



"LIFE" IN A ROCK—The half-circles left and right on a rock, dated at 2.6 billion years, are believed to have been colonies of primitive plants. The pock-like marks are oolites, structures of unknown origin.

earth originally had an atmosphere mainly of methane and ammonia, similar to that of the planets Saturn and Jupiter today. The earth's atmosphere gradually changed into the one now known, composed mainly of nitrogen and oxygen.

Although the early atmosphere could not have supported life, it may have contained the stuff of life. To prove that lightning flashing through this early atmosphere helped make the first organic compounds, Dr. Stanley L. Miller, now at Columbia University and a former student of Dr. Urey, created in a laboratory flask an atmosphere of methane and ammonia plus hydrogen and water. Electric sparks were passed through the flask producing a mixture of organic compounds, among them amino acids, the chief building blocks of proteins essential to living cells.

A biochemist, Dr. Sidney W. Fox of Florida State University, went a step further when he heated amino acids and obtained "proteinoids" that behave like natural proteins.

Further evolution in the life-creating process, according to one theory, would be the grouping of protein molecules into cells that grow by absorbing smaller molecules and multiply by dividing.

Dr. Fox produced cells by dissolving some proteinoids in hot water. When the solution cooled, microorganisms looking like bacteria were found. A similar process could have taken place in the early development of earth, with the eventual result that one of the cells contained the spark of life that started the evolution ending with man.

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MEDICINE

"Innocent" Medicines

► THE "SOOTHING SYRUP" that grandma used may have contained enough opiates to produce habituation if not addiction.

Before the Harrison Act of 1914 many patent medicines were heavily opiated, Dr. Walter C. Bailey, lecturer in social welfare at University of California, Los Angeles, said. Dr. Bailey noted that drug stores customarily carried such "comforting" cures as McMunn's Elixir of Opium, Godfrey's Cordial, Mother Bailey's Quieting Syrup, Winslow's Soothing Syrup, Black Drop, Laudanum, and others.

Users of these medicines were usually middle-aged or elderly women, highly respectable and middle-class.

Their opium careers probably began with an innocent request to their druggist for "something good" for rheumatism or perhaps a cold, Dr. Bailey explains.

"As tolerance set in, grandma began taking just a little bit more each day to recapture the feeling of relief from her pain.

"Then one Sunday or holiday she got

caught with her medicine bottle empty and the drug store closed. She undoubtedly complained of feeling more than a trifle under the weather—for grandmother was suffering from withdrawal pains."

Although grandma was probably not actually addicted, she was more likely "physically habituated."

One characteristic of an addict is a compulsive use of an opiate to avoid withdrawal distress. Though he may temporarily stop using the drug, he may become addicted again when confronted by any crisis, no matter how slight.

But not so with grandma, Dr. Bailey says. By not making a conscious connection between her feelings of relief and the taking of an opiate as such (the "medicine" got the credit), or between her suffering and the withholding of the opiate (described as the "crucial drug experience"), she was not likely to relapse once withdrawal was effected.

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