

Preparing Higher Education for the World of Reduced Work

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Abstract

Many scholars have concluded that technological advances that have already reduced some midlevel jobs will result in significant additional reductions in employment opportunities in the future. This paper identifies changes to the higher education system that will help citizens to prepare for and respond to this world of reduced work. In recent years, Western (at least North American) education has been increasingly viewed as “preparation for jobs.” We propose a return to the historic purpose of collegiate education, namely, preparation for citizenship. This includes a renewed appreciation of the liberal arts (e.g., development of creativity, critical-thinking skills, and communication skills); additional insight into the Marxian concept of the importance of citizens’ contributions to society (i.e., the correlation between contribution and dignity); and suggestions regarding the effective use of the newly available free time.

Keywords: employment, higher education, Karl Marx, liberal arts, technology

The changing role of higher education in society has received significant scholarly attention. Higher education, however, is a very broad term. Wissema (2009) has addressed the changing role of major research universities such as Harvard and the Massachusetts Institute of Technology. He notes the increased cooperation between these major research universities, government funded research and the marketplace. In addition to the major research institutions that Wissema describes, there is another component of higher education which provides little, if any, of the cutting-edge research but provides most of the pre-graduate school education and has been the primary focus for job preparation for at least 100 years. This pre-graduate component is also experiencing significant change, but has a different mission than the schools addressed by Wissema's study.

Many scholars have concluded that productivity gains that are the natural consequences of technological advances will one day lead to a reduction in the number of jobs available to humans and, possibly, in the extreme, to a "world without work" (Aronowitz & DiFazio, 2010; Brynjolfsson & McAfee, 2015; Srnicek & Williams, 2015). A lighter labor society is certainly imminent. For many years Western society's attitude toward work (Weeks, 2011) has been and remains influenced by the Protestant work ethic (Weber, 1958), which links moral development to the expectation that everyone has, or should have, a job. It will be a challenge for Western (at least American) higher education to resolve the tension between the moral expectation to work and the reality in which there will almost certainly be far fewer jobs.

Brynjolfsson and McAfee (2015) declare that "it's time to start discussing what kind of society we should construct around a labor-light economy" (p. 14), and similarly, Thompson (2015) suggested it is important to envision a society with reduced work that is better than one with high unemployment that will probably evolve without thoughtful innovations. It is the

ambition of this paper to suggest changes to collegiate education implemented over the next few decades that might contribute to this solution. By the next few decades, we mean 25 or more years in the future. Selingo (2016) describes higher education's role in preparing students for their work 10 to 20 years following graduation from college. Thus, using Selingo's term, we are preparing for the "day *after* tomorrow." However, the technological advancements are arriving even faster than many people anticipated, so we could be facing the challenges of reduced jobs even sooner.

As we consider a lighter labor society, a natural question arises: If people cannot work, or work is reduced, how will they survive? Income, although very important, is not an educational issue by itself. This paper addresses only the question of how collegiate education can make wise and meaningful use of the new, technologically generated free time. In response to the world of limited work, some, but not all, economists have favored providing resources to everyone using the universal basic income or a negative income tax approach.

Marx and Engels, two of the most influential thinkers of the last 200 years, were convinced that labor is essential to human development. There is much to be appreciated in Marx's analysis of the human condition, especially his understanding of workers' alienation from their labor. Although grateful for much of Marx's work, we do not qualify even as "Marxist Lite."

As Koren (1967), one student of Marx, noted, "Work is the central reference point of Marx's philosophy...everything else is viewed from the perspective of work" (pp. 32-33). Not only was work addressed explicitly by Marx (1875) but it also was addressed implicitly in one of his most famous statements, perhaps the most famous, in which he described a good society: "From each according to his ability, to each according to his need" (p. 531). In Marx's good

society, all citizens should contribute as they are able, but what happens if there are no opportunities for citizens to contribute or if there are no opportunities to work? After all, work has been the traditional means of contributing to society. This paper addresses the impact on human experience of a world in which machines have eliminated most jobs.

The development, or threat, of a jobless world is discussed in Section 1 of this paper. Section 2a considers Engels's (1876) paper. Engels's work, long discounted by scientists, is now increasingly appreciated (Foster, 2000). In Section 2b, we advance from prehistory to the Industrial Age and consider Marx's (1875) concept of humankind's alienation from work. He described how in the modern industrial world, human beings despise the objects created through labor as well as the process that produced them. In short, Marx believed that industrial capitalism alienated workers from their very essence as human beings. Ollman (1971) described the loss of the "distinctive [human] qualities which set man apart from other living creatures and explains how these qualities are erased by the processes of capitalist society" (p. 153). Such alienation also corrupts human beings' interactions with other workers. Section 3 summarizes many studies that have claimed that work contributes positively to human health and well-being.

