but, owing to the fact that a dyed gelatine was necessary to obtain a final correction, this unit was limited in application. Since that time both Ives and Brady, and the writer independently produced such filters in a single glass.[3] Mr. R. B. Hussey[4] developed a filter in 1912 for use with the intensified arc. Mees, Pirani, Weertz, and others have also worked on the problem.

The units developed by the writer have been designed for solving various problems and include accurate color-matching units for the most exacting color-work as well as more efficient yet sufficiently accurate units for the rougher color-work. Several thousand of these units consisting of a single colored glass are in daily use and have not only passed the spectrophotometric tests, but the tests of many different practical applications. The writer[5] emphasized the application of these units in microscopy and besides being applied to this field, many units are in daily use in color-matching, lithography, cigar sorting, medical diagnosis, horticulture, oil refining, surgery, color photography, hair dressing, art exhibits, painting, paint factories, chemical laboratories, laundries, in millinery, dry goods, clothing and jewelry stores, textile mills, art schools, paper mills, and many other places.

M. LUCKIESH

NELA RESEARCH LABORATORY,
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INJECTIONS OF THE BUNDLE OF HIS

TO THE EDITOR OF SCIENCE: In a letter published in SCIENCE of November 12, 1915, Dr. A. W. Meyer, of Stanford University, complains that injustice has been done to his former associate, Dr. Lhamon, who devised a method of injecting the bundle of His, by the publication of a note by Dr. Cohn describing hearts injected by this method, before the appearance of Dr. Lhamon's paper.

[3] *Trans. I. E. S.*, Vol. 9, p. 840, p. 937, 1914; *Elec. World*, Sept. 17, 1914; *Jour. of Franklin Inst.*, Vol. 177, p. 471, 1914; *Elec. World*, Apr. 4, 1914.

[4] *Trans. I. E. S.*, Vol. 7, p. 13, 1912.

[5] *Elec. World*, July 10, 1915.

The circumstances were as follows: Dr. Meyer showed me the injections when I was in his laboratory in California and, on my return, as the preparations had interested me very much, I spoke of them to a number of men including Dr. Cohn. I made it clear at that time that the method had been devised by one of Dr. Meyer's assistants and every one who heard of it was aware of this. Dr. Cohn was not then my assistant, but was working at the Rockefeller Hospital, where he experimented with the method in connection with his own work.

Dr. Meyer's letter is so worded that it might give the impression that I, after an apparently friendly visit, betrayed his confidence by having an assistant anticipate his publication of the new method. This is unfortunate, for I can not believe that he intended to imply such a thing.

The publication was not made by one of my assistants, nor at my suggestion, nor even with my previous knowledge of its nature. Furthermore I was not present at the meeting of the New York Pathological Society when the injected hearts were demonstrated, else I should have emphasized the fact in the discussion that this was a method devised in Dr. Meyer's laboratory. Nevertheless it appears in the published discussion that the method had first been heard of through me.

I am impelled to write this in defense of Dr. Cohn, because I feel convinced that he had no intention of claiming priority. Every one connected with the matter regrets exceedingly the inopportune publication of the first note and the carelessness which let it pass into print without definite mention of Dr. Lhamon's work.

W. G. MACCALLUM

COLLEGE OF PHYSICIANS AND SURGEONS,
COLUMBIA UNIVERSITY,
November 18, 1915

TO THE EDITOR OF SCIENCE: In SCIENCE of November 12, 1915, appears a letter from Professor A. W. Meyer, of Stanford University, in which, in behalf of his former associate, Dr. Lhamon, he very vigorously asserts a claim for priority in injection of the conduction system in mammalian hearts. If the sole purpose of

this letter were to clear up any misunderstanding as to priority on behalf of Dr. Lhamon, no reply would be required, but since the letter is so written as to suggest that an attempt has been made by my associate, Dr. Alfred Cohn, to unjustly obtain credit for this discovery, it seems that a reply is demanded, especially since Dr. Meyer has apparently drawn conclusions concerning Dr. Cohn's motives which are quite out of harmony with what his friends know of his character.

I am quite familiar with the work that Dr. Cohn has done on this subject, and have now carefully reviewed the publications in question, and also have seen the correspondence which has passed between Dr. Cohn and Dr. Meyer. In the light of all that I can learn in regard to the matter, it would seem that so far as the actual matter of priority is concerned Dr. Meyer is needlessly alarmed, and it is very unlikely that in future generations any one is going to claim that Dr. Cohn was the first to prepare such injections. Dr. Cohn himself, in a letter to Dr. Meyer which Dr. Meyer quotes, has stated that "so far as priority is concerned, not only I, but every one acquainted with the subject, gives and has given full credit to Lhamon."

