If this conjuncture were well founded, we should be readily able to transmit the carbuncle to hens by lowering their temperature. The success of this experiment was immediate. Inoculate a hen with the legs immersed in water at 25° C. (77° F.), which suffices to bring the temperature of the body down to 38° C, (100.2° F.), which is the temperature of animals susceptible of contracting carbuncle, and in 24 or 30 hours the hen dies with all the body invaded by *bacteria carbunculosa*. Certain inverse experiments have given us favourable results,—that is to say—by elevating the temperature of animals which contract carbuncle, we have been able to preserve them from this terrible, and at present incurable evil.

To augment or limit the enormous potency of these infinitely small things, and to dispel the mystery of their action by a simple change of temperature, is one of those facts most fitted to demonstrate what may be hoped for from the aid of science, even in the study of diseased conditions most obscure.

Let us now return to our septic vibrio, and compare it, under the relation of the formation of its germs, to the *bacteria carbunculosa*, in order the better to be convinced that microscopic organisms enjoy varied physiological properties, and that we should expect from their part, very diverse morbid manifestations. Careful experiments have taught us that the septic vibrio not only can live and multiply in a vacuum the most perfect, as in the most pure carbonic acid, but that also it here produces its germs, and that free oxygen is not necessary, in any form whatever, for their function. But the *bacteria carbunculosa*, on the contrary, becomes, in a vacuum, or in pure carbonic acid, absolutely unfitted not only to live, but even to be transformed into corpusculous germs.

This last investigation is, however, one of the most delicate. If the smallest quantity of air remains in the tubes in which establishment of a vacuum is sought for, and in which the *bacteria carbunculosa* is cultured, corpusculous germs, appear, and to such a degree that the most perfect air pumps often fail to prevent the phenomenon. It was necessary to combine the operation of the pump with that of liquids capable of absorbing the slightest traces of oxygen, before we could be convinced that this bacteria is essentially, in every period of its existence, aërobious.

What a difference there is then between the vibrio septica, and v. carbunculosa! and is it not wonderful to see beings so dissimilar in their modes of nutrition multiplying in the animal organism?

Another question not less interesting, is to know if the corpusculous germs of the *vibrio septica*, after formation in *vacuo*, or in pure carbonic acid gas, are not liable to become developed from small quantities of oxygen. Physiology knows to-day no germination possible without contact of air,—yet experience proves that the germs of the septic vibrio are absolutely sterile in contact with oxygen, whatever may be the proportion of this gas; but with this condition, that there is a certain relation between the volume of air and the number of the germs; for the first germinations, stealing the air which was in solution, may become a protection to the remaining germs, and it is thus that in strictness the septic vibrio can be propagated, even in presence of very small quantities of air, whilst this propagation does not take place under a free supply of air.

A curious therapeutic observation is here suggested. Let us suppose a wound exposed to the air, and in a putrid state which might cause the patient septicæmia, and without other complication than might result from development of the septic vibrio.

Now then, theoretically at least, the best means to which recourse could be had, to impede death, would consist in incessantly washing the wound with water showered over it, or in directing over it a free current of air. The adult vibriones, on the point of scission would die in contact with air; or would become sterile. Yet more; there may be cast over the surface of the wound, air surcharged with the germs of the septic vibrio, or we may wash the wound with the water holding in suspension millions of these germs, without provoking the least septicæmia. But then, in such conditions let one single blood clot, one single fragment of dead flesh be lodged in a corner of the wound, then by the aid of the oxygen of the air, be it ever so small in extent, these septic germs, in less than twenty-four hours, give place to an infinity of vibriones, which reproduce by scission and in a short time are capable of producing septicæmia. The numerous cultures which we made of the septic vibrio, have enabled us to verify some curious facts of the natural history of microscopic organisms.