an economic system organizes production, distribution and

consumption of goods and services. The most obvious observable feature of school life is organized, sustained labor performed by students and teachers. If teachers' economic motivation is relatively easy to explain, it is not the case with the students' motives. Some hidden economic mechanisms compel most students to put in long hours of schoolwork and homework. Students' reasons for putting up with school work, as we will see later, are much more complex than working for a paycheck, yet it would be implausible to assume no reason at all. Some economic motive is behind student efforts and I will show these motives.

ECONOMIC ANTHROPOLOGY

Mass schools have more in common with what economists used to call archaic or traditional economies. The small field of economic anthropology can provide a much more useful set of tools for education than mainstream economic theory. Economic ethnography seems to take off with the influential works of economic historian Karl Polanyi,⁵ although Marcel Mousse and Bronislaw Malinowski greatly contributed to Polanyi's thinking. Malinowski's study of the economy of the Trobriand Islands off the east coast of New Guinea has probably been cited more often than any other single ethnographic research in the discussions within economic anthropology.⁶ Malinowski describes Kula trade as an example of an intricate economic system that involves reciprocal exchanges of goods and services without determining the exact value of each object. In fact, some objects have no use-value at all; their only value is association with former owners.⁷ Polanyi convincingly shows that the concept of market and market exchange is not uniformly applicable to economies.

Polanyi critiques Adam Smith for the assumption of man's "propensity to barter, truck and exchange one thing for another." "In retrospect—writes Polanyi—it can be said that no misreading of the past ever proved more prophetic of the future."⁸ Polanyi argues that both historical and anthropological data show market economies to be an exception rather than the rule. For tens of thousands of years, men and women acted not in pursuit of their individual material interest, but on other considerations:

The outstanding discovery of recent historical and anthropological research is that man's economy, as a rule, is submerged in his social relationships. He does not act as to safeguard his individual interest in the possession of material goods; he acts so as to safeguard his social standing, his social claims, his social assets. He values material goods only in so far as they serve his end. Neither the process of production nor that of distribution is linked to specific economic interests attached to the possession of goods; but every single step in that process is geared to a number of social interests which eventually ensure that that the required step be taken.⁹

Polanyi develops this idea further by considering both ethnographic data and economic history. He names four principles on which an economy could be based: market principle, redistribution, reciprocity, and householding. The market principle implies buying and selling of goods and services and is based on the interplay of supply and demand. This is what most of economic theory considers economy, and what dominates the industrialized world. The other principles have governed human societies for most of their existence, and probably still regulate most of the economic activity on this planet.

Reciprocity is exchange in which the giver either does not expect anything at all in return (generalized reciprocity), or expects some return, some time in the future (balanced reciprocity). An example of the former variety in the contemporary society would be economic relations within an extended family; an example of the latter is a group of friends, who expect to help each other move and take each other to the airport, or counsel each other on financial and romantic matters, but avoid keeping track of who owes whom how much in terms of the performed labor.

Redistribution involves movement of products from individual and collective producers to some center, which then redistributes the products and sends them back to localities. Redistribution occurs when a tribe leader collects food and other products from all, and then redistributes them according to need, influence, and other considerations. This type of economy is only possible when most people accept the need for one central figure or a group to figure out the redistribution mechanisms; it may not be confused with direct violence of one group over another as in cases of conquest and cast domination. Ancient Egypt and the Soviet Union would be examples of such economies. Taxes and public services will probably be the closest examples in developed capitalist economies. There is no need to mention that the tax-based sector of economy has significantly grown since the times of Adam Smith. The principle of householding applies to families that produce everything for their own consumption. Polanyi later seems to include this principle into one of the above.

Economic anthropologists have done some interesting work since Polanyi,¹⁰ and I do not intend to survey the field in this paper. However, I find the fundamental intuition they share remarkable and very useful in educational theory. Richard Wilk has summarized it as follows: economic anthropologists “are interested in people because they are both rational and cultural, because they pursue both money and morality.”¹¹ A convincing answer to my question about student motivation must treat students as rational beings who will work if it makes sense for them to work. However, it would be a gross simplification to apply here the principles of economic motivation endemic to market economies.

