



OTVA NEWSLETTER

Overseas Telecommunications Veterans Association (Australia)
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Thank
Heavens,
its over!!

About 170 members of the Vets enjoyed the 50th Anniversary Lunch at the Bowlers Club in Sydney on 17 November. (See the story inside)

LIFE MUST GO ON.

Put the 16 March in your diary as the date of our next reunion, **also at the Bowler's Club!**

More details in the next Newsletter

This is a special issue which is aimed at covering the Jubilee Reunion of the NSW Vets For those who couldn't make it, I hope it gives you some of the flavour of a great event.

Our President's Christmas Message - 2006.

Our sincere thanks go to Bob Lions, our Editor, for the idea to issue a special edition of our Newsletter, so that those unable to attend could share in the activities, serving at the same time as a record of the event. We trust you enjoy same?

With a most successful 50th Anniversary Function now past, our thanks to all who supported this great effort and so ensured its success. We now look to the advent of Christmas and the New Year. The year ahead presents challenges; as "the progress" in social and moral integrity worldwide seems to be the antithesis of what our parents taught us? Nay we look forward to a New Year, where the old values of integrity, Cove, peace and hope become an integral part of our society's fabric.

THE OVERHEADS

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To all our membership, my sincere thanks for the bestowal of "Life Membership". It is greatly appreciated.

As I said at the Anniversary Function, our association's future is in the active participation by you all in it's activities! Let us go forward then, with hope and the knowledge that our past efforts have borne fruit, thanks to those who served us so well.

May you all have a "Happy Christmas" and the New Year bring good health and prosperity!

As Confucius wrote centuries ago: "Man's only true gift is a little of one's self, to improve the lot of those less fortunate."

Sincerely

Henry Cranfield

THE GOLDEN JUBILEE LUNCH

We gathered in the auditorium of the Bowler's Club at noon (nominally! There were those who arrived at 11:00am who were so keen to get there!). It was great to see so many familiar faces and many which had not been sighted for some time. The noise level gradually increased as old friends greeted one another and I am sure copious quantities of amber fluid were encouraged to evaporate.

At about 12:30, our MC, Peter Bull, was able, with great difficulty to persuade us all to find a seat so that we could enjoy a very pleasant meal which was to be punctuated with the comments from the speakers for the day. (There was a minor technical hiccup when we discovered that we had been hooked into the PA for a number of raffles. Several techs were despatched to sort out the problem and it was soon fixed!). The Celebration Video was also screened and well received. A few photos are dotted through this newsletter to illustrate the way the show went.

We also received a message from our friends across the ditch

**To The President & to all the members of
OTVA**

17 Nov 2006

On the occasion of the Golden Jubilee of
Overseas Telecommunications Veterans

Association (Aust) we send our warm fraternal greetings from the Veteran Cablemen's Association (New Zealand).

You can be proud to have contributed so much to the growth of communications in that period and to the splendid growth of your Commonwealth. We value the co-operation and the friendship we have received so generously over the years.

These 50 years saw an enormous change and you were a big part of it. Now is the time to celebrate.

We know you will do that well in the way the event deserves.

Ray Connolly, Almoner. Vet Cablemen's Assn
NZ

Our President, Henry Cranfield, kicked off with a welcome message:

THE PRESIDENT'S OPENING

Good Afternoon! Ladies, Guests and fellow members. For me it is a personal pleasure and a privilege to extend our committee's thanks for your attendance and support. We trust you all enjoy this afternoon with us.

In the 50 years since our foundation, there have been radical changes in the way we live, in Australia's economy and particularly in communications technology. Today, the key phrases seem to be "speed of delivery and economic rationalism?" It is not my intention to usurp our speaker's function but to emphasise that we as an organization have coped with these changes and today give our sincere thanks to those who founded our organization and to those who brought us to the present, so enabling us to celebrate our "Golden Jubilee!" No mean feat when one considers the problems thereof.

I wonder how many of you remember what you were doing this time 50 years ago when I know some don't remember where their keys or glasses are an hour after they put them "Somewhere."

I personally was dispatched by the PMG's department with 26 others, to the bush for a minimum 2 year sentence as we were single, qualified and had no reasonable excuse not to

go? In my case it was to Walcha in the New England ranges. Perhaps the best thing that happened to me as NO ONE wanted to hear your problems or help you fix them? I was known around the town as, "the Rockdale Rock and Roller" as I wore shorts, stockings and Tartan Shirts!" Times have changed

Our function today was brought about by the efforts of our organizers, Will Whyte and Peter Bull, aided by Martin Ratia who, though now "swanning on the beach" with his wife at Da Nang, Vietnam. gave much constructive advice and drew our attention to the current venue. He also volunteered to write a history of OTVA but after perusing and marking up all the OTC Transit magazines. staff publications etc held in Telstra Archives, plus OTVA Newsletters, we decided this was a futile task, as the material was not conducive to writing a "narrative "type publication. We would also thank Telstra's Records Manager for all her help. In this task.

