spent a year on sabbatical leave at Professor Ariens-Kappers' Neurological Laboratory in Amsterdam.

Dr. Charlton will be remembered by his students as a sincere, conscientious teacher, exacting but always fair in his evaluation of students' work.

He is survived by his widow, Mary Polson Charlton, and a daughter, Barbara.

EDGAR ALLEN
DEA B. CALVIN
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UNIVERSITY OF MISSOURI

SCIENTIFIC EVENTS

INTERNATIONAL MUSEUMS CONFERENCE AT MADRID

ACCORDING to *Museum News*, the international museums conference at Madrid has been moved from the fall of 1933, as previously announced, to April 4, 1934. It will continue for about ten days and will consider problems of museums and collections of art, archeology, history and popular art.

The subjects to be discussed have been announced by the International Museums Office as follows:

Museum Architecture: (1) General principles of construction, plans and materials, special requirements imposed by purposes of the particular museum, site, environment, arrangements for expansion. (2) Construction of a museum in a historic architectural ensemble. (3) Adaptation of old buildings for museum use.

Arrangement: (1) Exhibition halls. (2) Conference rooms and auditoriums, children's rooms, information and sales rooms. (3) Courts and gardens. (4) Libraries and document rooms, offices. (5) Laboratories, shops for making casts, for photography and restoration. (6) Storage and handling. (7) Caretakers' rooms.

Special Questions: (1) Natural and artificial lighting. (2) Cleaning, heating, ventilation, air conditioning. (3) Protection against fire, theft, earthquake, etc. (4) Custodian service. (5) Floor covering. (6) Coat rooms, buffets, seats, rails and other comforts for visitors.

Presentation of Collections: (1) General considerations in regard to effective exhibition, dimensions and orientation of halls, covering and color of walls, etc. (2) Permanent and temporary exhibitions, exhibits within and without the museum. (3) Presentation of collections—as a whole, selected objects, paintings, combination of paintings, sculpture, furniture, etc., chronological presentation, period rooms and reconstitution of architectural and other ensembles, new acquisitions. (4) Problems caused by enlargement of collections by purchase, gift and bequest, and periodical disposal of unnecessary material. (5) Organization of stored, reserve and study collections. (6) Plans and signs for guidance of visitors. (7) Numbering and labeling. (8) Exhibit material—moldings, cases, hanging methods, protection against vibration, frames, pedestals, movable partitions, rails, etc. (9) Classification and conservation material for drawings, prints, coins, medals, textiles, etc. (10) Publications.

Loans and Exchanges between Museums: Possibilities of collaboration between museums of the same country and between museums of different countries.

An Exhibition of Museum Documents: Plans, photographs, sketches, publications, posters, publicity material.

THE WAWONA ROAD TUNNEL IN THE YOSEMITE NATIONAL PARK

THE recently completed 4,230-foot Wawona Road Tunnel in Yosemite National Park, California, was formally dedicated on June 10. Secretary of the Interior Harold L. Ickes was unable to be present at the ceremonies, but by means of electrical transcription those gathered in Yosemite National Park heard his message of greeting as delivered in Washington.

The new Wawona Road, which extends from near the foot of Bridal Veil Falls to the Mariposa Grove of Big Trees, is approximately 28 miles in length, is on a six per cent. grade, has wide, easy curves, and can be traveled any day in the year. It was built jointly by the National Park Service of the Department of the Interior and the Bureau of Public Roads of the Department of Agriculture.

The driving of the Wawona Tunnel was begun in January, 1931, and was completed in one year. Blasted through cliffs of solid granite, it is 28 feet wide and 20 feet high. The tunnel has three ventilating shafts drilled horizontally to the cliff face. The largest shaft is at the center of the tunnel and contains three large electrically-driven fans which operate automatically, according to the percentage of carbon monoxide gas in the air. These fans are capable of handling 300,000 cubic feet of air per minute. Lights of 4,000 lumens set in deep-bowl reflectors in the roof of the tunnel to within 180 feet of each end give a warm mellow light free from glare. For 180 feet at each end, bulbs of 6,000 lumens give a brighter light to permit vision adjustment.

Parking space for a hundred cars is available near the east portal of the tunnel.

One of the main features of the dedicatory ceremonies was a historical pageant of progress, portraying the evolution of transportation in the Yosemite since its discovery in 1851. The pageant included aboriginal Indians on foot, prospectors with burros, the first tourist horseback parties, lumbering wagons and horse stages, motor stages and 1933 automobiles.

