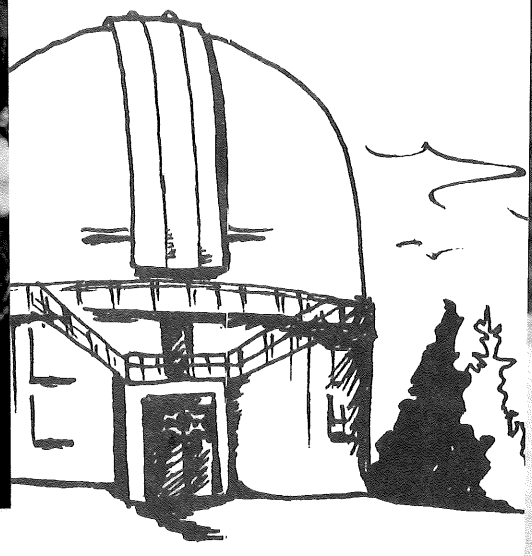

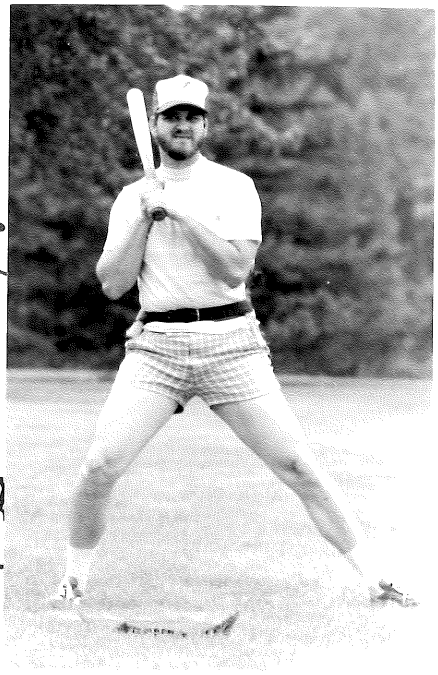

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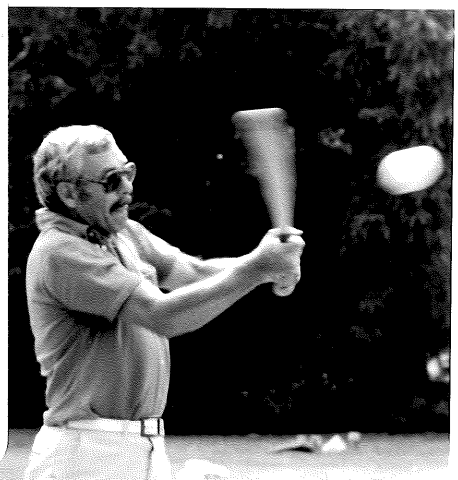
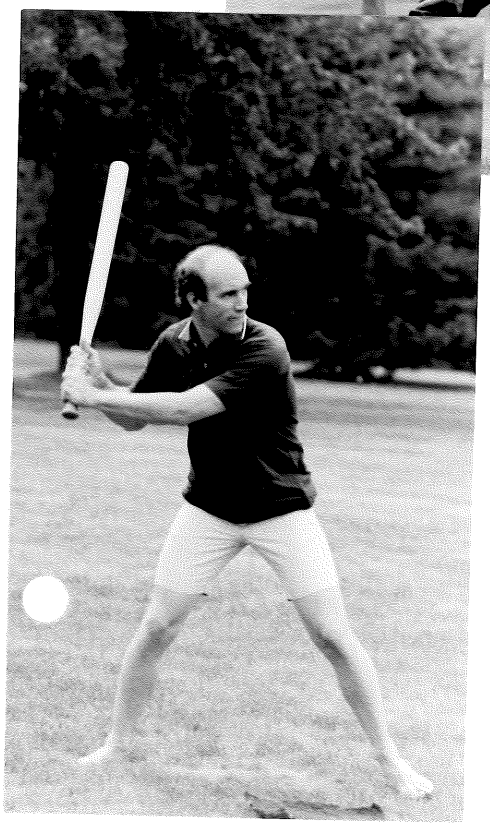
DAVID DUNLAP DOINGS