In Section 4, we discuss the basic purpose of this paper, which is to support changes to collegiate education that can help society to prepare for a world of reduced work. In Section 4a, we review the early American liberal arts education, the only kind available at that time, noting that it had little to do with work preparation. Rather, it focused on governance and leadership of society. However, over the last century, the early American vision of education has changed. Increasingly, society has come to view education primarily as "job training." We argue that a reduced work world heightens the need to reclaim the ancient liberal arts goals of education, which contrast with the recent focus of education as job preparation.

In Section 4b, we review Marx's summary of the good life. First, having a sense of contributing to society is important in maintaining human dignity and mental health. Second, in a world of reduced work, valuable human contributions often will be noneconomic. Section 4c anticipates that the reduction in work will result in increased leisure. We propose uses of leisure that contribute to social and individual health, and to more meaningful lives.

Section 1: Wonderful Technology and the Fear It Generates

In the 19th century, English textile workers became fearful that new and emerging technology would impair their chances for employment. The more skilled workers feared the new technology because it created employment opportunities for less well-trained workers. In one sense, their fears about technological development were justified because the jobs of some textile workers were threatened and ultimately lost. However, as Schrank (2015) observed, over the longer term, the Industrial Revolution that created concerns about jobs also gave birth to the modern industrial world and the benefits that most contemporary workers take for granted. These benefits include the 8-hour workday; paid vacations; unemployment checks; and the modern era of workplace regulations, with increased safety measures and better working conditions. Increasingly, in the current world, there are machines, those already at work and the more advanced versions promised, that are not limited to 8 hours a day or expect overtime pay. They are usually faster than the humans whom they have replaced, are prone to fewer errors, and do not get bored with repetitive and monotonous work. Machines can do things that are hard (impossible?) for humans to do. Brynjolfsson and McAfee (2014) reported seeing a video of "a group of small drones, acting in concert and without human control, build a rope bridge across a short chasm" (p. xi). The new machines raise the question: Are machines serious threats to human workers?" These developments also ask about the ultimate ability of humans to compete.

Nobel Prize⁷ economist Wassily Leontief (as cited in Brynjolfsson & McAfee, 2015) compared the future of human work, as it faces competition from machines, to the experience of horses in the United States during the 19th and early 20th centuries. From 1840 to 1900, the horse population in the United States grew because many horses were used in agriculture and transportation. By 1900, the horse and mule count in the United States had reached 21 million.

However, as Brynjolfsson and McAfee (2015) observed:

With the introduction and spread of the internal combustion engine, the trend [of using horses] rapidly reversed. As engines found their way into automobiles in the city and tractors in the countryside, horses became largely irrelevant. By 1960, the United States counted just three million horses, a decline of nearly 88 percent in just over half a century.... once the right technology came along, most horses were doomed as labor.

(p. 9)

Does the history of the horse foretell the future of human workers?

Autor (2015) pointed out that the massive investment in computer equipment and software between 1950 and 2012 encouraged some observers to “infer that there is no task to which computers are not suited....But [Autor concluded] the leap is unfounded” (p. 129). He distinguished between tasks that can be easily computerized (i.e., those that follow explicit codifiable procedures) and those that require “flexibility, judgement and common sense—skills that we understand only tacitly—for example, developing a hypothesis or organizing a closet. In these tasks, computers are less sophisticated than preschool children” (p. 129).

One author of this manuscript, now a social work professor, worked for 12 years as a school social worker who made frequent home visits. He questions whether a computer could respond adequately to situations where the physical and/or emotional needs of the children are

not being met, particularly in instances that involve domestic violence. In social work and similar human relations professions, Autor's (2015) requirements that computers need "explicit, codifiable procedures" (p. 129) are seldom met. Situations involving human relations require judgment, caring involvement, empathy, and creativity, demonstrating that as Thompson (2015) noted, "Our humanity is a moat that machines cannot cross."

That some jobs in a world of reduced work will not be eliminated does not mean that most jobs are safe. Frey and Osborne (2013) evaluated more than 700 job categories and concluded that 47% of the American workforce is at risk of losing their jobs within the next 20 years. Researchers such as Aronowitz and DiFazio (2010), Brynjolfsson and McAfee (2015), and Srnicek and Williams (2015) also have expressed that technology will, ultimately, eliminate many, if not most, jobs. The losses will be especially intense in manufacturing, construction, service professions, and transportation.