Instead of the somewhat archaic term “archaic economy,” I will call these non-market economies relational, because the key feature of such systems is

that the economy is submerged, or integrated into the larger sphere of social relations. (Marcel Mauss describes it as “total social phenomena”¹²) We can see islands of relational economies in most contemporary societies, even in the United States. There are many instances of reciprocal cooperation outside of market. For example, most forms of friendship involve the exchange of certain services. Neighbors often form de-facto cooperatives that involve mutual obligations. In working class and poor neighborhoods, people still rely on relatives, friends and neighbors for essential services like babysitting, moving, car repair, security, marital counseling, entertainment, information distribution, etc. Teenagers almost universally form groups not devoid of economic function. Members of such cliques, gangs, and loosely organized groups of friends depend on each other to provide and receive extensive educational services, psychological and career counseling, entertainment, and security.

In non-western societies, even those who superficially embraced market economic models, the sphere of relational economies may be greater in the order of magnitude. For example, in my native Russia, mutual obligations of kinship and friendship very often outweigh purely monetary motives. What Westerners often regard as corruption, often turns out to be a culturally determined blend of market and relational economies.

One common feature of relational economies is that the act of providing service to others both implies reciprocity, and avoids any exact stipulations on timing or quantity of the reciprocal service. We “invest” in our friends more as an act of insurance against future unforeseen needs. I want to emphasize as strongly as I can the non-market orientation of the relational economies. However, one should not forget that these are still economic phenomena. When my family asks neighbors to take in our cat for a couple of weeks, both sides are perfectly aware of the economic condition of such an agreement. We are indebted, and there is an expectation of a returned favor. However, we are both aware of the fact that the debt may never be returned, or returned in entirely different form. When the neighbors do us a favor, we create a bond that no market theory can explain or measure.

It is not my intention to idealize the relational sphere of economy. It could be just as exploitative and corrupt as the market sphere. It certainly cannot replace the market, on which we rely for most essential goods and services. Market is remarkably efficient and flexible in organizing the large portions of the contemporary society. However, it is not the only and not the universal economic mechanism. Moreover, a society totally void of relational economy is hardly an ideal. I want to establish two facts: relational economies still exist, and their mechanisms are very different from market economies.

THE ECONOMIC ANTHROPOLOGY OF MASS SCHOOLING

Economically speaking, regular American public schools are much closer to tribes of the Pacific described by Malinowski than to corporations located nearby. Their economic relations are embedded in other social relations. For a variety of reasons, schools cannot and should not develop into true market economies, which does not mean that they cannot improve the types of economies they do have. The motivation that moves mass schooling is based on relational economy where mutual obligations, communal commitments, delicate balances of customary work, rituals of identity and power blend into one social structure.

A successful school is an economic system where schoolwork is an integral part of social relations, and the bulk of social relations is integrated into the functioning of school as an organization. In other words, the secret of the remarkable performance of an average school is in its ability to link social practices of children and adolescents with the formal practices of teaching, learning, and administration. Like with any economic relations, students here have direct interest in remaining at school. In the most crude terms, students exchange their labor of schoolwork for the opportunity to build social relations with peers and adults. The successful school is one where teachers insinuate themselves in the social network of children's and adolescent society. Kids will do the chore of schoolwork if and only if they receive something in return. This is a common feature of all economic behaviors; there is no reason why it should not apply to schools.

Teachers and school administrators use both reciprocity and redistribution principles. Reciprocity is most commonly used in a single classroom; the mechanisms of redistribution are more prevalent for a whole school. Let me give some examples to illustrate how these two principles may work.

Reciprocity is more often used in direct relationships between a teacher and a student. Most teachers realize that the formal authority of a teacher is not nearly enough to maintain order in classroom, let alone to ensure even moderate learning. Teachers thus engage into an ancient game of mutual favors: they do favors for students, while students implicitly agree to repay with good behavior and reasonable effort in schoolwork. The services teachers provide could be very diverse; they simply depend on what students may want, and what a teacher can offer. Sometimes students just want personal attention, sometimes some tokens of respect and affection. Little kids want hugs, older kids need a sympathetic ear; everyone needs recognition. They might be interested in what teachers know and what teachers can do. Teachers lend them influence, connections, advice, or recognition. Teachers can give them praise, candy and stickers. Teachers can teach them how to play a new game or tell them something new about their athlete hero. Teachers may have information they need, or can keep secrets. In short, a child and adolescent may want a million small and big

things from an adult. The trick is not so much to figure out what they want and what teachers have, but to initiate the exchange. In other words, having the merchandise does not automatically guarantee a deal. Not unlike adult relational economies, the economy of school relation will work only when it is well oiled with personal trust.

