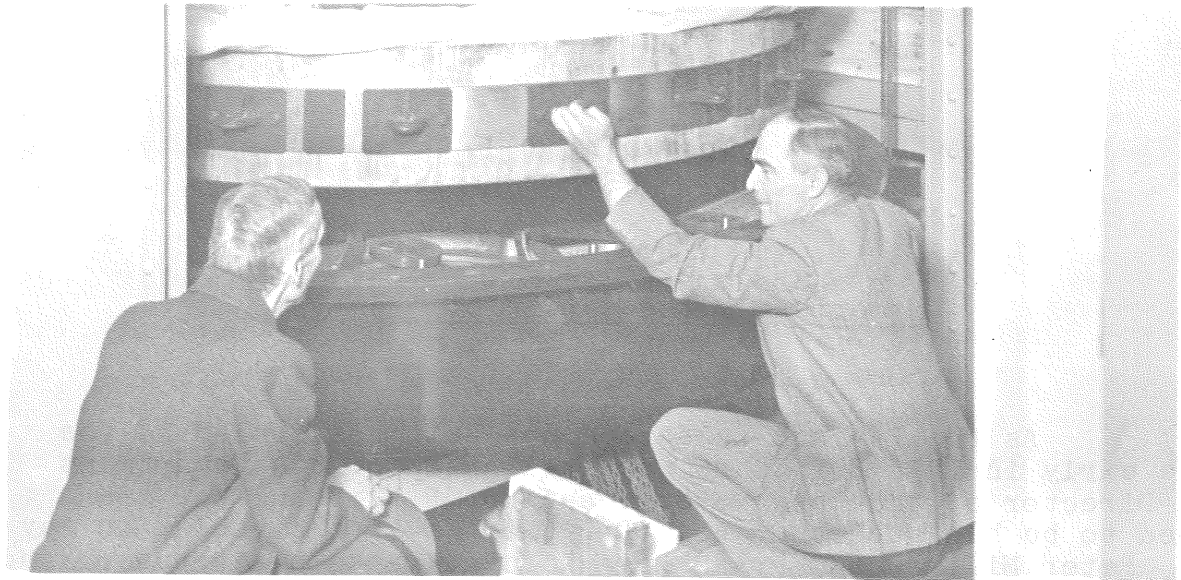


1975: 40TH ANNIVERSARY YEAR OF THE DDO.



## DAVID DUNLAP DOINGS

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Lower: Frank Hogg and Jack Heard prepare to fit the supporting band onto the mirror before it is lifted into its cell at the left. Upper: Dr. Chant watches Dr. Young steer the eyes of the band towards the pins of the support system as the mirror is lowered into the cell. (Photos by Pringle & Booth, May 7, 1935)

## EDITORIAL

### Memories of the spring of '35

As the 74-inch telescope was being assembled at the site early in 1935 Dr. Chant was still Head of the Department and Director of the Observatory, and Dr. R.K. Young had been named to be his successor come Dr. Chant's 70th birthday on May 31. Peter Millman and Frank Hogg had the ranks of lecturer, and I was to be appointed demonstrator as of September 1. Anxious to be at the Observatory for the exciting months following delivery of the mirror, I obtained permission to leave Yerkes early in May to complete the tenure of my post-doc fellowship at Toronto. Monday May 6 was a public holiday, the celebration of King George V's Jubilee, so I reported at the Observatory on Tuesday morning.

My first assignment wasn't exactly exciting. Dr. Young handed me some kerosene, steel wool and cloths and asked me to clean up the grimey metal and fabric band for the mirror edge which was part of the support system, preparatory to the installation of the mirror scheduled for that afternoon. Frank Hogg was helping Dr. Young with some other preparations in what we then called the silvering room.

