



WILLIAM REID.

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VARIABLE STARS.

By SENATOR THE HON. A. W. ROBERTS, D.Sc., F.R.S.E.,
F.R.A.S.

(Presidential Address, Session 1927-8.)

INTRODUCTION.

Like most sciences, the study of astronomy has experienced various vicissitudes of fortune, definite stagnatures and impulses.

In prehistoric times any astronomy that then existed must have been simply a means to the ascertainment of seasons and festivals. Rude men only wanted to know when to plough and when to sow, when to sacrifice, and when to abstain from doing so; when the new moon would appear as a ribbon of light in the western sky, and when the principal stars rose and set. Astronomy in these far-off days was a handmaiden to natural religion.

Then later in this dim dawn of history men read myths in the heavens, saw figures and fancies among the stars, witnessed their glorious sun turn into blackness even at noon, and watched the silvery light of the moon change into blood in their midnight sky. And wonder and alarm held them.

But two thousand years ago, in the golden age of Greece, this wonder and alarm gave place to ordered enquiry. It was the birth-time of the true scientific spirit. The philosophers of that marvellous age of intellectual achievement sought to discover, if possible, the reasons for, or causes of, the various phenomena they witnessed. This they did not succeed in doing, but they were the pioneers of all the searchers after truth who would follow. They reared the scaffolding by which other men would build, and how majestic is the edifice that has been erected on the lines clearly laid down by the great Greek philosophers of Plato's day!

STATEMENT OF INCOME AND EXPENDITURE FOR YEAR
ENDED 30TH JUNE, 1928.

<i>Income.</i>			<i>Expenditure.</i>					
	£	s. d.		£	s. d.			
To balance on hand, 30th June, 1927	22	18	5	By Periodicals	4	2	0	
„ Subscriptions	20	13	6	„ Secretary's Membership to British Astronomical Association	1	1	0	
„ Donation	0	10	6	„ British Astronomical Memoirs	1	1	0	
„ Periodicals sold	0	6	0	„ Bank Expenses	0	12	6	
„ Exchange on cheques	0	1	6	„ Postages and stationery	0	8	6	
				„ Petty Cash	2	0	0	
				„ Transferred to Headquarters	10	18	0	
						20	3	0
				„ Balance on hand	24	6	11	
	£44	9	11		£44	9	11	

Astronomical Society of South Africa.

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR
ENDED 30TH JUNE, 1928.

<i>Income.</i>			<i>Expenditure.</i>				
	£	s. d.		£	s. d.		
Balance brought forward, 30th June, 1927	22	19	8	Printing Journal (Vol. 2, No. 2)	43	19	6
50 per cent. Subscriptions (Cape Centre)	28	16	4	Printing and Stationery	3	2	6
50 per cent. Subscriptions (Johannesburg Centre)	10	18	0	Postages	2	9	9
Sale of Journals	1	1	0	Rent and Electric Light	2	6	0
Sale of "Sundial" (50 per cent.)	0	13	1	Bank Charges	0	12	3
Donation (Natal A.A.)	5	0	0	Balance carried forward	20	3	4
Donation (Dr. Moir)	1	4	9				
Donation (Capt. Cameron-Swan)	2	0	0				
Commission on Cheque	0	0	6				
	£72	13	4		£72	13	4

Audited and found correct.
E. J. STEER.
June, 30, 1928.

W. H. SMITH,
Hon. Treasurer.

Obituary.

WILLIAM REID. 1861—1928.

The news of Mr. Reid's death will have brought with it a sense of personal loss to all members of the Society. Even to those who never knew him, his writings in the *JOURNAL* will have conveyed something of that atmosphere of enthusiasm and helpfulness which were always his leading traits. They will also have conveyed some idea of the astonishing application which lifted him into the front rank of comet discoverers.

William Reid was born at Pitcaple, Aberdeenshire, on August 23, 1861. He early showed an interest in things scientific, and was loaned a reflecting telescope, with which he made his earliest astronomical observations. But it was not as an astronomer that Mr. Reid first entered the scientific world. He first attracted notice as an entomologist. For his labours in this field he was made a Fellow of the Entomological Society; and a rare Scots moth bears his name to this day. His name may also be found upon the title-page of a rare little book which describes the butterflies and moths of Aberdeenshire.

