the great German chemist Emil Fischer have in the last few years been crowned with brilliant success. Briefly, he has not only isolated a long series of these amino-acids, but following Curtius, has been able to synthesize them, that is, to make them in the laboratory from simpler substances; but also, having done this, he has succeeded in linking them tögether in serics. In one case he linked together as many as eighteen amino-acid radicles. These polypeptides as he has termed them, in appearance, reactions, (such as the characteristic Biuret reaction, which we use commonly to detect the presence of proteins) and in behaviour towards acids and alkalies, so closely resemble the true peptones that, to quote Fischer, they must be regarded as their nearest relatives. And Fischer has gone further than this. In the Faraday lecture delivered by him in London in 1907, he announced that one of the bodies artificially built up by him (l. leucyl- triglycyl- l. tyrosin) has all the properties of the albumoses-of certain simpler proteins which we gain by the peptic and tryptic digestion of muscle.



Thus at last there has been accomplished the building up of these specific organic substances which in nature are found solely in the outcome of life,—nay more, form the material basis for the manifestation of life. It is the most notable achievement of the new century.

Here let me again emphasize the fact that these proteins which thus we are now in a position to build up, or if you like the term, manufacture in the chemical laboratory, are inert bodies—they are not living as we understand the term—the living matter is not proteid, but proteidogenous. Can we form a chemical or physical conception of the difference between the two? between living and dead organic matter?

"Here is a fact, the meaning of which is of far-reaching significance. "I show you two tubes. Each contains a small quantity of a white "powder—about half a teaspoonful. Each powder consists of the same "elements, oxygen, hydrogen, nitrogen and carbon. One is practically