We found in trying to reproduce photos from old publications; that due to the technology then used there was a "Moire" effect produced which rendered them unsuitable. However, not wishing to be defeated, Martin came up with the DVD idea and produced the material with Jas. Shennan's help. To all four, we owe a sincere vote of thanks which I now ask you to show by acclamation.

Separately, Peter Bull, with the assistance of our daughter Elizabeth who converted Volume 1 of our Newsletter from Foolscap to A-4 size paper, a time consuming task; has copied to a CD, all the Newsletters from Volume 1 page 1 to the present and we thank them both for their efforts. Gordon Cupit, has copied all the Indexes onto a CD and they are available for \$10.00 per set including packaging and postage. So please see Peter Bull or Allan Hennessey if you would like a set?

The yellow folders on the tables were produced by Bob Murray and his wife who also bundled the booklets on OTC's History. A sincere vote of thanks goes to both for their efforts. To all our committee also goes my thanks for their contributions to today's success.

In looking to the future we need to encourage the more youthful of our membership to carry the torch. It is also imperative that they are supported by our total membership, by attending functions, writing material for our Newsletter, or whatever. Your participation in our activities is the key to the future.

We are also mindful that members in other states, commencing with Victoria next year, have their anniversaries to come. We are most grateful for their support and contributions to our common cause over the years and extend best wishes for their futures.

I should also like to take this opportunity to personally thank our speakers for their willingness to participate in today's function and so contribute to its success.



The food was good.

This was followed by a few remarks from our Life Member, Gordon Cupit who made some off the cuff remarks and then left it to Bob Lions to read his carefully prepared paper:

MEMORIES

By Gordon Cupit

As the history of the Vets appeared in a recent Newsletter, I intend to only cover some main activities over the years and to name those to whom we give our thanks for their help in the past.

When I commenced my 13 years as Secretary I was fortunate to have control of the Records Section, the Print Room and the Typing and Secretarial Pool. Later on I also had the Travel Officer, the Welfare Officer, and General Services Officer. This allowed me

great scope to carry out my Secretarial duties, with all these staff cooperating.

Although not qualified as a Veteran at the time of the foundation meeting, I was coopted into the original Committee, so have been actually involved for the full 50 years. It has been a marvellous experience.

From the beginning all CEO's have accepted the Vets as a good Staff Relations tool, and initially Secretary of the Vets was included in the duty statement of the Staff Relations Officer, Wilf Atkin. I can't remember the reason that it was dropped out, but later the Secretary became a voluntary elected position.

The first General Manager was John Mulholland, who had started in AWA as a ship's operator, and was well qualified for membership. John was very enthusiastic. He agreed to subsidise us. All following CEOs gave us similar treatment, but one that must be specially mentioned is George Maltby who, together with his wife Mary, did so much for the Veterans. I think that we must give Mary credit for the employment of a full time Archivist. All these Gentlemen assisted us in many ways. All costs over and above the small fee we charged members to attend functions, were subsidised by the Commission. The cost of food partaken and drinks both soft and hard came to a considerable amount. Without this help, our refreshments would still have been sandwiches and tea/coffee as per our first few years. I remember one year a train strike was put on at 3pm on the afternoon of our meeting. We had catered for 100, menu being salmon sandwiches, but only 19 were in attendance. Fortunately we had the hungry SOR Staff to feed them to. This made the Committee start thinking of other food for our meetings.

Venues were always a problem up to the time that the Commission opened the Staff Canteen in the Grange where good quality catering was available. For a few years we had the good fortune to use the Sydney Boys High Club at 81 York Street (only a few doors up the street from where we are today!), where we were sponsored by Veteran Bob Wright, an ex AWA Engineer. Bob conducted a wholesale electrical business in Clarence Street, where

he gave Vets full trade discounts. As this was in the early days of TV, many of us purchased our first set from him. After the move to Elizabeth Street, we had the use of the elaborate Function Room, together with its Manager, Hugh, who gave us heavily subsidised Executive style food and service.

As well as the use of my staff and facilities, the Commission provided paper, printing, postage etc for our notices and Newsletters. These were amounting to approx 40 pages every six months. 500 copies were printed and distributed which involved considerable staff time.

My boss, Tom Molloy, must be given a special mention. He told me to spend as much time as I wished on Veterans matters, providing it did not interfere with my official work, and suggested that he did not mind me taking any visiting vets to the pub. He was well aware that I was a teetotaler. C&W pensioners were required to fill in a form every three months signed by a JP certifying that they were still alive. As I was a Commissioner for Declarations, many came into Head Office and I was able to meet them.

One widow, who had not sent her form back to London for a year had to be located and it was found that she was still alive, and had the year's cheques still in her handbag.

Tom approved of my travel to interstate branch meetings, and for Charlie Carthew to visit Sydney for our functions.

His successors, Dick Christoffersen and Merv Gildea, followed with similar help and interest in the Vets. Merv, who had come from the Industrial Court, did not qualify as a Vet but accompanied me to some of the other Branch meetings.

