suppose the presence of weak hydrogen bonds between the ammonium ions and the oxygen atoms.

The P_4O_{12} rings are rather flat, nearly parallel to (010). In agreement with this arrangement the smallest optical refractive index was found parallel to [010]. In spite of this arrangement, no cleavage parallel to (010) was found, the layers being linked very strongly by the ammonium ions.

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Amino-acid Composition of Bence–Jones Protein

Our knowledge of the amino-acid composition of Bence–Jones protein is still incomplete. Recently, Dent[1] has analysed a specimen of Bence–Jones protein, using paper partition chromatography, with regard to its amino-acid composition. He found that the specimen contained all the common amino-acids except methionine and hydroxyproline. Dent's findings were at variance with those of Devine[2], who found methionine present in amount 0·58 per cent.

In the present studies, the amino-acid composition of two specimens of Bence–Jones protein were investigated by means of paper partition chromatography[3]. The specimens were obtained from the urines of two patients we had under observation for a long period of time. The proteins showed all the characteristics of Bence–Jones protein (reversible heat coagulation, salting out, etc.). Our results were as follows: (1) With the exception of methionine and hydroxyproline, all the common amino-acids were present in the Bence–Jones protein hydrolysates. (2) No attempt at quantitative determination was made. However, from the size of the spots, as well as from the intensity of the colour reaction with ninhydrin on the chromatogram, it could be concluded that aspartic and glutamic acids, cystine and tyrosine were in high concentration, whereas lysine and serine were in low concentration.

Examination for methionine was made, apart from the ordinary chromatographic procedure of Consden *et al.*[3], by using its catalytic effect on the iodine–sodium azide reaction. The technique consisted in extracting the amino-acid from the corresponding area of the filter paper, with subsequent procedure suggested by Feigl[4] for the detection of organic sulphur compounds. The method was very sensitive; amounts of methionine not exceeding 1 μgm. could readily be detected.

The above findings confirm Dent's data and offer further support for his suggestion that Bence–Jones protein is an abnormal protein foreign to the animal body. Again, the results are not in conflict with Waldenström's theory[5] of the virus origin of myelomatosis.

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Production of Kojic Acid from *Aspergillus lutescens*

Jennings and Williams[1] directed attention to the fact that kojic acid is a common product of fungus metabolism and may account for the antibacterial properties of a number of fungi not yet investigated. They further pointed out that the ferric chloride colour test for this substance is not specific. However, since kojic acid must be present in fairly high concentration if it is responsible for an inhibitory effect with, for example, the cylinder-plate test, it can usually be obtained in crude crystalline form by allowing an ether extract of crude culture fluid, made at about *p*H 5, to evaporate.

D. E. Gill-Carey[2] recently found that *Aspergillus lutescens* Bainier *nomen nudum*, No. *NRRL* 425 in the collection of the Northern Regional Research Laboratory, Peoria, and No. 4640.478 in Dr. Charles Thom's collection, produced antibacterial activity when grown on various media. The whole of this activity has now been shown to be accounted for by the presence of kojic acid, which was isolated by the procedure just mentioned. The best yield was obtained by growing the organism on 5 per cent malt extract, *p*H 6·0, containing separately sterilized calcium carbonate, at 24° C. for nine days.

After recrystallization from acetone, the identity of the material was established by melting point and mixed melting point with authentic kojic acid.

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Phosphorus Content of Ovalbumin and of some Products of its Enzymatic Degradation

As is well known[1,2], the phosphorus content of ovalbumin does not, in general, correspond to an integral number of phosphorus atoms per mole of this protein if its molecular weight is taken as 44,000. About two years ago, Linderstrøm-Lang suggested to me that this lack of stoichiometry might be correlated with the occurrence, in ovalbumin, of two electrophoretically distinguishable components, A_1 and A_2[3], the relative abundance of which varies somewhat from one preparation to another but averages about 85 per cent A_1 and 15 per cent A_2. In the course of the electrophoretic studies carried out