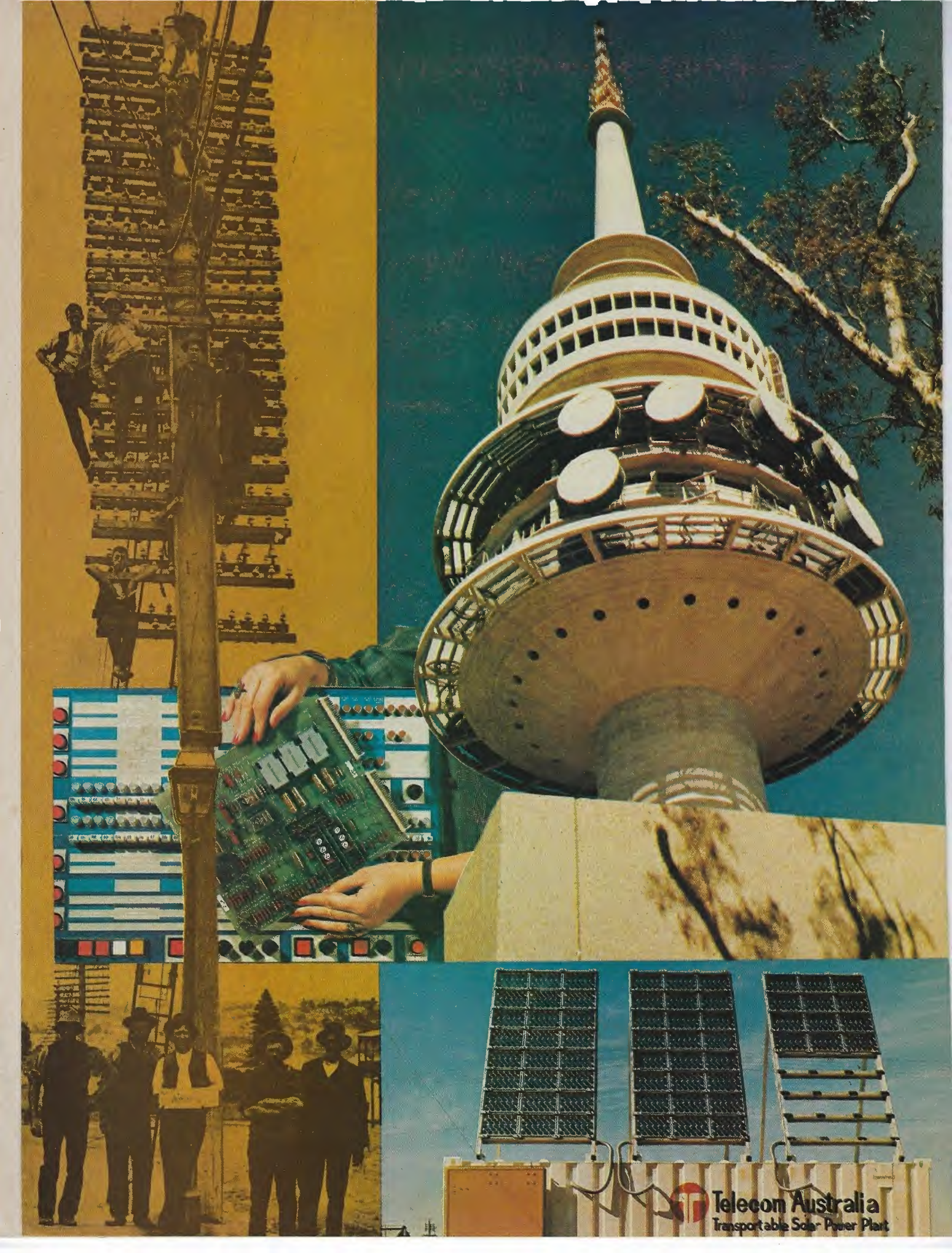


PEOPLE TALKING TO PEOPLE



A SPECIAL TELECOM AUSTRALIA REPORT

Presented by The Australian Women's Weekly for Telecom Australia
The first of four weekly reports



 **Telecom Australia**
Transportable Solar Power Plant

Telecom

This 16-page special report is the first of four project booklets introducing Telecom Australia and its vast network of services linking Australia. We look at communication in the past, the present, and what we can expect in the future.

Telecom Australia is in the business of keeping people in touch, linking them from room to room, from town to town, from country to country.

Communication can mean anything from raising an eyebrow at someone across a crowded room, to sending computerized and coded messages into outer space and back again. In both examples a message is being sent and received.

Whatever the kind of communication, one thing is certain — it is absolutely central to the continuance and growth of today's lifestyles and demands. Could you cope without any means of communication at all? Could you arrange your day to day life, be it work or pleasure, without making at least one telephone call? Could you manage to keep in touch with all your business contacts, your family and friends without using telecommunications?

The telephone is an essential tool in today's business world because of its immediacy. At home it can be equally essential as a social tool — a means of

keeping in touch, of renewing acquaintances, providing security and holding off the isolation of suburban expansion. And in country areas, its importance is magnified.

To meet the changing needs for communication and the growing requirements for more effective forms of communications in Australia, we have come a long way in a short time. From the first primitive telegraph machine, on which messages were tapped out in Morse code, to today's Telecom exchanges with their complex electronic manoeuvres linking millions of telephones, data terminal printers, telex machines . . . even tiny pocket beepers — it has taken just 125 years.

Australia's communications system began officially with the opening of a one-man post office in Sydney in 1809.

The very first means of telecommunication came in 1854 when the Australian Post Office opened a 17km telegraph line between Melbourne and Williamstown in Victoria.

Then the overland tele-

graph challenged the "tyranny of distance" and gave Australia its first instant link with the world.

By 1975 the whole field of communications had become so vast and complex that the Post Office split its operations in three.