Even in my retirement, as President of the Vets, George Maltby approved my visits to other Branches. George took a particular interest in the Vets, as did his wife Mary. To both we must give our heartfelt thanks.

Charlie Carthew was a force in the Melbourne Branch, where he ruled with an iron fist and his ideas were obeyed. He nominated the oldest Veteran as the next President for the forthcoming year and each President had only

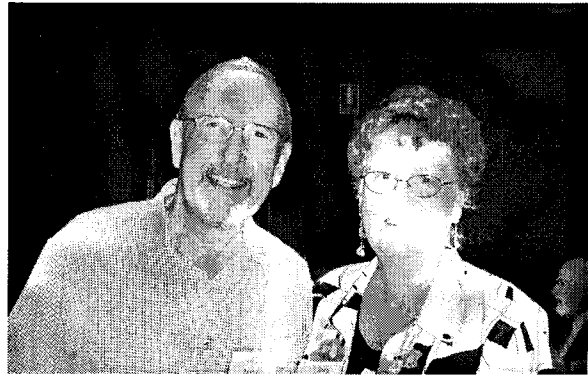
one year in office. Meetings were a bit of a joke, as many of them were too old to chair the meeting, leaving Charles to take over. He was instrumental in arranging affiliation with overseas bodies in London, Canada, U.S, New Zealand, and Cyprus. He kept in touch with all these associations until the time he had a stroke and was retired as National Secretary. Copies of our Newsletters were sent to all these bodies, and individual copies to each of the NZ members and to Australian members of the Canadian Vets.

Four important events which greatly improved our membership and increased numbers at our functions were the advent of the Newsletter, altering the time of our Functions from evenings to midday, the invitation of spouses to our Reunions, and finally I sent a letter to each staff member on the anniversary of their 25 years service, advising them of the advantages of being a member and inviting them to join. This latter guaranteed the continuance of our Association.

The late Keith Vincent, when Manager of Cairns, arranged a few pieces of equipment into a small exhibition, which impressed clients and visitors. He suggested that the Veterans should encourage members to donate anything they might have in their possession, and any photograph and books of Telecommunication interest. This resulted in the receipt of many relics and photos. Photographs were copied and returned to their owners, (it was just as well that I had a petty cash budget!). We made use of a Records Section cabinet to store them in. When I retired, John Walker, General Services Officer, although not a Veteran, took over the Vets Archives until the time of his early death. George Maltby arranged for a wall plaque to be placed in the OTC Archives, acknowledging his good work.

The Bicentenary Exhibition at Paddington was a big event in our history. I was appointed to the Planning Committee, and our relics and photo archives were used in the exhibition. A description of the Exhibition appeared in detail in a Newsletter at the time. Members of the Vets volunteered to man the Exhibition over the weekends. It was open for six months at

Paddington and a further twelve months in Melbourne.



Alan & Joan Arndt

Our Ham members have operated a weekly schedule for many years, and this has been a great method of receiving news of Veterans out of Sydney. Trevor Thatcher, living at Wauchope has been our emissary.

I kept in touch with widows by sending them a Christmas card each year. This was greatly appreciated by the widows to know that they were not forgotten. I received cards from them in following years and it resulted in many letters from them. Those who were capable of travelling, were invited to our Reunions.

I had the Records Section under my umbrella, and because of the nature of OTC's business, we received many overseas stamps on the mail. A group of Records volunteers sorted the stamps during their lunch break. We were able to give the best of these stamps to staff and veteran collectors. Island and Australian stamps were made available to delegates of conferences. Australian and common stamps were given to missions.

I attended most veteran funerals, and was also delegated as official funeral representative for the Commission.

The merger of OTC and Telecom to form Telstra was a great blow to our Association. We lost our marvellous venue and all assistance previously provided by OTC, which had made life very easy for our President, Secretary and Committee. I appealed to the CEO, an appointee from the US, who did not want to know us. However he suggested that we approach the Telecom Institute for help (which Telstra subsidised to the tune of

\$75,000 annually), provided the Institute was agreeable. The best deal we could negotiate was for them to include a small number of pages of a Newsletter within their Journal at a cost of \$10 per member.

President Tom Barker and his Committee, with the approval of the Annual General Meeting decided to go it alone. This caused a lot of work and heartache, but has proved successful due to the hard work and decisions by Tom and his crew. For this we are grateful and trust members will give help, and interest in the Vets to provide a bigger and better Association. The best way do this is recruit new members and to provide stories for the Newsletters – I trust that what I have written has been of interest.



Robert and Judith Hall from Melbourne

This was followed by a most pleasant lunch which was enjoyed by all. Thereafter, with a need to return to work, we heard remarks from Cyril Vahtrick which were derived from this paper which traced some of the technology changes which had occurred within OTC.

**LONG DISTANCE TELECOMMUNICATIONS
MEDIA 1858 – 1963,**

by Cyril Vahtrick

(OTVA Members may be interested in the following edited version of a paper which I presented at the 1963 Radio and Electronic Engineering Convention in Melbourne in May 1963. The original paper was more formal, with references, etc but I thought the concise historical content was useful to retain. Where appropriate, I have editorially converted the future tense to the past (considering that 43 years have passed!). CV)

Submarine Telegraph Cables.

