

Austria, Professors Ludwig and Mauthner, of Vienna University, on Lilienfeld's invention. Both professors spoke very seriously on the subject.

Dr. Ludwig said: "There is no doubt that an important invention has been made. I cannot say more at the moment. I arrived at the congress when Lilienfeld was finishing his demonstration, but from what I saw I dare say there is surely something important in the matter."

Professor Mauthner said: "Lilienfeld's synthesis is quite new and exceedingly interesting to all scientists. I was present during the whole demonstration and can affirm that the synthesis showed correctly all the reactions and percentage in the composition of natural albumen, yet further researches are necessary to establish whether artificial albumen will have the same effect on the human body as the natural. It is the great peculiarity of pepton that it cannot be exactly characterized as other artificial products, for its constitution or grouping of atoms, which plays so great a part in its chemistry, is yet entirely unknown. As for the nourishing effect of artificial albumen, that is yet to be proved. Lilienfeld, himself, mentioned in his lecture that experiments to that effect are only now being made."

As regards the cost of production Dr. Mauthner remarked: "One ingredient, phenol, is very cheap; the second, glycochol, though also derived from a waste product, ammonia, is yet expensive. It costs twelve pounds sterling for one kilogram. But this he does not mind, as similar prices were paid in the beginning for aniline, phenol, alizarine, and many other products later on cheapened to a minimum by the chemist's art and wholesale production. Now thousands of tons of those products are made."

The serum treatment of disease has been exploited by Koch and others. The serum he has used has been the serum of animals. Albumen-serum is the most important constituent of human blood. The invention of artificial albumen, therefore, is thought to mean practically the discovery of artificial albumen-serum, with all that this implies. Chemically considered, Lilienfeld has performed a marvellous feat. Albumen makes one of the group in which fibrin and casein are classed. The three are sometimes called histogenetic bodies, because they are essential to the building up of the animal organization. The chemical constitution of all of them is exceedingly complex, but the most intricate of the lot is albumen. It is known that it contains carbon, hydrogen, nitrogen and oxygen, with a small amount of sulphur, but the way in which these things were combined was hitherto unknown.