SEPT. 27,1978





GASA
PICNIC
AT DDO

JULY 26
1978

OAMM OPENS

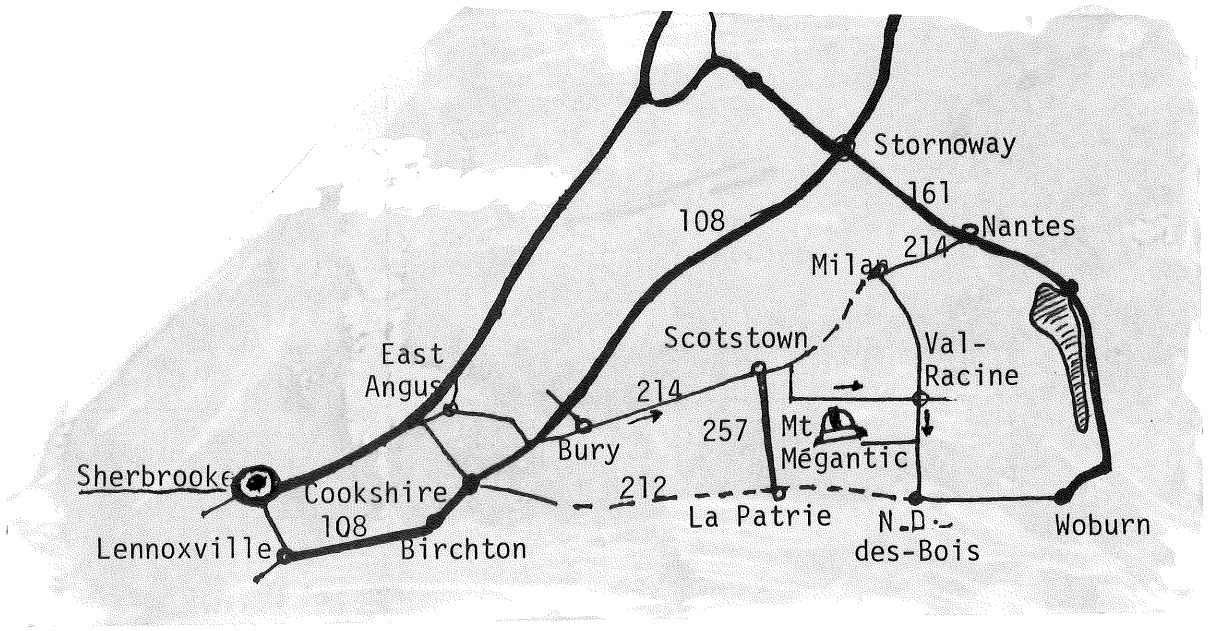
René's observatory - pardon us, l'Observatoire Astronomique du Mont Mégantic - was officially opened with pomp, circumstance, champagne and a Harvest Moon on September 16. The ceremonies took place right beside the Cassegrain focus and it is doubtful if there will ever again be as many people in that dome at once. As René remarked, it may take a while for the seeing to settle down. Dave DuPuy has the next eleven nights on the telescope.

It was obviously a happy occasion for everyone - the officials who emphasized the role of astronomy and the observatory in the culture of the province, the astronomers and their colleagues at Montreal and Laval who were there to see a dream come true, a good number of astronomers from institutions across the country who took vicarious pleasure and were not a little jealous, and many others from nearby and far away, even California.

Don and Yvonne and Betty and I were on one of the buses which left Montreal at 1:00 P.M. and returned by midnight, to an almost continuous accordion and guitar accompaniment by Gilles Beaudet and Gilles Fontaine, and songs in which everyone joined if they could. Will demonstrated facility in the two official instruments be a requirement for membership of the UM faculty?

Most memorable was René's performance as host of the gathering and his obvious delight. Some of us, at least, know how fondly he has been looking forward to opening this door, and how dedicated he has been to that purpose. We offer him, and Claudine, our very best wishes and warm congratulations.

MR



RECEPTION FOR DON AND BETTY MACRAE

About 70 people gathered on the Observatory lawn on August 21 to attend a reception for Don and Betty MacRae. Don Fernie spoke for everyone in gratefully acknowledging the skillful leadership which "MR" has given over the past 15 years as Director of the Observatory and Chairman of the Department. He also thanked Betty and Don for the gracious hospitality which they have extended on so many occasions. The MacRaes were presented with an Eskimo soapstone sculpture as a token of our appreciation.

