Coming Of The Biotech Age Essay, Research Paper

There are a number of people who would consider the technological and computer revolutions to be the greatest achievements of our time. But, will the near future for computers have continued impact on society? Society has marvelled at the current functions of computers from managing business accounts to connecting to the other side of the world with the Internet. The revolution was not always seen this way. Society felt that the quick change to a touch-button lifestyle might cause such pessimistic outcomes like sloth behaviour and impatience to slow machines. However, despite the critics and their daunting criticism, the computer has done quite well in our society. A similar revolutionary industry is currently brewing; the biotechnology movement. Most people consider the possible outcomes in biotechnology with the same pessimism as they did the coming of the computer age. Biotech currently drudges in the infancy stage of growth that computers once experienced in the 1970 s. The history of both industries followed corresponding turns but have grown at different rates. What will become of each industry still remains to be seen. The future of both fields could see the end of further productivity and innovation. As the world starts to incorporate this technology into their daily lives, the acceptance of its presence is affirmed. The biotech industry will create a better society that will learn to accept the beneficial aspect of biotech like they have computers.

The pioneer scientists of the earlier days envision that biotechnology could one day aid in the battle against disease and illness. One scientist, who was revered a brave yet smart man, injected his own children with a test vaccination of small pox. This virus-caused disease took the lives of many young children in the 1900 s. The eventual cure was the placement of a less volatile virus into the body. The immune system would soon recognize and destroy the weak virus that resembled the stronger version. More importantly, the immune system will now have a memory of what the critters look like. The small pox became a story with an ending and a promise of things to expect from biotech. The beginning of the biotech industry started in 1928 when Alexander Fleming discovered penicillin. He accidentally found mold that had eliminated colonies of bacteria without harming the host s tissue. This made for a ludicrous story to the science society. No chemist would extract the penicillin for Fleming. The time of World War I brought about more deaths from infection than from the battlefield. Sulfa drugs were the huge favourites, however the side effects were harmful to the patient. Penicillin died off as the saviour of some bacterial infections until after the war and much testing. A similar story acts as a comparison to computers in which society ventured away from the computer back in the 1950 s and 60 s because of the slow stage of development the computer was experiencing. The story of penicillin and small pox vaccination shows how the history of biotech was not even a consideration and that just like computers, was part of something bigger.

In the 1950’s two devices would be invented which would improve the computer field and cause the beginning of the computer revolution. The transistor which would relay information from one area of the computer to the next in a more efficient manner than vacuum tubes which need more heat and time. Invented in 1947, the transistor was fated to oust the days of vacuum tubes in computers. However, the more complex the connections of transistors became, they were just as tedious a problem as the quickly heated, slow responding vacuum tubes. This was another obstacle that does not show promise to the computer industry. However in 1958, Texas Instruments solved this problem. They manufactured the first integrated circuit or chip. A chip is really a collection of tiny transistors, which are connected together when the transistor is manufactured. While there was an increase of computer knowledge regarding transistors and microprocessors, Watson and Crick discovered the structure of DNA that sparked the birth of molecular biology and thoughts of cures and advancement.

Today, biotechnology is becoming a major part of our lives. This industry has created various ways to clone plants thus spending less money for production and still increasing crop yields. DNA recombining technology is as simple as it sounds. This technique is designed to place DNA of one species into the DNA of another species. Where could this be of any use? This is essential to incorporate important DNA traits into species, which are beneficial to them and eventually us. Some plants receive genes (DNA segments) that gives resistance to pesticide. Therefore, when pesticide is used to eliminate insects that spoil the crops, it will have no effect on the plants. Despite certain techniques that are employed to help humanity, many failures have come at the price of human lives. For instance, the famous Tammy Fae baby, born with a defective heart in 1982, had the heart of a baboon transplanted into her. Nevertheless, she died after twenty days. This is an example of the trials and errors that looms in the future for this industry. For example, when the DNA gene for dystrophin was transferred to viruses to carry the correct gene for muscular dystrophy sufferers, the injections were administered to mice. The muscles that should have collapsed due to this illness were regenerated. The scientists were astonished and performed the same injections to ailing victims and the viruses started to infect the cells with the correct gene, however, the human body has a more complex immune system than the common mouse and thus the viruses were destroyed. Some patients even died from this injection. Stories like this may not be as severe in today s computer industry but computers have had their own share of downfalls with hackers and new laws to deal with the annual 10 billion dollars in computer crimes such as fraud. The contrasting negative aspects of both industries show that biotech is striving for the sake of humanity and the deaths that occur for its purpose are more justifiable than computer crimes.

The futures of both industries are different in some aspects. The computer industry has reached a pinnacle point of upgrading from 486 s to Pentium I to eventually Pentium III. This is a sign of things to come. The microprocessor that is mentioned earlier is what will decide the fate of computer speed. Mathematicians are trying several ways to get transistors (now, fibre optics), from one side of the square shaped microprocessor to the other. They know the possible innovations are coming to an end and society will soon incorporate the maximum advancement of technology. Just like the car industry, where remake and newer models are displayed but improvements are minimal. The biotech industry however, is still growing and will flourish into a household necessity. Within the next thirty years, diabetics will be able to monitor their blood sugar level by a watch instead of the painful pricking and many gadgets needed for the same result. Shortly after that, they will not need injections because a re-grown pancreas will be transplanted into patients. Doctors will be able to tell what the baby will live to be and what diseases the baby will encounter. In fifty years, possible shots that fix genetic defects that range from diabetes to muscular dystrophy to cancer could be abolished with the a simple shot or procedure. It will be as obscure as small pox.

With the increase in knowledge in biotech and computers, the industries will both flourish until a certain point where discoveries and innovations are minimal. This will lead to the acceptance of the new technology by society and their impact will be seen as a positive one. In spite of the quicker progress of the computer industry, they will have reached their high point soon. Biotech has yet to reach the high point but, when it does, society will not know how it lived without its presence. Just like Computers.