

1/25, 1/50 and 1/100 M. Nitrogen compounds were used in concentrations of 1/5, 1/25, 1/125, 1/250 and 1/500 M. Preliminary experiments soon showed that this fungus could not obtain carbon from several of the compounds tried and that others had only slight availability. Only maltose, saccharose and dextrose were tried out for final results, in concentrations of 1, 2/5, 1/5, 1/10, 1/25, 1/125, 1/250, 1/500, 1/625 M.

Twenty-four sets of cultures were carried through, the number of flasks in a set ranging from six to forty-eight. The test applied for the optimum medium was the amount of vegetative growth, estimated by the eye alone in the early stages of growth for all the cultures, but in cases where the results were doubtful and also for the purpose of getting quantitative results for some of the work, in several sets the growth was determined by weight.

Conclusions.—Of the nitrogen compounds tried calcium nitrate was the best. Its best concentration was 1/250 M. 1/125 and 1/500 M were nearly as good. Sodium nitrate was next best, ammonium sulphate was very decidedly the poorest. In the early stages of growth ammonium nitrate was little better than ammonium sulphate, but given a longer time it became equal to potassium nitrate, and the latter was only slightly below sodium nitrate.

The different concentrations of the phosphate had little influence on the amount of growth, 1/10, 1/50 and 1/100 M being almost equally good, except that with cellulose as the carbon compound little growth was made with the concentration of the phosphate 1/50 or 1/100 M, while there was very good growth in 1/10 M.

Among the carbon compounds maltose was decidedly the best when ammonium nitrate was the source of nitrogen, but with calcium nitrate saccharose was as good or better. For all the three carbon compounds saccharose, dextrose and maltose, the concentration of 1 M was strongly inhibitive of growth. In 1/5 M the growth was far better than in any of less concentration. The experiments in which 2/5 M was used gave a slightly greater total than 1/5 M, but the rate of growth in the former was decidedly slower than in the latter. It was true in a good many sets of cultures that the rate of growth was more rapid in the more dilute solutions, though maximum growth occurred in more concentrated solutions.

Of the substances and concentrations tried the optimum medium for the fungus tested was:

Saccharose	2/5 M.
Calcium nitrate	1/250 M.
Monopotassium phosphate ...	1/10–1/100 M.
Magnesium sulphate	1/1000 M.

Saccharose has one very decided advantage over both dextrose and maltose. It may be obtained in a purer form. The ordinary rock candy obtainable at any candy store is far more nearly chemically pure than the grades of maltose and dextrose obtained from reliable dealers and labeled C.P. This is a very decided advantage in critical culture experiments.

A Labeling Surface for Laboratory Glassware:

A. F. BLAKESLEE, Carnegie Institution.

Diamond ink applied to glassware gives a permanent ground-glass surface upon which labels can be written with lead pencil. Labels upon this surface are of especial value upon flasks, test tubes, etc., that need to be sterilized in autoclav.

GEORGE T. MOORE,
Secretary

SOCIETIES AND ACADEMIES

THE ANTHROPOLOGICAL SOCIETY OF WASHINGTON

THE 465th regular meeting of the Anthropological Society of Washington, D. C., was held at Room 43 of the new building of the National Museum at 4:30 P.M., January 21, 1913, Mr. George R. Stetson, the president, in the chair.

Dr. Tom. A. Williams, M.B., C. H. Edin., M. Corresp. Etrang. Soc. de Neurologie de Paris, Soc. de Psychol. de Paris, etc., charter M. Am. Psychopath. Assoc., Collaborator *Jour. Abnorm. Psychol.*, read a paper on "The Dream in the Life of the Mind."

Trance, vision, ecstasy and disease-delirium are closely allied to the dream state. The psychopathology of them all illuminates formerly uncomprehended diseases. In a dream (illustrated by a case) mental perturbation may crystallize, as it were, and lead to rampagous behavior. On the contrary, dreams may be teleologically beneficial; as where a vision saved a young woman from suicide, as was the case also with Benvenuto Cellini.

