tion is depressed by increase of dielectric constant and all these facts support the mechanism approved by Polanyi and coworkers.

Initiation:—

$$K + H_2O \rightarrow KH_2O$$

$$KH_2O + CH_2 = \underset{\underset{R}{|}}{CH} \rightarrow CH_3-\overset{+}{\underset{\underset{R}{|}}{C}}H + \overset{-}{KOH}$$

Propagation:—

$$CH_3 - \overset{+}{\underset{\underset{R}{|}}{C}}H + CH_2 = \underset{\underset{R}{|}}{CH} \rightarrow$$

$$CH_3 - \underset{\underset{R}{|}}{CH} - CH_2 - \overset{+}{\underset{\underset{R}{|}}{C}}-H$$

Termination:—

$$CH_3 - (\underset{\underset{R}{|}}{CH} - \underset{\underset{R}{|}}{CH_2})_n - \overset{+}{\underset{\underset{R}{|}}{C}}H + \overset{-}{KOH} \rightarrow$$

$$CH_3-(\underset{\underset{R}{|}}{CH}-CH_2)_{n-1}-\underset{\underset{R}{|}}{CH}-\underset{\underset{R}{|}}{CH}=CH+K+H_2O$$

The termination being a reaction between oppositely charged ions will be depressed in a medium of high dielectric constant. There is a note of caution to be observed in accepting this mechanism since we are not dealing with free ions but rather with ion pairs or with potential ions and the proposed mechanism is yet open to criticism.

Progress in this field of polymer chemistry has been slow mainly because of the sensitivity of the reaction to impurities and its high rate in absence of solvents. No reliable kinetic investigations of such polymerizations have been reported as yet.

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ADVANCES IN MICROBIOLOGY*

MICROBIOLOGY has now come of age; separate Research Institutes for the study of microbiology have been founded and the latest in the field is the one organized by Professor Waksman. The rapidly accumulating wealth of fundamental knowledge and the spectacular growth of industries based on the discoveries made in the field of microbiology, have hastened this happy recognition of microbiology as an independent and well-defined branch of science. Microbiology has, in recent years, invaded the fields of genetics, nutrition and intermediary metabolism and micro-organisms have continued to provide for fundamental studies a convenient unicellular unit of life of unexpected flexibility and resourcefulness.

It was inevitable that such a rapidly growing and fruitful branch of science should result in the birth of the *Annual Review of Microbiology*—the third in the lineage of the brilliant family of Annual Reviews.

Seventeen reviews encompassing the morphological, cytological, genetical, immunological, pathological, chemotherapeutical, epidemiological. nutritional, biochemical, medical and industrial facets of microbiology, have been presented in the first volume by a group of top-ranking and active workers. Of the 17 contributions, thirteen are from the laboratories of the U.S.A., three are from England and one is from France. The total number of references to literature cited in the volume is nearly 2,000.

Protozoa, fungi, bacteria and viruses are all covered. Investigators interested in the various aspects of protozoal diseases including malaria will find the four contributions, morphology and cytology of protozoa by Wenrich, antigenic variation in protozoa by Harrison, life cycle of malarial parasites by Huff, and the problem of growth factors for protozoa by Lwoff, extremely stimulating and suggestive. Those interested in nutrition and intermediary metabolism will welcome the contributions of Woods and Gale on Bacterial Metabolism and Nitrogen Metabolism. Benedict and Langlykke have reviewed the evergrowing field of antibiotics, while the important aspects of Industrial Fermentations are covered by a review by Johnson. The review on chemotherapeutic agents by Lourie constitutes a thought provoking article which will serve to stimulate and rationalise chemotherapeutical research. These reviews have a much wider appeal than what may be apparent from the title. By the publication of the new series of reviews devoted to microbiology, the Annual Reviews Inc. have earned the gratitude of a wide circle of investigators.

—* *Annual Review of Microbiology*, Vol. I. Edited by Charles E. Clifton, Sidney Raffel and H. Albert Barker. (Anrual Reviews Inc, Stanford, California). 1947. Pp. vii + 104. Price $ 6.00.