

Tony Newstead (1923-2017)

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Abstract: Tony Newstead, who died on 6 November 2017, was a pioneering figure in Australian and worldwide telecommunications network planning, as well as in Australian trad jazz as both a trumpeter and early bandleader. This obituary attempts to do justice to his career in both fields. In an Attachment, Dr Clemens Pratt provides a short memoir in appreciation of Tony's role as his career mentor and colleague, and John Burke provides an appreciation of Tony's innovatory role in pioneering open planning in Australian telecommunications.

Keywords: Tony Newstead, telecommunications network planning, trad jazz, Australia, World Bank

Tony Newstead (born Isidore Anthony Newstead) is most famous within the Australian telecommunications industry for his leadership in producing 'Telecom 2000' and for his contributions to the Australian PMG Department's Community Telephony Plan (1960). However, he gained contemporary fame for his contributions as a planning expert to the International Telecommunications Union (c. 1964-1972); on secondment to the World Bank (1970-73); as Chief Engineer of the Hong Kong Telephone Company (1976-83); and as founding Managing Director of Vistel, the Victorian Government's telecommunications network (1987). From 190-99 he lectured on telecommunications to MBA course at Monash University, and chaired the Advanced Data Networks Group, a Co-operative Research Centre between Monash University, Siemens and Telstra. In a parallel career, starting in his late teens, he became an acclaimed jazz trumpeter and, in the decade after WW2, a notable trad jazz bandleader in Melbourne.

Childhood and youth (1923-1942)

Tony enjoyed a happy childhood with elder brother Gordon and sister Aida. Tony's father Julius had begun a law degree when World War I erupted and then enlisted and found himself serving at Gallipoli. There he contracted dysentery, and in his hospitalisation he met and later married an English nurse from Kent, Eleanor-Sarah Cromer, who became Tony's mother. Tony grew up in a large house in Stanhope St, Malvern (in Melbourne, Australia), complete with an imported Pierce Arrow, the American equivalent of a Rolls Royce. The car

came with a young driver, William, who lived in separate quarters above the garage. William was his boyhood hero and Tony would pester him endlessly about cars and in his own words, “gossip of the adult world”.

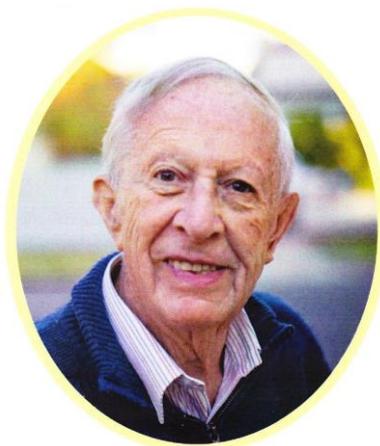


Figure 1. Mr Tony Newstead

Music was strongly imprinted into his early childhood. His father was a good classical pianist who played for relaxation the more popular works of Beethoven, Chopin and Liszt. From 1924 Melbourne had regular radio broadcasts, and their radio ran non-stop every day from 7am to 11pm. This indelibly impressed into Tony’s memory the great popular composers of the Gershwin and Rodgers & Hart eras. The combined influence of family members and daily radio undoubtedly provided the foundation for a later intense love of both classical and jazz music and his lifetime participation in the later.

Neither football nor cricket were his forte, but long periods of being outside hitting a tennis ball against the garage wall, often to avoid household chores, enabled him to become a very good tennis player, playing at pennant grade. Indeed, he could claim that he beat Frank Sedgman, a former Wimbledon champion player when Tony was 17 in an Under 18 pennant tournament – although as Tony admits, Frank was then only 14! Tony played tennis until he “retired” aged 90.

University and war experience

Tony’s work was easily the most spectacular and fulfilling part of his life. But there were temptations from the jazz world. While studying mathematics and economics at the University of Melbourne, he played cornet and trumpet in trad jazz bands. Before the end of WW2 there were slim opportunities for musicians to make a living. However 1942 saw the beginning of a career plan for Tony with the Commonwealth Public Service, initially with work placements in Customs.

Tony decided to join the war effort, and he planned to follow his best friend to become an RAAF pilot who had joined a year earlier. But the week before he was due to enlist, Tony got word that Allister had been shot down and killed over the English Channel. His rational and objective side won out, taking into account his distraught mother's pleas not to become a pilot, and so he chose to enlist for a ground staff role in RAAF Radar, that being a new area and closest to telecommunications, which had begun to interest him.

Although experiencing a one hundred plane Japanese raid in his first days on duty at Port Moresby, he was stationed shortly afterwards with an American forces unit in the north of Papua New Guinea at Goroka. This involved being seconded to the US armed forces' anti-aircraft radar division. There he had to install a radar antenna, by using leg irons to shimmy up and bolt the heavy radar dish into the top of a tall palm tree, 100 feet above the ground in fifty degree heat 90% humidity. Back on the ground, it proved to be a great opportunity to mix with servicemen who enjoyed jazz, and there was time to play the trumpet (or cornet) in the hours when there was downtime. He took advantage of the opportunity to meet and mingle with black servicemen, who were assigned to segregated units, and to hear about jazz artists these guys had seen first-hand.