Australia Post — which by then was handling nine million items of mail daily — became responsible for all mails.

The Post and Telecommunications Department took over radio licensing including CB radio.

And the rapid-growing telecommunications section, which by then had over 3.5 million telephone subscribers making 345 million STD and trunk calls, became Telecom Australia.

Today, Telecom is a giant six billion dollar organization serving millions of Australians with some of the most up-to-date electronic equipment in the world.

The extent of Telecom's operations is difficult to grasp. Huge networks of cable running under our cities, across the country and the outback, together with microwave radio, carry

billions of messages and link us with the world, helping to keep our whole society, in business and in leisure, running smoothly.

In just one year, between June 1977 and June 1978, Telecom laid enough new cable to circle the Earth 59 times. In the same year, Telecom's fleet of vehicles travelled more than 254 million kilometres — equal to about 320 trips to the moon and back.

In those 12 months, more than 4.5 billion telephone conversations were held, more than 32 million telex messages were sent within Australia alone, and the total number of telephone receivers in the country reached over six million.

Telecom is Australia's largest single employer with a staff of more than 87,000.

In the following pages and for the next three weeks, The Australian Women's Weekly will be looking at Telecom and discovering not only how we have arrived at today's level of communication, but also what we can expect in the future.

Next week: "The quiet revolution" is featured.

COVER: Shows a new generation Touchfone specially painted in Telecom Gold, the colour seen on every Telecom Australia sign, building and vehicle through the country.
LEFT: The past, present and future are represented in this striking montage depicting the various operations of Telecom Australia: early telegraph poles; a modern-day equivalent, the Telecom Tower in Canberra; a solar-powered microwave radio trunk system; and some solid-state circuitry from the new generation of electronic switchboards.

A VAST CONTINENT GETS

Communication was revolutionized in Australia with the coming of the telegraph. Messages that would take weeks to receive now took minutes. A vast sprawling continent suddenly shrank.

The first telegraph was opened in 1854 over a line between Melbourne and the port of Williamstown, several kilometres away round Port Phillip Bay. This was only 10 years after the setting up in the US of the world's first Morse telegraph system, named after its inventor, Samuel Morse.

The telegraph caught the Australian imagination and spread like wildfire. Poles with single iron wire strung between them stretched quickly across the continent. By 1858, Sydney, Melbourne and Adelaide were linked by the new service.

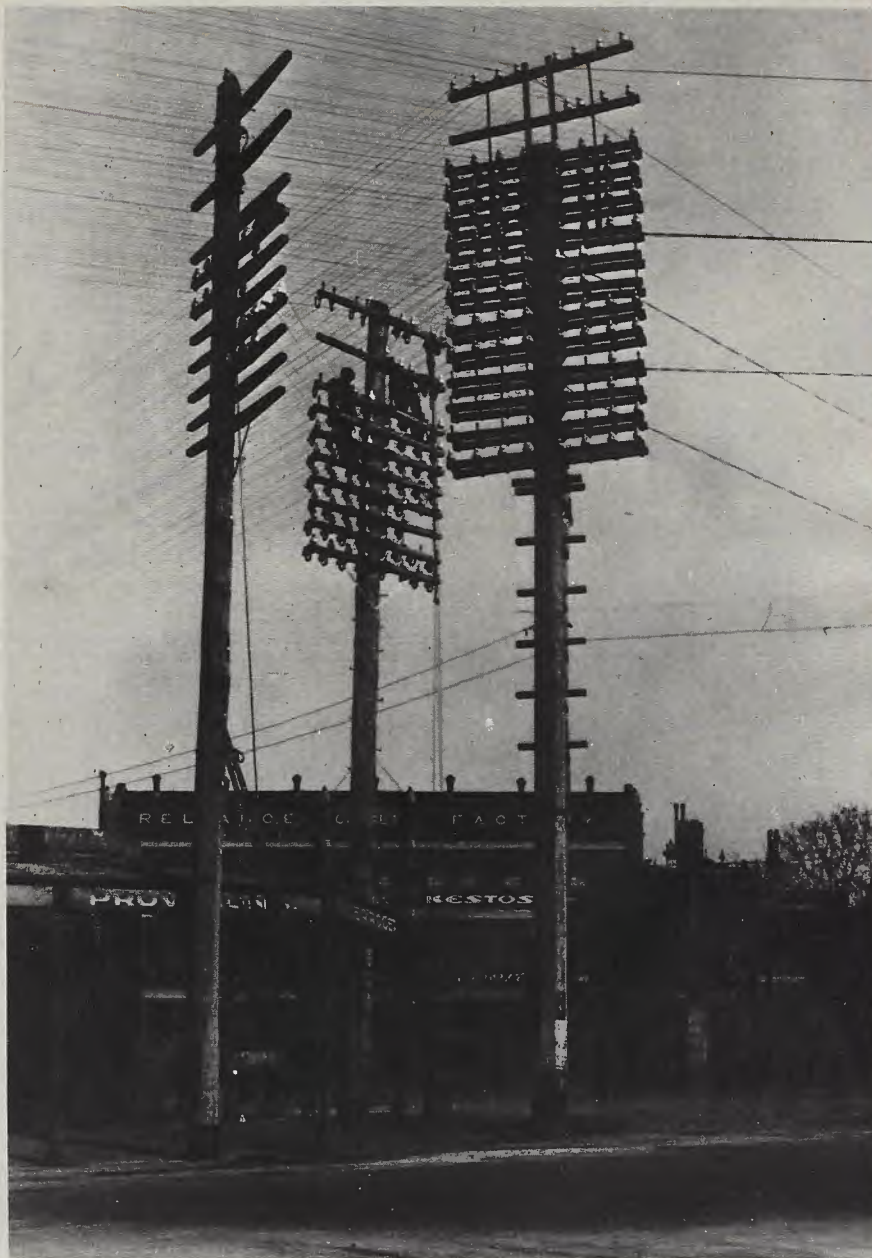
One year later, Tasmania was linked into this network by a submarine cable laid under Bass Strait from the Victorian coastline to Launceston — a tremendous achievement.