The principle of redistribution comes into play when educators capitalize on their central position within the school's social organization. An example of a redistributive economic relationship in school is a school dance. Students may want to attend the dance for their own reasons, which has nothing to do with adults. Nevertheless, they recognize the need for organization, space, security, finance, etc. In other words, in order to obtain the good of attending a dance, they need the mediating and regulating role of the school's adult authorities. Everyone contributed to the success of the dance. In a certain sense, students exchange services, but adults are needed to regulate the exchange. Again, teachers and administrators need to insinuate themselves personally into the event of the dance, so that the mediating services they provide will be associated with specific persons rather than with a faceless institutions. Such an association creates the relationship of mutual obligation, which can be later turned into good behavior and schoolwork efforts. Students contribute their labor of school learning to teachers much like Ancient Egyptians used to build tombs for their pharaohs. It was pragmatically senseless, but economically necessary part of the society. The pharaohs needed the god-like authority to distribute food and goods effectively. Students will only invest in collective teacher authority if the authority is used to stimulate an effective exchange of services among students. Of course, this logic applies not only to dances, but also to other events of school life, such as track meets and band concerts.

ADMINISTRATIVE PRODUCTION

Student labor can also be considered within an economic framework Rhoda Halperin calls administrative production. She describes a village of Chan Kom in the Yucatan peninsula, where "every male was required to perform *fagina* labor as a public service without remuneration."¹³ Performance of this service was required to maintain residence and status, including right to communal land. Halperin cites an earlier study of the village which noticed that "the most public spirited do more than others." She comments: "The measure of 'public spiritedness' was directly proportional to a citizen's tolerance for servility, and willingness to perform *fagina* became a litmus test indicating loyalty to the *comissario*, who functions as a patron to his loyal village clients."¹⁴ Of course, *comissarios* regulated *fagina* and ultimately found a way of using it for their own benefit. The whole relationship is based on the monopoly on land which allowed the elites to control labor.

Students work in schools is not unlike the administratively regulated *fagina*. Each student is obliged to work several hours each day, and the measure of his or her dedication is proportional to the loyalty to adult authorities. A combination of purely administrative sanctions (such as detentions, reprimand, etc.) and an ideological pressure (“stay in school” propaganda) is used to maintain the labor. Yet, as it is in Mexican village, in American school, the success of *fagina* depends on whether the educators found a way of controlling the resource of social life schools provide. Obviously, in small, rural communities, schools control much of the social interaction among students. The schools there effectively control the cultural life of the community through athletic events, and much other entertainment output. In addition, schools can relatively easily control parents by the threat of creating a negative image of the family should students refuse to cooperate. The same mechanism cannot work in an urban setting, simply because schools do not control as many social resources. Students have plenty of opportunities to socialize outside of school; parents’ communities are fragmented, and not dependent on schools to maintain social status. Quite often, racial and class divide separates teachers from students and parents, which makes loyalty to school authorities socially unacceptable. In such circumstances, student work becomes closer to forced labor than to the patriarchal *fagina*.

Consider a school that many would call failing. The classes are unruly, student and teacher absenteeism is high. No one seems to be learning; teachers spend their time establishing a semblance of order in classrooms. School principal spends most of her time doing “crowd control.” Police officers have an office on the premises. From the point of view of economic anthropology, this may be a case of failing relational economy. For most students, doing schoolwork and following the rules does not bring any status gains or recognition from the people they care about the most—their peers. In order to maintain memberships in peer groups, students need to sabotage the schoolwork and school rules.

IMPLICATIONS FOR SCHOOL IMPROVEMENT/REFORM

I would like to go back now to the concept of childhood as a resource. How efficient is the mass school in comparison to other forms of education? Speaking from an individual’s point of view—not very. Academic achievement in public schools is lower than in private schools. Many but not all private schools, are of course, closer to classic, elitist form of schooling. Homeschooling also produces higher results. Yet if we consider the total childhood resource of all children in a given industrial society, the total amount of knowledge and skills generated by mass schooling is astonishing; it is in the order of magnitude larger than anything classical schooling could produce. Mass schooling exploits each individual childhood less efficiently, but it exploits the childhoods of almost the entire young population.