Some researchers have asserted that the impact of technological unemployment is already evident. Brynjolfsson and McAfee (2014) pointed out that beginning around 2000, productivity grew while employment remained essentially constant, a trend that will be exacerbated in the future. The quantity and quality of jobs for many workers will change. Preparing the future non-workers for this reduced work world will be one of the major educational challenges for the remainder of the 21st century.

Section 2: The History of Human Work

2a. Man Becomes a Tool Maker

It has long been recognized that animals use tools. The authors believe that technology is an extension of man's tool-making that began early. Tallis (2003) noted, "What is at issue is how different is their use compared to ours and the significance of this difference" (p. 224). Sennett (2008) wrote, "Man-apes make tools, humans make culture" (p. 150).

Engels's (1876) document signaled a transition in our understanding of humankind's prehistoric evolution. Foster (2000) commenting on Engel's, noted the importance of human work and identified it as the "distinctive ecological niche occupied by humanity" (p. 205). In Engels's view, labor "is the prime basic condition for all human existence, and this, to such an extent that...we have to say labour created man himself" (p. 1). As Pickard (2000) opined, "None of the enormous cultural achievements of the last 10,000 years—civilization, science, etc.—have been due in any significant way to biological change, *they have all been achieved by labor* [italics added]" (p. 10).

2b. From Toolmaker to Alienated Human Being

The picture changes when we consider the world of the 19th century, which is when the Industrial Revolution occurred during the life of Marx. Marx was of the opinion that the cultural achievements that humanity had gained by tool making and labor were now being degraded through capitalism. Marx observed that new machines and technology were frequently appearing, with the result that the independent craftsmen of the medieval guilds were going out of business. A new economic reality, the factory, was appearing. He recognized that "in handicrafts the workman makes use of the tools. In the factory, the machine makes use of him" (as cited in Fromm, 1962, p. 51). Fromm (1962) observed that "for Marx, the history of mankind

is a history of the increasing development of man and at the same time of increasing alienation” (p. 43). Schleuning (1990) reported that “with the introduction of machines, the worker lost both economic and aesthetic control of the product” (p. 31) of his labor.

Koren (1967) wrote a one-paragraph summary of Marx’s view of history:

As long as cloth was produced on a spinning wheel and a handloom, each family could own and operate the means of production it needed to make homespun materials for its own use. Owner, worker and consumer were identical so that the worker literally worked for himself. [But, Koren continues, with magnificent understatement,] With the introduction of the textile mill...*the situation changed* [Italics added]. (p. 36)

In bourgeoisie society, the capitalists who own the machines do not operate them. Instead, we now find nonworking owners and working non-owners. The two classes, owners and workers, provided the stimulus that shaped the philosophy of Marx.

Fromm (1962) recognized that “For Marx, man is alive only inasmuch as he is productive.... as man is not productive...he is nothing, he is dead.” (pp. 29-30)

Fromm (1962) noted the importance of labor for Marx (with an understanding particularly relevant to the purpose of this paper):

Labor and capital were not...for Marx only economic categories; they were anthropological categories, imbued with a value judgement...rooted in his humanistic position....Marx’s central criticism of capitalism is not the injustice in the distribution of wealth; it is the perversion of labor forced into alienated, meaningless labor, hence, the transformation of man into a “crippled monstrosity.” (p. 42)

As Fromm (1962) explained, “For Marx, the history of mankind is a history of the increasing development of man...[but] at the same time of increasing alienation” (p. 43).

Kolakowski (2005) opined that although the language that Marx used to describe alienation changed over the years, the concept of alienation remained a continuing theme throughout his work over 30 years. Ironically, although Marx appreciated the important role that labor had played in human development, by 1844, the alienated labor that accompanied the Industrial Revolution had become for Marx the central focus for all that was wrong with civilization, as though the gold that had characterized humankind's early development had now turned to rust.

The depth of alienation that Marx identified was documented by Terkel (1974) in his 20th-century interviews across a wide range of American professions. However, in contrast to Terkel's negative comments regarding work, Waddell and Burton (2006) counterargued that work is good for health and well-being, a topic discussed in Section 3.

