and nicotinic acid resulted in complete failure of lactation, and that the addition of filtrate factor concentrate prepared from liver extract resulted in success in every trial. Liver filtrate is a potent source of vitamin L_1 but, according to our previous experiments, the other necessary lactation vitamin, *i.e.*, vitamin L_2, is absent from it.[3] The question then arises: how did it happen that Sure obtained successful lactation without vitamin L_2 supplement?

Our recent experiments show that Sure's use of dextrin in his basal diet provides the answer to this question. We confirmed that more or less satisfactory lactation can be obtained on a diet consisting of dextrin 60%, purified fish protein 25%, butter 10%, and McCollum's salt mixture 5%, supplemented with acid earth adsorbate of yeast extract (vitamin B complex) and liver filtrate (filtrate factor and vitamin L_1). If, however, polished rice is used, instead of dextrin, an additional supplement of yeast constituent (vitamin L_2) becomes necessary for successful lactation, liver filtrate supplement being insufficient.

Dextrin diet + liver filtrate (L_1): 35 of 81 young reared (43.2%).

Polished rice diet + liver filtrate (L_1): 5 of 155 young reared (3.2%).

Polished rice diet + liver filtrate (L_1) + baker's yeast (L_2): 23 of 40 young reared (57.5%).

Obviously, therefore, dextrin in diet renders largely unnecessary vitamin L_2, which is absolutely indispensable in polished rice diet.

Since it is highly improbable that dextrin serves as a direct source of vitamin L_2, it may more reasonably be assumed that dextrin diet leads to the production of vitamin L_2 by the intestinal yeasts. In this connection it may be recalled that dextrin diet strikingly favors the proliferation of these yeasts which synthesize vitamin B_2, rendering the rats relatively refractory to B_2 deficient feeding.[4] In any event, it seems now clear that vitamin L_2 deficiency can not be produced by dextrin diet, and that with this diet vitamin L_1 supplement is sufficient to permit successful lactation.

WARO NAKAHARA
FUMITO INUKAI
SABURO UGAMI

THE INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH, TOKYO

AN INVESTIGATION OF GROWTH IN PLANTS

A RECENT grant from the Rockefeller Foundation to the Connecticut Agricultural Experiment Station will be used to further a study of normal growth that has been in progress for some time. The long inbred strains of maize that have been continuously self-fertilized for more than 30 generations furnish favorable plant material for an investigation of this kind. These inbred plants are so reduced in size and growth rate and so uniform in all structural details that any mixing with unrelated plants can be certainly detected. In this material heritable changes are occurring from time to time that are known to have their origin in the nucleus. Most of these are degenerations from a normal level of vigor.

Chromosomal rearrangements, both spontaneous and induced, are known to alter growth in the endosperm tissue. The problem is to study their effects upon other parts of the plant where they can be measured statistically.

The interaction of nucleus, cytoplasm and cytoplasmic inclusions in the control of normal growth and differentiation is one of the most fundamental problems in biology at the present time. Knowledge in this field has importance for the further improvement of economic plants and animals and the control of neoplastic diseases.

D. F. JONES

CONNECTICUT AGRICULTURAL EXPERIMENT STATION, NEW HAVEN

PRO AND CON EVOLUTION IN CONTEMPORARY GERMANY

FASCICULE 4–5 of Volume 37 of the semi-scientific periodical *Natur und Kultur* of Muenchen (April–May, 1940) contains an editorial preface by Dr. Franz Wetzel and nine essays by different authors, in all of which are to be found violent attacks upon evolution, especially with regard to the origin of man from apelike ancestors.

It is not intended here to discuss the arguments assigned in those essays, based chiefly on Dacqué's and Westenhöfer's ideas, but attention must be drawn to a fact most striking to a scientific reader: nowhere are the conclusions derived from the results of research; on the contrary, the former are tested as to whether or not they agree with the national socialist racial theory ("Rasselehre"). If they do not they have to be rejected. Evolution seems to be especially suspect because it appears to be contradictory to the invariability of species and races, required as dogma by the "Rasselehre," and is, in consequence, stigmatized by Otto Muck[1] as "Theorie der universalen Art- und Rasselosigkeit." It is no less striking to see that the adversaries of evolution reproach its advocates, alleging that the latter make them politically suspect.

Fortunately, H. Weinert rejects all these anti-evolutionary arguments as "pseudowissenschaftliche Ein-

[3] W. Nakahara, F. Inukai and S. Ugami, SCIENCE, 87: 372, 1938.

[4] N. B. Guerrant and R. A. Dutcher, *Jour. Biol. Chem.*, 110: 233, 1935; U. Tange, *Sci. Pap. Inst. Phys. Chem. Research*, 36: 471, 1939.

[1] *L.c.*, pp. 133, 135.