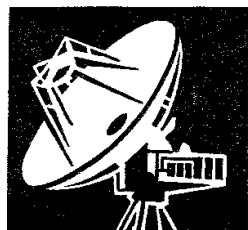
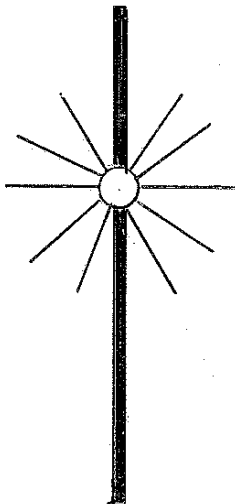


# RESEARCH LAB REPORTER



PRODUCED BY RESEARCH LABORATORIES, 59 LITTLE COLLINS STREET, MELBOURNE

"RESEARCH LAB REPORTER"A Christmas Message

Once again we are approaching the end of another year and once again we can look back with pride on the many achievements of the Laboratories. As usual, it has been an extremely busy year with termites in Darwin, ANZAAS Symposium in Adelaide, additional circuits, Perth - Port Hedland, provided by channel doubling, investigations into satellite communications for remote areas, radio propagation measurements in central Queensland, Open Days, Petra, and other projects too numerous to mention.

I thank you all for your forbearance and the spirit of helpful co-operation that you have shown throughout the past year and for the individual contributions you have made to the work of the Laboratories, and I take this opportunity to extend to you and your families the Season's Greetings with the hope that this Christmas will be a happy one and that things will go well for you in the New Year.

A handwritten signature in dark ink, appearing to read "R. B. Smith". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

15.12.69

NO Smoking!

A harassed country staff clerk recently received an accident report, P400 and 401 accompanied by the following letter:

"Divisional Engineer, Wangapooka.

On the 26th January, we were finishing off a cutover in a manhole along the Snake Gully Road and as I had just finished wiping my joint I climbed out of the hole and stood alongside the cart to light a fag. My lighter flared up and I stepped back, fell over the gas cylinder and landed on the end of a dolly which was resting on the end of a pick, and sprained my left ankle. The dolly twisted in the air and struck the other jointer, Nobby Hall, on the head as he was lifting the manhole cover with driver Snow Whyte, who had come to pick us up. Nobby dropped his end of the manhole cover on my right foot and broke two toes.

My cries brought Group Engineer Stacey who was just leaving, and he lifted the end of the manhole cover. As soon as I was free I stepped back and fell down the open manhole, suffering severe lacerations to the left leg and a cut on the head which later needed four stitches.

I climbed out of the manhole and by now I was a little dazed. I stumbled over Snow, who was leaning over Nobby Hall trying to revive him, and fell forward onto the plumbing torch which was boiling the billy. My overalls caught fire and I could not beat out the flames.

I am afraid at this point I lost my head; I limped to Johnson's dam in the paddock alongside and threw myself in. As I entered the water my right leg caught on some scrap iron lying on the bottom and I sustained a fractured right fibula. The dam was deeper than it looked and as I can't swim I started to drown. Mr. Stacey saw my difficulty and jumped into the dam, also catching his foot on the scrap iron, fracturing his left ankle. He managed to hold me up and shouted for Snow Whyte:: Unfortunately snow was unconscious, as when I knocked him over he cracked his head on the corner of the cart. Eventually the Fault-man came by and called an ambulance which took us all to the local hospital.

I have been unable to obtain witness reports from the other linemen involved as they have refused to speak to me since the accident.

After 26 weeks in hospital I have now returned to work on light duties.

I wish to claim compensation and to know if I am entitled to an allowance as three junior men have been promoted since my accident.

Yours sincerely,  
Lineman Grade 2 Smith".

The Divisional Engineer's comment was that Lineman Smith should seriously consider giving up smoking.

\* \* \*

*Did You Know ?*

#### Project Euroka

Following the Lara bushfires in Victoria during early 1969, when a number of people lost their lives, there were suggestions that there had been a breakdown in radiocommunications due to dust in the atmosphere. Subsequently, the Laboratories were asked to investigate the adverse propagation phenomena which might occur in a bushfire. By courtesy of the Defence Standard Laboratories, a Lab. team of six, led by Jack Reen, was able to join the Project Euroka experiment and make propagation measurements through that fire.

