

SOME RECOLLECTIONS OF THE OBSERVATORY (1924–1935)*

BY JOSEPH A. PEARCE

PASSING through Victoria in 1922, en route to the Lick Observatory, California, I visited the Dominion Astrophysical Observatory to see the great reflector and renew acquaintances with Plaskett and Harper whom I had known some years before in Ottawa. I took the interurban electric train to the “Observatory” station at the foot of the hill and walked the mile-and-a-half road to the Dome in which the staff were located at that time. Dr. Plaskett, that afternoon, was taking test plates preparatory to observing that evening, and I remember that we talked of stellar radial velocities and one of his binaries for, as Dr. C. A. Chant’s assistant from 1919–1922, I had proof-read all the papers for the *JOURNAL* of the Royal Astronomical Society of Canada. I little dreamed that in two short years I would return as a permanent member of the staff.

The years have confirmed Plaskett’s wise selection of the smaller of the two Saanich mountains, for this site was readily accessible by road and train and some miles closer to Victoria. The great white dome is a conspicuous landmark on the horizon as one approaches Victoria by boat, and a pleasing view of the hill may be seen from almost every turn of the winding West Saanich Road. The hill was densely wooded; the foot path up the steep face of the 500-foot ascent was a pleasant trail through fine fir trees, unfortunately completely destroyed by the disastrous fire of 1934, which burned over 40 acres. Walking up the trail recently, I noticed that our program of reforestation has been partly successful. The accompanying photograph (figure 1), which I obtained in 1925, shows the dome, the first office building and the caretaker’s home, presently occupied by Mr. S. Smethurst and family.

The staff in 1920 consisted of the Director, three astronomers—Harper, Young and H. H. Plaskett, the secretary, Miss Helena R. Keay, the observing assistant, T. T. Hutchison and the caretaker, a retired Saanich policeman, Hugh Little, who took care of the dome and also acted as Mrs. Plaskett’s chauffeur. Tom Hutchison had been employed from the initial stages of the construction of the dome and telescope in 1915–1916. He was a likeable person, thoroughly competent in maintaining the telescope and equipment in good working order, and he cheerfully and ably assisted the observers six nights a week. He and his amiable, though

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FIG. 1—Observatory Hill (1925) showing the dome, office building and caretaker's residence.

talkative wife, Molly, lived in the second house beside the dome. The other members of the staff lived in the city.

When R. K. Young returned to the University of Toronto in 1924, J. S. Plaskett invited me to collaborate with him in the extensive investigation of the O and B stars, a research which exclusively occupied our attentions for the next ten years. We were assisted from 1927–1934 by Mr. S. N. Hill, formerly of the Geodetic Survey, Ottawa, who, under my direction, carried out the laborious computations of the stellar proper motions required in our galactic rotation research. He is happily recalled to mind, for our friendship was most cordial.

The well-known photograph of the 72-inch reflector (figure 2) shows our Director beside the Brashear spectrograph, which he designed, and the assistant, on the observing platform and partly hidden by the tube, is Dr. R. K. Young, Plaskett's able associate in the years 1917–1924.

It was a great pleasure to observe with the telescope in those days of long ago. All astronomers used the same spectroscope. When different dispersions were desired, the necessary changes of cameras and prisms were simple, and speedily effected. Harry carried out important theoretical investigations and we three concentrated solely on observing the A- and

