

# What Will Today's Children Need for Financial Success in Tomorrow's Economy?

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*The growing "creative age" economy calls for the development of human capacities, capacities that Waldorf schools have cultivated for nearly a century.*

## A Changing Economy

Today's economy is changing. While Waldorf school educators have long believed in the importance of educating children to develop into capable, competent human beings, we are entering a time in which economic success increasingly depends on these same principles. The skills and capacities needed for financial success in the new economy are those that are already a focus of development in Waldorf education: creativity, social skills, self-knowledge, and an inner sense of responsibility or virtue.

A quick look at anecdotal evidence shows a shift in skill categories and job types. Computer programming, work that we used to consider white-collar and highly skilled, is increasingly done, not just outside the United States, but specifically in economies that we would call developing or less developed. Summarizing various sources, journalist Daniel Pink finds that, within the next two years, one in ten computer or Internet technology (IT) jobs will move overseas. By 2010, one in four will leave the United States. Forrester Research predicts that, by 2015, more than 3 million white-collar jobs, with an accompanying \$136 billion in wages, will move to lower-cost countries.<sup>1</sup> Developed nations like Japan and those in Western Europe will see similar patterns of white-collar job movement.

The IT industry is not the only one experiencing this trend. The white-collar financial services industry, over the next five years, will transfer approximately half a million jobs to lower wage areas of the world, according to an AT Kearney estimate.<sup>2</sup>

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In almost all cases, the types of white-collar jobs that are leaving economies like ours are those that rely on routine cognitive skills. For example, while computer programming requires cognitive abilities, much programming is routine enough that it can be done by computers themselves, precisely because it is so heavily rule-dependent. The common website development tool PageMaker is just one example of a program that writes programs as it translates graphic displays into HTML code.

Two separate studies, one by NYU economics professor Edward Wolff<sup>3</sup> and the other by Frank Levy and Richard Murnane,<sup>4</sup> economics professors at MIT and Harvard, respectively, have shown that, over the past decades, we have seen little to no growth in jobs that require either manual or routine cognitive skills. The output of routine cog-

nitive, or rule-based, skills is invariably a product that is itself routinely enough produced that it can be coded and sent through a wire. This means that routine cognitive work, like manufacturing, can be done wherever it is cheapest, by a machine or in a low wage country. In Bangalore,

India, for example, IT workers currently earn about one-seventh of the wages that the same work used to earn in the U.S. Accordingly, Bangalore is currently absorbing a large portion of outsourced IT work.

In this context, the SATs and other standardized tests, like writing computer programs, require cognitive work, but, precisely because the answers must fit into one of several boxes, can only test routine cognition. Increasingly, those with high SAT scores and little else to show on college applications will find themselves prepared only for low wage jobs.

## The Creative Age

The type of work that is on the rise and still earns

a decent living is work that involves not only uniquely human skills, as opposed to skills that a computer can copy, but skills that are not standardized across humans. Both Wolff and Levy and Murnane find that nearly all job growth over the past several decades has come in the form of jobs requiring complex communication and complex cognitive work or expert thinking.<sup>5</sup> By “expert thinking,” the authors primarily mean solving problems that have not yet been solved. To simplify their terminology, job growth has occurred in those jobs that require creativity and relationships.

Case studies of Silicon Valley show that the manufacture of commodity products has long ago moved offshore. Companies that remain are those that innovate and those that produce custom products for a small set of clients. The success of these custom shops depends substantially on the ability of the people within the company to maintain stable relationships with clients.<sup>6</sup>

Even if we haven't yet agreed upon a new name—the “creative age” gets my vote—we have realized that the term “information age” barely begins to grasp the concept of our current reality. Today, more Americans are employed in the arts, entertainment, and design industries than are employed as lawyers, accountants, and auditors. Compared to the mid 1990s, ten times more people work as graphic designers. Our economy also has more artists and writers than ever before.<sup>7</sup>

Using a stringent definition of creative industries that includes primarily artistic work or innovation, business consultant John Howkins<sup>8</sup> estimates that the value of the creative economy in 1997 was \$2.2 trillion (seven percent of world GDP), and is growing at five percent per year. The United States and other developed countries contain the greatest share of this creative economy.