The experiment was conducted on 23/10/69 at Langley, Queensland, about 25 miles inland from the highway, midway between Rockhampton and Mackay. Some 6000 tons of brigalow, cleared from 300 acres and piled onto 50 acres, were fired simultaneously at 1000 points. The main purpose was to study the airflow patterns resulting, and extensive electrical instrumentation was installed on towers within and around the fire. This included anemometers, thermometers and radiometers,

all cable-connected to a central data logger. Our data was chart recorded and also fed to this logger.

Our main installation was a transmitting station on the S.W. side of the fire, transmitting normally across the fire to a "near" receiving station on the N.E. fire face and also to a "distant" receiving station 15 miles away. Collaborating with our group, a team of three from the University of N.S.W. made precision measurements of optical refraction, and of range (with a radio instrument - the Tellurometer) across the fire.

Our aerials, for 2.5 and 160 MHz measurements, were conventional "mobile" whip aerials, as used in bushfire communications and at the "near" stations, mounted on vehicles placed about 10 yards from the fire edge. At the distant receiving station, which simulated a brigade-base station, long-wire vertical aerials were suspended from the 120ft mast for H.F. reception, with a Yagi at the summit for V.H.F. reception. Test transmissions were made also at the trunk-system frequencies of 450 and 4000 MHz, with aerials at 25ft at the "near" stations and at 110-120ft at the "distant" receiving station. At the "near" receiving station, the vertical angle of arrival of the 4GHz signal was measured continuously.

An initial assessment of results showed no substantial propagation effects on either the long or short paths. The short path, of about 800 yards, had 495 yards through the fire. Signals varied both above and below "pre-burn" levels, minima being rarely more than 5dB below that "normal" value. There was an overall tendency for signal levels to increase slightly during the fire.

Both the tellurometer ranges and our angle of arrival measurements showed that "subrefractive" propagation conditions occurred; the apparent positions of the transmitting sources being lowered. Obviously, this effect did not produce any substantial reduction of the received signal levels; however, such subrefraction might become sufficiently marked in other fires to reduce "long-path" signals significantly.

Due, probably, to rain before the Euroka fire combined with high humidities on the particular day, the fire did not attain the full anticipated intensity.

\*

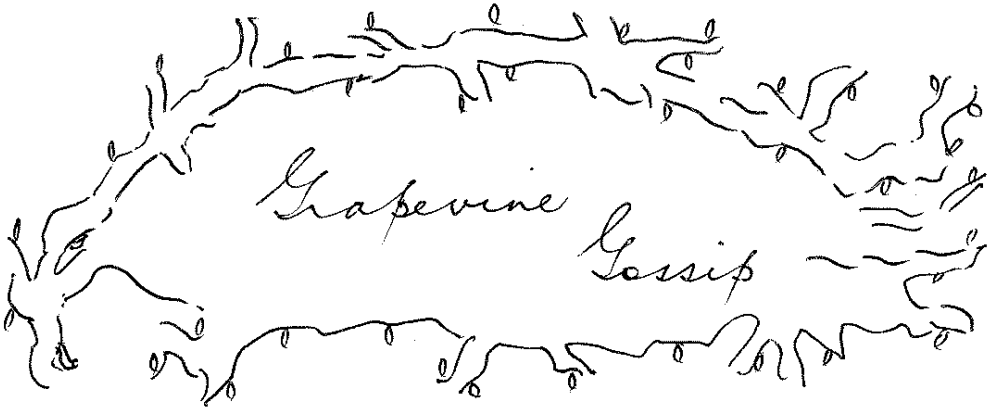
\*

\*

ROAD SAFETY HINT

If more people used seat belts, there would be more people.

\* \* \*



Dick Slade has been requested to carry out certain investigations in connection with the recent \$500,000 swindle of buying back unused postage stamps. The other morning his table was littered with stamps and a passing junior member of the staff in all innocence was heard to say "Gee! Mr. Slade has it easy - playing with his stamp collection during working hours".

\* \* \*

Welcome back to Doug South, Admin. Services, who spent a short stay in hospital for a minor nasal operation. Doug became quite worried on his return to the office when he thought his hearing was affected. However, a visit to the hairdresser soon remedied this disability.

\* \* \*

A hearty welcome also to Bill Otto, Communication Electronics, who had been on the sick list for many weeks. Bill is looking extremely fit and 8lb lighter but admits there must be easier ways to lose weight.

