fertile." Here we have the experience of antiquity agreeing with the practice of the modern intelligent farmer who ploughs clover into the ground in order to obtain a good crop of wheat.

From 1863, experiments and disputations on the question again ceased until 1881, when an intelligent land owner in North Germany, named Schultz, published his experiences in farming, and awakened the attention of the agricultural world of Europe. Both practical farmers and scientific agriculturists are now fully agreed that the fixation of nitrogen by leguminous plants is a reality. The most decided pronouncements ever made on the subject were delivered at Halle, in January, in 1891, at the 64th meeting of German investigators and physicians. Prominent among those were Maercker, Wagner and Hellriegel, but American and English authorities were also present including Atwater, Lawes and Gilbert. The last named gentleman, Sir Henry Gilbert, who visited Canada a few months ago, gave a discourse on the fixation of free nitrogen from atmospheric air by plants. He had presided in 1886 at Berlin, when Hellriegel gave the results of his first investigations regarding the question of nitrogen and the leguminosæ. Previously, in 1884, Hellriegel had brought the formation of the little bulbs on the roots into connection with the fixation of nitrogen. Sir Henry Gilbert told his audience that at Rothamsted, since 1888, elaborated trials on this subject had been carried on, the characters of which were illustrated photographically. Those experiments entirely confirmed Hellriegel's results. They shewed that peas, vetches, lupins, lucerne, white and red clover, are all capable of directly assimilating nitrogen, although in different measure. The lecturer discussed minutely the nature and action of the tubercles, without however coming to very decided results as regards their mode of activity. Some of them are as large as walnuts, and the investigators are still inclined to believe that the bacteria they contain are instrumental in digesting the nitrogen. Hellriegel was of opinion that the study of these tubercles was far from ended, and would occupy them a long time yet. He stated that peas are unable to appropriate either nitric acid or ammonia from the soil; that lupins cannot thrive when supplied with nitrate of lime, but perhaps with nitrate of ammonia. Meyer was glad to be able to observe that although Hellriegel's investigations had overtaken and