



Lecture title: Origin of life

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Summary: *Origin of life*

Life is characterized by the ability of living organism to obtain and use energy, grow ,reproduce and respond to change.

Theories of origin of life

1.Spontaneous Generation or Abiogenesis theory

This theory suggests that life could come from or arises from nonliving things, like meat worms originate from rotten meat .earth worms from the soil and frogs from green matter in the swamps.

2. Biogenesis theory

Then the spontaneous Generation was disproved in 1668 by Italian scientist Francesco Redi in the mid seventeenth century refuted this theory through a series of experiments and claimed that all living organisms arise from living organisms .

Redi experiment to disprove spontaneous Generation procedures



.Put a pieces of meat in 3 containers .

.one container was left open

.Cover the second container with gauze, the third container covered with cork to prevent entrance of flies.

.The meat decayed in all container.

.flies entered the open container and laid eggs which hatched into maggots.

.No larvae developed in meat of other containers.

.Flies laid eggs on container covered with gauze which developed into maggots .

Result

maggots arose from the eggs of flies and not from decaying meat.

Louis Pasteur experiment in 1864 to disproved spontaneous Generation.

Procedures



.Place meat broth in a flask with along curved neck.

.Boil the flask thoroughly to kill any microorganisms.

.Don't seal the open end of the flask .

Result:

After a year, no microorganisms could be found in the broth.

Pasteur then removed the curved neck ,permitting dust and other particles to enter.

In just one day the flask contained microorganisms.

Microorganisms had clearly entered the flask with the dust particles from the air.

3.Formation of life or physiochemical theory

The formation of complex molecules .biologists agreed that life originated through progressive series of reactions .

3.physiochemical theory

In which atoms combined into molecules.

molecules into simple compounds and compounds into more complex compounds which eventually become



organized into living materials.in 1950 Miller
experiment identified 5 simple organic materials

Miller Experiment

.H₂O ,methane CH₄ ,ammonia NH₃ and hydrogen H₂
these chemicals were all sealed inside a sterile 5 liter
glass flask.

.The water in the smaller flask was heated to induce
evaporation which was allowed to enter the larger
flask.

.Continuous electrical sparks were fired between the
electrodes to stimulate lightening in water vapor and
gaseous mixture.

.The simulated atmosphere was cooled so that the
water condensed and trickled into a U shaped trap at
the bottom of the apparatus .

Result

After a day the solution collected and miller identified
five amino acids present in the solution .

4.Theory of special creation

This theory is proposed that life on earth is created by
a super natural power .



4. special creation theory

This theory indicates that animals arose through supernatural force The GOD has created the universe ,animal and human in six natural days.