year 1923. The relations of the association with the two divisions and with the State College (Pennsylvania) Local Branch, as well as the affiliated academies, have been continued as usual. Information regarding membership is shown in the following tabulations:

MEMBERSHIP IN THE A. A. A. S., MARCH 31, 1923

Sustaining members		3
Life members:		
Pacific Division	32	
Southwestern Division	3	
Rest of Association	334	
Total		369
Annual members in good standing:		
Pacific Division	1,036	
Southwestern Division	106	
State College Branch	54	
Affiliated Academies	1,328	
Rest of Association	7,348	
Total		9,872
Annual members in arrears for 1922 and 1923:		
Pacific Division	65	
Southwestern Division	20	
State College Branch	3	
Affiliated Academies	58	
Rest of Association	333	
		479
Annual members in arrears for 1923 only:		
Pacific Division	129	
Southwestern Division	35	
State College Branch	3	
Affiliated Academies	123	
Rest of Association	677	
Total		967
Total of names on roll		11,690

CHANGES IN MEMBERSHIP DURING FIRST HALF-YEAR, 1923

Gain in membership:		
Reinstatements	13	
New members (4 life, 770 annual)	774	
Total gain		787
Loss in membership:		
Dropped October 1 last for non-payment of dues	455	
Resignations	217	
Deaths	71	
Total loss		743
Net gain		44
Transfers from annual to life membership		19

SEMI-ANNUAL RECORDS OF MEMBERSHIP SINCE SEPTEMBER 30, 1920

	In good standing	Total enrollment
September 30, 1920	10,002	11,442
March 31, 1921	9,637	11,524
September 30, 1921	10,160	11,547
March 31, 1922	9,911	11,652
September 30, 1922	10,566	11,646
March 31, 1923	10,224	11,690

The membership is being maintained and slightly increased each year. Payments of annual dues are becoming much more prompt. Life memberships have increased in number very satisfactorily this year. Since last October 1, 23 new life members have been enrolled, 19 of these representing transfers from annual to life membership. It is hoped that members will increasingly realize the advantages of life-membership, to themselves as well as to the association, and that the number of life members will continue to increase.

The financial affairs of the association are in excellent condition. The work thus far undertaken is being adequately supported. It should be noted, however, that additional lines of activity for the advancement of science should be undertaken as soon as the finances will permit. And there are many ways in which the work of the association might be extended.

Preparations for the Los Angeles meeting next September are progressing very well indeed, owing to the efficient work of Mr. W. W. Sargeant, secretary of the Pacific Division, and to that of the general secretary, Dr. D. T. MacDougal. A preliminary announcement of the meeting will be sent to all members. Correspondence regarding the meeting should be addressed to Mr. W. W. Sargeant, Golden Gate Park, San Francisco, Calif.

The local committee for the third Cincinnati meeting has been organized, with Dr. Louis T. More as chairman, and much of the preliminary work has already been completed. Each section of the association will have a local representative and the societies meeting at Cincinnati next December are asked to make all arrangements for their sessions through the local representatives of their respective sections.

BURTON E. LIVINGSTON,
Permanent Secretary.

GEORGE LINCOLN GOODALE
1839-1923

BOTANY, in America as elsewhere, owes much to men who acquired an interest in plants while studying medicine or who adopted the medical profession as affording a livelihood while permitting them to follow more or less seriously botany as an avocation. Howard Kelly has

written a delightful series of biographic sketches of a few American physicians to whom botany was pleasure in the sense that it was what they paid for, while practice of their profession was work in the sense that it was what they were paid for.

Engelmann and Chapman are outstanding among Americans of this type: but Torrey, Gray, Farlow and Goodale mark the transition to the modern type of professional botanists, to whom this branch of science is at once vocation and avocation. Equipped with the means of practicing a remunerative profession, they found awaiting them the opportunity to break into the new profession of teachers of the science to which they were attached.

Not only in preparation but in successful practice, Dr. Goodale was a doctor in the sense in which an old-fashioned friend expressed himself to me nearly half a century ago as thinking of the word—a physician; or an elderly person to whose name certain letters of the alphabet have been appended by colleges in recognition of conspicuous service rendered the public; for in those days, on this side the ocean, men were only beginning to bear that stamp of academic approval that our great universities give annually now to hundreds of men who have prepared and defended a dissertation in some field of learning.

Though he lacked this modern prerequisite for even an instructorship in a worthy institution, Goodale from the first was a doctor literally and within the meaning of my friend; and in due time Amherst, where he had graduated, Bowdoin, where he first taught, and Princeton stamped with their approval his scholarship and public service. Even more indicative of such approval are the memberships accorded him in bodies like the National Academy of Sciences, the American Philosophical Society and the American Academy of Arts and Sciences; and offices such as the presidency of the American Association for the Advancement of Science, which he held in 1890.

Professorships in the sciences were not so minutely divided two generations ago as they are now. When, after three years of medical practice, Dr. Goodale entered the faculty of Bowdoin College in 1868, it was as a professor of natural science. Four years later his brilliant exposition of this group of sciences opened to him an instructorship in botany at Harvard, which developed quickly into an assistant professorship and a professorship—from the active duties of which he retired as professor emeritus fourteen years ago at the scriptural age of three score years and ten.