Section 3: The Relationship Between Work and Well-Being

In the United Kingdom, Waddell and Burton (2006) reviewed the scientific evidence regarding the question whether work is good for one's health and well-being and offered the following conclusion:

There is a strong evidence base showing that work is generally good for physical and mental health and well-being. Lack of employment is associated with poorer physical and mental health and well-being. Many forms of work can be therapeutic and can reverse the adverse health effects of unemployment. That is true for healthy people of working age, for many disabled people, for most people with common health problems and for social security beneficiaries. The provisos are that account must be taken of the nature and quality of work and its social context; jobs should be safe and accommodating. Overall, the beneficial effects of work outweigh the risks of work, and are greater than the harmful

effects of long-term unemployment or prolonged sickness absence. *Work is generally good for health and well-being* [emphasis added]. (p. ix)

In a related study, Dodu (2005) observed:

There is overwhelming evidence...that employment is actually one of the principal activities that defines our humanity...[It] plays such a dominant and integral part in personal lives and social infrastructure that people *often define themselves by the employment they do* [italics added]. (p. 17)

This importance of vocational identity helps to explain why so many surnames reference professions: Baker, Barber, Carpenter, Cook, Mason, Miner, and so on. It is the case that when two people meet for the first time after the initial “What is your name?” the next question often is “What do you do?” (Dodu, 2005, p. 22). We can and do understand something about new friends or acquaintances by knowing how they spend much of their time. We want to know what contributions these fellow human beings make to the collective social life.

The “What do you do?” question persists in Western culture as a Marxian-defined extension of our probe into human essence. We want to identify ourselves as responsible contributors and as caring and committed human beings. Marx asserted that the good society not only provides for the needs of every person but also recognizes that the good society calls for all persons to contribute according to their ability, that is, to have a productive life.

Marx (1875) wrote:

Since labor is the source of all wealth, no one in society can appropriate wealth except as the product of labor. Therefore, if he himself does not work, he lives by the labor of others and also acquires his culture at the expense of the labor of others. (p. 526)

In contrast, Terkel's (1974) summary of more than 150 interviews resulted in a negative assessment of how most people felt about what they did every day:

This book, being about work is, by its very nature, about violence—to the spirit as well as to the body. It is about ulcers as well as accidents, about shouting matches as well as fistfights, about nervous breakdowns as well as kicking the dog around. It, above all (or beneath all), is about daily humiliations. To survive the day is triumph enough for the walking wounded among the great many of us. (p. xi)

In a similar report Fung (2012) observes the negative impact associated with modern working conditions. Of special interest he notes the experience in France where reducing the working hours improved health. Resolving the differences between these two conclusions regarding work is one of the challenges facing education in the future. Perhaps our attitude toward work is much like our attitude toward vile-tasting medicine: We know it is necessary, but we might never enjoy the taste.

Section 4: Preparing to Live Well in a World With Little Work

Not only is the world changing but the rate of change also is accelerating. Until the Industrial Revolution, very little changed in the life of a family from generation to generation. A child born to a farming family in the Middle Ages would till the same ground in much the same way, as his great-grandfather. His children and his great-grandchildren could expect little change in their lives. In contrast, individuals who live in the modern world find that each century (or now even each decade) is different from its predecessors. Brynjolfsson and McAfee (2014) reported that “some of the entrepreneurs...[and] researchers... that we trust most have told us the technology-based future is arriving much faster than they thought” (p. xi). One of us recently heard the president of a Fortune 500 company say that his company purchased thousands of

computers every year, despite knowing that as they placed a computer on a desk, it was already obsolete, outclassed by one that was faster and better. Educators of the future face the dual challenge of a rapidly changing world and prospects that there will be fewer jobs.

Although, at the beginning of this project there is much to be learned, we can, however, identify three areas in which future collegiate education must be different from today's practice. These areas are summarized and addressed in more detail in Sections 4a, 4b, and 4c. These three sections, although separate, are not completely independent, especially Sections 4b and 4c.

Section 4a: In the world of reduced work, one goal of education must be to develop the skills, values, and commitments appropriate for citizenship and leadership. Job preparation cannot remain the primary goal of education in the reduced work world.

Section 4b: Part of the new educational experience required in a world of reduced work will be to help citizens to understand and appreciate the reality and value of noneconomic contributions. The capitalistic history of the last 200 years has taught us to assign an economic value to anything worthy of being called a contribution. Housework and parenting are recognized as contributions, but they are not valued as economic contributions (Weeks, 2011). This shortcoming needs to be corrected. In this new worldview, the Marxian axiom regarding each citizen's contribution has been largely ignored. A meaningful life requires all citizens to contribute that "of which they are capable." In the world of reduced work, however, where most material needs are met by the productivity of machines, citizens' contributions might be mainly noneconomic. Helping society to contribute to and appreciate noneconomic contributions will be a major educational challenge.

Section 4c: One of the results of the limited work world will be an increase in leisure time. Mental and physical health requires that leisure be employed appropriately. Preparation for

leisure will increase in importance and will contrast sharply with contemporary education's emphasis on preparation for work.

