public property in the neighborhood of large cities; (3) provision for state supervision and enforcement of whatever laws are adopted. Another matter for state action is found in the establishment of increased areas of forest reservation. To be of value in plant protection, such reservations need to be large ranges. Small open park areas established as publicly owned land constitute a greater danger to rare plants than continued private ownership. When the west Green Lake near Jamesville, N. Y., was set aside as a state reservation, the public flocked there by the hundred and carried away most of the fern plants.

Absolute protection in the neighborhood of cities seems next to impossible, except by the establishment of guarded sanctuaries, plots of ground sufficiently large to afford a variety of habitats, where rarities may be maintained much as are valuable paintings, books, etc., under proper curatorial supervision. If the saving of some particular species constitutes an emergency, private initiative will probably be necessary, such as was responsible for the institution of Birdcraft Sanctuary, at Fairfield, Connecticut. An area of about ten acres was surrounded with a boy-proof, cat-proof fence; a competent warden was installed with dwelling inside, and the rare plants of the state are now being accumulated. This little park serves also as an extension of the local school system, and frequent class visits are made.

R. C. BENEDICT

BROOKLYN BOTANIC GARDEN,
BROOKLYN, N. Y.

CERTIFIED METHYLEN BLUE

THE Commission on Standardization of Biological Stains has begun the plan of certifying certain definite batches of different stains that are submitted to it for approval. In every case the certification is issued only for the batch of which a sample has been tested; hence any bottle of stain sold with the commission endorsement may be regarded as being of the same lot as the sample examined by members of the commission for the purposes stated on the label.

The commission is issuing two different forms of label and is giving companies the option of using either on batches of stain endorsed by the commission. One of these forms is to bear on it the name of the stain; the other bears nothing but the certification statement and is to be used in conjunction with a label printed by the manufacturer and approved by the commission. Cuts of these two labels accompany this article. Any other form of certification appearing on bottles of stains must be regarded as a spurious statement, issued by the manufacturer or dealer without consulting the commission.

The different stains are to be taken up in this way one by one. Up to the present time methylen blue is the only one for which actual certification of this sort has been issued. The methylen blue samples submitted for testing by the commission were requested of the manufacturers to come up to the following specifications.[1]

(1) Samples of methylen blue to be considered must be of the so-called medicinal grade. It is expected that they will meet the U. S. P. requirements, but less weight will be attached to this consideration than to those following. In other words, a sample giving satisfactory performance will not be excluded because of failure in some particular to meet these chemical requirements.

(2) Methylen blue for the purpose above specified must contain at least 75 per cent. total color, this to be determined by one of these alternative methods:

(*a*) By measurement of the absorption of light of a solution of known concentration. The extinction coefficient of a solution of 10 parts of dye in 1 million parts of water, when measured in a 1 cm. layer at wave length 660 must equal or exceed 1.35.

(*b*) By reduction with titanous chloride. When reduced by titanous chloride in an atmosphere of carbon dioxide, 1 gram of the dye must consume at least 4.69 cc. normal titanous chloride solution.

(*c*) An alternative volumetric method by means of standard iodine solution is under investigation by the Association of Official Agricultural Chemists and is expected to be made available in the near future.

(3) The methylen blue must have no solvent action on casein. This is to be determined as follows: Prepare two 1 per cent. solutions of this stain, one in distilled water, the other in tap water. Place single drops of skimmed milk on each of two clean glass slides and smear each drop over a surface of about one square centimeter so as to form a very thin film of milk; allow this film to dry without heat or at a temperature not over 60° C., immerse for about a minute in xylol to dissolve the fat, then for the same length of time in alcohol to coagulate the casein. After this immerse one slide in the distilled water solution of methylen blue and the other slide in the tap water solution, allowing them to stand for three minutes; at the end of this period there should be no action of the stain on the casein.

(4) The methylen blue should stain the diphtheria organism in any of the types of solutions ordinarily employed. It should be tested as follows: Prepare three solutions of the stain, one a 1 per cent. solution in distilled water, the second a mixture of three parts saturated alcoholic solution to 10 parts of distilled water, and the third three parts of saturated alcoholic solution to 10 parts of 0.01 per cent. NaOH.

