

ly clear liquid ; but that placed in a bottle and exposed to the air, began to get more and more turbid, and that turbid liquid, under the microscope, was soon found to be swarming with living organisms. By heating this perfectly clear beef tea, it would be sterilised, everything being killed which was capable of producing those little organisms which produced the turbidity ; or by keeping it perfectly stopped from the air, and from coming in contact with any floating particles, it might be preserved for years. He had now some sterilised beef tea of this sort, which had been preserved for eighteen months, in a state of perfect transparency, but if a fly dipped its foot into an adjacent vessel containing some of the turbid fluid, and then into the transparent fluid, that contact would be sufficient to infect the sterilised liquid—just as a surgeon dipped the point of a lancet into vaccine lymph to vaccinate, and in forty-eight hours the clear liquid would be swarming with these living organisms. In this, as in the case of contagious disease, there was a period of incubation. In proof of what the lecturer had stated that here the contagion of these communicable diseases was not gaseous or liquid, but solid particles, he would describe an experiment he had only made a few weeks since. Eighteen months since he had a place prepared from which all floating particles of dust were removed, and in it he placed a number of vessels containing animal and vegetable refuse, and also two or three vessels containing perfectly clear beef tea and mutton broth, as transparent as water, in which the infective particles have been killed by heat. Although all these vessels had stood during that time side by side there had been no communication of contagion from one to the other, the beef-tea and mutton-broth remaining as transparent as when put in, though the other vessels emitted the most noisome stench ; but if a bubble was caused in one of the putrefying masses by blowing into it, and that rose to the surface and burst, and the spray of the bubble was allowed to fall on the transparent beef-tea or mutton-broth, in forty-eight hours they became as bad as their neighbours. It was not, therefore, sewer gas which did the mischief, but the particles which were driven up and scattered by the sewer gas. Referring to another point on which the lecturer had insisted—viz., that there was no power of spontaneous generation of the germs or contagion of diseases, Professor Tyndall said that, though at present great names were opposed to that view, he would venture to predict that ten years hence there would be very few great names opposed to the lecturer on that matter. With regard to the power of disease poisons to be generated in decomposing animal matter, he would say that for the last twenty-one years he had been in the habit of visiting the upper Alpine valleys where, amongst the Swiss châteaux, there was the most abominable decomposition going on from day to day, and exceedingly bad smells ; but there these contagious diseases were entirely unknown. If, however, a person suffering from typhoid fever were transported there it would spread like wild-fire, from this infected focus, and the disease would pass through the entire