A comparison of elitist selective schools to mass public school is unfair, but not only because of socio-economic backgrounds of students, access to resources, etc. These are two fundamentally different educational technologies, different by mechanisms, aims, culture, each with its own set of limitations. Just like street traffic cannot be compared to NASCAR race, although both activities involve driving cars. Yet because classical school and mass school coexist within the same society, there is a wide spread confusion between the two. In essence, street drivers are evaluated by how fast they can drive, not by how safe, how efficient, and how courteous they are. The improvement of mass school should involve perfecting and improving the mechanisms that sustain it as a type of schooling, not by copying the exclusionary methods and competitive spirit of classical school. In other words, educational research should study the range of economic mechanisms intrinsic to mass schooling, and identify the most efficient, humane, and just. Trying to fashion mass school after the older technology will not produce anything but erosion of fragile relational economies.

Educators have a long-developed habit of studying the best schools. I myself have spent a good deal of time thinking about how the best school experiences can be deciphered and transferred onto other schools. This is a natural way of thinking, of course; this is how we improve many things. The method works, except when we deal with two different technologies, and do not realize it. Many of the best schools—both public and private—rely on the exclusionary techniques of classical schooling. In some cases, exactly *because* a school becomes successful, people want to send their kids there, and the school therefore can use the mechanisms of social advancement, the threat of exclusion to motivate students. In other words, highly successful schools gradually move from mass to elitist school economies. Instead, researchers must try to understand the workings of a regular, non-elitist, moderately successful school, and then figure out how the existing social mechanisms can be made more efficient, humane, and just.

The implications of the economic anthropology of schooling can be significant, and their full exploration falls outside of the aims of this paper. One implication is that both in theory and practice of education, adults must learn to treat students as rational beings, who will work when it makes sense to work. At the same time, what makes sense to a laborer in market economy, may not necessarily be applicable to a student who works in a non-market, non-cash economy of schools. The international economic development organizations are slowly realizing that to improve standards of living in the developing world, one needs to improve the local, non-market economies first. The same logic should be applied to the efforts of school reform and school improvement.

Accountability reform is an attempt to apply methods of Soviet-style command economy to public schooling. The authors and proponents of these

reforms believe that we can increase productivity of student labor by urging them to be more productive. As someone who experienced the command economy in real life, I can testify that no amount of demands, higher expectations, appeals to ethical obligations, and motivational speeches will produce higher motivation, or increase productivity. Although incessant propaganda may create short-term enthusiasm about a particular educational model, it ultimately fails to motivate workers.

Both Democrats and Republicans believe it will work, which is a truly unfortunate, although an easily explainable fallacy. The captains of the most advanced market economy in the world cannot see the vitality of other forms of economic motivation. Their reasoning is that students cannot really be paid for their work, therefore, schools fall out entirely out of the economic sphere, and students should be expected to work without economic motivators. It is truly amazing that the conservatives with their belief in rational economic choices would succumb to such dramatically non-economic methods as accountability. This could be partly explained by the fact that the conservatives have very little experience with non-market relational economies, and cannot think in economic terms beyond narrow market paradigm.

Another fallacy is to include schools into macroeconomic relations through various voucher initiatives. This logic implies that if schools begin to compete, they will create a market of educational services. Not a totally unrealistic expectation, it will of course dramatically increase the inequality of education. This criticism has already been developed, and I do not wish to repeat it. However, the voucher solution completely ignores the question posed earlier this paper. Why would students want to do their work once their parents chose the school? How would the act of choice automatically translate into an economic force that motivates students to work? In other words, it is unclear how a competition among schools will change student motivation one way or the other.

However, an economic anthropology of schooling can help develop a meaningful alternative reform program for public schools. One assumption of such a program is that schoolwork is a form of labor, and as such needs serious incentives. Learning in schools is only a part of a much more complicated web of social relationships, and cannot be treated as an isolated activity. Learning may not be changed or improved without improving the workings of entire relational economy of schools. Hence, reformers need to design certain institutional changes that would allow educators offer more services to students, and be more effective in their mediating roles. The value of peer culture and peer interaction should be recognized, and systematic efforts must be made to integrate it with the sphere of academic learning. Teachers cannot be simply expected to create good personal relationships with their students out of nothing. Schools need to provide many opportunities for teachers to interact with students

outside of the traditional classroom setting. The reform needs to counteract the tendency to cut down on the non-academic time out of the school day. Rather, the non-academic time should be much better organized, and much better funded. The idea that roles of a teacher, of a social worker, of a school counselor, and of a neighborhood club organizer should belong to different people has to be reconsidered. While market economies always benefit from division of labor, in the non-market relational economies the opposite is true. Only combining several functions in the person of a teacher can assure that teachers can both receive and dispense services. Of course, such a reform program requires an acknowledgement that aims of education go well beyond the preparation of a skilled workforce.

