In a world run by machines, we are surrounded by the most innovative uses of the worlds resources. Technology comes and goes at a rapid pace, becoming obsolete every 18 months, and this isn’t about to slow down any time soon. You may be asking yourself what happens to these machines when they become obsolete, how do they dispose of the mostly-hazardous material? The answer to this question may surprise you, and is the controversial subject of this paper. When machines break down or become obsolete, a small percentage of them are properly disposed of, but the overwhelming majority are thrown into landfills, exported to other countries and stockpiled, which ends up creating massive cesspools of toxic sludge and debris. This is an ever rapidly growing problem that must be addressed before it creates irreversible damage to our environment and the people and creatures that inhabit it.

E-Waste is a term given to electronics equipment that is not properly disposed of. Anything from cameras to computers to fluorescent light bulbs. Most developed nations do not have a large problem with the toxic dumps created by mishandled technology disposal. A majority of the problems come from the high tech equipment being thrown directly into landfills. Even though these landfills are able to accept this waste, in small amounts the toxins will leak into the environment through the air and water. According to a study "E-Waste represents 2% of America's trash in landfills, but it equals 70% of overall toxic waste."(2) This statistic is staggering, and shows the gravity of the situation we have on our hands. Outside of the US the problem is much worse. A majority of the technology in need of recycling is exported to third world countries who do not have the resources to properly dispose of the materials. These third world countries are seeing problems ranging from polluted water and air, to the disappearance of entire species of animals, and severe defects and illnesses in humans. There is a solution to the epidemic of toxic material, we just have to find it.

You may be wondering to yourself what kinds of toxic materials are in these electronic devices, and what problems they really cause. Most people believe that computers are relatively harmless because "I use one every day and nothing happens to me". Well, the difference here, being that by using the computer it isn't being mistreated or broken apart (in most cases). All electronic components contain small amounts of gold and other precious metals. But in order to retrieve these metals the equipment much be broken down. According to a published report by the EPA most electronics contain highly toxic metals such as led, cadmium, mercury, and what are known as brominated flame retardants. (1). Under normal operating conditions the user is not exposed to these materials, but when the computer is recycled they are released into the air in large quantities. During the recycling process the electronic components must be stripped off of the boards, which must be done by heating them to a very high temperature. Along with releasing the lead solder into the air, those brominated flame retardants are also burned off of the computer boards. These are extremely toxic, so much so, that computer manufacturers are phasing the use of them out to cut down on toxicity. All of this is necessary to retrieve all of the precious metals in these electronic devices. One may wonder if it is really worth it in the end to make the money off of the precious metals.

The adverse health effects are numerous when referring to the toxic chemicals found in E-Waste. The process of poisoning the environment does not happen overnight, it takes years, but is a very painful process. Once the toxins begin to leak into the water tables it is ingested by humans and animals alike. These toxins can begin to damage internal organs, and the nervous system. In addition to this it can cause birth defects. (3) The animals that are sensitive to these chemicals can be seriously ill or even killed in massive numbers. This is a problem because there are many species that are only found in the individual areas where these dumps are located. Once these animals get killed off they are gone forever.

After reviewing all of the information and statistics available on E-Waste it quickly became apparent that something needs to be done. Massive amounts of the waste are produced every year, and the rate that technology is advancing is rapidly increasing. As the years move on, not only is the problem progressing, but it is progressing faster every year. It is up to everyone collectively to step up and take action, this problem cannot continue and must be stopped before it is too late.

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