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We live in the twenty-first century. We live in a world that depends on technology and machines for a plethora of functions, from washing the dinner dishes to doing our homework to calculating the exact velocity and angle at which a space ship needs in order to penetrate the Earth's atmosphere safely. In today's society, it is extremely difficult to even fathom someone living without the benefits of technology. But all of this dependence on technology and machines brings some concerns. Have we been trained to NEED these machines in order to live? Has our society diminished intellectually due to the lessened need for mental work caused by the availability of machines that can not only do the work for us, but often do it better and faster? Have our relationships and social interactions been influenced by this boom in technology? And if so, for the better or the worse? Machines can be beneficial and even help to teach us, but in the long run we should not over use them or become too dependent on them. We should keep our dependence on machines as minimal as possible.

Although the studies done by Maja Matarić show that therapeutic robots can help the elderly, mentally impaired children, and those recovering from a stroke or other physical impairment to recover faster and more efficiently, and to improve in their social skills in the short run, they have failed to produce long run results. This does not mean that in the long run the patients are worse off than they were before, however these people have been shown to form bonds with the robots that they were unable to form with other humans, according to M.I.T. Professor Sheryl Turkle. The ability and willingness to form a bond with a machine as opposed to forming one with another human poses a problem. The people bond to the machines more readily because they claim that they "can't trust people." This lack of trust can cause societal problems. By providing people with an alternate to coping with problems, machines are not only avoiding the issue of the lack of trust, but they are also making it worse. People who find a

friend and confidante in a machine rather than in a person can become introverted and antisocial. These characteristics diminish human relationships.

In addition to the lack of trust between people, machines can also foster the formation of false relationships. For example, there is a virtual world online, called Runescape. My brother had become an avid partaker in the antics of this virtual world. He was able to make his own avatar, purchase and sell items with virtual money, and even make friends with people who could have lived halfway around the world or just down the street for all he knew. He became so engrossed in this virtual world that he had to check up on his avatar with every second of free time that he had. He substituted hanging out with his real friends for chatting and pillaging with his virtual ones. Fortunately, after having been cut off from the game by my parents, my brother bounced back and was able to go back to his human relationships instead of being stuck with his virtual ones. In instances such as this people become attached to a machine, or virtual character in this case, and form a relationship with that entity. "They begin to love it, and nurture it, and feel they have to attend to the [machine's] inner state." (Sheryl Turkle, "Robots That Care," *The New Yorker*, November 2, 2009). Eventually, they expect the same feelings in return, feelings which a machine is unable to give.

Another example that gives false perception of relationships is social networking on the internet. The "machine" in this case is the computer. Networks such as Facebook, Myspace, and Twitter, include accounts in which you have "friends" and are able to chat, share pictures, and tag people in statuses, notes, and wall posts. Often the number of friends a person has or the amount of updates they are included in is considered to be directly related to their social status. Although it gives the perception of climbing the social ladder, it can actually have the opposite effect. A person can become so enveloped in improving their social network status that they can forget about their real life relationships. I know from personal experience that the number of friends a person has on Facebook doesn't mean that they are that popular in reality. I have over a thousand "friends" on Facebook. The majority of people who have a Facebook

account can't say that. Judging by this statistic I should be one of the "popular" people, right? Wrong. I'm not saying that I'm unpopular, but this number is not an accurate reflection of my social status. Many of my "friends" are from schools that I previously attended or are people that I met once and never talked to again. That is the case for most people with social network accounts. They have hundreds of "friends" but only a fraction of whom they actually talk with on a regular basis. These false perceptions of relationships diminish our real relationships.

The same can be said for the use of email or cellular phones as a means of communication. Again drawing from personal experience, I have nearly 250 contacts programmed into my cellular phone, but I only make contact with about 15 of them on a regular basis. I'll be the first to admit that I find it easier to talk to some people through a phone rather face-to-face. The computer or phone doing the talking for you provides a kind of safety net that people take advantage of. These machines were invented to provide the ability to communicate quickly over long distances where face-to-face contact would have been impossible. They have since lost the necessity factor and now are simply used for convenience. There are classic cases in which people use texting or email as a means of asking uncomfortable questions or having conversations that they would not want to have face-to-face. This form of use is what makes these machines so detrimental to our already fragile human relationships. We need to be able to communicate face-to-face in order to have healthy relationships. We talk to people via text and email who we would never talk to if it had to be done face-to-face. Sure text and email provide convenience, but they take away much more than that.

In addition to be sociologically harmful, the use of machines can also be intellectually harmful. Texting can again be used as an example. It has been shown that texting on a regular basis over a long period of time can decrease a person's IQ by as much as ten points (Michael Horsnell, "Why Texting Harms Your IQ," *The Times*, April 22, 2005). This is more than double the harm caused by smoking marijuana, which only lowers it by an average of four points. The use of abbreviations in texts has been shown to hurt a person's grammar as well. The majority

of the people who text today are teens and young adults. This is the period of a person's life where their brain is still developing so by using incorrect grammar in texts, they are in affect learning the language incorrectly. This can have long term detrimental learning effects.

Another example of a machine that can have an impairing effect is the calculator. Before calculators were common, students had to learn mathematical equations and processes, memorize them, and be able to complete them using only a pencil and piece of paper. By doing so, the students learned not only the equation, but also how to apply it. With the complex calculators that are available today students no longer need to have that ability. Many calculators come preprogrammed. The student only needs to know enough to be able to find the program in the calculator. In my AP Calculus class we learned Newton's Law of Approximation. This process allows a person to find the exact zeros of an equation by beginning with an educated guess. After reviewing the Law in class the teacher immediately gave the class the program to put into our calculators. By doing this, he took away our need to remember the equation. He also took away the need to remember how to apply it because we were always told specifically that that was the equation needed. The calculators lessened the burden on our brains; therefore we did not have to try as hard and consequently didn't learn as much. Machines other than the calculator have the same affects. Computers make information easily accessible, but diminish the need to learn how to use other resources such as encyclopedias and dictionaries. Correct use of these resources is a valuable skill to have. Even something as simple as a digital clock can have a negative effect. I know several people who don't even know how to read analogue clocks because they never had to learn how.

Machines have been created to make our lives easier. They are convenient, fast and efficient. We use them more than we think. Even now I'm juggling among typing on an electronic keyboard, checking my Facebook, texting my friends, drinking water dispensed from my refrigerator from a glass that was made by a machine and is regularly washed by a dishwasher, and checking my digital clock to see if I have enough time to finish before I have to

hop in the car in drive to my soccer game this afternoon in my jersey that was washed in a washing machine this morning. But as I just showed, we have come to a point where our dependence on machines is getting out of control. Before these were invented I would have hand-written this essay, talked with my friends face-to-face, gone to the well to get a drink, used the sun's position in the sky for the time, walked or rode my bike to my soccer game, and washed my clothes on the washboard or in the river. It *is* possible to accomplish daily activities without the use of machines. Machines can be sociologically, intellectually, or even physically detrimental to us. They are convenient, and life without our cellular phones and big screen televisions may seem impossible, but machines should not run our lives. They should play a more minimal role.