Attempting to account for changes in the way work itself is done, Carnegie Mellon economics professor Richard Florida uses a more liberal definition of creative work. He finds that more than thirty percent of the work force belongs to the “creative class,” a group of people whose primary occupation involves creativity-based human capital and whose numbers now surpass those of the

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working class.<sup>9</sup> Florida's definition of “creative worker” stretches the common sense definition to include managers and others who perform jobs that still can be done in the old fashioned, non-creative way. This comes from the attempt, however, to recognize that even old jobs are being done differently. UCLA education professor Mike Rose agrees with a multi-industry analysis that finds that, these days, even jobs that we would consider blue-collar require high levels of cognitive capacity.<sup>10</sup>

Their insights are supported by researchers like David Angel,<sup>11</sup> who finds that production engineers in Silicon Valley are responsible for almost as much innovation, through problem solving during manufacturing, as design engineers. Concurrently, these engineers earn substantially higher wages than production engineers in the same industry, who work under different policies that confine creativity to the design stage. Incidentally, Silicon Valley firms have continually outperformed firms with more hierarchical structures, structures that confine innovation.

### Structures

When skimming across the surface of today's new economy, we may wonder if these changes are not just the latest fad. But an examination of these changes at the structural level of the economy shows that we are moving into a time in which broader human skills form the basis for success.

Before examining the structural foundation of the new creative economy more deeply, however, we will explore the structure of the industrial age economy that we are leaving behind. The goal is to trace the economic forces that pressured society to emphasize the human-as-automaton paradigm and to show how the creative economy is reversing this pressure, so that economic success is becoming more aligned with personal goals and the process of becoming human.

The industrial age was a time in which first manual and then routine cognitive skills were emphasized. We have found that the work of both of these skill categories can be replicated by machines. Yet, there is something deeper, at the

structural level of the industrial age economy, that reinforced a less human-centered path.

While the industrial age was driven by the creative innovation that led to the machines that then dominated the economy, the machines themselves quickly became more salient than their invention. At the beginning of the industrial age, most of the new machinery was used to increase productivity at pre-industrial tasks, like farming. But, for individual economic success, the important point was not so much the increase in productivity, but, rather, that the machines themselves were scarce. While we had invented our way into higher productivity in many tasks, we had not yet invented a way to produce the machines themselves quickly and easily. Because of its scarcity, machinery generated economic value. Physical capital, not human skill, became the main wealth-creating asset of the economy. Unlike human skill, physical capital is stored externally to humans and is fully transferable from one person to another.

In the industrial age, physical capital did transfer straight up the capitalist hierarchy, despite the clear violation of decentralized economic power required of foundational free market theories. By the early 2000s, the wealthiest ten percent held ninety percent of the nation's marketable wealth. With forty percent of the nation's wealth owned by just one percent of the population, our modern democracy is exactly as top-heavy as England's monarchy in the 1700s.<sup>12</sup>

In other words, the industrial age was a time in which the single most important capacity for the generation of wealth was wealth itself. This recognition tells us what concerned industrial-age parents wanted to do to ensure their children's success—build wealth and pass it on.

For most, this was easier said than done. With an uneven distribution of capital and an uneven ability to generate new wealth, the industrial age saw a new game that looked surprisingly like the old game of aristocracy. Asset owners needed workers to use the owner's assets for production in the same way that kings needed peasants to work their large land holdings. For asset owners, the ability to be creative and to take risks with their assets led to success. For those who did not own financial assets, success depended on an ability to continue working with someone else's financial assets. The ability to obey became the

single most important capacity for financial success for those who had jobs and did not own the means to their livelihood. Our system of public corporations, by the way, ensures that even CEOs have bosses—the shareholders.

## Obedience

The story of management consultant Frederick Taylor shows the extent to which the ability to obey was monitored. In the early 1800s, Taylor timed workers while they dug holes. Setting the standard at the time of the quickest worker, Taylor rewarded those who dug faster and punished those who dug more slowly. With the invention of the pay for performance contract, Taylor set the stage for employment relations for the whole of the industrial age.