REDUCTION IN FEDERAL AID FOR THE LAND GRANT COLLEGES

ACCORDING to a report by Science Service, federal grants for science and education made to the states

are reduced by $3,917,000 through the reorganization order sent to the Congress by President Roosevelt. The payments for agricultural experiment stations, the cooperative agricultural extension work and the endowment and maintenance of colleges for the benefit of agricultural and mechanic arts, all educational and research funds granted to the states and territories by the federal government are reduced or "abolished" by 25 per cent. These payments, as authorized for the fiscal year 1934 to begin on July 1, amount to $13,119,096 from the Department of Agriculture and $2,550,000 from the Department of the Interior, a grand total of $15,669,096. Under the curtailment ordered to be effective 60 days from the date of the order, June 10, the funds available will be $11,750,000 in round figures.

Under the federal grants for experiment stations much of the scientific research for agriculture accomplished in the various states in the past three decades has been carried on. The appropriations lost to experiment stations under the order amount to $1,095,222. The extension work done cooperatively with the states, supported in part by the federal funds now reduced by 25 per cent., carried the results of the scientific research to the farmers. County agricultural agents are the embodiment of this educational service. The loss is $1,018,000.

The state universities that have carried higher education to thousands in the opening years of this century are supported in part by the Morrill and Smith-Lever Acts, the funds of which are now cut by a quarter of the appropriated amount. Loss to this educational work is $1,804,024.

Federal aid to land-grant colleges has flowed partly through the Department of Agriculture and partly through the Department of the Interior, the latter having been made the agency of a flat sum of $50,000 for the support of instruction in agriculture and the mechanic arts in each state. It seems probable that the curtailment of these funds, which are of long-standing authorization under the Morrill, Hatch, Smith-Lever and other acts, was made by executive order rather than under other provisions of the economy act passed early in the Roosevelt legislative program because by making it a matter of reorganization the 25 per cent. cuts can be made effective for subsequent years rather than just for this year.

CURTAILMENT OF SCIENTIFIC WORK UNDER THE GOVERNMENT

A FURTHER wire report by Science Service states that under the economy act, Budget Director Lewis Douglas, acting for President Roosevelt, is directing still further cuts in the funds for science and education. This results in certain scientific bureaus having for 1934 less than half of what they had two years ago. Inevitably this will mean separations for many highly trained scientific workers engaged in work of great public benefit and extreme salary reductions for many of those who retain jobs. The exact cuts that will go into effect on July 1 are difficult to ascertain, as in some instances even bureau chiefs do not know what funds they will have for the fiscal year that begins in a couple of weeks.

It is known that Secretary of Agriculture Wallace and Assistant Secretary Tugwell are making a strenuous fight to continue the present scientific research for agriculture that they consider to be as necessary for agriculture's return to health as the economic measures being put into effect.

In the Department of Commerce, the U. S. Coast and Geodetic Survey is likely to have its funds cut but little under the figures of the 1934 appropriation bill and it may be selected to administer some of the public works appropriations available under the act just passed. The Bureau of Fisheries will have some cuts, but these are not believed to be serious.

But the Bureau of Standards seems to have been selected for heavy cuts, to such an extent that that bureau may have only about 40 per cent. of the money that it had in 1932. About $3,000,000 spent in 1932 is reduced to $1,336,000 for the 1934 fiscal year, the budget bureau demanding about a third reduction in the slightly more than $2,000,000 available in 1934 appropriation bill.

The Bureau of Mines, also in the Department of Commerce, is to be trimmed to about $1,100,000, whereas the appropriation bill for 1934 carried $1,514,300, and these appropriations for 1934 now reduced were considerably less than the 1932 funds spent for the benefit and safety of the important and valuable mining industry and its resources.

The Geological Survey in the Department of the Interior is also likely to suffer heavily. In 1932 it spent $3,141,000; the 1934 appropriation act provided $1,992,000 and eliminated funds for some of the geological research work of greatest fundamental importance. It is understood that the economy cuts will leave only $1,476,000 available. Some of the important work in topographic mapping, water resources and mineral resources may be salvaged by utilization of public works funds, but it is feared that many of the staff will have to be dismissed and 25 to 30 per cent. of the personnel will be lost through dismissal, retirement or that they will be forced to take unusual amounts of leave without pay.

A weakening of our national defenses against disease is imminent through cuts in the U. S. Public Health Service. A fund of $333,650 for prevention of epidemics is scheduled for reduction to $157,000 and similar cuts in other research funds are contemplated.