

our attention to the specific pathogenic bacterium, the tubercle bacillus, belongs to the great savant, Koch.

We find that Hippocrates, and subsequently Aretaeus, gave thorough descriptions of phthisis, then known as phthae, and they were the first to describe this disease as a special pathological manifestation. The pathological study of tuberculosis did not begin until 1653, when Forrestus published his work, "Observationum et Curationum Opera Omnia." But even this stride in advance led to corroborative evidence only after *post-mortem* findings.

I have already referred to the master-work of Virchow, who was aided in his researches by Klebs, who reported in 1877 that the inoculation of animals with cultures from tuberculous products upon the white of eggs, produced lesions similar to those following the direct injection of tuberculous tissues themselves.

The findings of Klebs, I believe, led to the discovery of the tubercle bacillus by Koch, who reported his findings before the Physiological Society in Berlin, in March, 1882.

I now desire to call your attention to the fact that not all cases of tuberculosis can be positively diagnosed by the findings of the tubercle bacillus in the sputum; and again, the non-finding of the tubercle bacillus in the sputum of emaciated patients does not always prove that there is no tubercular infection present. Of this, more later on.

I now approach upon the sphere of the biology of tuberculosis. Hammerschlag, according to statistics, is the first who made investigations of the products of elimination in tubercular cases. He noted that the tubercle bacillus, if immersed in alcohol or ether, or both in equal proportion, lose as much as 27 per cent. of their weight—a loss three times greater than that of any other bacteria under similar treatment.

I beg to impress upon you the value of the statement coming from so eminent an authority as Hammerschlag, for in the latter part of my paper appertaining to the suggestive treatment in tuberculosis, I give you data which may be worth while your due consideration and thought, and which may in a slight way aid in the cure and probable eradication of tuberculosis.

The extractives obtained by Hammerschlag resulted in finding fatty substances (lecithin and some toxic substances) which, when injected into animals, caused convulsions. The parts insoluble in alcohol and ether proved to be albuminous substances containing cellulose. He subsequently proved that the fatty substances amounted to one-third of the total substance, and consisted of palmitic, arachidic and some undetermined volatile acid.

The main lesson to be learned from this report is the proof that the tubercle bacillus possesses tryptic faculties which enable it to act upon albuminous substances forming peptones and tryptophans.