but with 'a rational analysis of the contents of the human mind,' this is a statement that does not essentially affect the methods of science; but it seems somewhat dangerous to attempt to lessen the difficulties in the way of correlating atoms and the ether with other physical phenomena by regarding them as 'conceptual limits.'

The only essay in the first volume not yet noticed is concerned with the place of women in society, and with the relations of individualism and socialism—subjects which are more or less distinctly brought forward in many places. The second volume is, indeed, chiefly concerned with them, though indirectly, from the point of view of folk-customs and folk-lore. The four essays included in it are entitled 'Woman as Witch,' 'Ashiepattle,' 'Kindred Group-Marriage' and 'The German Passion-Play.' Limits of space do not permit me to give an account of these, and limitations of knowledge make me incompetent to criticise them. Mr. Pearson attributes great importance to a mother-age and its customs, and emphasizes the fact that mediæval Western Christianity was a product of the Teutonic folk-spirit.

Mr. Pearson's essays and lectures are *actuel* to an unusual degree. The scientific and social problems treated by him are those most pressing for solution and those most likely to become predominent in the course of the next twenty years. It is not too much to say that these volumes should be read by every man of science.

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SCIENTIFIC JOURNALS.

AMERICAN CHEMICAL JOURNAL, AUGUST.

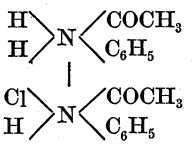
On the Oximes of Mucophenoxychloric and Mucophenoxybromic Acids: By H. B. HILL and J. A. WIDTSOE. *On the Action of Aluminic Chloride and Benzol upon Mucochloryl Chloride, Mucobromyl Bromide, and the Corresponding Acids:* By H. B. HILL and F. L. DUNLAP. These papers contain the results of investigations which have been carried out under Professor Hill's directions. It had been shown that mucochloric and mucobromic acids, when treated with hydroxylamine, formed normal oximes, which would indicate the presence of an aldehyde group in the acids. On the other hand, the bromanhydrides could be converted into crotonolactones by reduction, indicating an anhydride structure. The tautomerism of these acids has been the basis of the present work. Hill and Cornelison had attempted to discriminate between the two forms by a study of the action of hydroxylamine on the methylester of the acid, expecting to find that one of the forms would react readily, the other with difficulty. Although the free acids acted very quickly, the action with the methylester was very slight. When, however, one hydrogen of the acid was replaced by the phenoxy group, a substance was obtained whose ester acted readily and formed a substance identical with the ester made from the oximes by the action of methyliodide on the silver salt. The oximes and their derivatives were prepared and studied during the course of this investigation. The simplest explanation that could be offered to explain the conversion of the acids through their bromanhydrides into crotonolactones was that the acids were oxylactones. This was tested as follows: If the acid has an aldehyde structure it should, on treatment with aluminic chloride and benzol, yield an aldehyde phenylketone, while a substance belonging to the class of oxylactones should form a dichlorphenylcrotonic acid. The latter product was, in fact, the one obtained, and the authors consider the evidence sufficient to warrant the conclusion that the acid and its chloranhydride have the lactone structure.

On Certain Derivatives of Brommaleic and Chlormaleic Acid-Aldehydes: By H. B. HILL and E. T. ALLEN. The authors repeated the experiments of Limpricht which led to the formation of an acid-aldehyde of fumaric acid; but were unable to isolate any crystalline compound. The viscous liquid which they obtained had, however, the properties of an aldehyde. In attempts to prepare some derivative of this they obtained a product which they showed to be brommaleïc acid aldoxime. As this substance had not been previously prepared, its properties and many of its derivatives were studied. All attempts to prepare the acid itself failed. The corresponding chlorine compound can be made by the action of chlorine upon pyromucic acid.

Several interesting transformations were also studied.

On the Absorption of Oxygen by Tetrabromfurfuran: By H. A. Torrey. Although α-dibromfurfuran is readily oxidized by exposure to the air, tetrabromfurfuran, which likewise contains two bromine atoms in the α-position, undergoes no change under like conditions. Exposure to direct sunlight, however, produces a change which the author has shown to be due to oxidation. The product formed was shown to be dibrommaleyl bromide and the conditions most favorable for the action were studied.

On Halogen Addition-Products of the Anilides: By H. L. Wheeler, B. Barnes and J. H. Pratt. The authors have continued their work on the perhalides and compared them, as regards their crystallographic form, with the alkali perhalides. They found, however, that the perhalides of the anilides were not analogous in crystal form, and other facts also showed that the compounds from which the perhalides were prepared were not, as was supposed, substituted ammonium compounds. All these are derived from two molecules of an anilide with one of a halogen acid. Several structural formulas are suggested as theoretically possible; but they consider the evidence to favor the diammonium structure of which the following is an example:



A number of perhalides were prepared and their properties studied, both from a chemical and physical standpoint.

On the Permeation of Hot Platinum by Gases: By Wyatt W. Randall. After giving a historical résumé of the work that has a bearing on this point the author gives the results observed in the preparation of pure hydrogen. The form of apparatus used, in which every possible precaution was taken to insure the purity of the hydrogen before it came in contact with the hot platinum, is given in detail. In these experiments the passage of the hydrogen was very slow as compared with the results obtained by Graham. Under the same conditions oxygen and nitrogen do not permeate the tube, and experiments made with marsh gas, which has a density only half that of oxygen, have so far given negative results. The hydrogen was examined spectroscopically, as this method was the most delicate for detecting the presence of other gases. The photographs all showed the so-called 'compound' spectrum. Whether this is evidence of some contamination can not yet be decided, as the evidence is not sufficient to settle this point.

On Some Malonic Acid Derivatives: By R. S. Curtiss. When ethylchlormalonate is treated with cold alcoholic ammonia a compound is formed in which the chlorine atom remains intact; whereas if the action is carried on in a sealed tube at 140° the chlorine atom is displaced. On treating ethylbrommalonate with aniline, a weaker base than ammonia, he obtained, as he expected, a compound in which the bromine was substituted, without affecting the carbethoxyl group. By treating ethylanilidomalonate with mercuric oxide he obtained ethyldianilidomalonate and also studied the action of sodium ethylate on ethyldibrommalonate.

The Action of Nitric Acid on Triphenylmethane: By E. S. Smith. In attempting to prepare trinitrotriphenylmethane by the action of fuming nitric acid on triphenylmethane the author obtained in one case a compound which was shown to be triphenylcarbinol. This substance is usually made by the use of chromic acid as the oxidizing agent, but in the case mentioned the nitric acid acted in a similar manner.

Reviews of the following recent publications are also contained in this number of the *Journal*: Das Studium der technischen Chemie an den Universitäten und technischen Hochschulen Deutschlands und das Chemiker-Examen, F. Fischer; Water and Public Health, J. H. Fuertes; Frühling und Schulz's Anleitung zur Untersuchung der für die Zucker-Industrie in Betrachtkommenden Rohmaterialien, Producte, Nebenproducte und Hülfssubstanzen, R. Frühling; Tabellarische Uebersicht der Pyrazolderivate, G. Cohn; The Chlorination Process, E. B. Wilson; Tabellen für Gasanalysen, gasvolumetrische Analysen, Stickstoffbestimmungen, etc., G. Lunge.

J. Elliott Gilpin.