With the value of landline telegraphy well established and benefiting by the experience gained from early crude attempts at laying cables across the English channel, and the ultimate success of some of these ventures, attention was turned to the Atlantic. In 1858, after great perseverance and many near-failures, a cable was laid connecting Ireland with Newfoundland. The first long distance telecommunications link had been completed.

After signals had been exchanged and the large number of sceptics convinced, the "Times" remarked: "...since the discovery of Columbus, nothing has been done in any degree comparable to the vast enlargement which has thus been given the sphere of human activity."

This first cable had a life of less than a month before the insulation broke down irreparably and the cable was abandoned. Even in this short life, however, the value of this facility for rapid communications made itself felt. A message was flashed across to the other side of the Atlantic reporting the collision of the S. S. "Europa" and "Arabia" with an assurance of the safety of all on board; an order was issued countermanding the withdrawal of two regiments about to leave Canada for England; (the latter resulted in a saving of about £50,000); in all, 732 messages were sent by this first cable.

Despite the heavy loss incurred on the first cable venture, the impact of its immeasurable usefulness remained. Governments suddenly found "instant communication" indispensable; people were no longer prepared to accept overseas news carried via sailing ship. Such news could be weeks or even months old. Commercial organizations also saw the value of the tremendous time saving possible by conducting correspondence over this new medium. A new trans -Atlantic cable was successfully laid in 1866.

The new communications habits quickly developed. and the operators of submarine cable systems started to experience their first traffic congestion. In the early pioneer days, the Atlantic Telegraph Company started with a minimum tariff of £20 for twenty words and £1 for each additional word.. This was

successively reduced, until a system of 4 shillings per word with no minimum was introduced in 1872.

The demand for telegraph communication grew and extended to every corner of the globe so that, well before the turn of the century, some 170,000 nautical miles of submarine cable had been laid. In 1872, Australia was connected via the overland telegraph from Adelaide to Darwin, thence to Indonesia and on through numerous countries to UK.

This demand soon outstripped the carrying capacity of the cables, the limitation being the "speed" at which signals could be sent. Investigations associated with the problem of cable "speed," were probably the first real ventures into electrical engineering, leading to wider fields opening for the practical use of electricity. The first trans-Atlantic cable operated at the incredibly slow speed of 105 impulses, representing 1.85 five-letter words, per minute.



OTC stood for the "Overseas Travellers Club" Bob Dentskevich came from England for our reunion and

Cyril Vahtrick came from Northern Sydney

Faraday had discussed the problem of "retardation" in connection with the passing of electrical signals over cables, which ran underground, or under water. Theories were put forward leading to the "K. R. law" which stated that the "speed" of a cable was inversely proportional to the product of the capacitance (K) and series resistance (R) of the cable.

Professor William Thompson (later Lord Kelvin) achieved a vast improvement in reception sensitivity over the commonly used relays with his famous "mirror galvanometer" in which a spot of light, reflected from a

mirror fastened to a system of magnetized needles suspended at the centre of a coil, was focussed onto a white screen where the movements of the mirror, activated by hand keying from the far end, were greatly amplified and could be observed and the code read by a trained operator.

A second method of reception, only slightly less sensitive than the galvanometer, was the "siphon recorder" which was the forerunner of the "undulator". Eventually mechanical transmission was achieved by the use of previously prepared punched tape and then mechanized. Reception was developed with letters printed on a continually moving tape. (Both the mirror galvanometer and undulator were still in use at submarine telegraph terminals in a monitoring capacity until their closure in the early 1960's).

Quite early in the history of telegraphic communications, the idea of duplex operation was conceived, virtually doubling the effective "speed" of a given cable by allowing operation in the forward and return directions simultaneously.

Even after short wave radio was entrenched, efforts continued to improve the efficiency of submarine telegraph cables. In the late 1950's, as an experiment, a few submerged repeaters were installed at key spots to amplify the telegraph signals close to the far shore end before the effects of atmospheric noise masked them in shallower water and on to land sections.

Telephony

With the first demonstration of telephony in 1876 by Professor A.G. Bell, attention was naturally turned to the adaptation of this new facility to submarine cable working. It was soon realized however that telephony over the long distance submarine telegraph cables was not a practical proposition. An interesting set of figures was given by W. H. Preece as a result of experiment :-

When:

KR =	15,000	(or over)	speech becomes impossible.
	12,500	" "	possible
	10,000	" "	good

7,500	"	"	"	very good
5,000	"	"	"	excellent
2,500	"	"	"	perfect

(Considering the relatively primitive microphone and headphone equipment then available, one wonders what their idea of "perfect" must have been!)

(In the context of submarine cables, the "K R" of early trans-Atlantic cables would have been about 5,000,000.)