By 1861 the inter-capital network was extended from Sydney to Brisbane. And in 1877 a line crossed the continent to join Adelaide and Perth. Mail took weeks to be exchanged, but the telegraph carried news in minutes.

Western Australia was now linked into the colonial network, making an even more dramatic connection between Australia's five eastern colonies and Britain and Europe.

In 1872 the historic Overland Telegraph Line from Adelaide north to Darwin had been completed, linking with a submarine cable from Java. An England-Java cable system had been established, and this link enabled messages to be exchanged within hours, as against the months it took mails sent by ship.

The setting up of the



Overland Telegraph Line is regarded today as probably one of the most remarkable and noteworthy achievements in the development of communications in this country. It was only 10 years after the intrepid explorer John Macdougall Stuart had blazed the route.

One of Australia's greatest pioneers, Sir Charles Todd, head of the postal and telegraph administration in South Australia, conceived, planned

and virtually built the line himself.

The project was marked by two years of privation, hardship and, at times, bad luck. The loneliness, harsh climatic conditions, cruel terrain and the menace of hostile Aborigines in some parts were overcome only by the bravest and most determined men. Some died, others lost their health, and some gave up and deserted.

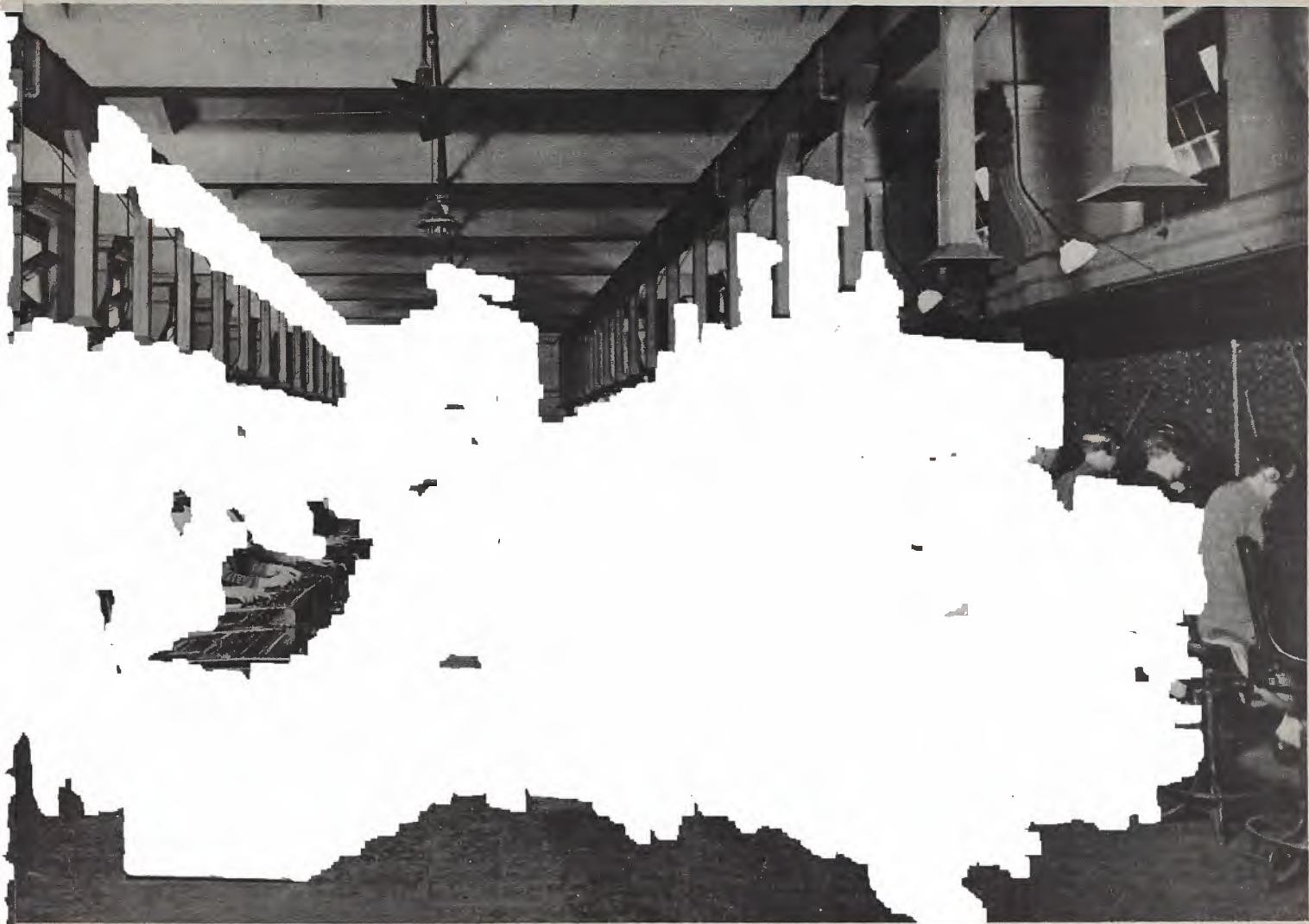
Then there came an-

CONTINUED ON PAGE 6

ABOVE: The proliferating upright poles reflected the popularity of the telephone. **ABOVE RIGHT:** An artist's view of a pioneer crew. **RIGHT:** The Perth exchange switch room... a far cry from today's modern setting.



A NEW DIMENSION



A VAST CONTINENT...