THE LIMITS OF MASS SCHOOLING

One natural limit to the development of human civilization is in how much we can learn; specifically, how many people can learn what amount of knowledge before fully entering economic, political, and cultural life. There are also absolute limits for all useable resources. For example, this planet has only certain amount of petroleum, and no technology can extend its exploitation beyond what is available. Of course, there are ways to get energy from other sources, and efficiency of oil use can be increased many times. However, we can see an end to available oil.

Is there such a natural limit to childhood as a resource? Can human ability to learn ever be exhausted? Right, now, it does not seem to be a realistic possibility. We certainly underutilize the capacity for learning for most of the population even in the most educated of societies. The demand for education from economic and cultural spheres is also not particularly high; it is certainly manageable. The dire predictions of the “Nation at Risk” turned out false, for there is no direct link between math scores and GDP growth rate. However, in the distant future, one can see a possibility that childhood resource can be completely exhausted. The time of learning outside of productive spheres cannot be longer than the lifetime of an individual. The growth of childhood can come at the expense of the productive period in one’s life. As childhood increases and productive time shrinks, there will be a point when further growth of childhood is no longer justifiable by more intensive productivity level (I mean both economic and cultural productivity). However, again, this is only a very distant possibility, and many factors may come into play to delay or prevent such an overextended childhood from happening.

If the limits of childhood as a resource are distant, the limits of mass schooling as a social technology are much closer, and visible. Humans can design new and better ways of exploiting childhood, yet one must understand the currently dominating technology has its intrinsic limits. In other words, the type of technology creates its own limits. Just as the steam engine can never have

efficiency over a few percent, mass schooling cannot teach every child at the level achieved in elitist classical schools. From the point of view of developmental and educational psychology, indeed, every or almost every child can learn at the highest levels. However, from the point of view of mass schooling as a given social technology, it is impossible. Consider what is perhaps the most famous formula in physics: $E=mc^2$. A small quantity of matter potentially contains huge energy. However, when we burn oil, or even split atoms in a nuclear reaction, we are able to extract only a minuscule percent of the potentially available energy. Similarly, despite the fact that all children can and deserve to learn at the highest levels, our existing technology does not allow to use that potential fully.

Relational economies of mass schooling cannot produce the levels of work engagement generated by market economy, just like feudal and slave-owning societies could never match the intensity of capitalist labor. American imagery of productive work is ruled by images of factory workers at conveyer belt and software engineers working late at night. Such levels of effort are unachievable in a mass school setting. Mass schooling can also never produce the same levels of academic achievement as the elitist classical schools, whose model energizes the imagination of both compassionate conservatives and compassionate liberals. Let me clarify that the glaring school funding inequalities must be eliminated; I wholeheartedly agree here with my liberal friends. However, I want to ask, what's next? It is very important to understand that material equality will not produce an equality of educational achievements. Let us assume that this particular battle is won, and all public schools will receive equal material and human resources. Does anyone doubt that some schools still will be a lot more successful than others, and the success divide will be drawn along class lines? What's left? What are we going to say then? Any number of cultural deficit theories, or biological determinism of the bell curve sort?

I propose to abandon social mobility as the dominant mythology of mass schooling, and do something the labor unions were trying to do for the best part of the twentieth century. They did not want to dismantle the working class by promoting individual social mobility; rather, they sought to elevate the conditions of the working class people as a whole, to find more meaningful mode of existence for the entire group. The unions were trying to strengthen the working class culture rather than impose the higher-class culture on their members.

In education, we must learn to understand how the schools for the masses really work, and make them work better without trying to convert them into elitist schools. This will inevitably show that focus on academic achievement must be toned down. Educators must pay much more attention to the network of relations within school, to create time and space for cultivating such networks, providing symbolic support for the most beneficial relationships, and attend to the cultural ecology of schooling.

Am I proposing to create a two tier educational system divided along the class lines? Well, the system is already in place and I see no possibility of its disappearance as long as the capitalist mode of production dominates. It is one thing to oppose philosophically to the class divisions in education, and quite another to refuse to live with it. I am opposed to cancer, terrorism, and drunk driving, but I better learn how to live with them. The idea of leveling the playing field for all children scares me, because it means two things: the cultural identity of the underclass is eliminated, and failure to win the race becomes the individual child's fault. By promoting the rhetoric of equal opportunity, we simply convert class conflict into neurosis.

NOTES

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