Low Frequency Radio

Culminating over five years' work, constantly increasing the range of transmission of signals "without wires" after his first public demonstration over 9 miles, Guglielmo Marconi succeeded in the transmission of the letter "S" in Morse code across the Atlantic in December, 1901.

The impact of this new form of telecommunications brought immediate concern to the cable companies. "Vested cable interests stirred uneasily in their ocean bed." The Anglo American Telegraph Company took legal action and this had the immediate effect of preventing further work by Marconi in Newfoundland.

After this legal obstacle was overcome and further tests were made, experience indicated the presence of the "daylight effect" which drastically reduced the range of signals during daylight hours. It was soon found that this effect decreased as the frequency was lowered and there was a period when commercial long distance point-to-point telegraphy was achieved by using very high powers and low frequencies.

In view of the limited range of suitable frequencies, interference became a problem and, although "wireless" had a somewhat greater "speed" than the long submarine cables, the success of the former was not unqualified, as expenses began to mount and problems of reliability remained unsolved.

In this climate of threatened competition, submarine telegraph cables continued to be laid but the rate of development showed signs of slowing, which as history has shown, was not because of saturation in demand! It appeared that, although the telegraph

companies were keeping a close eye on this possible competitor, their existing cable business continued to flourish.

It was Marconi, a second time, who broke through with a new adversary to the telegraph cable which was to shake the very foundations of the cable empires.

High Frequency Radio

Ignoring the opinions, by now widely held by scientists, that the higher frequencies were useless for long-range transmission, Marconi conducted a series of world-wide experiments, achieving unbelievable results to the remotest parts of the globe using only a fraction of the power by then being employed in L. F. transmissions.

So successful were Marconi's tests that he made a dramatic proposal that current plans for the Imperial Scheme (a scheme, approved by the various British Commonwealth Governments for a chain of L. F. stations) should be dropped.

Marconi proposed, the construction of Beam Stations, operating in the High Frequency range, for about one-twentieth the cost of the original scheme. That this revolutionary proposal was accepted by the Governments concerned was an indication of Marconi's standing, as at that stage H. F. had never been used on any commercial long distance circuit.

It was found that this new medium permitted the transmission of messages at 100 words per minute or even faster and immediately the competition with cables made itself felt.

The Beam Stations could, economically "undercut" the cable companies and the H. F. medium had what appeared to be virtually unlimited potential capacity for traffic. The impact was immediate -- the vast network of cables, which by now had probed into the remotest corners of the globe, stopped growing and its very existence became threatened.

An unexpected ally emerged for the cable companies--the sun. Marconi's work had outstripped scientific knowledge of propagation and when H. F. radio started to exhibit erratic behaviour, scientists began to piece together the clues leading to the postulation of the existence of the ionosphere.

Now Governments, who had hitherto welcomed the competition which H. F. radio had given to cables, became worried. If radio drove cables out of business, a country could be out of communication with the rest of the world for hours at a time, or even days (during ionospheric storms).

The various Governments of the British Commonwealth set about the task of legislation to forestall the threatened extinction of submarine telegraph cables. This took various forms in different places, but in general the result was the same and cables survived, in "peaceful coexistence" with H. F. radio.

This was not the case with L.F. radio which almost immediately disappeared from the commercial scene as far as point-to-point operation was concerned, although it has managed to survive to this day in a few naval and scientific applications.

As a better understanding of modulation developed, long distance telephony over H. F. radio became a practical proposition and resulted in further use of this medium. At the same time, the principles of bandwidth became more fully understood.

The use of H.F. radio as a long distance communication medium increased very rapidly and it was not long before interference became such a problem that, despite advances in technique to reduce bandwidth and increase receiver sensitivity and selectivity, the increasing requirement for long distance communications placed a demand on the H. F. radio medium which it did not have the capacity to meet.

Submarine Telephone Cables

In 1956, as the result of a joint venture between the British Post Office, the American Telephone and Telegraph Company and the Canadian Overseas Telecommunication Corporation, the Atlantic ocean became the scene for yet another "first" in long distance communications with the completion of the Trans-Atlantic Telephone Cable (TAT 1).

This turn of the wheel around to submarine cables again was made possible by the development of the submerged repeater. While the requirements of long distance telegraphy

were being reasonably met by radio, telephony had not proved as successful because of the extreme variability and inherent distortion effects of this medium.

The reliability and quality of submarine cable telephony immediately produced a change in the type and scope of user demand which increased so rapidly that there was a resurrection of cable network expansion which began to assume a pattern similar to the one which the world had experienced almost exactly a century earlier.

The new cables, of course, had a rather higher information carrying capacity (the first trans-Atlantic telephone cable would have a capacity of about 2,400,000:1 compared with the corresponding telegraph cable.

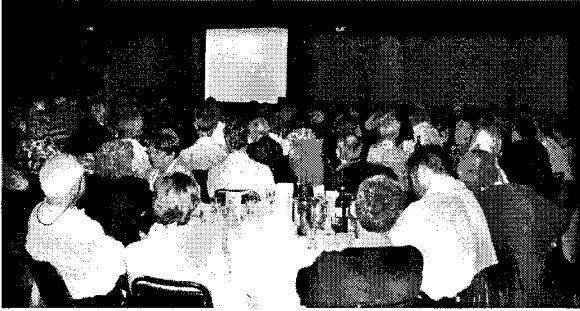
With the cable medium of course the problem of interference did not exist and theoretically there was no limit to the extent to which total world -wide capacity could be increased.

