

CLEANING THE AIR

The great outgassing of the Earth's interior occurred between 4.1 and 3.8 billion years ago. Clouds of water vapor, carbon dioxide, and other noxious gases blanketed the globe. As the rains fell, some of the carbon dioxide was carried into the oceans and some remained in the atmosphere. Oxygen was produced by plant life and to a lesser extent by upper atmospheric chemical reactions. However, we have not accounted for the vast decrease in carbon dioxide that must have taken place since primordial times. How did those clouds of smog

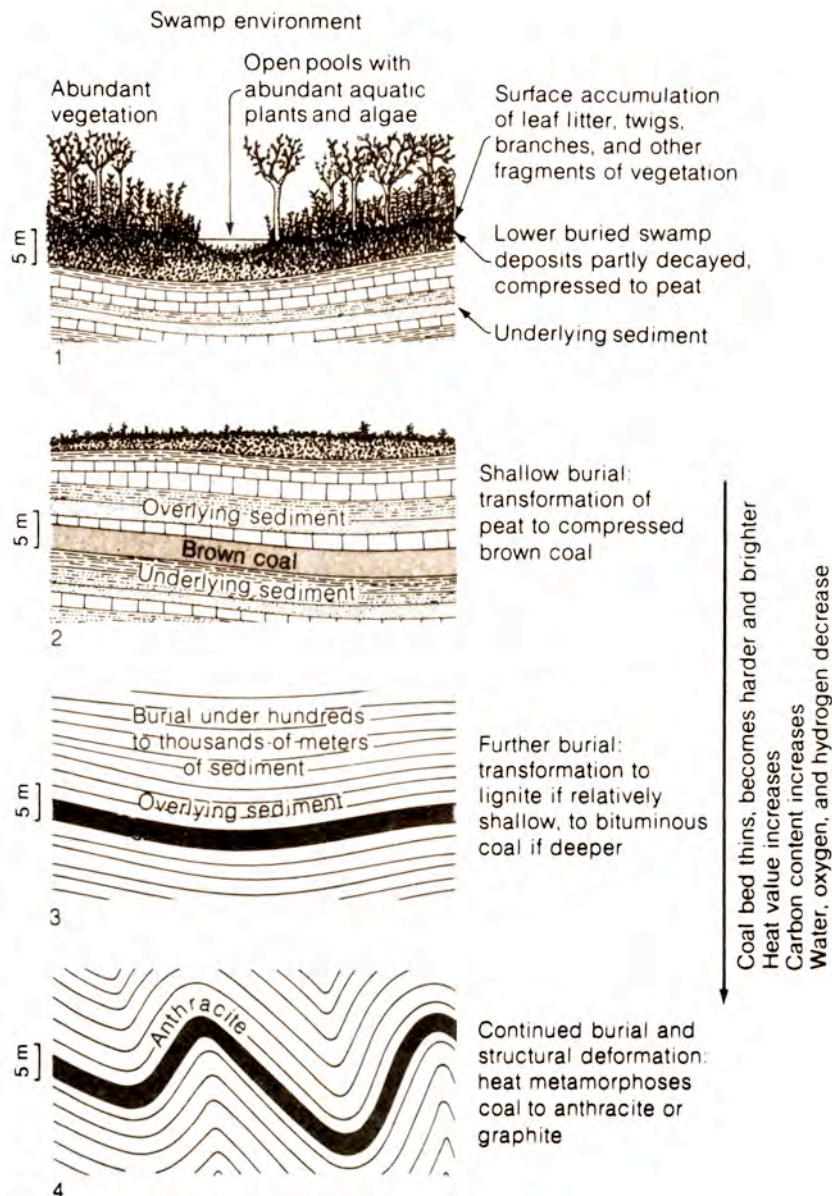


FIGURE 7.11

The process by which coal beds form begins with the deposition of vegetation. Protected from complete decay and oxidation in a swamp environment, the deposit is later buried and subjected to mild metamorphism, which transforms it into lignite, bituminous coal, or anthracite, depending on depth of burial, temperature, and amount of structural deformation. (From *Earth*, 3rd ed., by F. Press and R. Siever. W. H. Freeman and Co., Copyright © 1978.)