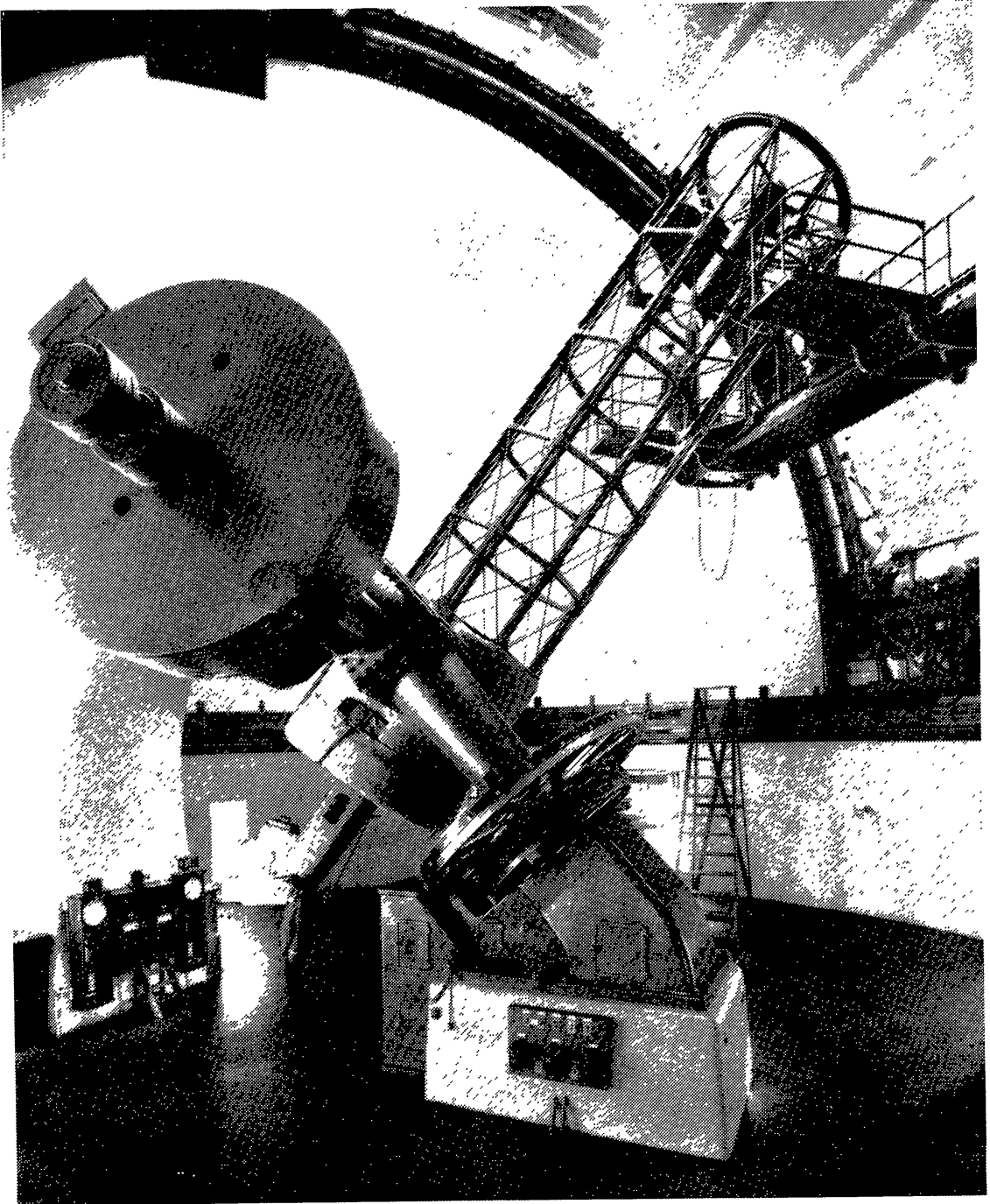


FIG. 2—72-inch reflector (1919). J. S. Plaskett beside the spectrograph and R. K. Young on the observing platform. (Note: This is the only photograph of Young available at the Dominion Astrophysical Observatory.)

B-type stars for radial velocity, accumulating more plates than we could measure and discovering more double-lined binaries than we could investigate. The mirror was kept bright by being silvered every three or four months, a two-day operation, in which Tom and Hugh removed the

spectrograph and placed the two-ton disk on the silvering car; Plaskett and I cleaned the mirror while Harper and Beals prepared the solutions. We enjoyed working together and I cannot recall that we ever had a failure; we were all very happy when the bright shining mirror was safely back on the telescope.

The following table is a typical observing schedule for the years 1924–1928.

Week Day	Observer			
	1st	8th	15th	22nd
Sunday	Pe	P	Pe	P'
Monday	H	H	H	H
Tuesday	P'	P'	P'	P'
Wednesday	P	P	P	P
Thursday	Pe	Pe	Pe	Pe
Friday	H	P'	P	H
Saturday	P'	H	Pe	P

Observers: P = J. S. Plaskett, H = W. E. Harper, P' = H. H. Plaskett and Pe = J. A. Pearce.