Practical considerations, such as the problem of supplying D. C. power to the electron valve operated repeaters (in series) produced limitations to the number of repeaters in any one submarine link. These limitations influenced early repeater designs which in turn limited the total bandwidth achieved over a given (long) distance.

The developing requirement for wideband information transfer capacity for data and television over long distances led to continuing work in the 1960's in the field of wide band submarine telephony. An important development took place when solid state submarine repeaters were laid for the first time in a cable between Britain and Belgium in 1964 .

(Ed...This quickly led to the establishment of additional submarine cable systems based on solid state repeaters, offering substantially increased bandwidth, equating to a carrying capacity of up to 1,800 telephone circuits.)

Economics in relation to other media and user demand dictated the future development of this medium for long distance communications. On routes served by telephone cables it became uneconomic and no longer necessary to retain the older telegraph cables, which were therefore abandoned.



The video was watched with interest!

On the same routes, HF. radio, originally retained on a standby basis by OTC, was redeployed to small island destinations and maritime services as the major routes became duplicated by additional submarine telephone cables.

One brake on the rate of development of the new cable systems was the high capital cost in relation to HF. radio. Experience showed that there remained the problem of finding capital at least one order of magnitude higher than that required for an HF. radio installation which could provide essential service.

(Note. I thought it would be interesting to leave the following last part of the 1963 paper substantially as it was at the time, just to show which way our thoughts were already progressing at that time. CV).

Relays Via Artificial Earth Satellites

Literally and figuratively looming over the horizon is a development which turns the wheel of telecommunications progress yet another half-turn back to radio. Again the proving-ground is the Atlantic, where a successful demonstration of long distance two-way communication via active earth satellites gives promise of a new, even more spectacular, medium for commercial exploitation.

Much has been written about this new technique, which has captured the imagination of the world more than any other. That it is technically feasible has been amply demonstrated and accepted. The operational and economic aspects, however, are still beset with problems.

The optimum radio frequency spectrum for such relays is already well occupied, but at this early stage there is still some scope for manipulation and sharing frequency

assignments to make room for the rather large bandwidth requirements (up to 100 Mc/s) of the currently designed satellite relays. What the future requirements will be is difficult to forecast, but already it is quite clear that the portion of the radio frequency spectrum suitable for this purpose is not unlimited.

The satellite spectacle has eclipsed the submarine telephone cable developments over recent years and has, to some extent, destroyed the perspective into which these two media should be placed with respect to each other.

For telephony, cable techniques have been proved economically and technically feasible, and are capable of being expanded, in moderate steps, to meet demand. A satellite relay, on the other hand, could provide for a telephone traffic level about one order of magnitude higher than the capacity of the largest long distance submarine cable system at present designed. (*Ed. i.e. 1963*).

For other forms of communication, such as television, the bandwidth capacity of satellites shows out clearly from cables, but the earning potential from these services is unlikely to be a significant factor in the overall economic picture.

For the relatively small bandwidths required for telegraphy, still the economic mainstay of long distance communication, either medium would be equally satisfactory.

(Ed. pre-COMPAC - telephony still only a minor element)

The likely impact of satellites on the development of telephone cable systems is very difficult to forecast, as a certain amount of bias exists among experts on both sides.

Two inherent disadvantages of cable systems are the increase of cost in proportion to distance and the "exclusiveness" of a cable link.

On the other hand, although communication between two widely separated spots on the earth may require two (or even three) satellite "hops" (Ed. medium altitude satellites), a system of satellites in orbits designed to provide world-wide coverage automatically has the facility to link any two places at which ground stations

have been built, whether widely separated or relatively close.

Here then, lies the real potential of satellite systems. If a reliable system can be established, providing worldwide coverage and if the system is exploited, throughout the world to anything like its full earning capacity, economics would swing firmly in favour of satellites. Hidden behind these two big "ifs" are not only technical and economic questions, but also administrative and political problems with worldwide ramifications.

Can the nations of the world, who frequently find it impossible to agree on other major issues, rise to the invitation of the I.T. U. Secretary-General, Gerald G. Gross and lead the way with a truly international satellite communications system? The events of the next few years will tell.

[Ed. As we now know, progress to achieve a viable operational satellite telecommunications system moved very rapidly, culminating with the launch of "Early Bird" by the international satellite consortium INTELSAT occurred in April 1965].

(Editor's Trivia – With the current demand for low latency on all circuits, particularly international, the laws of physics militate against geostationary satellite links and consequently 99% of Australia's external communications are currently carried by submarine cable!)

