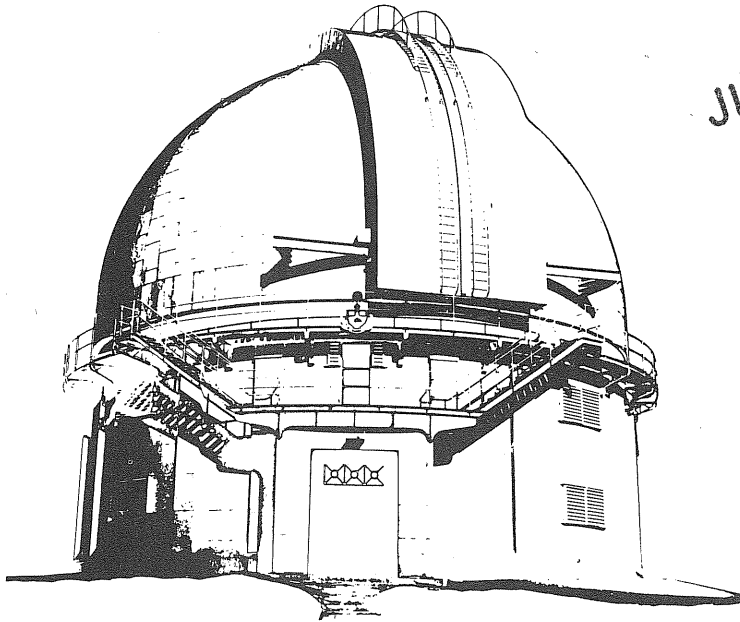


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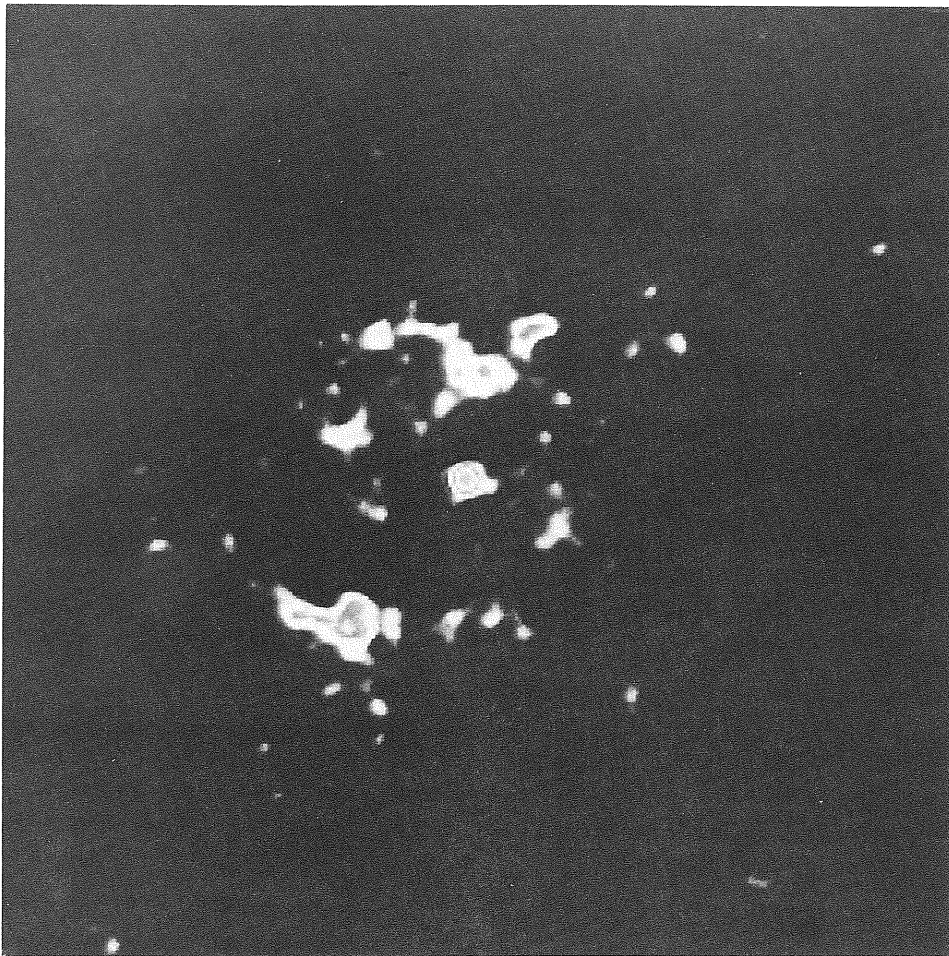


THE DAVID DUNLAP DOINGS

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Beginning the Observatory's 47th year



A NEW VLA 20-cm MAP OF NGC 3310

The bulk of the radiation is non-thermal and comes from HII regions surrounding the nucleus, at the very center. Scale: 1 cm \approx 5 arcsec \approx 330 parsecs; north is to the right.