Up until the previous week there had been a mechanic on the Observatory staff to help with the telescope assembly, but a hair-raising incident had resulted in his abrupt departure. When the telescope tube was installed it had been fitted with a cast-iron disk as a "dummy" mirror to afford approximate balance. As they prepared to install the mirror they had to remove this "dummy". Although the counter-weight end of the dec. axis was propped against the floor, the telescope, being then very top-heavy, was unstable about the dec. axis when the tube was vertical. To prevent an accident they tied the upper end of the tube securely to the bridge of the dome. Although everyone was warned about the importance of this tying, the mechanic, needing a piece of rope for another purpose, thoughtlessly "borrowed" the tether from the tube. As he turned away the top-heavy telescope began to fall towards the south, gathering momentum as it approached the platform. Fortunately neither of the secondary mirrors was mounted and fortunately too there were some wooden planks leaning across the platform which absorbed some of the energy as they splintered. Nevertheless, Dr. Young suffered much anxiety for the next few weeks for fear the tube had been distorted. It turned out that it hadn't been; the collimation was within the tolerance limits when it became possible to set on the stars.

In the lower photograph on our cover the older of the two men in the background is Mr. Albert Young, R.K.'s brother, who was Director of Technical Education of the Toronto Board of Education, occupying office space in Toronto's Central "Tech". It was to him that Dr. Young turned to find a replacement for the departed mechanic, and he recommended 19-year old Gerry Longworth whom he knew to be a very promising graduate of Central Tech and still enrolled there, taking some extra courses. Gerry was invited to the Observatory for an interview and was appointed to commence work on Aug. 1.

Meanwhile during May and June, with some interruption arising from the formal opening on May 31, Dr. Young, Peter Millman, Frank Hogg and I, with some assistance from Don MacRae who was then an undergraduate in the physics and astronomy course, spent a goodly proportion of our time testing and adjusting the telescope and spectrograph. The first spectrograms were taken on Sunday June 9-10 and by the end of the month we had embarked on our first radial velocity program.

J.F.H.

#### COMINGS AND GOINGS

Don MacRae is observing March 14 to 25 with our telescope and classification spectrograph at Las Campanas.

Christine Coutts has the last two weeks in March on the Carnegie 40-inch telescope for photography.

Philipp Kronberg was observing at mid-month at Green Bank. (Brian Andrew spent two Fridays on campus filling in for Philipp with his graduate course.) On Mar. 18-20 Philipp attended a Conference on the Nature of Double Radio Sources at the U. of Virginia.

Helen Hogg spent the first week in March in California and B.C. In Pasadena she spent the better part of a day visiting Allan Sandage and the Hale Observatories office, and in Victoria she gave a seminar at the DAO on "The Development of Astronomy in Canada.

Sidney van den Bergh is attending the AAS meeting at Bloomington on March 23-25, giving a paper on "The Next Galactic Supernova". He is scheduled to observe at Cerro Tololo April 4-19 with the Yale 40-inch, the 60-inch and possibly with the new 4-metre telescope.

Don Fernie attended the AAS Bloomington meeting, giving a paper on March 25 on "Pi Aqr: A Pulsating Be Star?"

Robert Roeder and Bob Garrison attended a meeting of the UV Explorer Satellite Users Group at NASA in Greenbelt Md. on March 18.

Peter Martin spoke on Mar. 13 at Cornell on "Aspects of Interstellar Bi-refringence".

Maurice Clement attended an ACAP meeting at Brock University, St. Catherines on March 24.

Tom Bolton is attending the AAS meeting in Bloomington, reading a paper on "Spectroscopic Observation of H $\alpha$  Emission from Algol"

#### SEMINARS

#### MARCH

On the 4th as announced; on the 6th Mrs. Janet Mattei, Director AAVSO, "The T Tauri Phenomenon"; on the 11th nothing; on the 18th David Turner, DDO, "Extinction in Young Galactic Clusters"; on the 25th nothing; on the 21st Dr. Theodore Gull, KPNO, at DDO, "Observational Models of M42 and M17".

#### APRIL

Thurs. 3rd. Joint with Physics. Dr. M.S. Roberts, NRAO, McL., 102 "Galaxies, the Second Most Massive Objects".

Tues. 8th Dr. Owen Gingerich, "The Astronomy and Scarborough Cosmology of Copernicus".  
4 p.m.

Tues. 15th Dr. W. Duley, CRESS, York.  
DDO, 4 p.m.