It is not without significance that with the title of instructor in botany his appointment at Harvard carried also that of lecturer on vegetable physiology. Asa Gray, the outstanding figure in American botany, whose contributions to the science were in the field of what is now called taxonomy, saw and understood and planned far beyond the limits of his own specialty; and the entry of Goodale and Farlow into the faculty of Harvard under President Eliot's fostering of the sciences gave to that great university prominence in this science fifty years ago.

Though I never had the privilege of study under Professor Goodale, I came into close personal contact with him in 1880, when I went to Cambridge for graduate work with Farlow, Hagen and Mark; and it was my privilege frequently to listen to his brilliant lectures, which I never have heard surpassed in his field. It was in his laboratory that I first saw—and used during the summers of 1883 and 1884 when at his request I took charge of the summer session in botany—the prototypes of the present-day auxanometers and klinostats; and with him more or less successfully constructed and applied the osmometers with which Wilson recently had shown talented manipulative skill in Pfeffer's laboratory.

Dr. Goodale was alert in framing unanswered questions and ingenious in devising means of answering them. If his contributions to botanical knowledge be not found numerous and important, perhaps explanation is to be found in the possession of those traits which lead a man to devote possibly productive time to over-careful detail preparation for what he is to present in the lecture-room rather than to the methodical but often discouragingly broken drudgery of investigation, at first hand, or with students whose names appear as authors of dissertations.

Professor Goodale was a genial man. Those who admired him had confidence in him. Com-

mercial Boston had many a stipend for investigation or travel at his suggestion. Nowhere in the world is to be found a counterpart of the superb representation of our flowers in glass made by the Blaschkas under his direction as curator of the botanical museum of Harvard, with the financial backing of Mrs. Ware and her daughter. Those who really knew him loved him. Since the passing of Professor Gray, a generation ago, the memory of my infrequent visits to Cambridge has been brightened by contact with Professor Goodale and one or more of the enthusiastic unprofessional botanists who were his intimate friends and with whom he continued to share the curious interest in nature that is the foundation of most really serviceable work in botany, either didactic or productive; an interest of which the beginnings are to be found recorded here and there in herbarium specimens of choice Maine plants collected in the early days when he was called on to teach "natural science, mineralogy, botany and applied chemistry" at Bowdoin College.

WILLIAM TRELEASE

UNIVERSITY OF ILLINOIS
MAY 14, 1923

SCIENTIFIC EVENTS

MOTION PICTURE OF THE TOTAL ECLIPSE OF THE SUN[1]

THERE have been in the past several proposals to take a cinema film of a total eclipse of the sun, but the first real outcome of these proposals is the film now being shown at the Royal Albert Hall. The pictures illustrate the experiences and the work of the astronomers of the expedition, under Professor W. W. Campbell, to Wallal, on the northwest coast of Australia, from the time they left Perth until after the eclipse on September 21. The journey to Broome was made on the S.S. *Charon* and afterwards on the lugger *Gwendoline,* towed by a lighthouse tender, to Ninety Mile Beach. On account of the great rise and fall of the tides, the ship had to anchor five miles out, and the astronomers with all their baggage had to be landed in boats through the surf. The equipment was then transported on donkey wagons to the site selected for the camp and in this work the aboriginal inhabitants of the country, both men and women, gave considerable assistance. The large amount of dust, which rose in clouds wherever there was any work being done, caused great inconvenience. Nevertheless a large camp was soon set up and the assembling of the instruments commenced. The process of erection of the tower telescope and of the equatorials aud cœlostats, as well as the various rehearsals in changing plates and uncovering object-glasses, are well illustrated. The part of the film showing the solar corona is good, considering that it was taken with a cinema lens, but a better picture could easily be constructed from the negatives taken by the eclipse party.

The film will enable those who are interested in scientific work to appreciate the difficulties which eclipse observers often have to face. Large and cumbersome instruments have to be transported long distances and often erected in almost inaccessible places where little or no skilled labor can be obtained. The conditions at Wallal were probably more difficult than usual, but were bravely faced and overcome. A wireless apparatus was erected to keep the eclipse party in communication with the outside world and a weekly aeroplane service was instituted. The film is well worth seeing by those interested in the work of scientific expeditions. It would have been too much to expect that a film of this kind, taken under such difficult conditions, would come up to the standard of films produced by special actors in artificial conditions. However, the fact that the actual work of the astronomers is interspersed with pictures illustrating the life of the natives should make the film one of more general interest. With these additions the showing of the film takes a little over an hour. The attempt to produce a film showing the actual work of a scientific expedition is one which deserves every encouragement and we wish it every success.

[1] From *Nature.*

CANADIAN STATIONS IN THE ARCTIC

THE *Royal Geographical Journal,* quoting from the annual report for 1921-22 of the Royal Canadian Mounted Police, gives details of the progress lately made towards the establishment of fixed administrative stations