Story by Neb Duric begins on p. 3.

CONGRATULATIONS

To *Doug Gies* and *Leif Schioler*, both of whom passed their Oral General Examination recently.

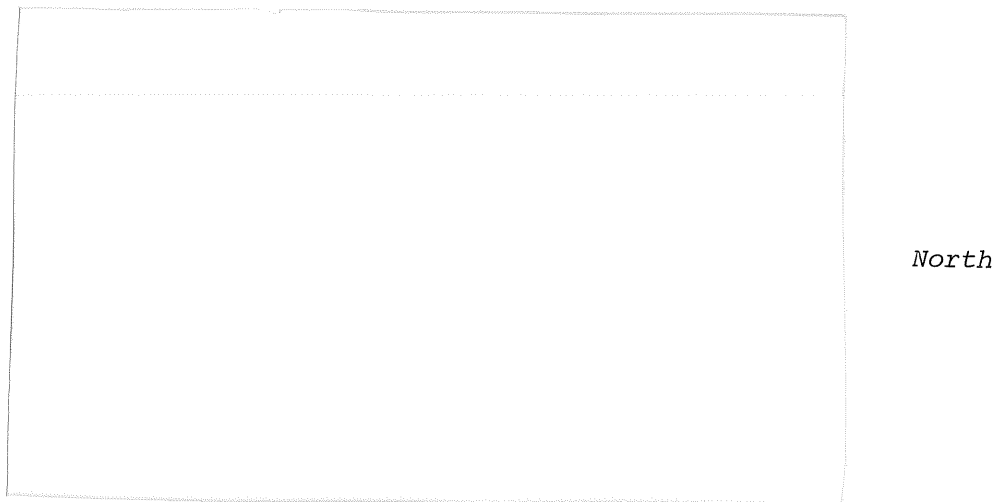
To *Chris Purton* on his appointment to the staff of DRAO. Chris took an M.A. in radio astronomy with us in 1962 and went to Cambridge for his Ph.D. Perhaps we won't see as much of him as when he was at York, but we wish him and his family success and happiness in their new home in Penticton.

Cover Story

CANADA DAY AT THE VLA

Nebojsa Duric

I visited the VLA, in New Mexico, for the first time in April and apart from the obvious difference in climate, I felt right at home. The VLA was teeming with Canadians at the time. There were 3 Canadian groups scheduled to observe over the Easter weekend. Among the dozen or so Canadians present, were: Ernie Seaquist, Phil Kronberg, Louis Noreau, Phil Gregory (UBC), Anne Gower (U. Vic.), Alan Bridle (Queen's), Rick Perley (VLA staff) and Carl Bignell (staff).



H.C. Arp, 200-inch

AN H-alpha PHOTO OF THE SPIRAL NGC 3310

An HII ring is clearly evident, with spiral structure both external and internal to it. Scale about half of cover.

During the time that Ernie and I were down there, the VLA was arranged in the A configuration. This is the most extended Y configuration (21 km arms) providing a resolution of $\sim 0''.3$ at 6 cm ($\sim 0''.06$ at 1.3 cms). During our run we had ideal, clear weather and no ionospheric Faraday rotation to worry about (often a problem at 20 cms). As a result, we were able to obtain good 6 and 20 cm maps of NGC 3310, an active spiral galaxy.

The land around the VLA is almost as impressive as the array itself. It is basically a high, desert plateau surrounded by a ring of mountains. Located close to the continental divide, it is some 40 kms across and is at an altitude of over 7,000 feet ($\sim 2,200$ meters). The site is not as desolate as this makes it seem, for the area is teeming with sage-brush, tumbleweeds and innumerable jackrabbits. Believe it or not I even saw a coyote and a roadrunner. In fact, the roadrunner is the state bird of New Mexico.

