Genetic engineering 10205

Engineering

" Those who are ignorant to history are destined to repeat it." Although genetic engineering is an entirely new field, it brings up issues, especially in eugenics, that society has previously had to deal with. It gives people the power to change many aspects of nature and could result in a lot of life-saving and preventative treatments. However, if this power is misused or abused, the damage could be very great. Therefore, although genetic engineering is a field that should be explored, it needs to be strictly regulated and tested before being put into widespread use. Some say that people have been trying to change and manipulate nature for many years and that genetic engineering is only an expansion of what has been done. They feel that whatever genetic engineering allows us to do, it is just a natural step in the process. However, in the past, people have been limited by nature and the boundaries that it has set. Until now, people have never had the capability of getting past these boundaries completely. Although occasionally the species boundary has been crossed, nature has set its limits. For example, scientists have been able to cross the horse and donkey to create the mule, but its reproduction has been restricted by it being sterile. With genetic engineering, however, changes can be made at the genetic level and these limits could be completely ignored. If a limit is not set between using genetic engineering for treatment and using geneticengineering for enhancement, then many parents could use it purely for eugenic purposes. One survey done by researchers showed that eleven percent of couples would abort a child predisposed to obesity. With genetic engineering they could decide to substitute their child s undesirable characteristics for more desirable ones in order to " customize" their children. This could not only cause ethical concerns but social concerns as

well. If this was allowed to occur, it would also give the rich even more advantages than they already have to begin with and drive the social classes even farther apart. The use of genetic engineering may also lead to genetic discrimination. In the future a person could easily get a print-out of his or her genotype. This same information could then be used by schools, employers, insurance companies, and others, giving rise to a new form of discrimination based on a person s genetic profile. Already, insurance companies and others are using information from genetic tests or a person s genetic background for discrimination. One survey of people who are at risk for certain diseases showed that 455 out of 917 said that they had experienced some sort of genetic discrimination. One family lost their entire coverage when the insurance company discovered that one of its four children had fragile X disease. Parents could also encounter discrimination based on their decision of whether or not to use genetic engineering for their children. If a couple decides not to test for a genetic disorder or decides not

to use genetic therapy even if only for treatment, then if their child is born with a disorder they could be criticized and held responsible for not correcting something that could have been prevented. In order to avoid having the decision of what to do if their child has a genetic disorder, some people might opt for prevention and avoid marrying someone of the wrong " genotype". Currently, in the Orthodox Jewish community of the United States, people are encouraged to be tested for the Tay-Sachs gene. This information is then stored in a large database and is used when people are searching for someone to marry. Genetic engineering also involves more than just social and ethical concerns. The implications of using genetic

engineering are not fully known and the dangers involved are unpredictable. Just one example of this is in the case where scientists are raising pigs with human organs in order to help fill the constant demand. However, these xenotransplantations couldprovide ideal conditions for animal pathogens to jump over from animals to humans creating dangerous new diseases and perhaps even an AIDS 2 or AIDS 3. Without extensive testing the effects that procedures like this could have would be unthinkable. By experimenting with and trying to make nature better or more useful, one is playing with a very delicate balance that can have tremendous effects if it is thrown off. It is evident that there are many benefits that can come about from the use of genetic engineering. However, a line needs to be drawn as to what point one goes from treating to enhancing. If a line is not drawn then fixing " flaws" can become a dangerous role when one considers that every human has a number of lethal recessive genes. It may be possible in the future to create a near " perfect" human, but if this is the goal, then each person is only seen as having a certain number of mistakes that need to be fixed. Without certain restrictions, the implications may be very far-reaching and unpredictable dangers may exist; if genetic engineering is strictly controlled, however, the results may be extremely beneficial.