\* \* \*

Alva Allen, General Services, is offering a substantial reward for the return of his most prized possession which disappeared during office relocation on the 1st floor Block A. What has happened to that large photograph of triple Brownlow Medallist and South Melbourne rover, Bobbie Skilton?

\* \* \*

Did you hear about the S.T.O.1 who, very early in the year, arranged to take a week's rec. leave to study for his Matric. English. Subsequently, he forgot this arrangement and came to work as usual last month. Came pay day and there were no "bickies in the tin". He didn't realize that the previous pay included his rec. leave money in advance.

Don't worry! Neil Wain, your workmates have promised faithfully not to mention a word about this little lapse of memory.

\* \* \*

We've heard some very fishy stories in our time about the "ones which got away" but Ray Jepson takes the prize for originality. Ray spent a week recently at Merimbula and had one successful day catching seven healthy salmon. However, whilst sitting on the rocks cleaning his catch, a large wave came in unexpectedly and away went the salmon (a likely story). Ray did take his ham equipment with him and spent his evenings conversing with Dick Fitzsimons - at least he had success with the short wave.

\* \* \*

Since our last issue, we have seen the return of two familiar faces to our ranks. Peter Vince has just completed a year's solid study at the R.M.I.T. and John Murphy is back after a lengthy period overseas.

\* \* \*

Peter Quinn, Watkins, thinks he may be spending the next few months riding his bicycle. He is anxiously waiting to see if he will receive the usual notice after he upset a member of the constabulary when

- 7 -

endeavouring to emulate Jack Brabham late one recent evening - minus one "P" plate into the bargain.

\* \* \*

Have you noticed the large groups of theatre-goers crowding the footpath in front of Block W? The source of interest is Tony Stevens' model of the Mt. Canobolas TV aerial tower at Orange, N.S.W., which was on display during the Open Days. Whilst on the subject of Open Days, Ray Jepson was highly delighted as several visitors subsequently donated items for his museum collection.

\* \* \*

Full marks to the convenor of the Labs POA meeting conducted in Block S during lunch time on 4th December! He took no chances should the debate become heated. Now we know why the MFB tender was standing by outside the building.

\* \* \*

The controversial tea club of Block A (2nd floor) sadly farewells Pat Cooke who has taken up duty as C.A.4 in Block T. Pat has just returned after spending part of her furlough at Surfers Paradise and has never looked fitter.

\* \* \*



## GOLF

The final Laboratories' Golf Tournament for 1969 was held at the Whittlesea Country Club. Once again, the organisation was capably handled by Chief "Sparks" - Alva Allen - a very stout officer. Attendance totalled 33 golfers plus Ed Scates and John Lewis.

Congratulations to the Champ of the Laboratories for 1969 - Ted Hulley for a magnificent round of 82 which was 10 strokes better than his nearest opponent Bert Bladier. It should be mentioned that during the recent "PETRA" lectures at the Melbourne Postal Workshops Ted's lunch breaks provided opportunity for him to use the driving range facilities available in the building - only broke one window too!

Sectional winners were:

<u>Ted Hulley</u> (82)	Section A
<u>John Hulley</u> (102)	Section B
<u>Joe Walsh</u> (116)	) Section C
<u>Charlie Bates</u> (116)	)

A special mention goes to Barbara Stone, the sole lady competitor in the event. Rally round girls, we expect to see several of you join us in the next tournament.

\* \* \*

## SAILING

Lew Green, Transmission Media, has taken off for five weeks leave to prepare for an early summer launching. It has been reported that Lew has the fastest catarmaran on the Mornington Peninsula and from the loud murmurings from other "Cat" fans in the Labs. there is talk of holding a regatta early in January.

\* \* \*

HIRE  
RENT  
CLASSIFIED  
BIRTHS  
RIAGE

FOR SALE

MONO LP's - \$1.00 each. "Million Dollar Melodies" by the Ray Martin Orchestra; "Around the World in 80 Days"; "Hawaiian Paradise"; "Flamenco!" with Savita and Co., "Great Film Themes", "Cole Porter Spectacular" - 12 LP's - mint condition. Show Scores include "Kismet", "The King and I", "Song of Norway".

