that it was a homologue of pyridin was shown by its yielding on further oxidation and pyridin carboxylic acid.

From these considerations Ladenburg was induced to take up the synthesis of coniin. The difficulties which he encountered, owing to the uncertainty of a change not occurring in the propyl group which he introduced, cannot be taken up in this place. He was, however, successful in his endeavours by condensing α picolin with paraldehyde to äthyl pyridin. This unsaturated compound on reduction gave inactive, normal α propyl pyridin. On combination of this base with dextro tartaric acid he was enabled to separate the inactive compound into dextro and lerorotatory modifications, the former of which proved in every way to be identical with the natural alkaloid. Some years later Engler condensed calcium picolinate with calcium propionate and obtained after the well known reaction α äthyl pyridyl keton and subsequent reduction of this to α äthyl piperyl alkin. which, on continuous reduction, yielded coniin. Thus has coniin been produced in two ways.

Next in order were three less important alkaloids synthesised whose production was not of interest from a technical point of view, but of great scientific worth. These were trigonellin, the alkaloid of trigonella, fœnum græcum by Hantzsch, and arekaidin, and arekolin from the areca nut by Jahns.

Piperin, the original alkaloid of pepper, was partially synthesised at first by Rügheimer in 1882, by the condensation of piperinyl chloride with piperidin. The piperinic acid from which the acid chloride was obtained was not made until Fittig had, by extremely beautiful work, shown its constitution, and afterwards Ladenburg and Scholtz effected its synthesis from proto-catechuic aldehyde.

The next two compounds are of more than theoretical interest, as one plays a large technical *rôle* and both are of interest from their relation to some important physiological processes. These are caffein and theophyllin. These do not, as before mentioned, belong to the pyridin group of alkaloids, but their history is closely bound up with uric acid and urea. Although the acid was discovered by Scheele so long ago as 1776, its connection with caffein was not established till Emil Fischer began his wonderful researches on the uric acid series, which have yielded splendid results.

The decomposition products of caffein belong to a series of compounds which contain the grouping $C\underset{N-C}{\overset{N-C}{<}}>C$ and which can well be supposed to be formed by the union of urea with dibasic acids. Caffein on oxidation with chlorine yields dimethyl alloxan, which, on