SAUDI DELEGATION VISITS OBSERVATORY AND DEPARTMENT

On July 28 the Observatory and Department hosted a visit by a group of touring Saudi Arabian academics and representatives of the Canadian Federal Government. Among the visitors were Dr. Al-Kadhi, Dean of Science at the University of Riyadh, Drs. Al-Massari and Ahmad from the Physics-Astronomy Department there, Dr. Tawfik, Dean of Science at King Abdul Aziz University, Jedda, and Dr. Ali, who teaches astronomy at that university. Accompanying the Saudis were Messrs. Stolarik of Industry, Trade, and Commerce, Fedosiewich of NRC, and Lacey of Dilworth, Secord, and Meagher.

The group was spending about ten days touring major astronomical institutions and industries in Canada with a view to locating assistance in the development of a National Observatory for Saudi Arabia.

The itinerary called for a morning at DDO, where the group toured the facilities and learned of the work and background of the Observatory, followed by lunch in the Richmond Hill area with some of the Observatory staff, and then further discussion in the Department during the afternoon where talk centred on our student training programs.

The morning visit, due to start at 10:30 a.m., almost met with disaster when all power failed at 10:26. Happily, it was restored ten minutes later. Off-setting that was the presence of Dr. Ham, President of the University, at the afternoon discussions.

Consensus of opinion was that the visit had been most successful, judging by our visitors' enthusiasm for discussion right through to 5:30 p.m. We wish them well in their apparently massive undertaking and hope their Canadian trip will have proved useful.

Don Fernie

CFHT NEWS

The Canada-France-Hawaii Telescope has arrived on the Island of Hawaii. It was safely unloaded at Kawaihae on September 12 and 13.

Kawaihae is the deep-water port at the northwest corner of the island. It's 10 miles uphill from there to Waimea and a further 30-odd miles to the top of Mauna Kea, a total climb of 13,796 feet.

The mirror will remain at DAO until assembly of the telescope is completed. The end of the construction phase is targeted for a year hence.

COMINGS AND GOINGS

Peter Biermann and his wife Jody have taken an apartment in Toronto. Peter is Visiting Professor until the new year and is giving the graduate course on Galaxy clusters, radio galaxies and quasars.

Dave Turner arrived early in September to take up his position as Assistant Professor for the year. He had spent part of August at Kitt Peak and reports a scientifically rewarding observing run. We welcome Pat back to her former position as part-time assistant in the DDO library.

This month we welcome 3 new M.Sc. students to the Graduate Department of Astronomy. Dominique Barceloux is a native of Ste. Anne des Plaines, P.Q. and obtained her B.Sc. in Honours Physics at McGill. John Reid hails originally from Queensville Ontario and graduated from the Honours Physics program at the University of Waterloo. Douglas Gies a Toronto native is already well known to many of us. Doug completed our Astronomy and Astrophysics Specialist Programme this past spring, winning the RASC Gold Medal.

Bill Gilmore arrived August 1 to begin a postdoctoral fellowship with Ernie Seaquist. His Ph.D. at the University of Maryland was a search for newly-formed H II regions by means of radio continuum interferometry. Here, he and Ernie will be studying regions of star formation.

Dennis Ward, who has been a PDF with the Infrared Group for the past year departed for Edmonton on August 15. Dennis is enrolling in the Master of Library Science Programme at the University of Alberta.

POTPOURRI

Lindsey Davis and Chris McAlary will be married on Saturday September 30 in Ottawa. After a brief honeymoon, they will return to Toronto and take up residence at 59 Spadina Road. There was a reception and presentation for Chris and Lindsey on Wednesday September 20 at DA.

Bill and Gretchen Harris are "thrilled, ecstatically proud, and (somewhat) overwhelmed" by their twin daughters Martha Lynn (45 cm, 2.22 kg) and Glenna Catherine (46 cm, 2.34 kg), now two months less a day old.

We hear that Bruce and Kaye Campbell and Serge Pineault and his wife are also proud parents, but further details are not available.

Don Morton (whom we count as an alumnus) and Win have a second child, Kirstie, born on February 28 of this year. Keith was 4 on February 21.

Joan Tryggve was in Norway and Sweden in August and reports she had a marvellous time visiting her relatives there.

Chris Corbally visited the Vatican Observatory in July.

