

1. **Lesson1. For Teachers:** Please have the students read the sentences one at a time and correct their pronunciation of each sentence then have them repeat after you. Wait until after they read the sentence (use the number in place of the missing word) to have the students choose the correct answer to fill in the blank. When the students finish the article, move on to the further questions.

2[A] – **The Descent of Man**



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2. When 熟考すること contemplating the great human 業績 achievements of the past, some of us may feel recent centuries have seen a decline in 知的能力 intellectual ability. Few, though, would conclude that we are 本質的に inherently less intelligent than even our 遠い remote ancestors 祖先 who hunted and 食料を捜した foraged on the African 平原 plains. This, however, is まさに precisely what Professor Gerald Crabtree of Sanford University 提示する proposes. Crabtree 主張する claims our hunter-gatherer 祖先 forebears (**26**). He bases his 驚くべき startling idea not on any 理論 theory of human cultural decline, but strictly on the 遺伝科学 science of genetics.

3. **Further Questions** *Ask student to answer the question on their own at first. If the student can't answer correctly, have him look at the last page and read the "example answer" for the question. Have the student try to memorize the answer, if it's too long or difficult, you should divide the sentence into 2 or 3 parts to make it easier to remember. Once they have memorized the answer, the teacher should ask the question one last time so that the student can practice answering. Also if you find any mistakes, please mark the page and let me know ASAP.

4. **1) What did our remote ancestors do?** 我々の遠い祖先は何を行いましたか。
Our remote ancestors hunted and foraged on the African plains.
5. **2) On what does Crabtree base his idea?** Crabtree の考えは何に基づいていますか。
6. *He bases his ideas strictly on the science of genetics.*

Crabtree's 主張 argument involved the nature of intelligence itself. Scientists once 仮定した assumed there was a 1対1の対応 one-to-one correspondence between particular genes and particular biological 生物学的な traits. We now know this is rarely the case. Most traits 寄与 result from the contributions of numerous different genes, many of which have 重複している overlapping functions. Therefore, if any gene undergoes 突然変異 mutation, the effect may be 重要でない inconsequential on a trait that has many other genes acting upon it.

7. **Further Questions**



8. **3) What did scientists once assuming about biological traits?** 科学者達は生物学的な特性についてかつて何と仮定していましたか。
9. *Scientists once assumed there was a one-to-one correspondence between particular genes and particular biological traits.*
10. **4) What do most traits result from?** ほとんどの特性は何に起因していますか。
11. *Most traits result from the contributions of numerous different genes, many of which have overlapping functions.*

12. However, Crabtree says human intellect (27). This is partly because such a complex quality depends on the unique contributions of individual genes. A mutation in any one gene, therefore, is likely to have a significant effect. Moreover, intelligence involves as many as 5,000 genes—around a quarter of the genes in the humans genome—and so mutation is statistically much more likely.

13. Further Questions

14. 5) How is human intellect similar to other biological traits? 人間の知的能力は他の生物学的な特性とどのように類似していますか。
15. *It depends on the unique contributions of individual genes.*
16. 6) How much of the human genome is devoted to intellect? ヒトゲノムのどの位が知的能力にあてられていますか。
17. *Around a quarter of the human genome.*

18. Intellectual capacity first developed among humans living in extremely harsh conditions. Crabtree believes this environment was actually more intellectually demanding than society today, and that evolutionary pressures quickly weeded out any genetic mutations that negatively affected intellectual ability. This led, ironically, to a situation where (28). The intelligence our early ancestors evolved enabled people in future generations to reduce these pressures by allowing them to harness and control their surroundings. In a more forgiving environment, mutated genes are less likely to mean the demise of their carrier, and therefore can be passed on to offspring. Crabtree says, however, that even if his hypothesis is correct, we need not necessarily fear a future of increasingly intellectually stunted generations, as scientific advances might enable us to detect and prevent any further harmful mutations.

19. Further Questions

20. 7) What was the effect of humans living in harsh conditions? 過酷な状況で生きている人間への影響は何でしたか。
21. *It was more intellectually demanding and evolutionary pressures quickly weeded out any genetic mutations that negatively affected intellectual ability.*
22. 8) Why need we not fear future loss of intellect? 私たちが将来の知的能力の損失を恐れる必要がないのはなぜですか。
23. *Scientific advances might enable us to detect and prevent any further harmful mutations.*

24. *Choose the correct answer from these choices.

25. (26) 1 would be unable to survive today
26. 2 failed to utilize their full potential
27. 3 were our superiors in this regard
28. 4 lived surprisingly comfortable lives

29. (27) 1 is much like other biological traits
30. 2 itself has remained unchanged
31. 3 was relatively easy to acquire
32. 4 has a fragile character
33. (28) 1 human population began to shrink
34. 2 intelligence became endangered
35. 3 human underestimated their own intelligence
36. 4 education came to be valued less

37. **Answers for “Further Questions”** 

38. **1) What did our remote ancestors do?**
39. *Our remote ancestors hunted and foraged on the African plains.*
40. **2) On what does Crabtree base his idea?**
41. *He bases his ideas strictly on the science of genetics.*
42. **3) What did scientists once assuming about biological traits?**
43. *Scientists once assumed there was a one-to-one correspondence between particular genes and particular biological traits.*
44. **4) What do most traits result from?**
45. *Most traits result from the contributions of numerous different genes, many of which have overlapping functions.*
46. **5) How is human intellect similar to other biological traits?**
47. *It depends on the unique contributions of individual genes.*
48. **6) How much of the human genome is devoted to intellect?**
49. *Around a quarter of the human genome.*
50. **7) What was the effect of humans living in harsh conditions?**
51. *It was more intellectually demanding and evolutionary pressures quickly weeded out any genetic mutations that negatively affected intellectual ability.*
52. **8) Why need we not fear future loss of intellect?**
53. *Scientific advanced might enable us to detect and prevent any further harmful mutations.*

解答: (26) 3 (27) 4 (28) 2