FROM PAGE 4

other dramatic milestone, the arrival of the telephone. In 1878, only two years after Alexander Graham Bell first demonstrated his invention in the US, the first trunk telephone calls were demonstrated in Australia. One call was in New South Wales between Maitland and Sydney; the other in South Australia between Semaphore and Port Augusta.

By 1880, telephone services were operating in Brisbane, Sydney and Melbourne, with the exchanges established as private businesses. In 1882, a government-owned exchange was set up in Sydney. Exchanges opened in Adelaide and Hobart by 1883, and in Perth by 1888. The privately owned exchanges were soon taken over by the governments.

By the end of the 19th century, each colony had developed quite sound postal and telecommunication services, with practical operating agreements and arrangements for the interchange of postal and telegraph traffic. But the telephone service had not reached the inter-capital or inter-colony stage.

Then came Federation, and on March 1, 1901, the administration of all postal and telecommunications services passed to the Commonwealth Government of Australia.

Dramatic new developments took place as new horizons and new developments emerged.

In 1902, a submarine cable providing telegraph services across the Pacific Ocean came into service, and the first interstate telephone trunk line service was opened between Mt Gambier, in South Australia, and Nelson, Victoria.

By 1907, the Sydney-Melbourne telephone trunk line service was in opera-



tion. Sydney Radio, the first coastal radio station, opened in 1912 — the year radio telegraph services were started and Australia's first automatic telephone exchange (the second in the British Empire) was opened at Geelong, Victoria.

The conversion of Morse to machine operation on main telegraph routes began in 1923, and Australia's first radio broadcasting stations, 2FC and 2BL, started the same year. The Post Office research laboratories were established, with a staff of one. Today the laboratories have big staffs, including engineers and scientists.

In 1924, trunk-telephone operators in Victoria were able to dial some distant exchanges direct — the prelude to the direct trunk calling by today's subscribers.

The Inland Wireless System was born the following year, leading to the now world-renowned Flying Doctor Service. In 1926, two-way mobile radio telephone services were introduced.

In the eight years from 1921 to 1929, the number of telephones in use doubled, reaching the half million mark.

Then in 1929 the first picturegram service was brought in between Sydney and Melbourne, and the National Broadcasting Service was established. In 1930, the overseas radio-telephone service came into operation.

In 1933, the handset telephone and the private wire teleprinter services were introduced. And in 1936 the Tasmania-mainland telephone service was opened through a cable under Bass Strait, at that time the longest submarine telephone cable in the world.

The automation of the national telephone service gained impetus with the introduction of the Community Telephone Service Plan in 1960. Areas for local calls were rearranged and extended to make all telephone services in Australia automatic, with all subscribers

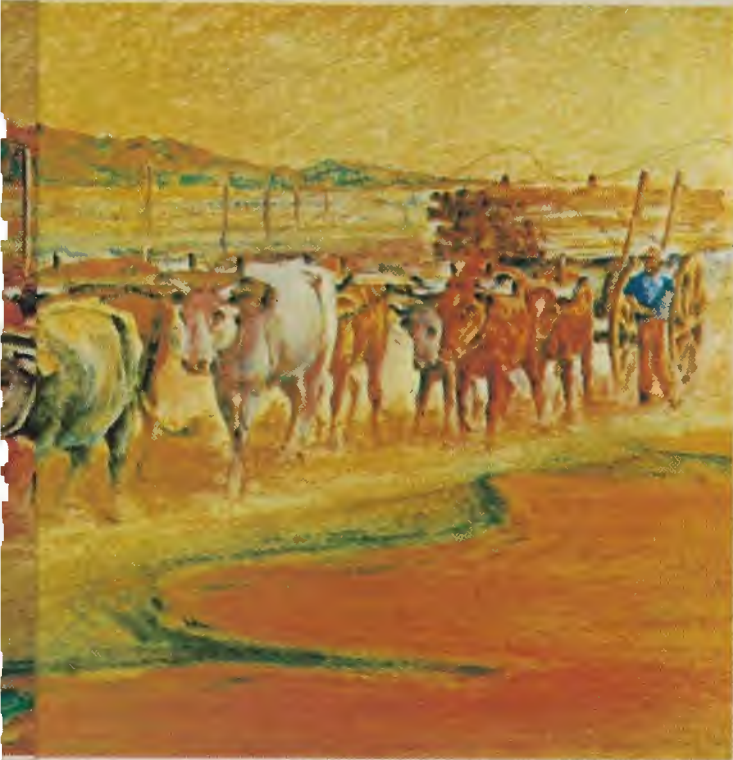
able to dial each other direct.

The plan caters for Australia's national telephone service to become an integrated part of a harmonious world telephone service, featuring direct subscriber dialling over international trunk links.

STD, direct trunk calling, had been introduced in 1956, and by 1975 more than 3.2 million (91 percent) of Australia's telephone subscribers had some measure of STD service.

But it was in 1959 that the most significant advance was made in modern trunk line installations. A microwave radio system was installed between Melbourne and Bendigo, in Victoria.

Microwave radio systems can provide thousands of trunk circuits for all manner of telecommunication transmissions, including TV relays. By 1975, interlinked coaxial cable and microwave radio trunk systems had joined all capital cities and the more important provincial centres in the country.



LEFT: Bullock teams were used in the field during the setting up of the Overland Telegraph Line. Men and machinery, ABOVE, played their part in the cities. BELOW: The Robe River Depot.



AN INSTRUMENT OF CH

1a



2



In 1876, after years of research, the first words ever to be heard across a telephone line were spoken by Alexander Graham Bell, a Scot whose work in teaching deaf children to speak had given him a keen interest in speech and sound.

On March 10, 1876, when he and his assistant Thomas A. Watson were experimenting with the transmission of sound along a telegraph wire — a system they called their "harmonic telegraph" — Bell suddenly became aware that he could hear Watson, who was in another room, adjusting the other end of the sound instrument.

