

## BIOLOGY-BIOCHEMISTRY

# Soviet Scientist Expected

➤ A RUSSIAN scientist whose theory of the origin of life on this planet has greatly influenced the thinking of biologists and biochemists in America and Europe will be one of the five delegates from the USSR to attend the Cultural and Scientific Conference for World Peace which will be held in New York March 25 through 27, under the auspices of the National Council of the Arts, Sciences and Professions.

He is Prof. A. I. Oparin, biochemist, of the Academy of Science of the USSR. His book, *THE ORIGIN OF LIFE*, was published in 1938 in English translation by the Macmillan Company. In it he endeavors to account for the evolution of life on the earth without recourse to such concepts as the migration of life-germs from "somewhere else" through interstellar space, or the existence of living matter along with non-living from the very beginning of things, or the sudden development under "special conditions" of such relatively complex things as bacteria.

Organic compounds originated on the cooling planet long before there were any organisms, according to Prof. Oparin's theory. He points to the known existence of such compounds as methane and ammonia on the major planets Jupiter and Saturn in support of this idea. In these compounds hydrogen is linked to carbon and nitrogen.

As other elements, notably oxygen, phosphorus and sulfur, became available, these spontaneously forming organic compounds could become more complex, forming larger molecules, until finally some that could fairly be called primary proteins were in existence. From these to the jelly-like state known as colloid was a natural, though very slowly-taken step. And finally, some of the colloid particles acquired enough "vital" processes to entitle them to be considered alive.

Spontaneous production of even the simplest organic compounds is unknown on earth today, Prof. Oparin admits. This is not necessarily because conditions for their formation are now impossible, however, but because if any such compounds came into existence at present, they would immediately be devoured and destroyed by the microorganisms that swarm everywhere.

Production of life in the laboratory, through human manipulation of this step-by-step buildup, is in Prof. Oparin's opinion not impossible, but for the present, and for a long time to come, highly improbable. We need to learn a great deal more about how living things are put together and how they work, before we shall be in position to attempt a modern realization of the medieval alchemist's dream of the homunculus, or life-in-a-bottle.

In its main outlines, Prof. Oparin's theory has been widely held by his scientific colleagues of other lands. His outstanding contribution has been the careful building up

of the whole step-by-step structure and the filling in of many hitherto neglected details.

The five Soviet scientific and cultural representatives expected in March will be the first such group to visit this country since 1946, when nine Russian astronomers spent some time as guests of American ob-

servatories. Other members of the group will be the well known composer, Dmitri D. Shostakovich; A. A. Fadeef, a poet, T. Pavlenko, writer; and S. A. Gerasimov, a motion picture director and writer.

Science News Letter, March 5, 1949

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