4a. Reclaiming the Liberating Arts as Preparation for Citizenship

Collegiate education in the United States began with the founding of Harvard in 1636. Early American colleges were liberal arts colleges that were modeled after Cambridge and Oxford (Lane, 1987). The term *liberal* implied education "appropriate for free men"; it was the education considered essential for the free citizens of ancient Athens and Rome and early America. Such an education would prepare students for service to church and state. This education developed a sense of moral responsibility and an awareness of the needs of society, and it enhanced writing and speaking abilities to communicate one's ideas. Only a few citizens experienced this education. It was not considered appropriate for slaves, craftsmen, and women, none of whom enjoyed suffrage. The goal for free citizens was participation in civil matters. This liberal arts curriculum formed the heart of the American collegiate education until it was displaced by a vocational approach after the Morrill Act of 1862 (Lightcap, 2016).

The educational foundation of the liberal arts had begun to shift by 1827, when a member of the Yale governing body asked the faculty to substitute other academic subjects for the study of the classical languages. Although we recognize that the liberal arts had a long history in Europe prior to the founding of Harvard College, for brevity, we limited our study to a discussion of the educational experience in North America. There was ambivalence in the faculty's basically conservative response. "The Yale scholars never doubted that their task was to prepare society's leaders for their future role" (Herbst, 2004, p. 216).

The growing concern with an education limited to the classical liberal arts tradition reached a climax in July, 1862, when Justin Smith Morrill, a representative and later a senator

from Vermont, maneuvered through Congress a bill eventually called the Morrill Land-Grant Colleges Act. This action established institutions in each state that would educate people in agriculture, home economics, mechanical arts, and other professions that were practical at the time. This legislation provided strong financial support to each state in the form of 30,000 acres of land for each congressional representative. Because each state had at least three representatives, one congressman and two senators, each state received at least 90,000 acres. Some states received much more. It was anticipated that the grant would generate resources to establish new vocational and professional schools.

The Morrill Act (Lightcap, 2016) introduced two new concepts that played a significant role in subsequent American collegiate education. First, the act began to shift collegiate education in the direction of job preparation as the primary goal, a shift that came ultimately at the expense of the traditional liberal arts. Second, the act provided the first financial involvement of the federal government in education, a trend that eventually resulted in establishment of the U.S. Department of Education with broad-based federal support for education. The traditional liberal arts model for undergraduate education did not vanish immediately. After all, it had been the standard in the United States since 1636, but with the passage of the Morrill Act (Lightcap, 2016), the long-standing liberal arts model now had a competitor for the minds and resources of American education.

Over the long term, the shift from liberal arts majors to career-oriented majors was profound. Connor (n.d.) pointed out that from 1979 to 1994, bachelor's degrees granted in vocational and professional areas such as computer and information sciences, health professions, public and business administration, and business management had increased many-fold. On the other hand, the number of degrees granted in English, foreign languages, philosophy, religion,

and history, the traditional liberal arts, had declined. Increasingly in recent years among the legislators who provided resources for education and parents who paid the tuition, the purpose of education was to obtain the skills and credentialing necessary to land a job (Connor, n.d.). With the decline in the number of jobs, the role of citizenship and leadership will, once again, become a major part of collegiate education.

4b. The Necessity of Contributing

A society should provide for its citizens the traditional human needs, including food, clothing, shelter, security, education, retirement, and basic health. But these “needs” alone are never enough because “man does not live by bread alone” (Matthew 4:4). The weakness of neoliberal welfare programs is that in meeting physical needs, they often overlook important human needs. Making a contribution to society is a profound human need. It is the ultimate source of human dignity.

Marx’s (1875) “banner” statement noted the obligation of society to its citizens, but it also identified the duty of citizens to society. Gilabert (2015) described Marx’s statement as “the ethical heart of socialism”⁷ (p. 197). Gilabert (2015) expressed surprise, a conclusion with which we concurred, that Marx’s statement on the need for contributions “has received almost no attention from political philosophers” (p. 197). He noted that “in contemporary debates, [this principle] is often referred to as the ‘Needs Principle’ ” (p. 220). Gilabert labeled it differently, “adding [a] reference to ‘Abilities’ [ANP] to emphasize that it addresses both the demand and the supply [side stating] rights to receive...and in conjunction, duties to give” (p. 220). We believe that philosophers have devoted considerably more attention to the moral issues relevant to allocating resources than to the moral issues related to contributing to a “good” society. Although Marx’s contributions/needs division is a convenient device, we believe that it tends to

diminish how much every society depends on the contributions of its members. Not only does society need citizens' contributions but citizens need the experience of contributing. "Making a contribution" is a basic human need and an essential element in achieving and maintaining human dignity but realizing that one is "making a contribution" (according to ability) will become more problematic in the world of reduced work.