Bob Garrison addressed the Vatican conference on "Spectral Classification of the Future" July 11-15, made a brief CFHT-sponsored visit to Paris, and for 3 weeks was the guest of the Polish Academy of Sciences in Warsaw, lecturing and consulting with Smolinski and Krzeminski on joint research work.

Maurice and Christine Clement spent 3 weeks in June touring Europe, in particular the wine-growing districts of Germany.

Rick and Nancy McGonegal were on a 5-day hiking tour around Mont Blonc in August. They then visited the Riviera.

Ernie Seaquist and family retreated from the confusion of urban life spending their vacation at a cabin near Mile 206 of the Algoma Central Railroad.

Chris Smith and Ana are back in Toronto - or rather in Oakville, at 2314 Devon Road. Just before they left Santiago, Rodrick Lawrence was born (August 24, 3.76 kg) but by the time mother and son were ready to travel he had a Canadian passport, photograph and all. Chris is working towards another degree at University of Toronto, in engineering, with computer science as a major.

PAPERS SUBMITTED

M.S. Normandin & P.P. Kronberg	Linear Polarization Measurements of Extragalactic Radio Sources at 105 GHZ
A. Wehlau & H.S. Hogg	The Blue Variables in Messier 22
R.P. Gauthier & J.D. Fernie	The Reddening of Polaris
S.M. Jakate	New Eclipsing Binary System HR 3872A
D. Crabtree & P.G. Martin	Circumstellar Dust Envelopes: Calculation of Eclipse Light Curves and Fringe Visibilities
P.P. Kronberg	Some Recent Extragalactic Discoveries at Low Brightness Levels
E. Seaquist & R.C. Bignell	Radio Emission from a Possible Supernova Remnant in the Galaxy NGC 4449
P.P. Kronberg & M.S. Normandin	A New Look at the Galactic Magnetic Field
S. van den Bergh & J. de Roux	UBV Photometry of the Open Cluster NGC 663
A.F. Gulliver & C.T. Bolton	The Shell Episode of o Andromedae I. Radial Velocities
A.F. Gulliver	Recent Developments in the Spectra of Twelve Shell Stars
C. Clement, R.J. Dickens & E.E. Bingham	The RR Lyrae Variable Stars in the Globular Cluster IC4499
D. Fraquelli	Spectrophotometry of the Hα Region in the Spectrum of the HR 1099 during the February 1978 Radio Flare
J.R. Percy et al.	Observing Dwarf Cepheids for Fun and Profit
J.R. Percy & P. Wizinowich	The Periods of 44 Tauri: A Least-Squares Determination
J.D. Fernie	On the Period Change of the Cepheid SV Vulpeculae
J.R. Percy	The Photometric Constancy of Maia (= 20 TAURI) and Related Stars

R.G. Garrison	Criteria and Application of the MK Classification System
J.B. Lester	Further Spectroscopic Observations of HD 153919 (3U1700-37)
M.J. Clement	On the Equilibrium and Secular Instability of Rapidly Rotating Stars
J.D. Fernie	Photometry of the Classical Cepheid SU CYG
C.T. Bolton	Cygnus X-1 Coordinated Campaign - Working Group Meeting
D.G. Turner	CV Monocerotis - The Forgotten Cluster Cepheid

COLLOQUIA*

October 4	*Bill Gilmore, University of Toronto* *"The Relationship of Massive Star Formation to Local Dark Clouds"*
October 11	*Sidney van den Bergh, D.A.O.* *"Globular Clusters and Galaxy Formation"*
October 18	*Armando Arellano and Dennis Crabtree, U. of T.* *G 2000 - Current Literature Seminar*
October 25	*R.F. Stellingwert, Rutgers University* *Topic to be announced (Stellar Pulsation)*
October 26 (Thurs.)	*John Eddy, High Altitude Observatory* *"The Sun and Climatological Change"* *(Joint Astron-Physics, Room MP102, 4:10 P.M.)*
November 1	*Vera Rubin, DTM Carnegie Institute* *Topic to be announced*

* *Unless otherwise noted, colloquia are held on Wednesdays at 4:00 P.M. in Room MP 137.*

DAVID DUNLAP OBS. PUB., 3, No. 7

The latest in our series of Publications has just appeared. Volume 3, number 7 carries the title "The Sculptor Dwarf Spheroidal Galaxy, I. Discovery and Identification of Variable Stars" by S.L.Th. van Agt. All 602 variable stars so far discovered (mostly here) are identified on photographic reproductions and their positions are listed. Periods are given for 64. The author estimates that there are over 400 variables still to be discovered.

