essential organs are formed before it is possible to remove the animal from its yolk or its mother. The cells are nourished always by foods which have first passed through a fully formed organism.

Differentiation like growth is not a primary phenomenon in all periods of life but in the early stages. It is hastened as many previous experiments have shown by removing parts of the yolk or by accelerating the metabolism of the developing organism through the feeding of thyroid.

Cancer as we have seen it, therefore, may be the normal outcome of any substance or condition capable of building a densely cellular tissue in the organism associated with an orderly decrease in the blood supply. It is not the result of any primary changes in the cell but to a specific rearrangement of cells, intercellular substances and blood vessels in the organism.

ABSTRACT OF COMMUNICATIONS.

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51 (2283)

Experimental infection of culture rats and mice with the common intestinal amebae of man.

By JOHN F. KESSEL (by invitation).

[*From the Biological Laboratory, Peking Union Medical College, Peking, China.*]

The present investigation was undertaken in order to check on the previous reports in which attempts were made to infect rats and mice with *Endameba dysenteriae* and also to infect these rodents with the other common intestinal amebae of man.

Infections of five species of human intestinal amebae, *Endameba dysenteriae, Endameba coli, Councilmania lafleuri, Endolimax nana,* and *Iodameba büttschli* have been experimentally transferred to rats by feeding them human feces containing cysts of these amebae. Mice have been experimentally infected with *Councilmania lafleuri* and *Endameba dysenteriae.*

A greater percentage of young amebae-free animals than of old amebae-free animals or of young animals known to possess an infection of amebae common to the rat and mouse have become infected with these five amebae common to man.

Infections of *E. dystenteriae, E. coli,* and *C. lafleuri* have been experimentally transferred from rats harboring experimental infections of these amebae to other young amebae-free rats by feeding them the feces of the infected rats.

The amebae transferred from man to the rodent host have, in every case presented no apparent racial or morphological change during the period of the experiment. The data acquired in this investigation give interesting information on the questions of (1) morphological constancy of parasitic Protozoa, (2) host specificity of parasite, (3) the possibility of rodents acting as carriers of amebiasis.

Infections of *E. dysenteriae* in rats and mice apparently assumes a chronic form rather than an acute form as is reported in kittens.

52 (2284)

A modification of Duboscq-Pellin colorimeter for bicolorimetric work as in colorimetric pH determination without buffer mixtures.

By HSIEN WU.

[*From the Laboratory of Physiological Chemistry, Peking Union Medical College, Peking, China.*]

A colorimeter in which the combined color of two solutions is used as the standard is required for some purposes. The best illustration is the colorimetric determination of pH without standard buffer mixtures, where the color of the indicator in the unknown solution is matched with the combined color of an acid solution and an alkaline solution of the same indicator. Knowing the ratio of the depths of the two color solutions of the same concentration or the ratio of the concentrations of the solutions of the same depth, the pH of the unknown solution which matches with that of the combination can be calculated by means of an equation derivable from the mass action law and the theory of indicators or by referring to a curve determined experimentally.