The observing time was equally apportioned; each astronomer had his constant week night and the Saturdays were taken in rotation. The two-hour public observing periods were exceedingly popular in those days, and we found it quite fatiguing to handle the 250–300 visitors who, fairly patient but frequently noisy, awaited their turn for a 10-second peep at the object we were describing. We were very happy to have the assistance of summer students like Bert Petrie and Harry Christie, who enthusiastically participated in all phases of the work and who often observed for the Director.

The nights were long, the stars were bright, the seeing good and the well-exposed plates kept accumulating. The observing book for the year 1924 shows that, on an average September night, a batch of 22 to 24 plates with the IM, 30 A/mm camera, were obtained. The record was held by Harry Christie who, on September 9, 1924 (average seeing), secured 76 spectra of 12 *Lacertae*, 4 exposures on each plate. The dark room was on the ground floor below and Harry was certainly busy running up and down the two flights of stairs to develop the plates. Tom guided. This heroic record was never surpassed.

The telescope never had a holiday—the observing book for this year records that on J.D. 2424145, Thursday, December 25, it clouded over at

3:00 a.m.—and I confess that I was glad to close the dome, develop my last plate and walk the nine miles home.

Harry Plaskett left in 1928 to lecture at Harvard University, and shortly afterwards was appointed Savilian Professor at Oxford; Dr. Carl Beals came to fill the vacant position, and soon he distinguished himself by his investigations of the Wolf Rayet and high-temperature stars.

The accompanying photograph shows the staff about the year 1931.

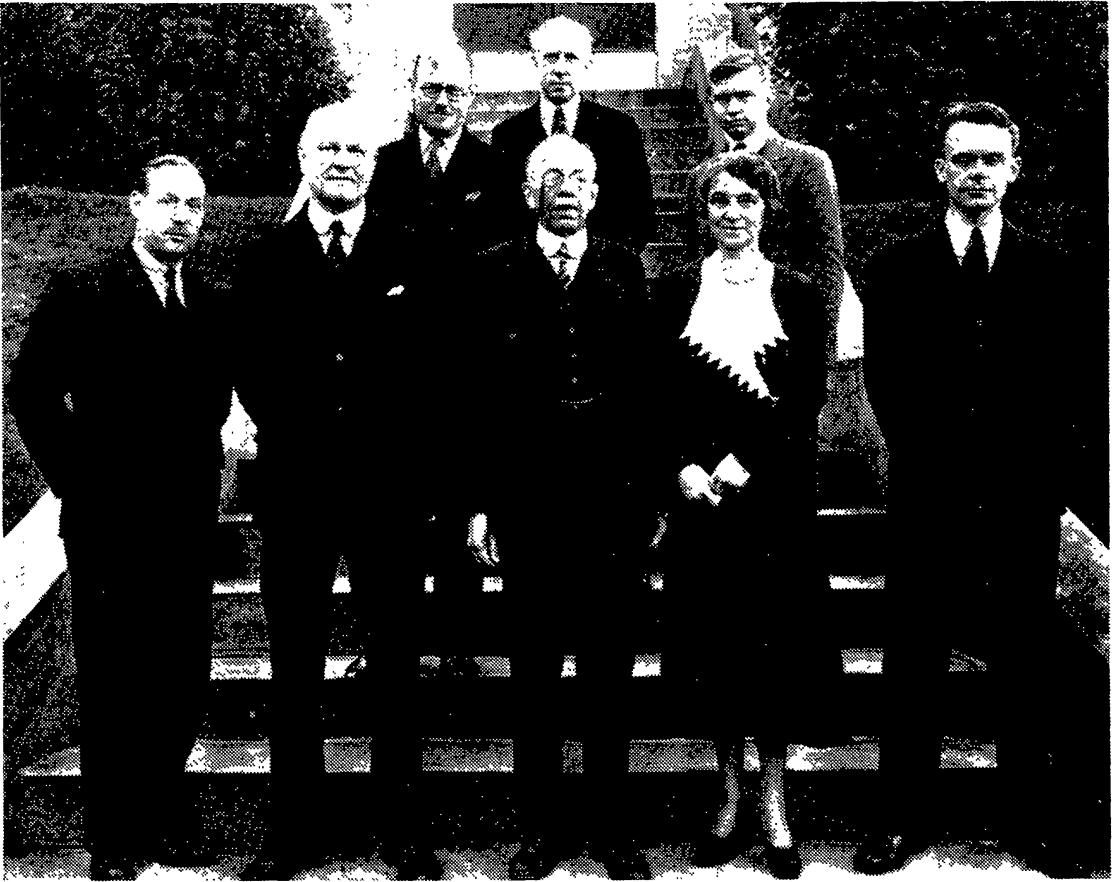


FIG. 3—Dominion Astrophysical Observatory Staff (1931). Left to right, *front row*: J. A. Pearce, W. E. Harper, J. S. Plaskett, Miss L. M. Blake, secretary, C. S. Beals. *Second row*: S. N. Hill, T. T. Hutchison and Frank Hogg.