Observing with the VLA is another of life's pleasures, for it takes no effort at all. From the comfortable confines of the control room one can watch the telescopes in action as the computer does all the observing for you. The only substantial work involves preparing an observing programme which is submitted to the computer prior to the run. The real work, of course, begins after the observing is completed. The data reduction uses up about an order of magnitude more time than the observing run itself.

All in all, the VLA with its 27 antennas and 4 computers is an impressive instrument, certainly one the astronomical community can be proud of.

POTPOURRI

Bob Garrison and *Peter Martin* were in Europe from May 2 to May 15 or thereabouts. Bob attended a meeting of the Scientific Advisory Committee of the CFHT and its associated Time Allocation Committee. These were at the Ile des Embiez on the Mediterranean coast east of Marseille. Peter's meetings, at l'Observatoire de Haute Provence a short distance inland from the coast, were of the CFHT subcommittee on Data Acquisition and Instrumental Control. Bob stopped in Spain for a few days on his way back and Peter visited Cambridge, England.

Peter reports that former student *Bjarne Everson* who has held a 2-year NSERC post-doctoral fellowship at the Institute of Astronomy in Cambridge will be leaving in the summer for JILA in Boulder, Colorado, where he has accepted a position with John Cox.

Chris Corbally is in England until the end of this month. He had a two-week run on our 61 cm telescope on Las Campanas over Easter and reports 75% clear weather, during which he obtained classification spectra for individual components of 65 close visual double stars. On one occasion the telescope tracking failed and Chris says he was able to verify that waving an eraser across the electronic contacts has a magical restorative effect!

"The New Canadian Encyclopedia" is to be published in the near future at the University of Alberta. *Helen Hogg* has agreed to serve in the capacity of Astronomy and Space Science Consultant.

Bill Cruise of the CFHT staff was a DDO during the week of 18th May to work with Peter Martin on the computer-CAMAC automation of the CFHT polarimeter. Tests went reasonably smoothly, so that the instrument will leave the electronics shop in late May.

Mary Lane gave a preview of her thesis at a colloquium on May 6: "Spectroscopic Studies of Am Stars".

Peter Brogden, who teaches electronic technology at Ryerson Polytechnical Institute is spending the first half of a year's sabattical leave (until December) working with the Infrared Group. After New Year's, Peter will be going to Ottawa to work at the Herzberg Institute.

Dr. S.V. (for Victor) M. Clube, for the last 6 years on the staff of the Royal Observatory, Edinburgh, Scotland, paid a brief visit to the Department on May 25-26. He gave an informal presentation of his work at Barry Madore's Cepheid Consortium on the 25th.

COMINGS AND GOINGS

Mary Lane, having completed her thesis and without waiting for her Final Oral next month, has taken a position as analyst with Infomart, the electronic publishing subsidiary of Southam Inc. and Torstar Corporation. Infomart "offers database search services and videotex services and systems to serve the needs of the information user - providing the right information ... at the right time ... in the right form". Atta girl, Mary!

Karen Finstad left Toronto for Edmonton on May 5. She will be enrolling in a Ph.D. programme in cloud physics at the University of Alberta. During the summer, Karen will be collecting hailstones and finishing her Master's thesis.

NEW AND FAMILIAR FACES THIS SUMMER

Ernie Seaquist reports on the roster of student assistants who will be working with us on various projects this summer. *Dave Turner* (Laurentian) has asked *Barry Madore* to be his stand-in as *Stuart Heggie's* supervisor at DDO.

Name	Academic Level Completed:	Summer Status	Project Supervisor
<i>Paul Ford</i>	<i>III yr. Specialist</i>	<i>NSERC Summer Assistant</i>	<i>Percy/Kamper</i>
<i>Alex Fullerton</i>	<i>III yr. Specialist</i>	<i>NSERC Summer Assistant</i>	<i>Bolton</i>
<i>Parmjit Pancchi</i>	<i>II yr. Specialist (Erindale)</i>	<i>NSERC Summer Assistant</i>	<i>C. Clement/Seaquist</i>
<i>Roussen Roussev</i>	<i>II yr. Specialist (Erindale)</i>	<i>NSERC Summer Assistant</i>	<i>Yen</i>
<i>Stuart Heggie</i>	<i>III yr. Specialist</i>	<i>Summer Assistant</i>	<i>D. Turner</i>

In addition, but in a slightly different category, there are three (prospective) graduate students, all IV-Year Specialists, who are beginning their work at this time. Ed Zukowski will report to Kronberg, Doug Welch to McLaren, and Tom Box to Roeder.