Bell put his mouth close to the transmitter and uttered the words, "Mr Watson, come here I want you." Watson heard and came into the room.

It was a fantastic breakthrough in telecommunications, and within four years the "telephone" had reached Australia.

In the century since its arrival, the telephone has gone through a design revolution. The basic instrument of the 1880s gave way to the ornateness of the Victorian era, then to the early automatic wall phones of the twenties and finally to the streamlined lightweight telephones of today.

9



1a a
Bell
and
Victo
pho
vers
4 C
Ma
5 C
6 A
(ab
aut
(19
(ab
tab
193
wit
pos
of t

CHANGE



1. A hander Graham
2. Ormate
3. Another
4. Another
5. Another
6. Another
7. Another
8. Another
9. Another
10. Another

Keeping pace with the customers

The latest innovation in telephone design is the new Touchfone. Telecom's Touchfone 10 is speedier, more efficient and more streamlined than the conventional rotary dial.

Not only can calls be made more quickly and with less effort (a great asset when making many calls) but errors such as dialling the wrong number or finger slipping are less likely.

Touchfone is also easier for handicapped people to



use, and calling an emergency number in the dark is no problem.

Now available throughout Australia, Touchfone is definitely the telephone instrument of the future.

TOP HATS & CRINOLINES



Oh to be masters and mistresses of new-fangled technologies — the electric telegraph and the electric telephone — in Australia's bustling pioneer days.

The telegraphists wore top-hats to work. They were the elite of nineteenth century workers because their flashing fingers "dotted and dashed" messages across the country and around the world.

The ladies in crinolines were the telephonists engaged in a "superior vocation" as 90-year-old Emily Leasing of Victoria

recalls. In 1906 Mrs Leasing (nee Palmer) successfully applied for a job which was described as: "A new vocation for superior ladies."

Mrs Leasing was then 17. Now, aged 90, she remembers her position as a telephonist as being happy and fascinating.

"It was an entirely new work area for women, and those desirous of entering such a prestigious appointment had to be recommended by a responsible member of the community," she wrote.

"Only then, if they were possessed of grace and

charm, with a well modulated voice, were they accepted.

"We were required to qualify for entrance by passing an examination in several subjects, including English and what was then known as Arithmetic.

"I was appointed to Ballarat Exchange which served over 400 subscribers, the switchboard including what was known as "the Trunk-board" for receiving calls from other places.

"We were known as Telephone Girls, later refined to Telephonists.

"We worked shifts which averaged 35-37 hours per

week; were paid an annual salary of 30 pounds with yearly increments, and received three weeks annual leave on full pay, and one day off duty per week.

"In the matter of residence, we were allowed to transfer to another exchange convenient to our homes. After three years at Ballarat, when my family moved to Melbourne, I applied for and was granted a transfer to Wills Street Central exchange.

"My eight years' service included Malvern and South Yarra exchanges, the latter a very old-fashioned one."

BLINKING OWL TALK

A blinking wooden owl and two members of Telecom helped a four-year-old girl to speak for the first time.

The little girl is Catherine Staughton, now aged 10, the daughter of John and Beverly Staughton of Caulfield, Victoria.

Because of rubella complications created during her mother's pregnancy Catherine is deaf and only has 30 percent sight.

Catherine's grandfather, Fred Brock, and two Telecom men — Class 1 Engineer Maurice Lean and Technician (Engineering) Les Jacobs — wanted to help her to communicate.

The blinking owl was an idea Mrs Staughton found in an American magazine. Her father made the basic shape of the owl and then Maurice Lean and Les Jacobs fitted the owl with some electrical equipment. They realized that the principles of telecommunications could provide a solution.

They fitted it with a sealed beam light, a transistor amplifier and microphone. Catherine, who has to wear two hearing aids to hear anything at all, was quick to realize that if a sound was



Catherine Staughton with her favourite toy — the blinking owl that helped her to talk.

made into the mike, the light on the owl would flash.

It didn't take her long to start forming words and within a few months she could say "hello," "pretty," "mamma," and "here."

Catherine's reaction to the owl was so good that when she didn't need it any more it was given to the Victorian Education Department's Mornington special education centre.

Les Jacobs and Maurice Lean didn't stop there though. They have now produced a Visual Voice Aid out of a battery operated toy.

The toy, imported from Japan, features a little chubby-cheeked chap going through the motions of mixing a cocktail, pouring out a drink and drinking it. Smoke comes out of his ears and his face turns red.

After making a few adjust-

ments to the toy these motions are now triggered by a voice-operated switch. A child near the toy can make it work by speaking.

Mr Jacobs does caution that there are more hurdles to clear with making a child speak well. But children can at least be encouraged to make sounds which can then be separated into vowels and consonants with the help of speech therapy.

The world's longest clothes line

The Government is going into the laundry business." This rumour swept the colony of Victoria as a single iron wire was strung pole to pole from Melbourne to Williamstown in 1854 — a distance of 17 kilometres.

The word "telegraph" was almost unheard of until Samuel McGowan began receiving messages over the line of wire. Not only did they announce the arrival of a ship from overseas — but gave details of the cargo.

The merchants of Melbourne welcomed this intelligence and quickly dis-

...in roars of laughter. The proceeding closed by the band playing the National Anthem.

TELEGRAPH.

[REUTERS' TELEGRAMS TO THE AUSTRALIAN ASSOCIATED PRESS.]

BY SUBMARINE TELEGRAPH.

ANGLO-FRENCH TREATY.

ADMISSION AUSTRALIAN WINES INTO ENGLAND FACILITATED.

ADMIRAL COCHRANE DEAD.

LONDON, October 21.

Received October 23, 12.35 p.m.

The Anglo-French Treaty will abolish French duties on wine.

[From the Express]

MELBOURNE

any of the horses have been injured. Good work was done this morning.

The National Agricultural Machinery Show will open to-day.

