

Thinking Critically About Technology

Discussion Questions for McKibben Introduction, Chapters 1 and 2

McKibben, Bill. *Enough*. New York: Times Books, 2003.

Introduction

1. Who is Bill McKibben?
2. Why did McKibben write this book?

Chapter 1 – Too Much

1. What domain of human activity has already experimented with enhancing the human body? How? What have been the results? (p. 3 ff)
2. What is the difference between somatic gene therapy and germline genetic engineering? (p. 9 ff)
3. What human traits does McKibben say will likely be subject to modification in the near future? (p. 21 ff)
4. Why might deciding *not* to genetically modify your child be considered like child abuse? (p. 32)
5. Is genetic engineering “playing God”? Explain.
6. In summary, what have science and technology given us in the last five hundred years? What have we lost? (p. 44 ff)
7. According to McKibben, if the genetic programming works, what will the programmed child be? What important question will the child be unable to answer? What do you think of this? (p. 47 ff)
8. From what does the joy of human experience come? How does that argue for/against genetic engineering? (p. 52)
9. In what ways will the genetically altered generation be related to past and future generations? (pp. 64-65)

Chapter 2 – Even More

1. What do Kurzweil, Brooks, and Moravec promise to replace us with? How is that troubling or encouraging to you? (p. 68)
2. List some advances in robotics and AI that McKibben describes. (pp. 72-77)
3. Why was Gary Kasparov afraid of Deep Blue? Is there cause for fear? (pp. 77-78)
4. What could we do with nanotechnology? (p. 80 ff)
5. What kinds of capabilities will GNR give us? (p. 86 ff)
6. What does McKibben see as the irony of the parallel efforts in GNR? (p. 92)
7. When we are maximally enhanced, what will we have to do? What will scientists have to do?
8. How is the goal of GNR, to remove human limits, contrary to our humanity? (p. 103 ff)
9. What do you think it means to be human? Do you think technology threatens that?

Chapter 3 – Enough?

1. What is the thesis of this chapter? (p. 109 ff)
2. Why does McKibben say that we are OK? Do you agree? (p. 113 ff)
3. To McKibben, where should we not go with technology? (p. 119)
4. What is McKibben's principle criterion to judge the next “dose” of technology? Is it a good criterion? (p. 120)
5. According to McKibben, has technology made us happier? Is its contribution to happiness a good criterion for judging the value of technology? (p. 122)
6. Why does McKibben argue that we do not need germline engineering? (p. 130 ff)
7. What have been the results of the Green Revolution? Are further developments along those lines necessary to feed the world? Why or why not? (p. 140 ff)
8. What does McKibben have to say against immortality? (p. 156 ff)
9. Do you agree with the thesis of this chapter? Explain.

Chapter 4 – Is Enough Possible?

1. What are the arguments against stopping technological progress? (p. 163)
2. What are some encouraging historical examples of technological restraint? What is our advantage over those societies? (p. 166 ff)
3. With what more recent technologies do we have a good track record with restraint? (p. 174 ff)
4. What are some other factors in our favor for putting controls on dangerous technologies? (p. 175 ff)
5. Are scientists, engineers, and other innovators the best people to determine the appropriate course and pace of technological innovation? Why or why not? (p. 182 ff)
6. Why does McKibben think that doctors and bioethicists are not qualified to pronounce on the desirability of aggressive technological development to improve health and prolong life? (pp. 184-185)
7. Who should rightly choose the direction and means of technological progress?
8. Is choice our highest value (p. 188)? In any case, why should we not choose the characteristics of our children?
9. What groups are the greatest enemies of human genetic engineering? Should they be heard or should their arguments be discounted? (p. 195)
10. Should technology be driven by the market? What does McKibben think is the prudent question to ask about new technologies? (p. 198)
11. Do you believe that advanced technologies to improve human beings -- genetic engineering, nanotechnology, robotics, and AI – are inevitable? If they come, what result do you foresee?

Chapter 5 – Enough

1. According to McKibben, what is it that sets us apart from other species, that makes us truly special? Is that a good thing? (p. 205)
2. What does it take to achieve our higher needs, for “the more complicated parts of our nature to assert themselves?” (p. 208)
3. Assuming that we press on with GNR to a post-human race, how does McKibben think our consciousness will disappear? (p. 211)
4. From where does the idea of restraint come? Do you think it a good thing? (pp. 212-213)
5. What were some beneficial, restraining innovations of the 20th century? What can we learn from them? (p. 217)
6. Why should we think of the human race as a large, individual organism than as a species (p. 219)?
7. Kurzweil and others think we should focus our energies on increasing our intelligence and improving our bodies. On what does McKibben think we should focus them? With whom do you more agree? (p. 221)
8. *Should* we, as Mark Alan Walker says (quoted on p. 225), create a race that will eventually exceed our intelligence and hope that they find the answers?
9. Do you think we will have to trade our humanity to attain the level of existence envisioned by Lee Silvers, as described by McKibben on p. 226? Explain.
10. Do you think we *should* and *can* say “Enough?” Explain.