Modern evidence from the field of psychology<sup>13</sup> clearly shows that these types of contracts work as intended only with highly measurable, standardized tasks that involve no learning—at the time of measurement, the workers already knew how to dig a hole. The rest of the time, they inhibit an employee's inner motivation and sense of responsibility. Such methods particularly hinder the development of creativity and, therefore, suppress the productivity of creative work because they keep responses within the set of known answers. Such fences are antithetical to creativity. Yet pay-for-performance contracts were widespread by the end of the industrial age. This is likely because the type of work most often done during the industrial age was either manual or routinely cognitive, work that is less distorted by Taylor-style incentives than is creative work. That the system became widespread is also due to the fact that asset holders held enough power to enforce it.

Whatever the reason, industrial-age workers who wanted access to assets in order to earn some share in financial success had to accustom themselves to being measured at standardized tasks. The higher the stakes on these contracts, the more the ability to cheat convincingly found its place on the path to monetary success. The likes of Enron and WorldCom show us how far the economy has gone in this direction.

Once this system and its results are recognized, it becomes clear why testing became a major tool by which asset owners could choose employees, employees to whom access to assets

would be granted. It also makes clear why parents would play along with this system of testing, and why public schools—whose seed was planted in the mid-1800s under the guise of socializing children to participate in the industrial-age economy—would expend so much effort to acclimate children to measurement and to rate children according to their ability to perform on highly measurable tasks.

### Everyone an Entrepreneur

These are some of the very issues that Rudolf Steiner's threefold social organism was meant to address.<sup>14</sup> They are also the very issues that are becoming outdated in the modern economy. To this end, it is useful to remember that Steiner explicitly envisages his threefold social organism to create a situation in which everyone is an entrepreneur. No person will sell his or her labor, only the product of the labor. There will be no worker-boss relationship as we know it today. Instead, every individual will be in charge of his or her own career. A system of rights will help entrepreneurs negotiate on equal footing, so that economic cooperation can occur in an environment of dignity for everyone.

While this description is a far cry from the industrial-age economy that dominated Steiner's day, it is the very direction in which we are moving. No evidence suggests that we are on track soon to reach the full promise of a threefold social organism. We do, however, increasingly see the need for the same entrepreneurial skills that are needed to make Steiner's vision a reality. Further, the primary assets that creative economy participants use to ply their entrepreneurial talents are those that are uniquely human in nature. In other words, educating the whole human being is becoming an economic necessity, not simply an alternative lifestyle choice.

We must expect that we will invent ourselves into a new system that is more in keeping with the entrepreneurial nature of a human-based economy. The uneven wealth distribution brought about during the industrial age means that the "have-nots" have the same incentives to overthrow the "haves" as peasants have to overthrow an unjust monarchy. Rather than revolution, however, incentives also exist to invent a new system around the old, as we are currently doing.

We do not live in a world in which everyone is an entrepreneur, but we are much closer now than we were during the industrial age. Pink estimates that, in 2001, thirty percent of Americans were entrepreneurs in that they were self-employed, contract workers, or involved in a micro-business of fewer than four employees.<sup>15</sup> Although large corporations, because of their political power, still predominate, the number of smaller companies is on the rise. Today, more than half of U.S. businesses, and ninety percent of engineering firms, are micro-businesses.<sup>16</sup>

With high rates of job turnover in modern times, even many of those who work for large companies do so with an understanding that the employment relationship is but a part of the career that they themselves manage. By the mid-1990s, economist Henry Farber<sup>17</sup> found that, for the entire economy, approximately half of all jobs last less than one year. In creative economies like Silicon Valley, these numbers can be even higher. Up to sixty percent of Silicon Valley engineers quit in a given year,<sup>18</sup> with almost eighty percent of resignations reflecting movement to another Silicon Valley job, showing that, instead of being committed to a single firm in the fashion of the late industrial age, these engineers are committed to their own careers in the Valley. Management expert Suzy Wetlaufer<sup>19</sup> interviewed some of these highly successful high-tech workers and found that they will stay at a company only if the work delivers a constant stream of growth and challenge that engages their hearts and minds.