NEW SOUTH WALES.

Sydney, October 22.

Smith, a boarding-house-keeper, who was sentenced to death for murdering his mate at Araluen, has been commuted to life imprisonment.

Mr Callaghan, of Goulburn, has been sentenced to death for murdering his mate at Araluen.

The hearing of the Nakulan kidnapping case stands adjourned till to-morrow.

The Fanny Nicholson has towed a whale which she caught.

Typical telegram news messages of the boisterous 1880s.

played their signs — "English China, Ceylon Tea and Irish Linen on sale tomorrow." "Young ladies suitable for domestic work can be interviewed on Friday."

As the telegraph spread throughout the colony it became the carrier for all sorts of news — business, social and the daily papers' headlines. It was to put an end to bushranging because no villain's horse could out-speed the telegram that summoned troopers into action.

The Government never did get into the laundry business.

ALL IT NEEDS TO START

A glimpse into a possible electronic future is provided by young electronics whizz-kid Neil Vickery who has a \$28,000 computer in the boot of his car . . . a rather special \$60,000 lime green Monaro GTS that needs no driver.

All it needs to show its paces is a word from Neil via a walkie-talkie. It will start, stop, accelerate to 180km/h, toot its horn, turn on its lights or imitate a police siren. And

that's not all. The car also has an infra-red sensor on the windscreen that makes it stop at red traffic signals, a radar system that stops the car if anything moves in its path (it also slows down automatically to the speed of any cars in front), and windscreen wipers that come on by themselves at the first hint of rain.

Other accessories in the car include a telephone, closed-circuit television,

digital instruments and a four-track tape system.

Neil, who works at the Mornington Telephone Exchange in Melbourne, has programmed the computer in the boot to respond only to his voice. He has started it from 290km away with a simple telephone call and is planning to do it soon from Miami via satellite.

"It all started as a hobby," says Neil. "Now it's almost a full-time occupation. I get a

special kick out of kids enjoying the car, and I do a lot of charity shows."

Neil also developed a voice-operated wheelchair for quadriplegics.

It costs \$7000 for the computer alone, but mass production could bring down the price to a much more reasonable level.

He is also responsible for a cordless telephone and a ball-point pen with an in-built alarm system for bank staff.



My Dearest Alice,

Knee-deep in mud and isolated in the outback by the "Big Wet" of 1871-72, the men working on the Adelaide-Darwin telegraph got on each other's nerves.

Even South Australia's Postmaster General Charles Todd, who was directing the erection of the overland

telegraph line, was edgy.

He complained that one of his men spent too much time writing to his wife. Todd's complaint is itself found in a long letter to his own wife, Alice.

Todd revealed two of his weaknesses . . . tea and pudding.

He wrote of his cook: "He

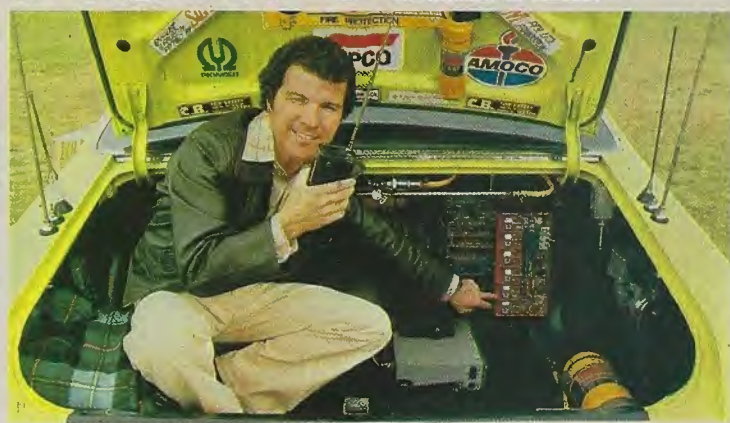
was a splendid fellow, that cook of mine, never put out by trifles such as water of the consistency of cream, with which he still managed to brew most glorious tea."

Todd also praised the cook's campfire cuisine. He wrote: "His few and far between Sunday duff, out of which every third man was

rewarded with a single plum, was, like his yarns over the camp fire, not easily forgotten."

Todd was a methodical man. He kept detailed diaries covering each day's business and records of his dealings with party leaders. And, as other things came to his mind, he often jotted

IS A WORD FROM NEIL



ABOVE: The car's dashboard displays a vast array of instruments.
 ABOVE RIGHT: The \$28,000 computer responds to Neil's voice.



Road-surface sensor.



Another radar sensor.
 LEFT: A word and the GTS roars into action.



Velocity check sensor.



The closed-circuit TV.
 LEFT: Neil tunes the engine vocally via walkie-talkie.

them down at the back of his diary.

One such reminder, in October 1871, is headed: "List of things for journey."

The list is: 4 trousers, 3 waistcoats, 4 Crimean shirts, 8 pair of drawers, 12 pairs of socks, 3 doz collars, 9 pocket handkerchiefs, 3 pyjamas, 5 jerseys, one belt, 3 alpaca coats, 3 scarves, one clothes brush, one green scarf, 2 pairs boots, one pair slippers, 10 towels and 3 puggarees (which are

scarves worn round hats to keep off the sun's rays).

While Todd's interests ran to tea and sartorial splendour, his men were more interested in the odd glass of beer. To keep the men sober and working, overseer C. Giles had a plan for getting the men past the pubs in settled areas on the route to Darwin.

"My plan for running the gauntlet of so many townships was a simple one," Giles said. "I had

several staunch teetotallers among the horse drivers. These I placed in the lead with their teams with orders to push on without stopping on any account.

With pubs off limits except for very brief visits, the men

spent their spare time playing cards. Unfortunately the massive rainfall — 177.8cm in three months — meant all the decks of cards were soggy. The men solved the problem by making tin cards on the spot out of bully beef tins.