The chief purpose of Dr. Meyer's letter, therefore, seems to be to take Dr. Cohn to task for having presented before the New York Pathological Society in December, 1911, ox hearts showing injection of the conducting system. These hearts were prepared by Dr. Cohn for purposes of demonstration in the Hospital of the Rockefeller Institute, in order to make more clear the discussion of lesions of the conducting system. The idea of carrying out such injections came from a conversation with Dr. MacCallum, in which the latter stated incidentally that he had seen hearts at Stanford University with conduction system injected. Dr. Cohn at this time was no longer a member of Dr. MacCallum's staff, having been appointed associate in medicine in the Hospital of the Rockefeller Institute. Dr. MacCallum told Dr. Cohn nothing of the details of the method, nor did Dr. Cohn have any communication with Dr. Oppenheimer on the subject, but he experimented quite independently, and, after trying various dyes, finally succeeded in preparing some beautiful specimens, using India ink for the purpose. In his demonstration of these specimens before the staff of the hospital at our weekly meeting, Dr. Cohn made no claim, and made no attempt to lead the staff to infer, that he was the first to discover that such injections might be made, or that he was the discoverer of a method of making such injections. Indeed, all the members of the staff, including myself, fully understood otherwise. Dr. Cohn did not state who had first made such injections, however. Indeed, as he tells me, at that time he did not know the name of the person who had done so.

The injected hearts were so beautiful and instructive that at a meeting of the Pathological Society, occurring shortly after they were made, he demonstrated them to the members present. At this meeting no attempt was made to claim credit for the method. Indeed such a claim would have been preposterous, since Dr. MacCallum, the president of the society, had himself told Dr. Cohn of seeing such injections in California. So far as can be learned, no one at the meeting of the Pathological Society was deceived by Dr. Cohn, and no attempt was made to deceive. The Proceedings of the Pathological Society which are published consist mainly of brief notes, in the form of abstracts of the remarks of those making demonstrations or reports. In the volume for 1911 appears such a report, one page in length, concerning Dr. Cohn's demonstration. Previous to the meeting Dr. Cohn had made no notes, and his demonstration was entirely informal. This demonstration by Dr. Cohn was in no way considered as a publication. No effort had been made to find any literature concerning this subject, and the demonstration was not given with any idea of establishing priority, or indeed of obtaining any credit for discovery of a new method. It is quite true that Dr. Lhamon's name was not mentioned at this demonstration, and his name does not appear in the note published in the Transactions. This is indeed unfortunate and if it has led, or were likely to lead, to any misunderstanding, I am

sure that Dr. Cohn and all concerned would regret it exceedingly.

Dr. Lhamon's paper describing the method appeared in the *American Journal of Anatomy* for March, 1912, and Dr. Cohn's publication did not appear until May, 1913 (*Heart,* 1913, iv, 225). Dr. Cohn's paper dealt with the subject in a different manner from Dr. Lhamon's, and did not purport to be the description of a new method. In this paper Dr. Cohn expressly states how he learned that such injections were possible, and gives a reference to Dr. Lhamon's communication. It hardly seems, therefore, that Dr. Meyer has any serious ground for complaint or cause for worry. If any doubts remain in his mind, he should be reassured by the fact that in the monograph by Aagaard and Hall, "Ueber Injektionen des 'Reizleitungssystems' und der Lymphgefässe des Säugetierherzens" (Wiesbaden, 1914), priority is given to Lhamon, although they were familiar with Cohn's paper in which reference is made to the report in the New York Pathological Society Transactions.

RUFUS COLE
HOSPITAL OF THE ROCKEFELLER INSTITUTE,
November 16, 1915

SCIENTIFIC BOOKS

Methods in Plant Histology. By CHARLES J. CHAMBERLAIN, professor of botany in the University of Chicago. University of Chicago Press, 1915. Price $2.25.

When a work like the present has reached its third edition there can be no question as to its value for the public to which it appeals. It begins with an account of apparatus, including some valuable improvements which have originated in the botanical laboratories of the University of Chicago. There follow chapters on reagents, stains and staining, microchemical tests, free-hand sections, the glycerin method, the Venetian turpentine method, the paraffine method, the celloidin method, special methods and photomicrographs and lantern slides. The last two chapters contain the chief novelties of the edition and one can only say of them that they are excellent but might with advantage be much fuller. One wonders, however, why slow contrast plates are used for the photomicrographs instead of more rapid iso- or chromatic plates, which would give better results in much less time.

The second part of the treatise, covering more than half its total number of pages, is devoted to the specific directions for securing and studying representatives of the various groups of lower and higher plants. This section of the work will appeal specially to those taking extension courses and to teachers, whose acquaintance with laboratory methods is not recent. Following the specific directions for the study of the larger groups of plants are final chapters on the use of the microscope, labelling and cataloguing preparations, class list of preparations and formulæ for reagents. Last of all the book closes with a good index. It is copiously illustrated often by means of excellent photomicrograms. The best that can be said of this work is that it will do for the American student of botany, what Strasburger's "Botanische Practicum" has done for those of all lands. Like the "Practicum" of the great German morphologist it has passed through a number of editions, an unquestionable tribute to its value. E. C. JEFFREY

W. I. Palladin, Pflanzenanatomie, nach der fuenften russischen Auflage uebersetzt and bearbeitet. VON S. TSCHULOK. Leipzig u. Berlin, B. G. Teubner, 1914.

This work on anatomy by one of the professors of botany in the University of St. Petersburg (Petrograd) is essentially the so-called physiological plant-anatomy of Haberlandt, tempered with a large infusion of the morphology of Strasburger. It is a curious phenomenon to find German ideas thrown into the form of a book and illustrated with figures of German origin by a Russian botanist, translated back into the Teutonic speech for German consumption. The loss in this peculiar sort of metempsychosis is much less than one would suspect but the advantage of it is difficult to imagine. The work in question is chiefly valuable, not because it presents any new points of view or is illustrated by any new figures, but because it presents a clear and readable résumé