Not only is the creative economy more entrepreneurial, but its roots are structured differently. By the 1980s, economic and sociological researchers had coined the term "agglomeration economy" for areas like Silicon Valley that were the beginnings of what Howkins and others now call the creative economy. These agglomeration economies both begin with and thrive on an influx of human thinking capacities. While the ability to continually increase aggregate levels of human cognition is the make-or-break criterion, a snowball effect means that the more competent workers an area has, the easier it is to attract even more workers, each of whom values working with other competent people. Growth becomes endogenous and the area experiences high levels of innovation and high levels of new start-ups.<sup>20</sup>

Florida goes further to find that the whole of today's economy is moving toward an agglomeration style and that success today depends upon the level to which any area can master the three T's: Technology, Talent, and Tolerance (openness to new ideas, cognitive flexibility).<sup>21</sup>

Technology, of course, encompasses more than just computers and machines. The machines themselves are actually the product of the process of technology, which represents the know-how and ability to create a tangible product. Indeed, since machines like laptop computers are so cheaply and easily available, the cognitive aspects of technology are more readily apparent in the process. Technology, then, is dependent upon human cognitive capacities, as are talent and tolerance. In other words, the human being is the economic driver of the modern economy, a stark contrast to the machine-driven economy of the industrial age.

There is both good news and bad news in this realization. The good news is that an economy in which the main resources reside within individual humans should lead to a wider dispersion of economic resources. We also have an opportunity to experience a more entrepreneurial environment. As owner of his or her own cognitive assets, everyone is an entrepreneur.

The bad news comes from the flip side of the same argument. Since we can't directly transfer today's economic assets without teaching and experience, society cannot simply hand economic success to its children. Instead, we must help them to develop their own human capacities. It should be noted that the United States is quickly slipping from its leadership of the creative economy and that its "innovative infrastructure" is decaying.<sup>22</sup>

### **Creative Capacities**

Let's take a closer look at the capacities that workers in today's and tomorrow's creative economy will need to develop in order to succeed. Of course, in a creative economy, they will need the capacity of creativity: the ability to create value from the combination of human ingenuity and raw materials. While parts of the new economy are making use of artistic creativity, the underlying skills are those of creative problem solving and innovation in general. Levy and Murnane<sup>23</sup> see it as the ability to solve a problem that has not yet

been solved, which includes the ability to think flexibly about technical problems, social problems, and all manner of other problems. But the capacity of creativity also includes the ability to run the entire creative process from idea generation to, potentially, the formation of a tangible product. In this use of the term, thinking, feeling, and willing, qualities well known to Waldorf educators, are all necessary components.

Because they will be plying their own human assets in their entrepreneurial endeavors, today's children will need to know how to make full use of their human assets. In other words, they will need to know themselves. To make money from something as simple as a machine requires an understanding of how the machine works. The same is true of our own human resources when we put those resources to the money-making tasks in our lives. Included in this capacity is the ability to know one's skills and interests, the ability to muster the self-confidence needed to take a creative risk, the ability to get oneself into the high productivity state of "flow", as psychologist Mihaly Csikszentmihalyi calls it, and much more.

We can discover additional necessary capacities by examining the form and structure of modern economies. A typical industrial- or financial-age firm is organized in a hierarchical manner, as is the industry itself. It can be charted as a pyramid, with the CEO on top and layers of increasing numbers below. Firms are connected by formal ownership, by rigid ownership-like legal agreements, or by competitors.