REVISIONIST'S CORNER

A partial selection from our annual harvest of howlers, culled from exams and term papers, quoted out of context (usually it howls too) and with no regard to credit lines or respect for the stressful conditions under which the items were formulated.

Definition of Population II: the possibility of life on other planets.

"Canada now is in coercion with France and Hawaii with the recent completion of the CFHT."

"Radiactive decay involves eroding of rocks by measuring the light years of the rock. If the rock shows a light year of $1/2$ than we know it has decayed $1/4$ light year. If it shows $1/4$ we know it has decayed $1/8$. This cannot be determined if the rock is in a state of ionization."

"Sunspots are low depressions on the sun's surface ... A depression will appear as a shade on the sun's surface called umbra, while the walls of the depression are less dark and are called penumbra. It has been found that those spots will "wink" on the average every eight hours. That is spots are created and annihilated in such a life span."

**Astrologer
to discuss
outer space**

On March 11, the Cultural Awareness Council will present a program on outer space.

Neb Burric of the University of Toronto's Department of Astrology will show slides, a film and talk about outer space.

The program is from 8 to 10 p.m. in the Aurora Public Library. Admission is \$2.50.

The item of the left, taken from the Aurora Banner and called to our attention by Jim Thomson, reports on outreach activity not of our own but of one of our sister departments in the Faculty of Arts and Science.

1981 H.L. Welsh Lectures in Physics

This annual event, sponsored by the Departments of Physics and Astronomy and the University, is in honour of Harry Welsh. One of the guest speakers this year was *Carman H. (for Hudson) Costain* from DRAO. Carman spoke twice, once on Radio Astronomy at DRAO and again on Radio and X-ray Studies of Clusters of Galaxies. The program occupied three days, May 11-13.

PAPERS SUBMITTED

P.G. Martin *Polarization of Scattered Light in Globular Clusters*
S.J. Shawl

B.F. Madore *A Distant Star Cluster in Hydra, AM-4*
H.C. Arp

J.R. Percy *Women in Astronomy*

JUNE INSTITUTE 1981 et seq.

As we go to press this annual series of lectures, sponsored by the Department, on research topics of major importance in contemporary astronomy is about to take place. Details were given in our March 6 issue. Titles range from Solar System Resonances to Supernova Explosions to Star Formation. John Percy expects to register as many as two dozen visitors, perhaps more.

The 3-day program of lectures and socializing runs from Monday to Wednesday followed by an irregular colloquium (note the day and time):

COLLOQUIUM

June 4 (Thursday) Carl Bignell, National Radio Astronomy Observatory,
Socorro, New Mexico.
"The Very Large Array"

At 11:00 A.M. in Room MP 134 with COFFEE at 10:15 in the Reference Room, MP 1404.

CHAOS AT DDO

Editorial

The fire in the Sandford Fleming Building, a fire-trap if there ever was one, may have triggered it, but more than likely it was some Queen's Park genius who came up with a keen idea - a way of spending some of the provincial treasury without being guilty of improving the lot of universities raising the level of post-secondary education in Ontario. By installing sprinklers.

So, apparently, the word went out: Sprinklers to be installed everywhere, and brook no opposition. "No opposition" seems to have been construed by the troops as "no compromising, no concessions, no consideration for the occupants or for their work, their dead-lines, or their commitments; go strictly by the book".

Don Fernie and Tom Bolton were not unaware of the threat, having seen some mild activity at Hart House a year or so ago. They fought some preliminary skirmishes manfully but who can prevail against the collective will of 215 Huron St.? On a fine spring day in April the invaders arrived and occupied the hill.

Destruction reigns. Each of the offices now has holes in the walls and ceiling - the large ones as many as 14 - and there are great lengths of 4-inch diameter black pipe coursing the length of the building. Plaster dust covers everything. Most heart-rending is the Library where huge sections of the bookshelves have been torn out, decorative overlays, gold paint and all. The floors everywhere are scraped and marred beyond easy repair. Little piles of grit and debris fill the corners. The pipe-threading machine grinds away in the furnace room and a trail of oil and grease leads out and up to every floor.

