Nanotechnology

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Nanotechnology is the manipulation of atoms to create specific robots or assemblers that are nanometers in size. These very small robots would be built exactly like the machinery in the human scale, the only difference being the size of the robot. Each robot would have a specific task to carry out which would be almost anything imaginable. These assemblers will place one atom at a time into a form and create whatever they are programmed to make. A specific nanobot could place carbon atoms together to create a flawless diamond of any size. Because this technology is very new, these types of experiments are not possible yet.

These assemblers will be created by machines on the human scale and the hopefully, the nanobots will be programmed to replicate a certain number of times. Self-replication is the key in this type of research because making the bots so small is such a challenge. Once the assemblers have been created, they will take atoms from the air and their surroundings and put them together to create an object. They may also be programmed to disassemble an object. With this in mind, these bots could be the new breakthrough in the medical field especially with the destruction of tumors and cancer. The nanobots could be sent into the human body and programmed to destroy only certain cells. Computers would literally thousands of times faster than today because the assemblers could create superconductors, and have very little within the chips. The cost would be virtually nothing because they are taking atoms from the air and the surroundings. There would be no more pollution because all of the products could be used and turned into something else. For example, garbage bags are long chains of hydrocarbons that could be changed into fossil fuel. We would no longer have to worry about destroying the land because food could be created virtually anywhere. Extinct animals and plants could be brought back to the earth because the bots could put together exact strands of DNA.

With this technology being so new and still in the experimental stage, there are many questions and problems that have not been answered. The assemblers need to have instructions so they know what to create or destroy, but what will the program be stored on. If a computer ship is used, it will be too large and no longer be on the nanometer scale. Scientists have thought about DNA because the our bodies are very complex and DNA is the main instructions. If DNA was used then the nanobot would only be able to function in particular mediums, one being the human body. Other questions deal with the fuel of the assembler and the process of self-replication.

There are dangers when it comes to this type of technology especially when it gets into the wrongs hands. Nanobots could be used for terrorism and they would be undetectable because of their size. These assemblers could be in the air you breathe and do any type of damage to your body. Another very bad possibility is that the nanobots don’t stop replicating. What would happen then?