"This method cannot be used with any degree of accuracy because (1) much of the salt has been subjected to several cycles of deposition; (2) much of the original salt is in water locked deeply in buried marine sedimentary rocks; and (3) the age of the oceans is necessarily less than the age of the earth.

"Rate of Deposition of Sediments. This method assumes that if the rate of deposition of sediments is known, the total thickness of these sediments will give some indication as to the age of the earth. Estimates derived by this method range from one hundred to six hundred million years.

"There are three major disadvantages to this type of estimate: (1) different types of sediments accumulate at different rates; (2) typical rates of deposition for different rock types are not known with any accuracy; and (3) no allowance is made for rocks that were not deposited or that were deposited and were later removed by erosion.

"Rate of Erosion. This method, based on attempts to determine how long ago erosion began on the earth, is the reverse of the sedimentation method discussed above. The main procedure is to determine the number of years required to erode one foot of rock from the earth. The estimated number of years divided into the number of feet calculated to have been removed in the past will give some idea as to how long the earth's surface has been subjected to erosion. Although this estimate can provide no accurate indication of the earth's age, it does indicate that the earth is extremely old.

"The principal disadvantages of this method are: (1) there is no way of knowing the total amount of sedimentary rock in the earth's crust; (2) much of the sediment derived from sedimentary rocks has been eroded and redeposited many times; and (3) the present rate of erosion is not necessarily the average rate of erosion for all geologic time.

"Disintegration of Radioactive Minerals. in the application of this method, rocks containing radioactive minerals are used. These radioactive minerals, such as uranium or thorium, have large unstable atoms which undergo slow, spontaneous disintegration. The rate of disintegration, or 'decay,' is not affected by changes in temperature, pressure, or chemical conditions. As the mineral disintegrates, helium is released and a series of new elements is formed, the last of which is lead. Using a mathematical formula whereby the ratio between the radioactive lead and the remaining amount of uranium can be calculated, it is possible to determine the age of the radioactive mineral. The oldest rock definitely dated by radioactive means are certain Precambrian rocks in South America which indicate an age of about 3,300 million years.

"While this method s the most accurate yet developed, it is, of course, limited to those rocks containing radioactive minerals. These rocks are usually difficult to correlate with fossil-bearing sedimentary rocks, and the latter must therefore be dated indirectly.

"The radioactive minerals mentioned above are useful in dating the more ancient rocks, but they disintegrate so slowly as to be useless in dating younger deposits. The discovery of radiocarbon dating by the Carbon-14 method (C^{14}) has provided scientists with a valuable means of obtaining relatively precise measurements of rocks less than thirty to forty thousand years old.