We are now in our fourth week of what - so far as we can determine - will be a three-month ordeal. The noise, the pounding, the drilling, the grinding are all about us. Trucks of the contractors litter the lawn at the back - for a while they even parked on the volley-ball court! One of the problems is that there are three (currently) different sub-contractors: the sprinkler people, the electrical people, and the concrete sawers & drillers, and all are totally un-coordinated. Moreover there is no evidence of planning ahead, no notice given of which room will be struck next - one day the PDS room was occupied with only 2 hours notice, not the requested 2 days. At long intervals a car of deputy superintendents arrives from far-off downtown; they look around, examine the blue-prints, and silently depart.

There are promises that reconstruction will take place, but will it be to the standards of style, beauty and taste that marked the Observatory as something quite special? Even if attempted, can it, will it, be effective?

Rumor has it that the large glass transoms over the doorways to the hall will be bricked up. This is to prevent a conflagration from spreading from one room, to the hall, and on to another room - a fire-storm. Never mind if there are sprinklers on both sides of every transom. Go by the book. The halls, now dark tunnels, can be lit by electricity even when the lawns and fields outside are at their sunniest. And we will be left with those shiny little spiders looking down at us from the ceiling, surely doomed never to fulfill their function. One can only estimate the cost, but it must be close to \$200,000. Let us bow our heads while facing Queen's Park, and weep.

As one of our graduate students remarked, "The Administration Building at the Observatory sure was a fire trap - I had nightmares about being caught inside the hallway surrounded by all that burning marble.

Donald MacRae

FAREWELL TO GERRY LONGWORTH

The Observatory is at its prettiest in late May and the day was as summery as one could wish for. The flowering shrubs and standards on the lawn were in full bloom. It was a delightful setting for the garden party on Friday afternoon, the 22nd, to take formal note of Gerry's long service to the David Dunlap Observatory.

It was a happy occasion. As many as possible were on hand, including several staff and students normally resident on the St. George campus, and even a representative from York. Don Fernie made appropriate remarks respecting the loyalty and long-continuing service of many of the present support staff as a prelude to his comments on Gerry's truly remarkable record of 46 years. Gerry came right from Central Tech (a few blocks west on Harboard from St. George) to DDO very soon after the opening 46 years ago. Except for a few years of war service, he has been on hand all that time. It is hard to look around us, even with all the growth that has taken place, without seeing evidence of his artistry, skill and careful handiwork.

Gerry responded warmly to the gifts and well-wishes. He remarked that he had learned to be an astronomer in the best of all possible ways, "on a one-to-one basis - one astronomer and one student working together under the open slit of the dome, with the stars wheeling overhead". Gerry enjoyed a very close relationship with Dr. R.K. Young during his directorship, in the earliest years of the Observatory.

The engraved pewter mug, complete with lid, is of the see-through variety so Gerry can still scan his garden as he relaxes after a day's labour. And for rainy days particularly there's all that fishing tackle - Gerry's new hobby-after-retirement.

After a sumptuous spread of cake, trifle and cookies the Director declared the day so special an occasion that it warranted an early closing.

Quite soon now Gerry's irises will be at their prime and we'd like to bet that some of his prizes will show up early one morning on the secretaries' desks, as they always do, every year. And maybe one day later in the summer the girls will find a fish on their typewriters when they arrive at work!

CFH NU HOU

The CFHT news/nouvelles-letter referred to in our last issue under the title CFH KE HEOU has suffered a name change, in its Hawaiian language version, as noted above. From its April issue, just received, we quote the April 1981 statistics for the CFHT on Mauna Kea:

clear sky:	22 nights (73%)
good seeing (<1"):	10 nights of 19 (52%)
time lost to failures:	equivalent to 2 nights in 19 (11%)
engineering:	11 nights (8 were clear!)

Behind these figures there lies an impressive amount of scientific and technical effort.

OBSERVATIONS

We quote two items from the pages of the 1981 April issue of *The Observatory*.

The first is from the review of *Globular Clusters*, edited by D. Hanes and B. Madore (Cambridge University Press), 1980.

"While this is the account of a particular conference it also forms a valuable monograph on our current knowledge and understanding of globular clusters. Madore's encyclopaedic collection of fundamental data will be particularly valuable. However, the keynote of the conference was that more observations were needed—one contributor wryly asserting that, though this statement was ubiquitous and platitudinous, it was nevertheless true."

The second is from 'Here and There' which quotes a line from an article by Bob McClure, Murray Fletcher and James Nemec in the *Ap.J.*, under the caption "FOR USE BY THE HIGH PRIEST OF STELLAR SPECTROSCOPY?" We reproduce the original segment: