by libraries and the task of making bibliographic searches in them.

Although abstract journals aid in reducing the disadvantages of the haphazard publication of scientific research by classifying and indexing the papers contained in the journals, they constitute a partial republication of the original contributions and to this extent are uneconomical. A part of the cost of publishing abstracts could probably be saved if the contents of the journals themselves were sufficiently uniform to permit workers to obtain directly a larger proportion of the original papers in which they are interested.

It is also probable that if abstract journals themselves were restricted to narrower fields, those using them would be better served at a lower cost. If, for example, *Chemical Abstracts,* which now attempts to cover the entire field of chemistry, were issued in several parts, chemists would be relieved of the obligation of purchasing and conserving the abstract literature of those branches of chemistry in which they are not directly engaged. It is apparent that the urgent need in the publication of scientific research is a greater degree of specialization in both the periodicals and the abstract journals.

In addition to the problem of better organization of scientific publication there is also the question of securing the funds for printing the rapidly increasing number of papers which are being written. Practically all journals are forced to either refuse many papers or publish them in such condensed form that their usefulness is greatly impaired. A plan for relieving this situation, based upon the use of microfilms, has recently been proposed by Watson Davis, director of Science Service. This plan has been designated "Auxiliary Publication" and provides that papers which editors are unable to accept in their complete form be condensed for printed publication and, in connection with such résumés, notice given that the complete paper with all the charts, tables and explanatory details has been deposited with a central agency which distributes microfilm copies of it at a modest stated price. Thus for purposes of bibliographic classification the paper is widely circulated in curtailed printed form and for the benefit of those directly interested in the details of the work it is distributed as photographic microfilm copies. The organization of Auxiliary Publication is a task which advisory councils on scientific publication in each country should undertake in connection with the supervision of publication in general.

A common reproach to scientific investigation is that adequate use is not made of so much of it that is published. The cause of this is simply the inaccessibility of such a large proportion of it to those capable of using it to advance science. Aside from the introduction of microfilm copying no improvement in the means of distribution of original description of scientific research has been made in recent years. The perfection and extension of microfilm copying as well as the reorganization of the printed publication of scientific research is deserving of the earnest support of all who are interested in the advancement of science and the public welfare.

SCIENTIFIC EVENTS

RESERVATION BY THE U. S. FOREST SERVICE OF A VIRGIN HEMLOCK-BEECH FOREST

THE U. S. Forest Service has announced the formal setting aside of 4,131 acres of essentially virgin hemlock-beech forest, on the Allegheny National Forest in northwestern Pennsylvania, to be devoted permanently to scientific use and for the education and enjoyment of the public. This area is seven miles south of Ludlow, and is unique in that it contains the largest acreage of original forest of its type in the east. It is also the largest single remaining body of virgin timber between the Adirondacks of New York State and the Great Smokies of North Carolina. The purchase and reservation of this tract, which was advocated by leading scientific men and promoted by the Pennsylvania Forestry Association, had the support of the late Chief Forester F. A. Silcox, and was approved by the National Forest Reservation Commission in 1934. Its reservation is an important forward step in the U. S. Forest Service program of permanently preserving natural areas characteristic of native forest and range vegetation in all regions of the United States.

In administering this area the Forest Service recognizes two obligations. First, to preserve the native plant and animal life in its natural state in so far as this can be done on an area of this size, and, second, to allow the public to enjoy its unique qualities without jeopardizing their perpetuation. For this reason the area is divided into two parts; the northern portion, consisting of 2,018 acres and designated as the Tionesta Scenic Area, will be made accessible to the public by road and foot trails. Here the inspiration and true recreation to be found in a fairly large area of primeval forest may be enjoyed amid towering hemlock 300 to 500 years old and veteran beech 350 years of age. The southern portion, consisting of

2,113 acres and designated as the Tionesta Natural Area, is dedicated primarily to scientific research.

The report points out:

> This area is admirably suited for studying the response of the forest to climatic and biologic cycles, the development of the climax type, and the natural rejuvenation that results in the perpetuation of the climax. It is equally valuable for studying how completely the virgin forest supplies the life needs of the various animals found therein, and of how the forest with its multitude of different plant and animal forms influences the local climate, the soil and the regimen of streams. This natural area is in effect a primeval laboratory and as such it is open to all interested scientists for use. It is the desire of the Forest Service that full use be made of this tract as a center for research in forest and animal ecology.