Agglomeration economies, like Silicon Valley, however, are organized by dynamic, flexible networks of firms and of people. They can be charted as a pattern of interconnected "players" with little or no implied hierarchy. Relationships or "soft" contracts—agreements to work things out when a disagreement arises—replace the formal ownership arrangements and exacting legal contracts used by industrial-age industries. Competition and cooperation are interspersed, with the same companies sometimes facing each other both as competitors and as partners.<sup>24</sup>

In this world, relationships matter. UC-Berkeley Information Management Professor AnnaLee Saxenian finds that all business in Silicon Valley flows through a rich network of people and that these relationships determine everything from new firm formation to daily work flow.<sup>25</sup> In

the modern economy, as a whole, relationships matter. Princeton economist Alan Blinder and his colleagues find that eighty-five percent of non-farm goods and services are sold to people with whom the firm has an ongoing relationship.<sup>26</sup> Since a firm is not a person, these relationships must be managed by the people within the firm.

### Relationships Matter

The formation of London's St Luke's advertising agency is a case in point. In 1995, Omnicom bought the advertising agency of Chiat/Day. Fearing layoffs, the people of Chiat/Day's London office did not want to be under Omnicom's control. En masse, the employees quit Chiat/Day and started a new company, St Luke's, which maintained all previous client relationships and operated just as it had under the Chiat/Day name, leaving Omnicom holding an empty bag.<sup>27</sup> Omnicom may have owned the "company," but the employees owned the relationships with the clients. The company's entire value was stored in the client relationships.

Relationships matter not just because the economy is structured by levels of relationships among firms, but because the primary economic assets reside within individuals. Before an innovation becomes a marketable product, it is an idea that lives within the mind of the innovator. Few ideas get to market without the help of other ideas. This means that the people holding correlative ideas must work together in order to create tangible products. Relationships and interpersonal cooperation are part and parcel of the creative economy.

The emphasis on relationships brings to light another necessary capacity. In an economy in which relationships and "soft" contracts replace exacting legal obligations, trust and trustworthiness become essential. If Chiat/Day's employees had trusted Omnicom not to implement mass layoffs, they would not have left Omnicom with an expensive empty shell of a company. A reputation for trustworthiness is an important asset in the creative economy. Developing such a reputation requires the ability to act with responsibility and with a sense of ethics. I call this capacity virtue, although many other terms could be used.

Success, then, in the type of economy toward which we are moving, and that today's children

will experience, depends upon the capacities of creativity, self-knowledge, social skills, and virtue, however labeled. The main point is that today's children will need to succeed on the terms of entrepreneurs and not as laborers. There is evidence to suggest that these skills, or something akin to them, have always been necessary for success. We are, however, coming, in the mainstream, to an increased understanding of their importance.

### Downsides

While I have so far painted a fairly rosy picture of the creative economy, we should note that there are downsides to this change. I have worked in the bastions of both industrial capitalism—Wall Street—and the creative economy—Silicon Valley. In every manner, I experienced Silicon Valley as a place more supportive of human beings and of human ideals, as well as a more enjoyable and more egalitarian place to work. Working in the Valley, however, was no walk in the park. Hours were long, high levels of responsibility were expected, and I would not have survived without a continually fueled inner drive.

In general, in the creative economy individual markets and firms are notoriously unstable, even as the system itself remains stable. For those who do not manage personal change well, the level of flexibility required by the creative age may bring about nostalgia for the industrial age. Further, while the cooperative nature of creative age markets does ease competition, this can be a double-edged sword. With a minor decrease in competitiveness, there is more room for everyone to breathe and plenty of room for cooperation. But, if easing competitiveness goes unchecked, we can easily find a single firm dominating an entire market, a situation that rings of exploitation, not of freedom.

Most important, even though there is clearly a push toward a more human-focused economy, the dehumanizing forces that took hold during the industrial age are far from banished. As during any change, a careful eye on the direction of the change and a strong participative hand are needed to ensure that the creative economy lives up to its more humanizing potential.

We can take heart, however, from the understanding that, increasingly, parents will face less

pressure to socialize their children to fit into a dehumanizing system and will be increasingly interested in finding an education system that emphasizes fuller human capacities like creativity, cognitive flexibility, social skills, and the will force of an entrepreneur. Waldorf education, with its foundations in the entrepreneurial environment of Steiner's envisaged threefold social organism, has long been prepared for this challenge.

## Endnotes

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