

## ABSTRACT OF COMMUNICATIONS

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**Biochemical properties of the blood of pigeons in polyneuritis and starvation.<sup>1</sup>**

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The data in Table 1, showing the analyses of the whole blood of (1) normal pigeons, (2) normal pigeons starved until they had lost 40 per cent. of their body weight, (3) pigeons with "latent" polyneuritis, (4) pigeons with acute polyneuritis, (5) pigeons which had attained normal weight following acute polyneuritis, *i.e.* "relieved polyneuritis," and (6) pigeons starved to a 40 per cent. loss of weight following "relieved polyneuritis," indicate that the decrease in total solids and in the nitrogenous constituents of the blood, both protein and non-protein, as well as the diminution in the erythrocytes, are probably due to the self-imposed starvation which accompanies the later stages of polyneuritis in pigeons. It is to be noted, however, that simple inanition in its advanced stages is accompanied by a decline in the relative amount of protein in the blood which is not apparent even in acute polyneuritis. This result is contrary to the recent observations of Pacchinsa.<sup>2</sup>

None of the usual "symptoms" of polyneuritis accompanied simple inanition in these experiments. The polyneuritis diet consisted of a mixture of polished rice, casein, butter fat and salts.

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<sup>1</sup> This problem was suggested in part by R. A. Dutcher, formerly of the University of Minnesota. Credit is also due Professor Dutcher for assistance rendered in the early phases of the work.

<sup>2</sup> Pacchinsa, S., *Ann. di clin. med.*, 1921, 11, 271.

TABLE I. AVERAGE ANALYSES OF PIGEON'S BLOOD IN POLY-  
NEURITIS AND STARVATION

State of nutrition	Number of birds	Total solids	Total Nitrogen	Protein Nitrogen	Protein nitrogen in total solids	Non- protein nitrogen	CO <sub>2</sub> in 100 c.c. plasma	Total Erythro- cytes per cm.	Total Leuco- cytes per cm.
		per cent.	per cent.	per cent.	per cent.	per cent.	c.c.	× 10 <sup>6</sup>	× 10 <sup>5</sup>
Normal .....	13	22.24	3.46	3.305	14.87	0.155	49.6	3.1	1.7
Normal starved...	8	17.83	2.66	2.561	14.35	0.097	44.2	2.8	2.8
Latent polyneuritis	7	18.73	2.88	2.829	15.10	0.051	57.5	2.5	2.2
Acute polyneuritis	16	16.65	2.55	2.483	14.95	0.065	49.9	2.2	2.6
"Relieved", poly- neuritis .....	4	22.59	3.46	3.381	14.99	0.079	61.3	3.4	3.9
"Relieved", poly- neuritis starved..	3	18.46	2.42	2.323	12.60	0.097	50.3	3.2	3.0