Brooks (2017) argued:

To be treated with dignity means being considered worthy of respect... We feel a sense of dignity when our own lives produce value for ourselves and others.... Put simply, to feel dignified, one must be needed by others. The War on Poverty did not fail because it did not raise the caloric consumption [of the Appalachian poor]...(it did). [Actually, there is now an obesity problem in Appalachia.] It failed because it did nothing significant to make [the poor, uneducated Appalachians feel] needed and thus help them gain a sense of dignity. (p. 109)

The emotional reaction to being unemployed is complex and varies widely between individuals. For some, certainly, the difficulty is that unemployment makes it impossible to provide for the necessities of those for whom they are responsible. For others, the issue is seen in the revealing comment of Young (2012) who noted that "the brooding introspection of the [unemployed] is not a result of reduced income per se, but rather due to the status of being unemployed, that is, being *separated from one's identity as a productive person* [italics added]" (p. 611). The challenge of educating citizens in a world with limited work will be to prepare them to be productive persons and, importantly, to feel like productive persons. Without that self-awareness, financial investment in their physical needs accomplishes very little, as the experience of the War on Poverty revealed.

A society is not just a way to allocate resources and opportunities. The citizens of a society must generate the resources to support themselves. The reason that societies coalesced was that they might create the benefits of unity more effectively. The original condition that brought primitive societies together was safety; later, it often was productivity. As Marx realized, both of these goals require citizens' contributions, outcomes that are good for citizens as well as societies.

One of the major challenges facing all neoliberal governments is to provide societies that meet human needs without destroying human dignity in the process. Making a contribution to the success of society is itself a major human need. There are many opinions of the views of Saul Alinsky. Some, we confess, disturb us, but we believe that Alinsky addressed something fundamental when he proclaimed, "I'll steal before I'll take charity" (as cited in Meade, 1992, p. 225). Charity, whether from private sources or government policies, is necessary in many cases and should be endorsed, but support from private or government sources does not meet, and cannot satisfy, the human need to contribute. The challenge of providing welfare and dignity at the same time is a fundamental challenge for all neoliberal governments that will grow as work opportunities decline or disappear.

The importance of making contributions to society is not a new concept. What is new is that in the world of reduced work, such contributions often will be noneconomic. For most of economic history, a contribution generally meant something that could be assigned a monetary value. In the world of reduced work, society will face the challenge of educating citizens to understand and appreciate the value and importance of noneconomic contributions. This includes activities such as the plastic arts and the performing arts.

In an educational program the first step in helping citizens understand that they need to make a contribution is to help citizens appreciate that the society is enhanced, and the experience of all citizens is improved by art, music, drama and the collection of good deeds and selfless contributions of each citizen to the whole. In short, seeing these non-economic activities of others is important in learning to appreciate that each citizen must do their part.

4c. Fruitful and Useful Leisure

Our concern in this section is with the appropriate use of the increased leisure resulting from developing technology. Since humankind's beginning as a toolmaker, using tools first and machines later, technologies have improved human life by making some things easier and others even possible. Considering the future, it seems clear that machines will make many things easier, faster, and cheaper than when done by humans, resulting in additional leisure time. If this new leisure is well used, it will be a boon to meaningful life. However, if increased leisure is not used well, it will be a disaster. The meaningful use of this additional leisure is the major educational challenge for the 21st century.

As early as 1867, Marx expressed concern about the need to shorten the workday to 8 hours. In Marx's time, workdays of 10 or 12 hours and schedules of more than 60 hours per week were common (Bauer, 2016). One of the authors had the privilege of marrying into a family that had worked in the same South Carolina textile mill for three generations. His wife's grandmother was born around 1882. The author knew her into her early 90s. She told him that she had gone to work in the mill when she was 9 years old. She worked from 6 a.m. until 6 p.m. on weekdays and from 6 a.m. until 4 p.m. on Saturdays. She worked five 12-hour days and one 10-hour day for a total of 70 hours per week. They got an hour for lunch each day; that is when

she played “jack-stones” under the machinery. It was not until 1940 that the 8-hour day and the 40-hour week became the legal standard for all private industry in the United States.

