

第 1 講 「生命科学」

次の英文を読み、設問に答えよ。

(1) By the time DNA testing finally brought confirmation, or something close to it, a few months ago, most scientists had already come around to the view that Neanderthal people, though human-like, were not direct ancestors of modern human beings but instead represented a side branch and an evolutionary dead end.

5 Still, the genetic investigation was remarkable. Scientists first extracted a pure sequence of DNA from the original Neanderthal skeleton discovered in Germany in 1856. They then compared that sequence with corresponding sequences in Homo sapiens. (2) Because genetic alterations build up naturally within any species over time, at a rate that can be estimated, comparing parallel DNA sequences yields an
10 instant photograph of genetic closeness or distance. The comparison also allows an estimate of the date when related species began to separate. In the case of the Neanderthals and us, according to DNA tests we began to separate 600,000 years ago. Little or no breeding appears to have occurred between them.

Fascinating as genetic analysis can be, I must confess to increasingly frequent
15 episodes of what might be called DNA fatigue: a kind of tiredness brought on by DNA's involvement in almost everything. Deoxyribonucleic acid (DNA) enjoys the status of judge and jury, architect and master builder. It admits no argument. "Evidence from archaeology is seldom clear-cut," an editorial writer observed in the journal *New Scientist* after the Neanderthal findings were published, "whereas DNA
20 research seems to provide reliable answers." Medieval thinkers said they felt wonder at seeing the hand of God apparent in all things: in a blade of grass, the fragility of a butterfly wing, the breath of a fly. (3) The sin these mystics had to fight, commentators say, was weariness at always being reminded.

The applications of DNA testing are nearly limitless. In France and England
25 investigators have used DNA testing of mass populations to find criminal suspects who match the evidence they have. Genetic tests now exist to predict almost 500 medical conditions. As is well known, DNA has also been used to explain characteristics ranging from sadness and shyness to aggressiveness and novelty