

## SPONTANEOUS GENERATION.\*

The question whether living bodies ever have been or ever can be generated from dead matter has been for years a subject of discussion exciting the deepest interest, and is fraught with considerations of the most serious nature. Hitherto the chief champions of the opposing theories have been Dr. Charlton Bastian, who vigorously maintains the formation of bacteria in fluids from which the atmosphere and its germs have been perfectly excluded, and on the other side M. Pasteur, whose experiments have been singularly able and ingenious, and who draws them from the conclusion that the hypothesis of spontaneous generation is a chimera. It is not our purpose at the present time to give a summary of the labours of these learned investigators: we propose now very briefly to present a view of the experiments which have determined Professor Tyndall to give his support in a most unqualified manner to the views of M. Pasteur. It is interesting to note in passing that the philosopher who not long since discerned in matter the promise and potency of every form and quality of life now comes forward to declare that, so far as he can judge from the evidence furnished by a long series of experiments, performed with the utmost ingenuity and carefulness, there is an impassable gulf between matter and life, which separates eternally these divisions of creation—that in the lowest form to which we can trace living organisms there is still abundant evidence that propagation is dependent on previous living beings, and that these do not spring from an exterior or a dead source.

The method pursued by Professor Tyndall was to construct a number of small chambers with glass sides and front and wooden frameworks. Along the bottom were apertures for a row of test tubes, and above an arrangement for the admission of the liquids to be experimented on into the test tubes. These chambers were allowed to stand a few days, until a concentrated beam of light passing through them showed by perfect darkness that the motes in the air had all settled on the sides and bottom, where they were retained by a coating of glycerine. The test tubes were then filled, boiled from below, and abandoned to the action of the moteless air.

The question to be resolved was—Can air thus retaining all its gaseous mixtures, but self-cleansed from mechanically suspended matter, produce putrefaction? To this question, both the animal and vegetable worlds returned a decided negative. Among vegetables, experiments were made with hay, turnips, tea, coffee, hops, repeated in various ways with both acid and alkaline infusions. Among animal substances, there were many experiments with urine; while beef, mutton, hare, rabbit, kidney, liver, fowl, pheasant,

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