MEMORIES LIGHT UP MY MIND

By George Maltby

First let me thank all those associated with the Veterans for their mammoth effort in arranging this special Golden Jubilee event to mark an important milestone in the annals of the Veterans and of course in the history of OTC, seeing that the OT Act was passed by Parliament in October 1946 - just 60 years ago.

Many names are mentioned in this chat - many more could have been, but time and space did not permit this

If my memory is correct, the OTVA was founded to 1956 and a condition of

membership at that time was 25 years of service in international telecommunications.

On that basis it seems that to meet that requirement, members would have had to start work in AWA or Cable & wireless by 1931 and most likely to be born about 1913! Obviously none of these originals are here with us today.

Up until 1946, AWA (Beam) and Cable & Wireless (Cable) were strong competitors for the international telecommunications business and looking back it is clear to me that one of the great advantages arising from the merger of these two companies was the subsequent cultural fit between the two staffs. Although that was not necessarily clear on Day 1 however, both companies knew they were in competition and both of them knew that the customer was King.

I came to Cable & Wireless in February 1946, fresh from High School and began as a Clerk in the Traffic Accounts section and in the Operating Room at 12 Spring Street after being interviewed by H (Herbie) Hutchinson,

Going to work at 12 Spring Street at the time was a somewhat startling experience. The whole atmosphere was positively Victorian - but in line with the Company's global practices. For example we only got paid once a month but half way through the month we received a small amount of money to get us through the second half until payday

The furniture in the office was also a surprise. It consisted of old kitchen tables and chairs, a number of them in a fairly decrepit state. However it was practice not to spend any money on maintenance as it was company policy to pay a bonus instead at the end of the year.

One of my earlier experiences was sitting down in my chair and the whole chair collapsing, leaving me sitting on the floor. I said to the Supervisor, "Digger" Wellings, "We'll need a new chair" His response was "take the old chair down to the basement and someone there can repair it". However this proved impossible and as a substitute, I sat on a banana box for the next week. I soon learned not to argue about this as the bonus paid that year was approximately half my

salary. Sadly this practice ceased the year after.

C&W staff were used to mergers as they were a frequent occurrence in the cable business. There were people in the company, when I joined, who had not spoken to other members of staff who had come from the opposition in the last merger and whom they believed had secured the best table or the seat by the window.

The other senior people in the Abstracts Branch were "Hefty" Fletcher - obviously a slightly built man and Dick Osborn. Others I remember were Don Montgomery and Bill Hickling, both still with us.

The amalgamation of the Beam and Cable & Wireless staff began, after the passing of the Overseas Telecommunications Act, in 1947. Certainly, in the accounts area, the AWA staff tended to be younger and a number of them were returning from war service. Cable & Wireless had been a protected employer during the war and this sort of cultural difference was one of the many that had to be sorted out - and was without too much difficulty.

In 1951 when I transferred to the Secretary's Branch I worked with Edgar Harcourt who was developing the Staff Relations Committee, a Sports and Social club, an OTC Ball and above all else - the magazine Transit. Wilf Atkin played a significant role in these staff areas.

OTC Management was anxious to develop good staff relations across the whole service and as an example, OTC's first family Christmas Party took place and was held on Sydney Harbour in 1949. There is a photo of this in the Archives.

Another important development was the first Wagga Weekend held on the Australia Day long weekend in January 1948. It was an annual Sports Carnival and particularly a Sydney/Melbourne Cricket match which continued until 1998. Senior management always attended and seemed to enjoy the Saturday Evening smoke Concert - a roast of senior management activities i.e. Board Meetings.

The Overseas Telecommunications Act required OTC to initiate work on an Award to cover all traffic, technical and CRS personnel. This resulted in the issuing of Determination 55 of 1952 which was another milestone in the coming together of the staff of the AWA and Cable & Wireless.

In 1952 and 1953 I worked for Trevor Housley, doing research in regard to this matter and as a result, in 1953 I moved to the Staff Section of the Administrative Branch to help implement the new Conditions of Employment as Staff and Industrial Officer and worked there until early 1959. The Administrative Branch was headed up by Gordon Wallish and his 2IC, Fred Hales. Gordon Cupit was an active member of this group.

In 1959, I was selected to act as Secretary to the Australian Delegation to the Pacific Cable Conference held in Sydney during that year. This meeting recommended the building of a Trans Pacific Co-axial Cable. (COMPAC)

During 1960 I worked for a time in the International Arrangements Branch and became a regular member of the Delegation pursuing the cable opportunity.

In December 1963 COMPAC was opened by the Queen and with a significant increase in the international telecommunications capacity between Australia and the rest of the world and for the first time, OTC was seriously in the telephony business.

In the following year Intelsat was formed in Washington and OTC was one of the founding signatories setting out the interim arrangements. Trevor Housley left at this time to become Director General of Telecom and Harold White succeeded him.

By 1965 the SEACOM cable was well advanced.

In 1965 OTC created the Commercial Branch in the Operations Division and for the first time it had a significant customer relations and sales group dealing with both Australian and major overseas customers including NASA. Gray Macdonald, Jim Simpson, Tom Barker, Roy Ayton, Brian Callaghan and others, a very good, highly motivated team. Randy Payne

and Chris Vonwiller also held, at one time or another, senior positions in this group.