Reminiscences of the Years Long Ago

Golf. In 1925 Petrie and I laid out the first 9-hole golf course about the office building, and soon Plaskett and Harper joined us (although Harry seldom played). We teamed up the A's (Harper and Petrie, who were observing A-type stars) against the B's (Plaskett and Pearce). The A's were usually the victors for Harper was a steady player and Petrie was consistently good, while we were frequently erratic. On one occasion, at

the ninth hole, the game depended upon Harper's 10-inch putt, which the B's were willing to concede; but Petrie, ever guided by St. Andrew's rules, observed "it ought to be played out". Thereupon, Ed firmly grasped his putter and addressed the ball as we silently and expectantly watched. He must have been a bit too tense for he gently tapped the ball which slowly wobbled up to the hole and died on the lip of the cup. The A's lost and Plaskett snickered—that did it. A moment later Ed blasted the ball into the woods. It was no loss, really, for it was cut on one side and was an old "taddy-bogle".

About once a month we played at the Macaulay Golf Course, at Esquimalt; if the sky was cloudy, we left the hill in the early afternoon in time to play the nine holes. The A's almost always out-drove us. I vividly recall one occasion when we were one up at the seventh tee—a long uphill drive across some rocks. We were driving first so Plaskett led off with one of his curious heaving drives and we watched his ball sail in a mighty slice far to the right into the rough where a white goat was browsing. With unconcealed glee in his voice, Petrie remarked, "That's easy to find, right beside that old goat!" I did not dare to look at Bert; Harper was silent, but Plaskett said "Darn it!" It took a few minutes for the three of us to drive, so by the time that J. S. Plaskett reached the animal he could not find his ball for the goat had moved. A lost ball means a stroke, so we searched and searched, Ed looking anxiously at the sky which was clearing in the east, where his stars were located. Plaskett dropped a ball and the A's won the hole. We halved the eighth. At the ninth tee, Ed could contain himself no longer—"If you don't mind, I'll play out. I must get to the dome". Hurriedly driving off, he grabbed his bag, raced to the green, made a par three, ran to his car and tore off to the hill to put the heat on the spectrograph.

Seminars. Our seminars started in 1927, growing out of informal talks which H. H. Plaskett and I held from time to time, for Harry could always clear up our theoretical difficulties. We soon realized that it was necessary to hold regular weekly discussions in order to keep informed on the continuous flood of literature and periodicals which came to the library from all observatories and learned societies. Moreover, all our papers, before being published or presented at scientific meetings, were carefully reviewed. For many years I maintained a Register of the Seminars and I recall that, some four years ago, Dr. Alan Batten telephoned me that the 1000th Seminar was being held that afternoon. His analysis showed that I had the (doubtful) honour of giving the largest number—127 or one in every eight—the second place being hotly con-

tested by Beals and Petrie, who had 98 and 90 to their credit. Since the ladies provided tea, these staff meetings throughout the years have always been most pleasant and profitable affairs. Indeed it is of historical interest to read the Dominion Astrophysical Observatory's Register, for the names of the famous astronomers who addressed us reads like a "Who's Who in the International Astronomical Union".

Accidents. Accidents may happen in the best-regulated Observatories. Fortunately, there are few to recall. The motor-generator delivered a 220-volt direct current to operate the telescope and dome, and in spite of our constant vigilance we all received minor shocks from the equipment. The most serious accident, which occurred before my time, befell J. S. Plaskett when his eyeglasses bridged across the 220-volt comparison switch, knocking him off the short ladder to the steel observing floor. I believe he was alone at the time. This must have been a very painful mishap for he was off duty for some three months during which period, whilst convalescing, he wrote the first booklet describing the work of the Observatory.