Tues. 22nd Dr. Sabatino Sofia, U. of Rochester, "Recent DDO, 4 p.m. Developments in the Study of Close Binary X-ray Sources".

Tues. 29th Dr. W.C. Saslaw, U. of Virginia, "Clustering of DDO, 4 p.m. Galaxies in the Universe".

## JUNE INSTITUTE

The June Institute this year is scheduled for June 10-13. Visiting speakers who have accepted to date are Carl Sagan, Martin Schwarzschild and Morton Roberts.

### PAPERS SUBMITTED IN MARCH

J. Percy

"Light Pollution"

"The Light Variations of HD 34626"

J. Sorvari

"A Rapid Filter Change Photometer"

C.T. Bolton,  
J. Percy &  
R. Shemilt

"Simultaneous Spectroscopic and Photometric  
Observations of the Beta Cephei Star HR 6684"

## P O T P O U R R I

### SvB Seeking Re-election

Sidney van den Bergh has interesting opposition as a candidate for re-election to the A.S.P. Board: William Randolph Hearst III, editor of the San Francisco Examiner, and Clyde Chivens of Boller and Chivens.

### GASA Party

As of the date of this writing GASA was planning a skating party at the Roberts Street Rink to be followed by mulled wine, beer and nibbles at "Astronomy House", 496 Huron Street.

### Alumni

Born, Feb. 27, at Princeton to Don and Wyn Morton, a son, Keith James.

Doug Hube (Ph.D. 1968) visited the Observatory during the week of Feb. 24, observing two nights, measuring some plates and being the first guest investigator on the new microdensitometer.

### Ambition of a Lifetime

John Percy has achieved a longed-for goal - had a paper accepted by Scientific American. The title, "Pulsating Stars"; the date, maybe June.

## F I N A L I T E M

### Davey. III.

Davey and Isobel's rapture over the skies of Ascension was short-lived. No sooner had all the equipment been set up than night after night of cloud descended upon them. Cloud, moreover, of that maddening type which clears away each morning to give sunny days, and then returns without fail each sunset. "Oh, those weary weeks", writes Isobel, "no result but utter disappointment; the mental and physical strain, increasing every night, grew almost beyond our strength". And it was Isobel who found the solution. At 3 a.m. on one of these frustrating nights she went for a long walk across the wild lava fields of the island, and to her amazement found after a mile or so that she was stumbling along under clear skies. Davey's observatory just happened to be downwind from the main mountain peak of the island, and conditions were such that each night the steady trade winds produced a long streamer of cloud over the observatory, while on each side the skies were clear.

So, with only a few weeks to go to Mars' opposition, the whole observatory had to be dismantled and transported over the almost impossible terrain to another site. They made it with the help of "the Ascension's crew", the latter suitably bribed and fortified with rum for the task, but conditions were so rough that the Gills were forced to camp in a tent on the beach of a small bay, since known as Mars Bay. And there they were when September 5, 1877, the opposition date, arrived. The sky was undecided, Isobel nervous: "Tonight Mars will be nearer to us than ever again for a hundred years, and what if we should not see him?" They could hardly eat their fish dinner for worrying about the clouds, and Davey jumping up to re-check the heliometer. But the sky cleared in time for the evening observations. Would it hold for the crucial pre-dawn observations? Isobel dozed off after midnight, but awoke to see the Pleiades brilliant against the Milky Way "like fireflies tangled in a silver braid. While my eyes drank in this beautiful scene, my ears were filled with sweet sounds issuing from the Observatory: 'seventy-seven, one, point three six eight', etc. Let not any one smile that I call these sweet sounds. Sweet they were indeed, for they told of success after bitter disappointment, of cherished hopes realised."

It had all been worth it, for Davey's observations gave a solar parallax ( $8''.78 \pm 0''.01$ ) that was to stand among the most accurate determinations of the nineteenth century. He and Isobel returned to Britain to ever increasing fame in scientific circles. Soon Davey was much in demand as a lecturer and after-dinner speaker. He liked to impress on his listeners just how small an angle  $0''.01$  is, telling them it was the angle subtended by a threepenny bit at a distance of 100 miles. On one occasion he repeated this allusion several times, and the chairman, in rising to thank Davey for the talk, solemnly remarked that the subject was certainly an esoteric one, but it was only on hearing the speaker's accent that he had realized it would take a Scotsman to be so concerned about threepence a hundred miles away! Davey treasured the remark for the rest of his life.

