Thomson says, it is difficult to conceive of anything like the protoplasm we know surviving transport in a meteorite through the intense cold of space and the intense heat when passing through our atmosphere. Other investigators believing that life did once start upon the earth in obedience to natural forces and causes, have directed their enquiries to the question of how it started. Dr. Bastian held that, not only had it started once, but that it still is starting fresh to-day. By his experiments he thought he had succeeded in giving life to matter. He produced what looked like a unicellular organism, with nucleus complete. It was indeed indistinguishable from an amoeba, but it was not alive. He speaks of certain low organisms which cannot be assigned to either the animal or the vegetable world—he called them "ephemeromorphs". From these other forms appeared, some of which were unmistakable members of the vegetable kingdom, while others were no less representatives of the animal world. With these small nondescript organisms he was probably much nearer the beginnings of life than with his artificially-made amoeba.

Professor F. J. Allen, in a very interesting pamphlet entitled What is Life, advances what he calls his "nitro-centre" theory. He looks upon nitrogen as the critical element in vital chemical reactions as it is in our high explosives, nitroglycerine, T. N. T., etc. He says,, however, that his theory "refers only to the physical and chemical phenomena of life, and, if it could be demonstrated as correct, it would still leave the cause of the phenomena unexplained." In another place, he says that "until we find very strong evidence to the contrary we ought to assume that the cause of life is inherent in the universe." "That life is the direct outcome of the properties of matter, energy, etc.," adding, "I say, etc., because I am not satisfied to consider matter and energy the only components of the universe." In another passage, he says: "If we could trace life to its simplest form we might, find no absolute distinction between life, and not life" He believes that "the transition from inert to living matter is now going on, and says that " by chance all existing life were wiped out, another cycle would begin." Mr. Butler Burke suggests original vital units, or bio-elements, that may have existed throughout the universe, and which, by interacting on carbon compounds, give rise to cellular life as we know it to-day. By acting on sterilised bouillon with radium salts, he obtained what he called "radiobes" which seemed to him to be on the border line between the animate and the inanimate. He did not claim, however, to have effected "spontaneous generation." He says indeed that "to expect to make a fullblown bacillus at the present day would not be less absurd than to try to manufacture a man." He postulates a potential vitality in matter. 'Matter," he says, is ultimately mind-stuff," and "atoms are nothing more than ideas."

Professor J.A. Thompson in his "System of Animate Nature," speaks of living creatures which lie just on the border line of microscopic visibility; and suggests that beyond these may be others smaller still. He says that what we can