*Affectionately
 Charles*

MAKING YOUR TELEPHONE

"Hullo, Gran, Happy Easter." That's all a telephone call is — the ability to call someone and to be able to hear one another.

Unlike gas or water, your telephone is not just tapped into a main. For each call you need the equivalent of a pair of wires all the way from your phone to the other end.

Imagine having over four million pairs of wires coming into your home so that you could call out to or be called by any other telephone customer in Australia.

Behind each phone call is a complex network of over 5000 exchanges across the country — all linked together to carry your voice across the street or the continent.

When you dial a number in your own suburb or small town, the exchange equipment simply switches your call to that number. Then you talk across the pair of wires that go from your place to the exchange and from the exchange to the person you called.

If it's a call across a city, the exchange automatically selects the best free path for your call — again on your own link with your exchange across a freeway of underground cables linking the exchanges — into the exchange at the far end or to another pair of wires leading to the final destination.

The longer the call, the more complex. Consider an STD call from Sydney to Perth. Your call goes down your link with your local exchange via the cable freeways into the trunk exchange. Here the best free path for your call is selected so that it goes across the country to its destination. That one call could pass through 10 or more exchanges all at the one command you gave — the number you dialled. And all this takes place in a fraction of a second.

Although your voice



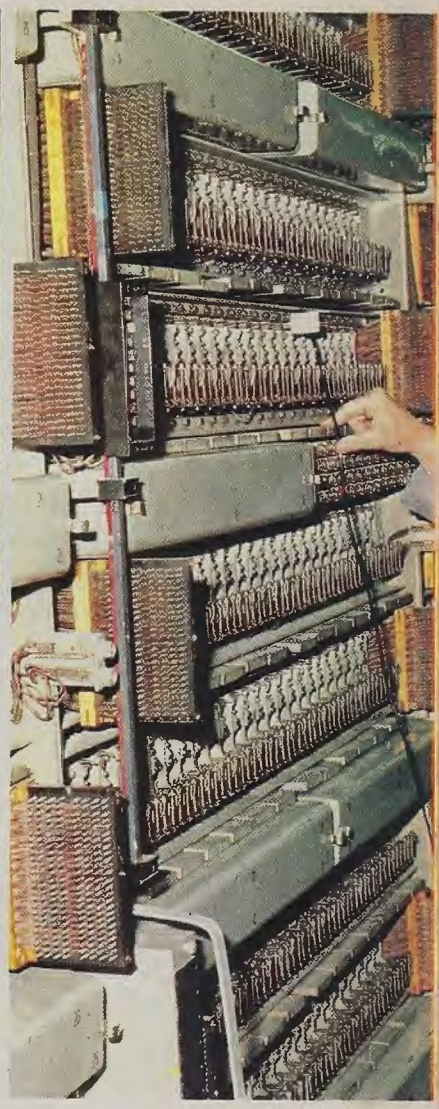
The joy of a long-distance call brings smiles to the grandparents, above, and their grandchildren, far right.

travels at the speed of light — carried by electricity along the telephone network — it will grow faint over long distances. Across cities and on STD and trunk calls, your voice needs to be boosted along the path of the call so that the person at the other end thinks you are in the next room.

Repeaters are the answer — complex electronic equipment which receive a stream of calls — often thousands at a time — amplify

them and send them on their way, keeping each conversation quite separate from the others.

These repeaters may be buried underground along major cable routes, housed in major exchanges or put in weatherproof shelters at each microwave tower site. These microwave towers are set about 30 to 40 kilometres apart. On your call from Sydney to Perth your voice would be repeated 60 times crossing the Nullabor alone.



How things change

1880 — There were three private telephone exchanges, Melbourne, Sydney and Brisbane, each with a mere handful of customers.

1907 — 225 exchanges and 47,421 customers and at last you could call Melbourne from Sydney. There were very long delays and it was hard to hear one another.

The \$10 rental covered the first 1000 local calls. Sydney to Melbourne cost 50 cents for three minutes by day and 25 cents by night. A good wage was \$3 a week.

1912 — The first automatic exchange opened in Geelong (Vic.). Australia had 95,965 telephone customers. You couldn't call Brisbane from Sydney.

A local call cost just under a half cent, and a Sydney-Melbourne call still cost 50 cents by day — delays were long and it was hard to hear. The basic wage was about \$5.50.

1945 — By then you could make a trunk call to all capital cities — with the usual delays and the hard to hear

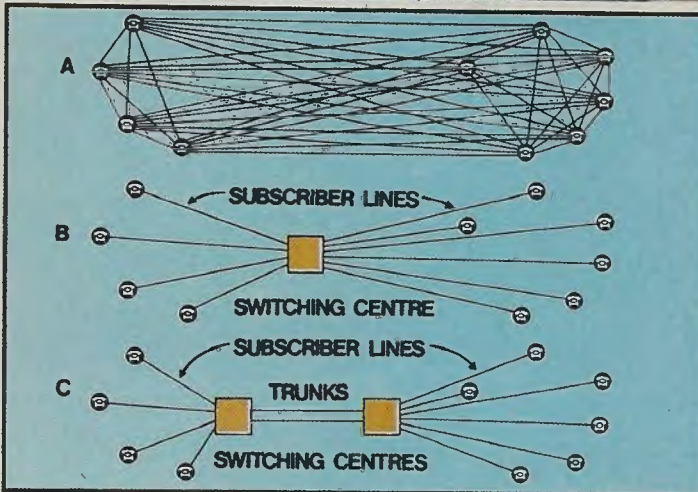
calls. There were 577,777 telephone customers — 99 percent were automatic services.

A local call cost 1.25 cents, while a Sydney-Melbourne three minute call was 57.5 cents by day, 43.3 cents in the evening and 29.1 cents after 8 pm. The basic wage was \$9.90.