Today, leisure is often thought of as time when we are not working. Aristotle, however, saw leisure differently. For him, it was more related to the antonym of required action. De Grazia (1962) summarized Aristotle’s view that “leisure is freedom from the necessity of being occupied. This includes freedom from the necessity to labor but it could also embrace any activity one finds necessary to perform” (pp. 14-15). Or again, “Leisure is a state of being in which activity is performed for its own sake or its own end... The capacity to use leisure rightly... is the basis of the free man’s whole life” (De Grazia, 1962, pp. 15-16).

The importance of meaningful leisure was supported by Morris (1999), a middle-class socialist, artist, and business person. He observed that art is a voluntary activity that gives the artist pleasure in the object and in the process that created it. Morris opined that no one “would think it either a good life or an amusing one to sit with one’s hands before one doing nothing—to live like a gentleman, as fools call it” (p. 3) One of the goals of education in the world of reduced work is to help citizens to develop activities that they find meaningful and that result in physical or conceptual objects that are beautiful and useful.

What is called for in future education is reminiscent of the role of the craftsman as it existed before the craftsman was dethroned by the Industrial Revolution. In the preindustrial period, craftsmen were independent contractors who set their own schedules and focused on their own products and the processes of creating them. This also should be the life of citizens in the world of reduced work. Sennett (2008) wrote that “craftsmanship names an enduring, basic human impulse to do a job well for its own sake” (p. 9.) The pride and satisfaction in how people use their time is critical in the world of reduced work.

We suspect that many of the craft-like skills that emerge will have to do with the development of a combination of hand and mind, a practice that began with toolmakers long ago. As Wilson (1999), a contemporary student of the hand observed, “The hand speaks to the brain as surely as the brain speaks to the hand” (p. 291). The skills of craftsmen do not emerge easily or quickly. Sennett (2008) pointed out that it takes about 10,000 hours of instruction and experience to master a complex activity. Crawford (2009) argued in favor of the value of the manual arts, pointing out that “craftsmanship means dwelling on a task for a longtime and going deeply into it, because you want to get it right” (p. 20). Creating craftsmen is the ideal use of the abundant free time in the world of reduced work.

In Marx’s view, if there is no activity that engages humans, they will die (as cited in Fromm, 1962). Similarly, Sennett (2008) observed, “Diderot believed boredom to be the most corrosive of all human sentiments, eroding the will” (p. 92). Because boredom is one of the dangerous possibilities in a world of limited work, one of the serious challenges will be to create an educational system that engages otherwise bored citizens.

The preparation of citizens is a universal educational task that applies to all adult citizens. That all citizens can be prepared for the coming world of reduced work might be the point at which the strongest objection to the thesis of this paper is raised. Many scholars have expressed concern that the future will bifurcate into two worlds, namely, one for those who are technically well prepared and one for the masses, who do not qualify. Sennett (2008), in contrast, claimed that the Enlightenment believed that nature furnished humans at large with the intelligence to do good work.... Modern society tends to emphasize differences in ability; the “skills economy” constantly seeks to separate smart from stupid people” (p. 241).

In contemporary education, craft-type learning often is disparaged. Education is separated into technical and bachelor's degree programs so that education obtained in a technical discipline (e.g., manual, craft-type learning) is not valued as contributing to the education for a bachelor's degree. This attitude was one of the issues that Diderot and d'Alembert responded to as editors of the *Encyclopédie*. As Diderot commented, one of its aims "is to vindicate the social value of the 'mechanical arts' and to put to silence the snobbery which imagines a social gulf between them and the 'liberal arts' " (as cited in Furbank, 1992, p. 76). This issue from the Enlightenment is still an issue in contemporary education.

The challenge for education in the world of reduced work will be to encourage human beings to take up voluntary activities that will avoid the boredom that Diderot feared. Education in the world of reduced work that helps to prepare people for citizenship and leadership also should encourage the development of craft-type skills, not for financial gain but as a way to develop activities valuable to society and meaningful to the citizens who create the work. Sennett (2008) cited Wright Mills's assertion that "the laborer with a sense of craft becomes engaged in the work in and for itself; the satisfactions of working are their own reward" (p. 27).

As Sarason suggested, these activities could include the following:

A cabinet, a painting, a hot-rod engine, a poem, a back-flip, a smile on the face of a nursing home patient, a triangle drawn on a piece of paper or a horse shoe. No object or action is automatically excluded. (as cited in Wilson, 1999, p. 292)

Sennett (2008) recognized that professionals such as computer programmers, writers, teachers, and doctors, along with parents, would benefit from the vision, style, and commitment to excellence of craftsmen. In addition, society itself would benefit from the human activity and the commitment to excellence.