But just when he had gained no little eminence as a Scots entomologist, Mr. Reid was forced, for health reasons, to leave Scotland. South Africa was his chosen land of immigration. Here he joined his brother-in-law, Mr. James Chalmers, with whose commercial ventures he was actively associated to within a few months of his death.

In South Africa astronomy was the science which claimed him. At first his observations were of a miscellaneous nature. But when the old Cape Astronomical Association (the parent of our Society) formed its Comet Section, Mr. Reid was asked to become Director. Why he should have been selected, he often remarked, was a puzzle to him; but it was a happy choice. For he fostered comet-sweeping in South Africa. And his selfless devotion to his task brought him, in the end, an international reputation.

Besides having been a Fellow of the Entomological Society, Mr. Reid was a member of the British Astronomical Association. He was a foundation member of the old Cape Association; and he served almost continuously on the Council, and, subsequently, on the Council of our Society. Of our Society, too, he was the first amateur astronomer to be elected President. And his presidential address is surely the most human document which has ever appeared in the Society's *JOURNAL*.

Mr. Reid discovered six comets, besides rediscovering d'Arrest's comet after all hope of its rediscovery had been abandoned. There is also to his credit the independent discovery of a Skjellerup comet, which he did not claim, but for which he received the O'Donohoe Medal, making in all seven awards of

that medal to him. Early in the present year he was honoured by the Royal Astronomical Society, which awarded him the Jackson-Gwilt medal and gift.

Mr. Reid died at Rondebosch on 8th June, 1928, after a lingering illness, bravely borne. And at his passing the words



JACKSON-GWILT MEDAL OF THE ROYAL ASTRONOMICAL SOCIETY, PRESENTED
TO MR. W. REID, 1928.

of that rapt mystic, Francis Thompson, commemorating a Dead Astronomer, were doubtless in the minds of many of us:

“Starry amorist, starward gone,
Thou art—what thou didst gaze upon.”

And there we may well leave our old and unforgotten friend,
William Reid. M.

Reviews.

“Stars and Atoms.” By A. S. Eddington, M.A., D.Sc., LL.D., F.R.S. [Pp. 127, with 11 illustrations.] (Oxford: At the Clarendon Press, 1927. Price 7s. 6d. net.)

“Stars and Atoms” was the title of an evening discourse given at the meeting of the British Association at Oxford in August, 1926. The volume under review is an expansion on this lecture. It deals in a popular manner with some of the recent developments of astronomy which have followed upon the rapid growth in our knowledge of the structure of the atom and the properties of the electron; it illustrates also the manner in which the astronomer, who studies matter in the stars and in the nebulae which is under conditions that the physicist is not able to reproduce in the laboratory, has contributed to the progress of atomic physics. These advances in physics and in astronomy react upon one another to their mutual advantage.

The volume is divided into three lectures. The first is entitled “The Interior of a Star,” and gives an account of what has been learnt of late years—largely through the investigations of Professor Eddington himself—about the interior of a star and the processes which result in stellar radiation. The second lecture, “Some Recent Investigations,” deals, as the title implies, with several by-products of the main investigation of the constitution of the stars. It includes, amongst others, sections on the story of Algol, the story of the companion of Sirius, the story of Betelgeuse and the cloud in space. The third lecture, “The Age of the Stars,” deals with the problems of stellar evolution and the maintenance of stellar radiation.

The volume is delightfully written, and, in spite of the fact that some mental concentration is now and again demanded of the reader, it is a book for the armchair. For it is romance—and romance of a high order. It illustrates to the full Professor Eddington’s gift of popular exposition—his ability to present an abstruse subject in simple language, his keen imagination, his love of paradox, and, above all, his physical intuition. We cannot refrain, even at the expense of making this review unduly long, from quoting a few paragraphs which give a picture of what is happening inside a star. The reader will be able to judge from these of the style in which the volume is written:—

“We can now form some kind of a picture of the inside of a star—a hurly-burly of atoms, electrons, and ether-waves. Dishevelled atoms tear along at 100 miles a second, their normal array of electrons being torn from them in the scrimmage. The lost electrons are speeding 100 times faster to find a new resting-place. Let us follow the progress of one of them. There is