Steven Van Agt spent part of 1971 with us upon the invitation of Helen Hogg and Sidney van den Bergh.

FINAL ITEM

The Directors' Director

Directorships, I find, are like new shoes. They take a good deal of wearing before they feel comfortable. In fact, over the past couple of months I've been feeling a bit like the princess in a recent comic strip. The first panel of the strip shows a frog sitting on a lily-pad and this beautiful princess walking past the pond. The frog says to her "I'm really a handsome prince turned into a frog by a wicked witch. If you kiss me we could live happily ever after." So the princess bends down and kisses him, and the final panel then shows two frogs sitting on the lily-pad, the first one saying laconically "How you liking it so far?"

Well, no, it's not all that bad. But the neophyte Director does tend to look around to see how others have handled the predicament, and what more shining example could one turn to than that Director among Directors, the seventh Astronomer Royal, George Biddell Airy.

Airy the child was without doubt father to the man. By the age of ten he was pronounced clever but thoroughly disliked by his fellows, and, as the *Dictionary of Scientific Biography* succinctly puts it, "even for the time and especially for his circumstances, a young snob." The time was around 1810, and the circumstances were Airy's being the son of a respectable but poor Excise Officer. In order to break out of these circumstances Airy looked to history. You will recall that virtually the entire Copernican Revolution was engineered by uncles, and to this avenue the twelve year-old Airy now turned. The DSB continues: "He recognized in his [educated and well-to-do] uncle, Arthur Biddell, an opportunity to escape what he considered unpromising surroundings, and secretly requested that he be removed from his family. Arthur Biddell almost literally kidnapped him, without any word to his parents, but because of financial difficulties ... the escape was not blocked. In later life Airy put great value on this connection, especially because of the resulting acquaintances ... who could help his career. It was through these that he was entered as sizar of Trinity College, Cambridge, in October 1819." (A sizar was a student who worked in the College for his living.)

Like many a talented man before him, Airy blossomed academically at Cambridge. "Although his own assessment of his abilities was immodestly high, it was nevertheless matched, albeit sometimes reluctantly, by his tutors and college friends." He would graduate as Senior Wrangler in 1823, "far outdistancing all the men of his year."

At Cambridge Airy began his life-long obsession with minutiae. He became absorbed in double-entry bookkeeping, and for the rest of his life literally every penny he ever spent was entered carefully in his books. No receipt, no memo,no jotting, no scrap of paper was ever thrown away, and they remain preserved to this day at Herstmonceux Castle. Justice de Morgan once said jokingly of Airy that if he wiped his pen on a piece of blotting paper he would carefully note on it the date and circumstances and then file it away. Incredibly, David Dewhirst at Cambridge recently found precisely such a piece of blotting paper, apparently stemming from Airy's days there. Eventually this obsession overcame Airy, and as an old man he would agonize over where his correspondence should be filed while paying scant attention to its contents.

After graduation it was mooted that Airy might become an assistant at the Greenwich Observatory and he travelled there to investigate the possibility. However, "when I found that succession to the post of Astronomer Royal was not considered as distinctly a consequence of it, I took it cooly and returned to Cambridge the next night."

For a while he remained an assistant tutor at Cambridge, until in 1826 he applied for and won the Lucasian professorship there. An interesting salary scale seems to have prevailed at Cambridge in those days, for Airy gave up his £150 a year tutorship for the £99 a year professorship! But Airy was not one to tolerate such a situation for long: in 1828 the more lucrative Plumian professorship fell vacant and "I made known that I was a candidate and nobody thought it worthwhile to oppose me.... I told everybody that the salary (about £300) was not sufficient and drafted a manifesto to the University for an increase.... The University had never before been taken by storm in such a manner and there was some commotion about it.... I had no doubt of success." He was appointed Plumian Professor with a salary of £500.