1962 — At last you could dial direct from Sydney to Melbourne — no delays and the call was loud and clear. There were 1,353,347 customers — 78.7 percent of services were automatic.

A local call cost 3.33 cents, while a quick

CALL TODAY



LEFT CENTRE: Routine service keeps the lines trouble-free at exchanges. **BELOW LEFT:** This sketch illustrates, in order, the chaos of direct connections, the convenience of local switching and the ease of transmitting calls between local switchboards using long-distance trunk lines.

who will then give you instant attention.

Give it immediately you are answered and do not ask the operators any questions outside their business: if you delay them with questions they cannot attend to their work; confine yourself strictly to the number of the Subscriber you want.

When connected do not again use our Bell (except to ring off); should you do so you will be immediately disconnected. If you leave your telephone to seek information, ask the other end to wait and listen, on return speak direct; do not ring or you will be disconnected.

Only ring off when finished with a Subscriber; do not delay, you may be wanted by someone else. The operation of ringing when finished causes a shutter to fall, this is the only means the operators have of knowing when you have finished.

Speak into your Transmitter in a clear even tone, and at the distance notified thereon; unless you do this you will not be understood properly. If you talk in an imperfect or in an unintelligible way, the Transmitter will do the same.

See that you always hang your receiving Telephone on the Switch of the Call Box; this must be done or you cannot be rung up.

For talking, the Switch is opened by the action of taking off the Receiver; should you leave it continually open by forgetting to replace your Receiver, your Battery will run down, and your Telephone will be useless, in which case you must not blame your Telephone.

Sydney-Melbourne three minute call was \$1.50 by day and \$1.20 by night. The average weekly wage was about \$48.

1979 — You can now dial direct to almost anywhere in Australia — 97.5 percent of the 4 million plus telephone services are automatic. Delays are practically unknown.

A local call costs nine cents. Sydney-Melbourne three minute calls are \$2.70 — by day, \$2.16 — during the day on Sunday, \$1.35 — 6 pm-9 pm, \$1.08 — after 9 pm. And today's average weekly wage is well over \$200.

Telephone manners

Making a phone call is by any standards, pretty easy. But in the 1890s telephone companies around the world thought it necessary to issue complicated sets of rules to subscribers.

One American company — whose list was far from concise — included such gems as:

"Ladies who eat onions must stand four feet from the transmitter."

They even went on to explain that "No mistakes in grammar will be rectified in transmission," and "Patrons

are strictly forbidden to use words of 12 syllables for fear of breaking down the line."

People were also forbidden to use the wires of telephone lines as clothes lines.

The rules issued in May 1884 by Thos. T. Draper, Superintendent of the Telephone Exchange in Little Collins Street, Melbourne, were a little less bizarre.

The notice read:

Have the number of the Subscriber you want ready before you call the Exchange; this saves your time and the time of the operator,

HELP AT HALLS CREEK

Operation Telegraph — one of the most remarkable incidents in the history of the Australian telegraph service — took place in August, 1917, in the small town of Hall's Creek in Western Australia.

The postmaster at Hall's Creek was Fred Tuckett who had to perform a complicated surgical operation on a local stockman by following instructions from a qualified doctor over 3000 kilometres away.

Hall's Creek, in the far north of the State, consisted at that time of only a post office, a hotel and three stores. The nearest town with a doctor or a nurse was Derby, about 600 kilometres away.

Fred Tuckett was a big, good-natured man and had an expert knowledge of first aid methods. Because of this he was looked upon by the locals as their medical man whose voluntary services could always be obtained.

It was natural, therefore, for the friends of the stockman, Charlie Darcey, to take him to Fred's office when he sustained internal injuries after being thrown from a horse.

It took them nearly a day to get Charlie from the property at Ruby Plains to Hall's Creek. The trip had been made longer because they had to stop frequently on the way to relieve some of the pain caused by the jolting of the vehicle over the rough tracks.

As soon as Fred saw the sick man he gave him an injection of morphia and got on the telegraph line to Derby.

But the doctor was out of town and they had no idea when he would return. Fred tried another town — Wyndham — but found there would be no doctor there for a few weeks.

He finally made contact with a doctor in Perth who had taught him his first aid



A doctor's telegraphed instructions enabled Fred Tuckett to operate on an injured stockman.

knowledge at a St John Ambulance Association course.

Over the 3000 kilometres of telegraph lines, Fred gave the doctor a careful description of the injured man's condition and the doctor, without any hesitation, diagnosed a rupture of the urethra which had blocked the bladder passage.

The doctor told Fred an immediate operation was essential. The postmaster replied that there were no instruments or anaesthetics at Hall's Creek, and, even if there were, there was nobody who could operate.

"You have morphia, permanganate of potash, a pocket knife and a razor," said the doctor. "You must do it."

"I might kill the man," said Fred.

"If you don't hurry," said the doctor, "he will die."

Fred was convinced and agreed to do the operation, which was successful.

However it was necessary for yet another more extensive operation when complications set in owing to the jolting received by the patient during the drive.

The doctor from Perth agreed to come to Hall's Creek to operate.

He travelled by express steamer and then set out on the 600 kilometre journey inland by car. He took six days to reach Moolabulla Station, 30 kilometres from Hall's Creek, and there the car broke down.

The doctor had to make

the remainder of the journey by horse-drawn cart.

But it was a sad-faced Fred Tuckett that greeted the doctor. "It's too late Doc," he said. "We buried poor Charlie Darcey today."

Darcey had developed a fever while the doctor was still coming.

Fred Tuckett's courageous, if unsuccessful, attempt to save Charlie Darcey's life, drew attention to the need for better medical facilities at Hall's Creek, and the people of Western Australia, greatly moved by the incident, made certain that such a tragedy would never occur again.

The Australian Inland Mission, backed by the State Government, established a hospital there.