vention is to paste a border of ordinary black binding tape on the coated side before work upon the slide is begun. This is an easy method also of inhibiting any tendency to write upon more of the slide than can be shown upon the ordinary screen.

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CELLOIDIN-PARAFFIN METHODS

The review of Apáthy's[1] celloidin-paraffin method published in Science by S. I. Kornwork the present writer chanced upon, although actively interested between the years 1912–1915 in similar methods of imbedding plant tissues.

During research studies in plant anatomy, bulbs of *Cooperia Drummondii* were found to be particularly troublesome material to imbed. The delicate scales contain starch, calcium oxalate crystals and a mucilaginous slime which may coagulate during killing and fixation. These scales are attached to a base or axis formed of parenchyma, it is true, yet of parenchyma of an entirely different structure from that of the scales. The difficulties encountered because of the included materials plus the variance in structure of the bulb axis and its attached scales caused a wide search for a suitable imbedding medium. The choice at last was a combination of celloidin and paraffin, the advantageous qualities of which can not be emphasized too strongly. As Dr. Kornhauser points out, celloidin in contact with the object prevents shrinkage of the material on cooling and paraffin allows of serial sections which can be readily spread on the slide. Whether there are advantages or disadvantages in Apáthy's oil mixture I do not know, having never tried it, but I do know that entirely satisfactory results can be obtained with material which can be handled neither in paraffin, in celloidin, in agar-agar, nor in rubber and paraffin, by a much more simple celloidin-paraffin method than that of Apáthy's. The technique planned and followed out by the present writer was simply as follows: Material is treated to the celloidin process of imbedding up to the point where the object would usually be set in a block. Instead all surplus celloidin is removed from the object which with the adhering and infiltrated celloidin is hardened in 70 per cent. alcohol and later placed for clearing in chloroform for two hours. The next step is to place the object in 85 per cent. alcohol and from there on to follow the paraffin method. Material thus treated cut with an unusual smoothness, making it possible to obtain serial sections 10 μ in thickness with an ease that was a surprise and also a great comfort.

If one desires to cut serial sections of objects too large for the block of a rotary microtome or to be handled in paraffin, such large objects imbedded in celloidin (mature bulbs) can be cut into sections 50–75 μ thick with the sliding microtome, and placed immediately in 70 per cent. alcohol, from which they can be carried through the alcohols and imbedded in paraffin. It seems probable that Apáthy's oil mixture would be a valuable asset here because in cases where it is necessary to retain considerable celloidin, *e. g.*, in handling bulbs where the scales ordinarily fall apart on cutting, it would prevent the shrinkage caused by the drying effect of the alcohols and the heat from the bath.

There are surely two advantages to the celloidin-paraffin method as commonly used by the writer, (1) its simplicity and (2) the removal of surplus celloidin, a substance affected by the drying effect of the higher alcohols and heat and also inert itself in histological value and yet troublesome because of its affinity greater than that of plant tissues for stains such as gentian violet and safranin.

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[1] Apáthy, S., 1912, "Neuere Beitraege zur Schneidetechnick," *Zeitschr. wiss. Mikr.*, Bd. XXIX., S. 449–515, 4 textfiguren.

[2] Kornhauser, S. I., "Celloidin Paraffin Method," Science, N. S., Vol. XLIV., No. 1134, pp. 57–58, July 14, 1916.

ALLIGATORS AS FOOD

An article by the writer on "Reptiles as Food," which appeared in the December, 1917, number of *The Scientific Monthly*, having

excited the curiosity of the members of a large boarding house in Morgantown, W. Va., it was suggested that a collection be taken among those interested to buy a couple of small alligators and have them cooked, to see if the flesh really was as agreeable as was claimed in the article in question. The writer agreed to buy the animals and prepare the flesh for cooking.

Sufficient funds were collected to buy, of the Arkansas Alligator Farm, two alligators, each about three feet in length. These were killed by cutting the cord at the base of the skull, and the flesh of the entire body was cut into pieces of suitable size for cooking.

The meat was first parboiled (though the necessity for this was doubtful) and was then fried in egg and cracker crumbs, very much after the manner of a breaded veal cutlet.

About thirty people, consisting of both men and women, mostly school teachers, members of the university faculty, and college students, partook of the repast, and all declared the meat to be "delicious."

There was considerable difference of opinion as to what the meat resembled: some thought it tasted like pork; some thought it like fish; one person said it suggested lobster; but all declared it to be most agreeable.

Of course, at the prices charged by supply firms the cost of live alligators would be prohibitive, but in the tropics, where crocodilia are often extremely abundant, the flesh could be had at a very low cost.

The writer has seen alligator hunters, in our Southern states, throw hundreds of pounds of alligator meat to the carrion crows and buzzards, after removing the hides.

Whether the Central and South American crocodiles would be as pleasant for food as the Florida alligator the writer can not say.

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SCIENTIFIC BOOKS

Genetics in Relation to Agriculture. By E. B. BABCOCK and R. E. CLAUSEN. New York, McGraw-Hill Book Co. 1918. Pp. xx + 675, 4 plates.

PROFESSORS BABCOCK and Clausen have given us a valuable new book on the subject of genetics. As the title suggests, the book is intended primarily as a text-book for students of agricultural genetics. It will, however, be of great value also to those whose interest in genetics is not primarily in its agricultural bearings. This is true partly because of the very fact that the authors have brought together a large amount of data from the agricultural publications that is not ordinarily familiar to the geneticist who is working along other lines.

The book is divided into three parts, entitled Fundamentals, Plant Breeding and Animal Breeding. All three contain much material that will be interesting to all students of the subject.

In part 1 the advanced student will find little that is new to him; but he will find a clear and well-written account of the important principles of genetics. The material drawn on for purposes of illustration is well selected, and is up to date—a very important point in a subject developing as rapidly as genetics. In the case of matters still under debate, such as multiple allelomorphism and selection, the authors have presented both sides of the question impartially, and have then weighed the evidence and drawn their own conclusions as to probable correctness. The chromosome hypothesis is adopted, and is used throughout the book in interpreting examples. The work on *Drosophila* is given a prominent place, and the results obtained with that fly bearing on the questions of linkage, crossing over, non-disjunction, mutation, multiple allelomorphs, etc., are carefully and simply presented. The question of pure lines and selection is discussed at some length, and the conclusion is reached that multiple factors offer the most plausible explanation of the phenomena.

The chapters on species hybridization and on the statistical study of variation should both be useful, as they present material that is not adequately discussed in other standard text-books on genetics in English. In the latter chapter the standard deviation and average product-moment are referred to as