In the cultures of fragments between 0.4 mm. and 1 mm. the individual cells migrated over the surface of the medium in some cases to a distance of 1.7 mm. from the tissue block. In a few cases marked elongation of the fragment took place subsequent to the migration. Migration occurred for the most part over the upper and lower surfaces of the drop of agar medium. Only occasionally did the cells invade the solid medium. On the lower surface a viscid film was plainly visible diffusing from the fragment. The individual cells were evenly distributed through this film which held them immobile against shaking. After 24 hours some of the isolated cells were plasmolyzed, others have remained viable for more than 30 days.

The migration of the plant cells from the smaller fragments is similar to that of the cells of the higher animals. In the growth of the larger pieces to form parts of a plant the reaction of the plant tissue is unlike that of the higher animals but resembles the growth seen in pieces of tissue of some invertebrates. These pieces may regenerate parts or whole animals.

38 (2270)

A new method of using phenolsulfonephthalein for testing renal function.

By SANFORD M. ROSENTHAL* (by invitation)

[*From the Pharmacological Laboratory, Johns Hopkins University, Baltimore, Md.*]

Following the intravenous injection of phenolsulfonephthalein, its rate of disappearance from the blood was studied in normal animals and in those with experimentally produced renal pathology. A dosage of 0.5 mg. of dye per kilo of body weight was found most satisfactory. A striking difference in results was found to exist between normal dogs and normal rabbits. This is shown in the following table; the figures represent the concentration of dye in the blood serum at the stated time after injection, the percentages expressing that part of the total amount injected.

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Time	Normal Dog	Kidneys Removed	Normal Rabbit	Kidneys Removed
minutes	per cent	per cent	per cent	per cent
5	10	44	46	54
15	3	35	23	45
30	0-trace	28	13	36
60	0	24	4 to 5	33

It is thus seen that immediately after injection, the sulfonephthalein is quickly concentrated in the kidney of the dog while this does not occur in the rabbit. This suggests the possibility of normally existing physiological differences in the renal mechanism of these animals.

Tests were carried out upon dogs with complete urinary obstruction, produced by ligating both ureters. The first day after operation the concentrations reached in the serum by the sulfonephthalein were only slightly higher than normal, becoming successively higher in tests performed each following day up to the time of death, so that in urinary obstruction where excretion tests could not be made, a study of the sulfonephthalein in the blood serum gave an index as to the conditions of the kidneys.

39 (2271)

A new method of testing liver function with phenoltetrachlorphthalein. IV.

By SANFORD M. ROSENTHAL* (by invitation.)

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A. FUNCTIONAL CHANGES AFTER REMOVAL OF LIVER TISSUE

The author's method of testing liver function, by determining the rate of removal of phenoltetrachlorphthalein from the blood stream was carried out in a series of 11 normal rabbits and repeated immediately after the removal of varying amounts of hepatic tissue. The relation between the degree of retention of

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