They are more often a mere reproduction of former experiences, more or less significant and more so in psychopathic individuals, such as in a young hysteric who dreamed of falling down wells, assassinations and deaths, all painful experiences of her childhood.

Their sexual nature, believed inevitable by a certain school, is not so regarded by the author.

Nor is their analysis an essential of proper diagnosis and treatment of psychopathies. But in some cases they render the investigation more easy.

Dream-thought, apparently confused, is really significant of the mental trend of the individual, when properly analyzed and interpreted. One dreams all the time, but recollects only that within seven minutes of waking. The form of dream can be determined by external stimuli. This is demonstrated in spite of its contradiction by some psychopathologists.

A SPECIAL meeting of the Anthropological Society of Washington was held on February 4, 1913, at 4:30 P.M. in Room 43 of the new building of the National Museum, the president, Mr. George R. Stetson, in the chair.

Dr. Clark Wissler, curator of the department of anthropology in the American Museum of Natural History, New York, read a very elaborate and philosophical paper on the "Doctrine of Evolution and Anthropology."

An attempt was made to distinguish between cultural phenomena on one hand and biological on the other, especially to make clear that cultural phenomena are not inherited, though the instinct to develop culture, or to invent, is most certainly inborn. It was suggested that the historical attitude of present-day anthropology should be taken as expressing the cultural point of view. Culture itself seems to be associated habit complexes or constructs of the mind and not to be in any way innate or inborn, but to be an external affair, preserved and carried on entirely by learning or educating processes. Cultures develop and have an evolution of their own, but since they are not inherited they can not be considered parts of a biological development. They are most assuredly facts of another order. Being products of the mind, the only limitations put upon them are to be sought in the mind itself and since psychologists tell us that we have in the main only an associated cultural whole, resolvable into psychological elements and since this, in turn, is only a matter of invention and not of cell differentiation. Being a matter of invention, the genetic relationship becomes purely a matter of history, since we can not foretell what the relationship is.

The psycho-physical mechanism of man is biological and innate and constitutes man's equipment for the production of cultures. Anthropology holds that the mechanism is general in so far as it is not limited to any particular culture, and that it enables the individual to practise any cul-

ture he may meet, though not necessarily to equal degrees.

When we come to consider the biological theory of evolution we find that it applies to the psycho-physical mechanism but not to culture. For cultures we must have another point of view or theory and this in America, at least, is the historical or cultural conception. This conception is in general that cultural traits are the results of invention, a mental process, and their development or evolution is to be taken as a historical and psychological problem.

The paper was briefly discussed by Dr. Folkmar, Dr. Swanton and Dr. Hough.

WM. H. BABCOCK,
Secretary

PHILOSOPHICAL SOCIETY, UNIVERSITY OF VIRGINIA MATHEMATICAL AND SCIENTIFIC SECTION

THE third meeting of the session 1912-13 of the Mathematical and Scientific Section was held on December 16.

Professor A. H. Tuttle made a preliminary report of work now in progress upon the life-history of the Charales, based chiefly upon cytological studies of a species of *Tolypella*.

The fourth meeting of the session 1912-13 of the Mathematical and Scientific Section was held on January 20.

Professor J. T. Singewald, of the Johns Hopkins University, read a paper on "The Titaniferous Ores of the United States."

WM. A. KEPNER,
Secretary

UNIVERSITY OF VIRGINIA

THE ELISHA MITCHELL SCIENTIFIC SOCIETY

THE 203d meeting of the society was held in Chemistry Hall, University of North Carolina, on Tuesday evening, February 11. The following program was presented:

"Photography of Sound Waves," by Mr. A. H. Patterson.

"Difference in the Effect of Grehant's Anesthetic and of Morphine Ether on the Output of Urine by Nephritic Animals," by Dr. W. B. MacNider.

"The Chemical Action of Light," by Dr. A. S. Wheeler.

JAMES M. BELL,
Recording Secretary

CHAPEL HILL, N. C.