SCIENTIFIC PROCEEDINGS

ABSTRACTS OF COMMUNICATIONS.

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President Gies in the chair.

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The urea content of the blood.

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Although the retention of urea nitrogen in the blood is now generally regarded as a reliable diagnostic sign of faulty kidney function, there still remains a disturbing degree of confusion as to what should be considered the normal and what a pathological urea content of the blood. Repeated observations of Folin and Denis, and those of our own laboratory, seem to prove conclusively that in normal adults the concentration of urea nitrogen is from 12 to 15 mg. per 100 c.c. of blood. A study of the records of routine blood analyses of hospital patients, on the other hand, shows that many individuals without symptoms of kidney lesion have a urea nitrogen of more than 15 mg. per 100 c.c. of blood. Of a series of 244 cases, extending over a period of 5 months, 206, or 84 per cent., had a urea nitrogen concentration of not more than 20 mg. per 100 c.c. Of these 206 cases, 83, or 40 per cent., showed some indications of kidney lesion, while of the remaining 38 cases in which the urea nitrogen was more than 20 mg., 29, or 76 per cent., showed other renal symptoms. Throughout the series the higher blood urea was closely paralleled by the greater degree of kidney lesion, as indicated by presence of casts or albumin in the urine, high blood pressure, high blood sugar and creatinine

or low phthalein output. From these observations we conclude that 20 mg. per 100 c.c. may be taken as upper normal limit of urea nitrogen in the blood of hospital patients.

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Production of transplantable growth.

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After analyzing the known numerous theories on the origin of abnormal growth and especially of malignant growth, which have been devised either with or without reference to facts, it seems possible to concentrate the apparently necessary postulates for the successful origin of abnormal growth to the following conditions which cover all important theories on this subject. The presence of a cell group in an indifferent stage of growth, the dissociation of this cell group from its surrounding and its change from the indifferent stage of growth to a stage of proliferation, the inflammation of the connective tissue, neighboring this cell group, and a changed metabolism of the cells, in which this cell penetrates and which it destroys. Supposed these conditions are true to actual facts it must be possible to produce experimentally these factors either in various sequence or all at once and observe results.

I. Embryonic tissue of the chicken heart, after twelve days' incubation, was cultivated in a plasma medium for three days, and three 1 mm. square pieces implanted subcutaneously into a chicken. The implants produced after *ten days* small protuberances. Sections show cyst formation, caused by the isolation of the epidermis above the implants and *inflammatory* proliferation of the connective tissue of the host. Cyst formation, destruction of the feather follicles and accessory apparatus of the feather after previous isolation of the feather-forming complexes are visible. The implanted embryonic heart-muscle tissue which is surrounded by lymphocytes and newly formed connective tissue cells shows no considerable development. Protuberances produced in the same manner disappear after three weeks, as was to be expected.