

rounded ends, which gave yellow colonies on gelatine and did not stain by Gram's method. As cases of diphtheritic angina were frequent among those who cared for the fowls, Loir and Ducloux made bacteriological examinations of such persons, and isolated in one case the same bacillus as was found in the diseased birds. The inoculation of this bacillus into healthy fowls gave them the disease. The same year Piana and Galli-Valerio,<sup>13</sup> whilst studying an epidemic of pigeon diphtheria, found large motile corpuscles, 4  $\mu$  in diameter, which these authors considered as protozoa.

In America, Veranus Moore<sup>14</sup> has isolated a bacillus from the false membranes of fowls, which resembled the organism causing swine plague. Moore inoculated a culture of this germ into a young hen, which died, but without showing false membranes. Aged fowls were quite refractory to inoculation. Mazzanti,<sup>15</sup> Piana<sup>16</sup> and others have confirmed the observations of Pfeiffer and others with regard to the presence of flagellata, either alone or accompanied by micro-organisms.

In 1898, as the result of experiments on diseased fowls with diphtheritic antitoxin, Stevenson,<sup>17</sup> of London, Ont., recommended the use of this serum for the treatment of diseased birds, and stated that "roup," the popular name for fowl diphtheria, was "caused by a specific germ which appears to me to be identical with the Klebs-Loeffler bacillus, and that roup and canker were the same disease, a disease identical with diphtheria in man."

In 1899, McFadyean and Hewlett<sup>18</sup> found bacteria resembling the Klebs-Loeffler bacillus in the throats of pigeons suffering from canker; but they demonstrated that the disease could not be produced in healthy birds by inoculation of pure cultures of this germ, and they showed that it had no toxic effect upon mice or guinea-pigs, such as that produced by inoculation with *Bacillus diphtheriae*. Therefore they concluded that it was not the same organism. I<sup>19</sup> have also obtained a germ resembling the Klebs-Loeffler bacillus from the throats of pigeons which were perfectly healthy before examination and remained so afterwards.

The above are a few of the numerous works relating to the etiology of fowl diphtheria. Let us now examine the opinions of some of those writers who favor the identity of human and avian diphtheria.

Buniva supported the first hypothesis of the identity of the two diseases. In 1879, Nicati<sup>20</sup> reported that cases of human diphtheria, especially of the conjunctiva, increased after epizootics of avian diphtheria. Menzies<sup>21</sup> announced that at Posillipo cases of