ported in a previous paper[1] are confirmed. Proven cultures from *Vigna sinensis* and *Glycine hispida* were repeatedly stained and examined, the organisms in every trial being found to have a single polar flagellum.

Attention was then turned to the organisms, which had before given unsuccessful stains owing to the more abundant slime production. Pure cultures isolated from the nodules of *Trifolium pratense, Vicia villosa,* and *Melilotus alba* were tried, this time successfully, though the staining of these organisms is obviously more difficult and uncertain. The bacteria in every case were found to be peritrichous. It was further noted that whereas the organisms of *Vigna* and *Glycine* have a very stout flagellum, the flagella of the organisms from *Vicia, Trifolium,* and *Melilotus* are much finer.

This confirms the work of De Rossi, Kellerman, Zipfel, and Prucha (but one convincing photomicrograph exists, that by De Rossi of *Trifolum repens*), and attention is called to the fact that these workers devoted their efforts to the more slimy group, *i. e., Vicia, Trifolium, Pisum, Phaseolus, Medicago.*

It is now evident that on the basis of flagellation, the nodule bacteria are to be divided into two distinct groups; the *Glycine-Vigna* group, and the *Trifolium-Vicia-Melilotus* group. Further observations confirming this grouping and dealing with cultural and physiological characteristics as well as with the systematic position of these and related organisms, will be the subject of a paper entitled, "The Nodule Bacteria of Leguminous Plants" soon to be published by Lohnis and Hansen.

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THE SUPPOSED SCALES OF THE COTTID FISH JORDANIA

THE Cottidæ are in general scaleless, but the rare fish *Jordania zonope* Starks, from Puget Sound, is said to have the body above lateral line closely covered with ctenoid scales. Dr. D. S. Jordan has very kindly sent me fragments of one of the cotypes and the appearance is exactly as described. But when the material is treated with hot caustic potash, it is found that the apparent scales are nothing more than rows of strong ctenoid spines, placed as they would be in true scales. In the dorsal region the rows are curved as they would be were they margins of ctenoid scales. In the presumably related fossil *Lepidocottus brevis* (Agassiz), from the European Miocene, the ctenoid elements are as in *Jordania,* but the complete scales are present, with the circuli and basal radii as usual. It must be supposed that *Jordania* came from such an ancestor, and represents the survival of certain elements of scale structure without the scales, something like the grin of Lewis Carroll's Cheshire cat.

T. D. A. COCKERELL

[1] Ill. Agr. Exp. Sta. Bul. 202.

REPORT OF THE COMMITTEE OF THE AMERICAN CHEMICAL SOCIETY ON THE PREPARATION OF A LIST RECOMMENDING CHEMICAL TEXTS FOR LIBRARIES

ON January 15, 1919, announcement was made of the appointment of Messrs. W. A. Hamor, A. M. Patterson, and L. C. Newall, as a committee for the preparation of a text for the use of librarians, in recommending books for the chemical reading of the public, in accordance with the suggestion submitted to President Nichols by Mr. Joseph L. Wheeler, librarian of the Youngstown Public Library, Youngstown, Ohio. Following the presentation of its preliminary report[1] at the Buffalo, N. Y., meeting of the society, the committee membership was strengthened by the addition of Mr. Wilhelm Segerblom.

The study of the needs of librarians which was conducted by the committee at the inception of its work, made it clear that what was most desired was an authoritative series of *reading courses,* and not a mere book-list, on chemical subjects. In fact, Mr. Wheeler formally requested a mode of presentment consisting of running texts so prepared that the

[1] See *J. Am. Chem. Soc.,* 41, 95–96 of *Proceedings.*

"prospect" would become interested in the chemical subjects discussed; and consideration of this view and the results of its own inquiry convinced the committee that, to accomplish the purposes desired, the reading courses should have a very definite publicity plan behind them.

In carrying out its work, the committee has prepared the manuscripts for a series of circulars which, it is thought, will make men want to read chemical literature. In order to accomplish that result, the committee has written lively and appealing essays, of about 1,500 words each, on elementary chemistry, household chemistry, general and physical chemistry, inorganic and analytical chemistry, organic and biological chemistry, industrial inorganic chemistry, industrial organic chemistry, and techno-chemical analysis, all of which have been divided into appropriate paragraphs, worded so as to bring out the importance of the subject and so as to impress the reader with the national essentiality of the chemical profession. Carefully selected books are mentioned casually in the texts of the courses, usually to conclude the paragraphs.

These courses should now be made available for the use of librarians who wish to reach ambitious persons who have the intelligence to follow a course of chemical study. They should, to serve the intended purpose, be published in attractive booklet form for distribution at libraries to persons who are engaged in chemical work or interested in the specific subjects of the various courses, and to persons who are as yet only casually engaged or interested, but who may think of becoming well-informed on chemical subjects.

It is therefore recommended that the committee be authorized to furnish Mr. Joseph L. Wheeler with copies of the manuscripts, in order that he may endeavor to arrange for their publication *in toto*, and that the present committee be designated to cooperate with Mr. Wheeler in that undertaking and in stimulating interest in chemistry through the media of libraries. It is also recommended that the courses be published by the society in *The Journal of Industrial and Engineering Chemistry*.

The committee is grateful for the privilege of rendering this public service, for, as in Carlyle's time, "the true university is a collection of books," expertly selected and properly used.

W. A. Hamor

Mellon Institute,
Pittsburgh, Pa.,
August 29, 1919.

SPECIAL ARTICLES

AN UNEXCELLED MEDIUM FOR THE PRESERVATION OF CADAVERS

One can not contemplate the history of human dissection without a profound sense of gratitude for the discovery of three chemicals, the use of which in embalming has completely transformed the laboratory of gross anatomy. Could they have been introduced earlier, human dissection long since would have lost its forbidding aspect. Although Scheele discovered glycerin in 1779, it was not used for the preservation of anatomical material until 1868, almost a century later. This was not until a year after formaldehyde had been discovered by Hoffman and, although the antiseptic properties of the latter were not revealed till twenty years later. this event soon was followed by its introduction into histologic and gross anatomic technique in 1890 by Blum, junior and senior respectively. The earlier discovery of phenol by Runge in 1834, with the subsequent relation of its antiseptic properties by the revolutionary usage of it in surgery by Lister in 1867, and its application in the preservation of anatomic material by Laskowski in the same year, or even in 1864, completes the trinity of substances so largely responsible for freeing dissection of the human body from the noisome burden previously imposed by post mortem decay. An occasionally delayed necropsy still can suggest to present-day medical students just what this freedom meant to anatomists and students of anatomy of the past. Surely nothing has been a greater boon to human anatomy and anatomists than the miracle wrought by these and other chemicals, the proper use of which bids fair to make our anatomical laboratories practically odorless.