Those who are interested may secure further information concerning the possibilities for research in this tract from the Allegheny Forest Experiment Station, Philadelphia.

EXPLORATION ON THE WEST AFRICAN COAST

GEORGE H. TATE, assistant curator of mammals of the American Museum of Natural History, has returned to New York after spending eighteen months in exploration and collecting in the rain forests of the West Coast of Africa.

In spite of torrential rains, once 14 inches in one day, the effects of the war in African colonies and a hurricane on his journey home, Dr. Tate has succeeded in bringing to the American Museum collections of more than 200 specimens, ranging from lemurs to pangolins. The main purpose of this expedition was to collect chimpanzees and mandrills, as well as foliage and other accessories for two new African Hall habitat groups. Dr. Tate was accompanied on part of the expedition by Robert Kane, artist and preparator of the staff of the museum.

Dr. Tate arrived at Tabou on the French Ivory Coast in April, 1939, and identified the chimpanzee habitat in the western part of the Ivory Coast, near the Liberian border. A collection was made in this region before the winter rains. The French Cameroons were next visited to obtain the mandrill apes that live in the dense tropical forests.

Three days after the arrival of the expedition at the port of Douala, war was declared in Europe, but in spite of the rigid wartime precautions that immediately went into effect, the French authorities allowed Dr. Tate to keep all hunting equipment. Soldiers were stationed at important points and road bridges, and it was necessary to show identification papers every few miles along the road.

Dr. Tate reports:

> In a region ten miles square, about half way between Kribi and Yaoundi, we located the mandrill bands and collected specimens for the Akeley African Hall group. We found that the mandrills traveled in large bands, numbering from 15 to 20 individuals and always led by an old male, larger and of the true mandrill coloring in red- and blue-skinned face. When danger approached, the band would scamper into the upper branches of the trees, while the old "head man" galloped away through the forest on the ground.
>
> Bad news came to us after the completion of this part of the expedition. Due to the rainy season, our collection of chimpanzee skins had arrived at the museum in New York unfit to mount as group specimens. We went back to the Ivory Coast to replace the first collection and found that we could not enter because our visas had expired. In the end, a second collection was obtained by going into Liberia and approaching the chimpanzee country at the Cavally River from the west, with headquarters at the Firestone plantation.

TECHNOCHEMICAL LECTURES AT THE MELLON INSTITUTE—1940–1941

A SERIES of fourteen lectures on the present condition of the American Chemical Industry will be presented by technologic specialists of Mellon Institute of Industrial Research during 1940–41. These discourses will be delivered on alternate Thursdays, in the fourth period (11:30 A.M.–12:30 P.M.), throughout both semesters, in the auditorium of the institute. They will be open to all students of industrial chemistry and chemical engineering in the University of Pittsburgh, as well as to the members of the faculty.

October 3. Dr. E. R. Weidlein, "Trends in the Chemical Industry."

October 17. Dr. F. W. Adams, "Development of the Manufacture of Heavy Chemicals."

October 31. Dr. B. G. Wilkes, "Some Industrial Products of Synthetic Organic Chemistry."

November 14. Dr. H. J. Rose, "Engineering Opportunities in Fuel Technology."

December 5. Dr. W. A. Gruse, "Progress through Research in Petroleum Technology."

January 2. Dr. R. L. Wakeman, "Engineering Opportunities in Plastics Technology."

January 16. Dr. F. L. Jones, "Optical Glass—A Key Industry."

February 20. Dr. H. E. Simpson, "Engineering Opportunities in Building Material Technology."

March 6. R. H. Heilman, "Engineering Importance of Heat-Insulating Materials."

March 20. Dr. G. H. Young, "Corrosion from the Engineering Standpoint."

April 3. Dr. R. C. Johnson, "Utilization of Some Mineral Wastes."

April 24. Dr. P. J. Wilson, Jr., "Progress through Research in Industrial Waste Disposal."

May 8. R. D. Hoak, "Industrial Stream Pollution Problems and Their Solution."