Among the great number of friends with whom Gill kept up a correspondence was the Governor-General of Canada, Earl Grey. It seems Grey had a running competition with Sir Wilfred Laurier as to who could come up with the most outrageous Scots jokes,

and Grey was forever appealing to Davey for ammunition. Davey, renowned for his humour, always responded. (Sample: A Scotsman challenged by a customs officer for having declared only 'wearing apparel', when a search had in fact turned up two bottles of whisky: "Aye, they're ma nightcaps".)

In 1879 Gill accepted the position of Her Majesty's Astronomer to the Cape, and soon he and Isobel were on their way to South Africa. He found the Royal Observatory there in a sorry state, for it had been allowed to decay since the departure of Thomas Maclear some ten years earlier. Gill seized the opportunity to convince the Admiralty that new instruments would be needed, including, of course, a 7-inch heliometer. Soon he was back observing asteroids in an effort to improve his solar parallax determination. Davey seems to have been the observer's observer. An obituary records: "Next to his wife he loved his heliometer, and after spending hours with his second love ... he would come into the house in the 'wee sma' 'oors ayont the twal'" shouting and singing, and his wife recorded that he was just "daft laughing and joking and so it will be as long as his eye can look through a telescope" ". What this sort of behaviour at 4 a.m. did for conjugal bliss is hard to say.

In South Africa Gill turned again to geodesy. Not only did he extend Maclear's geodetic survey there, but was often away for many months pushing the survey up towards Central Africa through what is now Rhodesia. He took the opportunity of these trips to indulge in some hunting, for in his earlier days his skill with the rifle had put him on international teams. The work was important, for the 30th meridian east of Greenwich is the longest land meridian in the world, running from southern Africa to Lapland, and if Gill's survey could be tied through Egypt and into the European network it would have a major impact on geodesy. More than that, however, if Greenwich and the Cape could be linked geodetically, there would be available the most important baseline for lunar parallax studies. But Central Africa proved intractable to the nineteenth century, and in fact the lunar observations made then for parallax studies could not be fully utilized until the 1960s, when, of course, they were obsolete.

Gill's third great contribution to science started in 1882, when a spectacular comet appeared. Davey invited a commercial photographer from the town to attach one of his portrait cameras to an Observatory telescope for a lengthy time-exposure on the comet. The picture was spectacular enough, but what impressed Davey was the great number of faint stars recorded in the background. Thus the first wide-field photographic sky survey was started. Davey aroused the enthusiasm of Kapteyn in Gronigen, and an arrangement was made for plates to be taken at the Cape and measured in Holland, which led eventually to the international Carte du Ciel program.

A final Gill story concerns his dealings with Cape Town's railway officials. Then, as now, there was a commuter line serving the southern suburbs, with a special stop (still called Observatory) which had been put in mainly for Gill's staff. The railway bureaucracy decided the stop was uneconomical, and notified Davey that trains would henceforth no longer stop there. That was too bad, Davey wrote in reply, because the extra time his staff would now need to walk from the next stop coincidentally was just the time they needed to work on the time-service the Observatory supplied to the Railways. So no stop, no time-service. Trains have stopped there ever since.

The Gills, by now Sir David and Lady Isobel, left South Africa in 1906 after the agony of the Anglo-Boer war and retired to their beloved Scotland. Davey's health was failing rapidly, although he continued his paperwork for some years.

In late 1913 he caught a chill while attending the funeral of Sir Robert Ball, which led to pneumonia and his own death in January 1914. Isobel, before she died in August 1919, received many words in praise of her husband, his many international honours, gold medals, etc., etc. Perhaps she thought back forty years to the words she and Davey had found carved on a rock at the very pinnacle of Ascension's peak: *Sic itur ad astra*. Such is the road to the stars.

J.D.F.