uated in 1886. Two years later he took his B.Sc. and then studied abroad at Berne, Göttingen and Munich. There he flung himself upon laboratory methods and bacteriology and in 1889 became professor of bacteriology in the College of State Medicine in London. He was associated with Lord Lister, Sir Joseph Fayrer and others in the inception and foundation of the Jenner Institute and was himself director of the institute. Under his direction the new and splendid laboratories were built at Chelsea. That institute is now known as the Lister Institute and into it Dr. Macfadyen built some of the best years of his life.

But that which will give him a permanent place, according to the London *Lancet,* in the history of science is his experimental work on the intracellular toxins of bacteria with which his name is so intimately associated. His many valuable papers to the Royal Society and scientific journals, English and German, testify to his activity in the investigation of important matters relating to preventive medicine. They run over a wide range of subjects, but by far the most important, as they will probably be the most enduring, are his studies on the intracellular toxins. After resigning his position at the Lister Institute, where his persistence in this line of research was, we must suppose, unappreciated, although it had the support of Lord Lister, he pursued his investigations at King's College and at the Wellcome Laboratory. Concerning his work there a friend writes: "Macfadyen's view was that serum therapeutics had reached an impasse, owing to the great difficulty of producing efficient antibodies for intracellular toxins, and he made a profound study of the delicate and volatile nature of the most active toxins and the destructive effect of heat and other agents upon most of them. He had prepared from the endotoxins of the bacilli of typhoid fever, cholera, pneumonia and other diseases serums of higher antitoxic power than had ever been obtained before. At the time when he became ill he had succeeded in his anticipation with the plague endotoxin and was working also at Malta fever. He expected to have brought to completion in the course of three or four months a research which had engaged his attention for years and which would have brought the sera into use. His anti-typhoid serum has already begun to be employed in some of the London hospitals. But, alas, it was not given to him to finish his work."

Dr. Macfadyen had made a reputation for himself as a popularizer of science. In his lectures before the Royal Institute he attained a distinct success as a public speaker. He was married to Miss Marie Bartling, the daughter of Professor Bartling, director of the Botanical Gardens at Göttingen. He leaves a widow but no children. Many of his pupils are in Canada and in this country and from all over the world expressions of sympathy have been received from those who worked with him in his laboratories at Chelsea.

GOVERNMENT APPROPRIATIONS FOR SCIENTIFIC PURPOSES FOR THE FISCAL YEAR ENDING JUNE 30, 1908

The following list of appropriations for the fiscal year ending June 30, 1908, for the government scientific bureaus has been compiled from the various congressional appropriation acts. It is not an official summary such as will appear later in the digest of appropriations published by the division of bookkeeping and warrants of the Treasury Department.

Besides the bureaus included in this list are a number of departmental interests which involve the direct application of science in one form or another. Under the Treasury Department, for instance, the supervising architect's office, the office of the director of the mint, and assay offices, the bureau of engraving and printing, and the whole of the public health and marine hospital service, are in a sense bureaus of applied science. So, too, under the War Department, the office of chief of engineers, the bureau of ordnance, the signal office, and the surgeon general's office, and under the Navy Department, the bureau of steam engineering, the bureau of ordnance, and the bureau of medicine and surgery might be called scientific bureaus. The lighthouse board of the Department of Commerce and Labor, and the Indian office and bureau of education of the Interior Department, are

sometimes included among the scientific bureaus.

The list of appropriations for scientific purposes is as follows:

UNDER THE TREASURY DEPARTMENT	
Hygienic Laboratory, Public Health and Marine Hospital Service	$90,000 00
UNDER THE NAVY DEPARTMENT	
Hydrographic Office	$141,500 00
Naval Observatory	62,390 00
Nautical Almanac Office	21,240 00
UNDER THE INTERIOR DEPARTMENT	
Patent Office $1,288,150 00	
Geological Survey	1,476,420 00
UNDER THE DEPARTMENT OF COMMERCE AND LABOR	
National Bureau of Standards	$189,620 00
Coast and Geodetic Survey	992,316 40
Bureau of Fisheries	702,760 00
UNDER THE DEPARTMENT OF AGRICULTURE	
Weather Bureau $1,413,540 00	
Bureau of Animal Industry	1,032,480 00
Bureau of Plant Industry	1,052,230 00
Forest Service	2,400,000 00
Bureau of Chemistry	697,920 00
Bureau of Soils	206,980 00
Bureau of Entomology	136,010 00
Bureau of Biological Survey	52,000 00
Office of Experiment Stations	1,013,220 00
Emergency Appropriations:	
Cotton boll weevil investigations..	190,000 00
Prevention of spread of gypsy and browntail moths	150,000 00
Eradicating cattle ticks	150,000 00
Special Appropriations:	
Survey of Appalachian and White Mountain watersheds	25,000 00
Agricultural colleges, to each state and territory	5,000 00
Total for the Department of Agriculture, including building and deficiency appropriations	9,698,590 00
UNDER THE SMITHSONIAN INSTITUTION	
International Exchanges .....$	32,000 00
American Ethnology	43,000 00
International Catalogue of Scientific Literature	5,000 00
Astrophysical Observatory	13,000 00
National Museum	250,080 00
National Zoological Park	110,000 00
Final appropriation for the new building for the National Museum	1,250,000 00
Total under the Smithsonian Institution	1,703,080 00
MISCELLANEOUS	
Government Printing Office, printing for scientific bureaus	$824,450 00
Library of Congress	616,885 00
Botanic Gardens	29,893 73
Army War College	24,400 00
Naval War College	19,200 00
Army Engineer Survey of Northern and Northwestern Lakes	75,000 00
Division of Topography, Postoffice Department	47,900 00
Alaskan Seal Fisheries	11,430 00

SCIENTIFIC NOTES AND NEWS

ON the occasion of the dedication of the new buildings of the Carnegie Institution last week, honorary degrees were conferred by the Western University of Pennsylvania on a number of the foreign guests including Sir Robert Ball, Lowndean professor of astronomy and geometry in Cambridge University; Dr. P. Chalmers Mitchell, secretary of the London Zoological Society; Sir William Preece, the British electrical engineer, and Dr. F. S. Archenbold, director of the Treptow Observatory.

THE summer meeting of the American Chemical Society will be held at Toronto, June 27–29. The following persons will act as chairmen of the various sections:

Physical Chemistry: W. D. Bancroft.
Inorganic Chemistry: C. L. Parsons.
Organic Chemistry: J. B. Tingle.
Agricultural, Sanitary and Biological Chemistry: F. T. Shutt.
Industrial Chemistry: W. H. Ellis.

DR. ALEXANDER GRAHAM BELL will shortly go to England to receive the doctorate of laws from Oxford University.

PROFESSOR W. W. KEEN, of Philadelphia, a delegate to the Surgical Congress at Berlin, has been elected an honorary member of the German Surgical Society.

J. M. STEDMAN, professor of entomology in the University of Missouri and entomologist of the Experiment Station, has been granted