EP's - 50 cents each. Artists include Roger Williams, Oscar Levant, piano, Victorian Trumpet Trio, Nelson Eddy.

Buy two LP's and get an EP free.

Peter Ramsden 7991W

\* \* \*

Just the thing for the summer holidays:

Primus, gas stovette, No. 9206 stove-griller 17 5/8" wide x 12 5/8" deep x 6" high, complete with primus gas cylinder No. 2005, 4lb 5oz.

Ideal for holiday shack caravan or the home; can be used outdoors in calm conditions. In excellent condition, used only a few times - less than 1/2 price

\$19.00 the lot -

David Shaw 416264 A.H.

\* \* \*

Engagements

Path Evaluation ..... John Hughes and Leonie Maher  
Physical Sciences ..... Mick Chirgwin and Carmel Dwyer  
Propagation ..... John Emptage and Margaret Batich

Marriages

Main Library ..... Marilyn Groombridge and  
Andrew Bartels

Births

Transmission Lines ..... to Barry and Maureen Woolcock -  
a son, Mark Francis  
Ex-East-West Route ..... to Ron and Jacqueline Cichon -  
a daughter, Fiona

Welcome to:

Ray Coath - Administrative Officer (ex-Switching and Facilities  
Planning).

Gail McMenamin - Library Officer, who after in-service training will  
take charge of the Engineering Library in South Australia.

Kathie Knapp ) - Library Officers-in-training who are with us for  
Pat Gargen ) - the long vacation.

Bernie O'Callaghan T.O.1 Circuit Theory

Derek Cameron C.A.1 Telephone Standards

Brendan Vigli T.A.2 Telephonometry

Adele Jabour - Sub-Sectional Clerk, Equipment Development

Garry Allen	)	
Allan Miles	)	2nd year T.i.T. from Victoria
David Senmens	)	
John Vivian	)	
Gerald Wood	)	
John Madej	)	

RESEARCH LABORATORIES' CHRISTMAS PARTY

Wednesday, 24th December - 12.30 p.m., Block S, 117 Lonsdale St.

Adults \$1.50

Juniors (under 18) \$1.00

Collectors in each building are:

Block A - Bert Cooper  
C - Dave Cleary  
F - Neil Wain  
R - Basil Listopad  
T - Harry Wills  
W - Nell Fewster

Training Annexe - Bill Matthews

Musical entertainment will be provided for the Jet Set - under the guidance and supervision of our Musical Director, Bob Barclay.

\* \* \*

THE ABBEY - 8.15 p.m. - MITCHAM CHURCH HALL  
(Neat casual dress - Admission 70 cents.)

Fresh from his "Community Aid Abroad" Walkathon, Doug Wilson is busily arranging dances which are held on the second Friday of each month. Music?? is by courtesy of the Tridents, THE group of Melbourne's Top 40 featuring Terry Dillon, Switching Group. All welcome.

\* \* \*

$\pi^2 \times \infty$   
 $\sqrt{49}$   
 $11.875$

- 12 -  
 Log. 939 ?  
Postwork  
 ?

$2x^2 + 3xy$  ?  
Posers  
 $\frac{x}{6} + \frac{y}{2} = ?$

$149$  ?  
 $63$   
 $98$  ?

As a little light relief after "Phineas' Pfamous Practical Problems", the following posers have been submitted by Alan Fowler (7605):

- Q.1: A cylindrical hole six inches long has been drilled straight through the centre of a solid sphere. What is the volume of the remaining solid?
- Q.2: A number of one ohm resistors are connected together so that each resistor forms one edge of a cube. Most of the technical staff will remember from their student days that the resistance between any two diagonally opposite corners is 0.833.. ohms. What is the resistance between two diagonally opposite corners if the resistors are connected to form the edges of a four-dimensional cube?

Those with ten minutes to spare may care to work out the general formula for an n-dimensional cube.

\* \* \*

Q.3: - from David Shaw.

How good is your mental arithmetic? If you are on the ball, you should solve this poser in two seconds without using your slide rule or log. tables:

$$2.414 \times 0.414 = ?$$

\* STOP PRESS \*

The typing of the Advanced Techniques Steno-Secretary, Luci Varrasso, has been severely hampered since 13/12/69 due to the magnificent "rock" on her third finger, left hand. Luci has just announced her engagement to Mario Cucinelli.

\* \* \*