OTC was now also developing for the first time major television commercials - promoting overseas calls to the domestic users - and in particular to the immigrant communities.

The 1977 Memories Series won a Golden Lion at Cannes for the best Commercial Series of the Year.

As OTC grew and became more profitable, it came under more pressure to be taken over by Telecom Australia. As a result, management became more involved than before in managing this pressure and in developing strategies to ensure OTC's survival.

In November 1981 the Australian Government announced the formation of AUSSAT and the group that had been working on this in OTC under the leadership of Graham Gosewinckel, moved to the new organisation.

In 1985 I was appointed Managing Director.

In 1987 OTC moved to its new Head Office in 231 Elizabeth Street

OTCs growth and profitability as well as its high level of customer service continued during the remaining period until the merger in 1991.

OTC, through all of its staff right from its inception in 1946 was a great organisation and we can all be proud to have been part of it. Even today, mention the name to anyone with a background in telecommunications and they are likely to respond by saying what a great company it was and what a tragedy that it ceased to exist. We should all hold our heads up high for what we achieved together.

I believe the Veterans of the 20s, 30s and 40s would be proud of us!

George completed his address by awarding life membership certificates to Henry Cranfield and Tom Barker for their efforts on behalf of our association.



The new Life Members, Tom Barker and Henry Cranfield with George Maltby

THE PRESIDENT'S CLOSING MESSAGE

My thanks to all for the honour of life membership just bestowed! It was a complete surprise to me and greatly appreciated.

Now it is my duty to close the official side of our function. Today marks a milestone in OTVA's history which we sincerely hope has a long future. We again extend thanks to Peter Bull and Will Whyte and to the our committee members for their efforts today and so ensuring its success. Mention must also be made of the efforts of Martin Ratia who endeavored to write an OTVA history and then came up with the DVD idea and offered a large number of ideas and suggestipons which were of great assistance. Thanks also to Sandra Hinchey, now Telstra's Records manager for making material available from the archived OTC Publications for review.

Our speakers Gordon, Cyril and George also are thanked for the time and effort put into their speeches which we are most appreciative of.

To Cherie and the staff of the club goes thanks for their contribution towards the success of this afternoon.

To all who have come from interstate, intrastate and especially from overseas, we extend a vote of thanks which I ask all our members to show their appreciation for by acclamation.

We trust you have all had an enjoyable afternoon and thank you for your support. Our next social is tentatively scheduled for the 16th March 2007 here at the Bowlers Club.

My personal thanks to you all for your support and with Christmas fast approaching, nostalgia seems to be the "In" thing. If this means the

re-awakening of the old fashioned values of love, peace and hope I am all for it!

On behalf of the committee I extend their wishes to all for a Joyful Christmas and may the New Year bring peace and those things you would wish for yourselves.



Life membership is good for you! Pam Helps and Jim Anderson at the Reunion

The Dangers of Working alone:

(Dennis Grant)

Back to the setting up of Moree. The US team was domiciled in the town of Moree about 10kms from the site. They worked 12 to 16 hours per day and so left the site around midnight. Imagine their concern when one night they got to the Motel to realize the HPA man (Park Dolfe of satellite saturation fame) was not with them. They raced back to the site and up the three flights of stairs to the HPA room. There they found Park unconscious on the floor with his arms crossed across his chest, burn holes in the knees of his trousers and the tips of his shoes. Burn marks on the ends of each of the fingers and thumb of his left hand and a burn mark along the palm of his right hand. When they touched him he woke up apparently unhurt. Whew! They then noticed that the door of the TWT heater section of one transmitter was open and the transmitter was still running. The configuration was such that the anode of the TWT was at ground potential and the heater/cathode end was at minus 16,500 volts of beautifully regulated DC. Park had noticed some instability in the TWT operation he thought the heater voltage needed to be tweaked. Having tried this with the High voltage off to no avail he took the extremely dangerous step of trying to adjust the heater voltage, which was all floating at minus

16,500 volts with the HV on. Worse yet he used an all-metal jewelers screwdriver, as the adjustment pots were small. The result, one tremendous wallop and extreme luck to stay alive.

The floor was linoleum-covering concrete. To the end of its days it retained small "blow holes" to match the knees, feet and left hand digits of one extremely lucky engineer.

(This is the second last of Dennis Grant's little snippets and I need some more to fill holes in the 2007 editions. Ed.)

THE LAST WORD

It was a great day but there is always someone who complains. Since no-one else seemed to want to do so, I can say it was too short. There were so many old friends there that I was not able to greet and talk to all those I wished to. Perhaps if we all made the functions we could catch up more often. The next one is on 16 March, also at the Bowler's Club!

This newsletter is a whopper and I have a lovely item about Christmas 1872 which I thought would be timely but there is no space. Many other items have also been held over until our next Newsletter in February.

I've gotta cut back on the caffeine



Adios!!