In the early 1830s John Pond had been Astronomer Royal for almost a quarter of a century, and although much good work had been done at Greenwich during his tenure he was now old and clearly losing his grip on the Observatory. The work was becoming sloppy, morale was low, the First Assistant chronically drunk, and Pond himself only appeared on the premises two or three times a month. By 1835 Pond had been pressured into retirement, and the Admiralty began a search for a new iron-fisted A.R. who would restore Greenwich to its former glory. Their collective eye very soon fell on George Biddell Airy.

Airy, of course, drove a hard bargain. The Astronomer Royal's salary would have to be increased from £600 to £800, the alchoholic First Assistant must be fired, as well as another assistant Airy disliked, and furthermore, Airy coolly informed the Admiralty, the Observatory would not do as much routine chronometer work for them as had been the case in the past. These terms were accepted, except for a refusal to get rid of the second assistant, by name Richardson. Airy coldly noted that he would have to guard against "the ill effects of [Richardson's] imperfect perception of honesty: arrangements in which I expect to have some trouble." Ten years later he was triumphantly if grimly announcing in his diary" ... absent today at the Old Bailey before the Grand Jury, on the trial of Mr. Richardson for Wilful Murder of his incest child."

The staff of the Royal Observatory must very soon have been wishing themselves back in the salad days of John Pond. One senior assistant who took a short while off from his routine observing program to get measurements of a newly discovered comet found himself fired the next morning. Observers worked in four-day cycles: first day, 21 hours continuous duty on the transit circle; second day, three hours computing; third day, twelve hours computing followed by night duty on the altazimuth; fourth day, three hours computing. The Cycle then immediately began again.

One of the assistants, writing after Airy's death, remarked that Airy's "regulation of his subordinates was despotic in the extreme ... and his treatment of the supernumary members of his staff would now probably be characterized as 'remorseless sweating'. The unfortunate boys who carried out the computations of the great lunar reductions were kept at their desks from eight in the morning till eight at night, without the slightest intermission, except an hour at midday." They were paid as little as £20 a year. And Airy could produce the full chill of Victorian morality. When one of his staff applied for an advance of wages because his wife and child were ill, Airy firmly refused him on the grounds that such advances were impermissible in principle.

The obsession with detail became overwhelming; regulations governed every task. On an occasion when some of the staff were to travel to the northern part of England to undertake geophysical measurements Airy personally "drew up instructions, telling them by what trains to travel, where to change, and so forth, with the same minuteness that one might for a child who was taking his first journey alone; and he himself packed up soap and towels with the instruments, lest his astronomers should find themselves in County Durham out of reach of these necessaries of civilization."

Everything had to be just so, orderliness everywhere. When Airy once happened on a roomful of empty boxes he himself devoted an entire afternoon to carefully labelling each box 'Empty'.

But Airy's ruthlessness was never confined to the precincts of the Royal Greenwich Observatory. I have already written at length in this column about his almost unbelievable role in the discovery of Neptune, wherein his ruthlessness was exceeded only by his imperturbability in the face of thundering criticism.

Nevertheless, there is much to Airy's credit too. An engineer *manqué*, he designed new instruments for Greenwich that would do solid work for a hundred years, and "the whole of the Observatory was full of his inventions - doors which shut by contrivances of his own, arrangements for holding papers, for making clocks go simultaneously, for arranging garden beds, for keeping planks from twisting ..." And whereas his predecessors had generally been remarkably lax in reducing observations and publishing results, Airy's reports were not only models of precision but were also produced very speedily. Simon Newcomb once remarked that if the entire nineteenth century record of astronomy should somehow be lost save for the Greenwich reports, it could all be reconstructed from them alone.

The cost, however, was high. Since no independent thought was ever tolerated at Greenwich in the 46 years of Airy's tenure as Astronomy Royal, no scientists were ever trained there and no great discoveries were ever made there. Worse than that, Airy passed on to his successors this terrifyingly rigid but super-efficient system which these less iron-willed men found convenient to retain. It would take almost another century before the Greenwich Observatory re-appeared on the frontiers of astronomical research. The cost in personal feelings among his staff was high too, although no doubt not to Airy himself. The fact that none of them expressed the slightest regret at his retirement in 1881 probably troubled him not at all.

The first professor of engineering at Cambridge called Airy a "colossal-minded man, whose ideas seemed to be executed in granite." Perhaps, but I doubt he was the model Director even in Victorian times, let alone the late twentieth century. Still, you might just let me know your preferences in soap-brands - just in case.

J.D.F.