[1] These specifications, so far as they refer to optical properties, are subject to revision in the near future.

Prepare three slides of a fresh culture of a diphtheria organism; stain one slide in each of these three solutions for two or three seconds only, *i.e.*, just as briefly as the stain can be poured on and poured off, and wash each slide immediately. Examined under the microscope all three of these preparations should show deeply stained bacteria with the characteristic metachromatic granules sufficiently distinct to insure accurate diagnosis.

(5) The sample should prove satisfactory for histological use. No exact method for determining this can be given, but the sample must be submitted to one or two experts in histological technic in order to get their judgment.

(6) It must be understood that these standards refer to samples to be used for ordinary bacteriological and histological staining. Special standards for methylen blue used in vital staining will undoubtedly be necessary. These standards, however, have not yet been determined.

Approval for bacteriological and general staining has been given samples of methylen blue submitted by the following concerns:

Dye Stuffs Laboratory Co., Cleveland, O.
Empire Biochemical Co., N. Y. City.
Harmer Laboratories Co., Lansdowne, Pa.
Hartman-Leddon Co., Philadelphia.
National Aniline and Chemical Co., N. Y. City.
Providence Chemical Laboratories, Providence, R. I.

In every case the manufacturer has given assurances that there is a sufficient stock of the batch tested to meet the ordinary demand for several years; the certification applies only to the batch tested. These lots of methylen blue are now on the market by all the companies just mentioned and will soon be obtainable from any supply house. In obtaining them it should always be stated that the methylen blue certified by the commission is desired.

All inquiries concerning the certification or reports of unsatisfactory results with them should be addressed to the chairman of the commission, Lock Box 299, Geneva, N. Y. Further work on methylen blue is already in progress, especially as to the type necessary for certain histological purposes for which the grade represented by these six samples seems to be partly unsatisfactory.

Now that the work on stains has reached a point where certification has begun, it seems appropriate to express acknowledgment to one concern whose assistance has been invaluable from the beginning. The Will Corporation, of Rochester, N. Y., through the personal interest of its treasurer, Mr. R. T. Will, has put much time and facilities at the disposal of the commission, without which the early stages of the work would have been almost impossible. The services of this company have been entirely disinterested, and it has even proved that the work of the commission, in calling attention to the specialists in biological stains, has considerably diminished the sales of the Will Corporation in this line. For this reason a public acknowledgment of their services to the work seems to be the least return that can be offered them.

H. J. CONN, *Chairman,*
Commission on Standardization of Biological Stains

GENEVA, N. Y.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE PHILOLOGICAL SCIENCES

IN conformity with action taken by the council of the association at the recent Boston meeting, Professor W. A. Oldfather, professor of classics in the University of Illinois, has been asked to accept and has accepted the chairmanship of a special committee to study and report on ways and means by which the association may be able to assist in the progress of the philological sciences. Professor Mark H. Liddell, professor of English in Purdue University, has accepted the secretaryship of this special committee.

Since its birth seventy-five years ago it has been the consistent endeavor of the American Association for the Advancement of Science to foster and coordinate all scientific investigations which have for their end the correlation of observed facts under demonstrable laws. But in 1848 the phenomena of language did not come within the scope of this aim. For language was then generally regarded either as a reflection of metaphysical categories beyond the ken of science, or as an ingenious invention designed to facilitate human intercourse.

Later, when the study of the biological and psychological phenomena that include those of language had become subject to rigorous scientific method, the study of language continued to be popularly regarded as possessing only pedagogical or pedantic value. Its fundamental criteria were supposed to be morphological and practical rather than scientific, and its scientific conceptions were subsumed under the head of comparative philology, or historical grammar.

The organizations which fostered this study have thus developed somewhat independently of the scientific stimulus which is the conspicuous feature of our modern intellectual life. They have hitherto chiefly depended for their growth upon special interests in the classics, or in the Oriental languages and literatures, or in archeology, or in anthropology, or in the practical study of foreign languages.