Tom Hutchison, the Irish engineer who shared the long nights with us, always had a ready answer to all our questions. He had a fund of amusing stories to narrate which, I hasten to add, were never derogatory, for Tom did not have a mean streak in his character. One night I asked him how J. S. Plaskett got his crooked forefinger. He laughed and then replied, "One night, as we were closing up, we had some trouble with the shutters. The gears were emitting a horrible grinding growl. We went up on the platform together to investigate. I threw the switch; the gears growled in the gloomy darkness and J. S. Plaskett said, 'I think the trouble is right in there . . .' and he stuck his forefinger between the moving gears. You should have heard him yell!"

Ed Harper. According to Hutchison, one wintery night, when Harper was on the very tall ladder, control box in hand, setting on a star five hours west, he received a sharp shock from the finder. He slid down the long ladder on his stomach and hit the metal floor with a thud. Picking himself up, he exclaimed, "If I were a swearing man, I would say DAMN!" But Ed was the Superintendent of the largest Sunday School in Victoria, and a pillar of the church he loved so much and I never knew him to swear, smoke or to break the pledge he must have taken in his youth.

I recall very vividly, one Sunday afternoon, when Mrs. Plaskett invited our wives to tea; the whole staff was there. Harry passed some chocolate candies around and, when Ed was enjoying his second bon-bon,

I happened to comment on the fine flavour of the rum syrup. A look of horror came into Harper's eyes and immediately, with unerring aim, the half-consumed confection was thrown across the room into the blazing fireplace. The conversation was quickly changed to spectroscopic binaries and no one noticed the act.

Heber D. Curtis, of Ann Arbor, once told an amusing story that was typical of our good Assistant Director. After dinner, as he started to fill and light his old pipe, Harper invited him for a walk on the lawn—and while strolling beside the flower beds—his host remarked, “Curtis, if you had lit your pipe inside, you would have been the first man to smoke in my home.” Let us smile at his foibles; he would not mind. I would like to record here that I never had a truer or kinder friend than William Edmund Harper, who taught us all how to compute binary orbits and how to determine the probable errors of their elements. We all respected him for his sterling character. Given the facts of the situation, one could always predict with certainty Ed Harper's reactions.

Visiting astronomers. Year by year many famous astronomers visited the Dominion Astrophysical Observatory to discuss astrophysical problems with the staff and such visitors were usually helpful and stimulating. In 1928 Professor Anton Pannekoek of Leiden spent six months with us. He was an outstanding authority on galactic problems and the distribution of the stars and, consequently, was keenly interested in our investigations of the rotation of the Galaxy. It was Pannekoek who suggested to me that we ought to substitute the velocities of the interstellar calcium lines for the velocities of the stars in our dynamical equations; in due time, when the extensive computations were completed, it was convincingly apparent that statistically the interstellar material was uniformly distributed throughout the Galaxy.

In 1932, when the International Astronomical Union met at Cambridge, Massachusetts, some sixteen British and European astronomers on a tour across Canada spent five days here. They had a marvellous time and thoroughly enjoyed the heavy program of social functions at Government House, Butchart Gardens and the Observatory. The Astronomer Royal, Sir Frank Dyson and Lady Dyson had preceded the party, having been the guests of the Plaskett's for two weeks. The following photograph taken in front of the office building is a pleasing reminder of their visit.

The dinner given at the Empress Hotel by the Victoria Centre in honour of our guests developed into a symposium on the importance of the work of amateur astronomers. Sir Frank Dyson, who led off, spoke



FIG. 4—Royal Astronomical Society Party, Victoria Astronomers and Staff (1932). *Front row*, left to right: H. B. Brydon (Victoria), W. Goodacre (R.A.S.), Miss K. Williams (R.A.S.), Sir Frank Dyson, J. S. Plaskett, Lady Dyson, P. H. Hughes (Victoria), and Mrs. J. S. Plaskett. *Second row*: Hartley and Hibben (Victoria), Mrs. J. A. Pearce, Mrs. H. B. Brydon, Miss Martin, Prof. Helbronner (France), Miss Freeth, Duncanson (President, B.A.A.), Dr. Helen Hogg, Mrs. Robinson, Mrs. C. S. Beals, Mrs. W. E. Harper, Miss Murray (Cape of Good Hope), F. Aston (Cambridge), A. D. Thakeray (Cambridge), and Prof. W. H. White (London). *Third row*: J. A. Pearce, F. S. Hogg, S. N. Hill, Dr. Marshall, C. S. Beals, Prof. Horn D'Arturo (Bologna Italy), W. E., Harper, and Prof. Neithammer (Basel).