There are two leisure activities practiced in the contemporary world, that is, volunteering and hobbies, that point us in the right direction regarding the use of leisure. By themselves, these activities are not panaceas for the challenge of the limited work world, but both have merit. The United States has a long history of volunteer activities that can be interpreted as serving the community without expectation of financial compensation. Thoits and Hewitt (2001) noted that Tocqueville, in his famous 1835 tour of the United States, reported, “American adults [were] more than twice as likely as German and French adults to [contribute] time and energy to community work” (p. 115). Volunteers in the contemporary world already make contributions that are recognized, needed, and appreciated. In contemporary college programs many colleges already require some type of volunteering as a course requirement, or in a few cases, as a graduation requirement. All students (as future citizens) should be encouraged to spend some part of their educational time learning how to make their society a better place in which to live.

In the world of reduced work, volunteering might be expanded to include activities that are not always currently associated with volunteerism. Volunteers might contribute as poets; writers; storytellers; specialized chefs; or caregivers of the young, the elderly, and the handicapped. All of these activities make valuable contributions to society. These are examples of noneconomic activities that make society a better place. Some volunteer roles require preparation and training; others do not. One of the new challenges for future education will be to prepare citizens to provide these volunteer services and to prepare the public to appreciate these services.

Children at a young age begin to sense the importance of “making a contribution.” Recently, one of the authors of this paper was entering a building with heavy doors. Two boys, age 9 or 10 years, rushed to help to open the heavy door for him. It was important to them to

“make a contribution.” This author has also had the opportunity to work with children with special needs. It means a great deal to them when they can provide a service and that their help is recognized and appreciated. Some programs for children with special needs have found that helping the children feel useful is an important part of a special education curriculum. Making a contribution is a major component of human dignity. The importance of contributing is fundamental in any society, but it is especially important in a work world, where the ability to make an economic contribution is reduced. The inherent desire to live a useful life is part of the explanation for the residual persistence of the Protestant work ethic, even when the theological tenet that gave rise to it has almost vanished. The authors of this paper once knew a lady who had worked for 55 years in the spinning room of the same textile mill. She was the kind of “hand” (management’s label for hourly workers) that employers like to hire: intelligent, motivated, conscientious, and dependable. Although not theologically sophisticated, she could easily have bought into the Protestant work ethic. She exhibited little of the alienation regarding work that Marx described. Instead, she wanted to know how the cloth she was making was used, and she yearned to know that she was making a contribution. She agreed with the author of this paper when he suggested that placement of a mannequin at the entrance to the mill dressed in the cloth from her mill would have meant much to her.

Many volunteer activities are already engrained in modern life, and for some people, whose alienated work and professional lives are deeply unsatisfying (Terkle, 1974), these volunteer contributions give their lives meaning. Thoits and Hewitt (2001) noted that volunteer work not only benefits society but also enhances personal well-being, which includes the components of happiness, life satisfaction, self-esteem, a sense of control over life, and physical

health. As an undergraduate history major, one of the authors of this paper read about 18th-century gentry who would volunteer in their leisure time to drive a stage on the challenging road from London to Bristol. That they would be paid for such “work” was, of course, unthinkable. Driving the stage was, for them, recreation. Even the so-called idle gentry wanted to demonstrate that they could be useful. The challenge for the field of education will be to structure learning so that it enhances and supports volunteer activity.

Hobbies are activities that provide self-generated entertainment. They often bring meaning to the lives of the participants, and in special circumstances, they are of value to the community. One hobby, as an example from many, is amateur radio operating. The advocates of this hobby often use homemade electronics equipment to communicate with other hobbyists around the world. The motto of amateur radio is, “When All Else Fails.” In emergencies, when all other modes of communication are nonfunctioning, these operators provide a valuable community service.

Conclusion

Three major goals of education must be integrated into the inevitable technological transition to the world of reduced work:

1. The emphasis on the liberal arts as preparation for citizenship and leadership will become increasingly appreciated as education for job preparation diminishes. Society will need, as it has always needed, morally responsible leaders who are able to communicate their ideas to the larger society. In the modern world emphasis on moral education may seem strange, even quaint, but no one would have been surprised at Harvard in 1636.

2. In the world of reduced-work the importance of citizens' noneconomic contributions to society will be increasingly appreciated and useful. Some noneconomic contributions include art, music, drama and poetry.
3. A world of limited work will mean an increase in leisure time. Proper mental health and physical health require that leisure time be employed appropriately. Preparation for leisure will increase in importance and will contrast sharply with contemporary education's emphasis on preparation for work. Educators often encounter career-oriented students who ask "Why am I having to waste time on the arts when I need to get on with my major?" A truly educated person will at heart be a craftsman, yearning to produce an object of beauty.

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