at some length with enthusiasm of the various amateur astronomical societies in the British Isles; what I heard was very interesting, but he had the unfortunate habit of dropping his head, lowering his voice and directing his remarks towards the third button of his waistcoat. He was followed by practically all visiting astronomers who described the encouragement given to amateurs in their respective countries, and their responses were sometimes in French, Italian and German, as well as English. I do not really recall anything of significance except the remark by Duncanson of Glasgow who reported that he had spoken on astronomy that afternoon to a class in a Victoria elementary school, and when he had asked a bright lad where Scotland was, he was delighted with the correct reply—"right on the top of England".

Sally Hogg. I vividly recall Dyson's first visit to our dome to see the largest telescope in the British Empire in action. It was a splendid night and direct photography at the Newtonian focus was in progress. Plaskett, Dyson and I climbed the steep stairs and paused at the top in the completely darkened dome. All was silent, save the drowsy hum of the motor generator and the constant click-click of the clock solenoids as the unseen observer guided the great reflector. Suddenly there was a loud insistent cry of a baby in discomfort and distress, which startled the Astronomer Royal—and immediately a pleasing voice from the skies above called out—"Frankie, change Sally, give her her bottle, and send up two more plates". Before Plaskett could speak, there was an answering response, "Alright, Helen, the plates are coming up".

Dyson exploded, "Good Lord—what the Devil!" Laughingly, Plaskett explained that Dr. Helen Hogg had a baby last month, and though it was really Frank's night for spectrographic work, Helen was taking advantage of a good night for her cluster variable work, since the clusters were rapidly going west.

Little Sally spent many nights in the dome that year, thriving, while her mother skimmed the cream off the globular clusters. Her parents added greatly to the social life of the Observatory, and enthusiastically entered into the activities of the Victoria Centre, Royal Astronomical Society of Canada. Their sojourn was all too short and we were sorry to lose them when they returned to Toronto.

The Founder. May I be permitted to tell one more story about Dr. Plaskett? Because he was such a fluent and interesting speaker he was frequently requested to give illustrated addresses on his astronomical discoveries and the work of the Observatory. He greatly enjoyed these occasions; moreover, he always carefully selected a good run of slides, generally especially prepared, to illustrate his remarks. On one occasion the Canadian Club of Toronto held a special meeting to honour him, which was well advertised, and he was greeted by a large and expectant audience. The auditorium was quite large and the projection room was a considerable distance from the platform. After an appropriate but somewhat lengthy introduction J. S. Plaskett started to speak, when to his amazement and horror the slides were presented at regular intervals, in perfect focus but in reversed order—the very last to the very first. When he described this embarrassing situation to me, he explained, "I could not communicate with the operator, so had to turn my lecture inside out".

So, in 1935 our Founder retired, greatly respected and esteemed, the recipient of many well deserved honours, and Dr. W. E. Harper succeeded him. In the same year, Petrie and McKellar returned to the Observatory:

this year was indeed the beginning of a new era for the Dominion Astrophysical Observatory. The next year, Dr. Ken Wright, the present Director, joined us. Encouraged by Dr. Harper, Beals, Petrie and McKellar, with Mr. Girling's assistance, greatly added to the instrumental equipment, constructing new photometers, measuring machines, spectrographs and telescopes—creating, in subsequent years, the new Dominion Astrophysical Observatory on Observatory Hill.

“If you would see their Monument—look around.”



FIG. 5—A mid-winter game. Miss Jean K. McDonald, Miss Eluned Jones, Dr. A. McKellar, Miss Joan Jackman, Dr. R. M. Petrie.

In retrospect. The noon-day golf games became a tradition at the Dominion Astrophysical Observatory, everyone playing in the tournaments for the small silver cup presented by Dr. Anne Underhill. Bert's father, James Petrie, enjoyed the course and usually presented chocolate bars to the winners. Even on rainy winter days the devotees played—clad in rubbers—Bert and Andy holding umbrellas over the heads of their fair partners as they endeavoured to putt through the puddles.

A line of Virgil comes to mind:

“Haec olim meminisse juvabit.”

Hereafter it will delight you to remember these things.