In 1946 Tony re-enrolled for his science studies at Melbourne University and soon after, he managed to get the PMG (Post Master General's department) engineering cadetship that had been his original goal before the war intervened.

This cadetship exposed him to a wide range of internal training, with time off to attend university and complete degrees in Arts (mathematics) and Economics. He valued the exposure the PMG gave him to installing telephones at premises and businesses, and to hauling cables and working in muddy cable trenches. Decades later, as Chief Engineer of the Hong Kong Telephone Company, he made a point of regularly spending at least two days annually in the field with the installation gangs.

In 1947 Tony became President of the Melbourne University Rhythm Club. When the Graeme Bell Band toured Europe that year, Tony put together bands to substitute for the Bell band at places like Graeme's Uptown Club ([Johnson, 1987](#)).

In 1949 he married Pauline Tacey who was a journalist and subeditor for *House and Garden* magazine. By 1950 Tony had completed his cadetship and became an engineer in the PMG. Mark was born first and then Steven in 1952. Tony and Pauline's family were settling into their new house in Glen Iris, with a large sunroom designed to accommodate the many jazz parties that were to come.

Network planning experience, leading up to the 1960 Australian Community Telephone Plan

In 1957 Tony was fortunate to get a Commonwealth Government scholarship for overseas studies in Network Planning, and used this to complete a postgraduate diploma in probability and statistics, applied to telecommunications, at Imperial College London. His thesis supervisor was the renowned telecommunications expert Professor Colin Cherry.

On returning to Melbourne in 1959 he was promoted to the PMG's Headquarters Planning Branch, in time to work on the celebrated 1960 Australian Community Telephone Plan, which underpinned the introduction of totally integrated automatic subscriber trunk dialling (STD) across Australia, and the introduction of STD area codes based upon rational planning principles. Ann Moyal, in her magisterial history of Australian telecommunications (Moyal, 1984), refers to "the 'young Turks', E.R.Banks and I.A. Newstead," who contributed to the national network planning at that time (Moyal, 1984, p. 224).

The 1960 Australian Community Telephone Plan was well received and adopted by other countries, being a more efficient design than the only other country with a number plan at that stage, the USA. The Australian plan distributed the traffic load on exchanges across classes of density of population and projected demand in the network. Indeed the International Telecommunications Union, the oldest agency of the United Nations, adopted the plan in the 1960s when Tony represented Australia at their international Study Group on Worldwide Subscriber Dialling. By 1967 the General Assembly of the UN adopted the principles of the Australian plan and Tony was elected to Chair that Study Group for the next 3 years. This involved him in much international travel, with four regular meetings per year, held variously in Mexico City, New York, London, Sydney and Mar del Plata (Argentina) as well as at annual four week plenary sessions in Geneva.

Working for the World Bank

The World Bank in Washington DC then made overtures, inviting Tony to come to Washington to discuss the possibility of joining their recently formed Telecommunications Group. They negotiated with the Australian government, and the Post Master General Alan Hulme agreed to Tony's secondment to work at the Bank. The job entailed appraisal of loans being requested by third world governments to build telecommunications infrastructure and involved travel to the countries he was assigned to, from the largest borrowers India, Iran and Thailand to the smallest including Fiji and Costa Rica.

After the death of Pauline in 1969, Tony met the Indonesian engineer Njoman (Soe) Soelaksmi, who worked as an electric engineer at the PMG's Radio Transmission

department. Sue was a Colombo Plan Graduate in electrical engineering, the first female to graduate in that discipline from Monash University.

They married in 1970 and decided that they would move to Washington DC to start their own married life together. Mark elected to stay at home and maintain residency in Stanhope St, as he was starting a much appreciated opportunity to work in commercial radio at station 3AK. Younger brother Steven went with Tony and Soe to Washington DC, where he attended a Junior College in suburban Maryland, living with a local family.

Soe and Tony had their first child, Astini, born in Washington DC. Apart from its being Tony's base for substantial travel on World Bank business, Washington was also their formative family home. Additionally, Tony enjoyed access to many jazz clubs and venues there, and soon found a niche for his talents, as evidenced by the fact that he played on more jazz records released in the US than he ever did in Australia.

The development of the Telecom 2000 report

On his return to Melbourne in 1973, Tony was invited to head up a special task force, the National Telecommunications Planning team, that had as its reference a wider view of the economic and social implications of new technologies. This 18-strong task force included professionals covering the disciplines of telecommunications research and engineering, economics and finance, social psychology, history of science, political science and journalism (Newstead, 2000)¹. The culmination of their work, report projected to a 25 year time frame, was published in December 1975 as 'Telecom 2000'. (Newstead, 1975)

A major innovation of the Telecom 2000 report was its use of 'open planning': extensive consultation with a wide range of stakeholders across Australia, as well as extensive interchanges with telecommunications planning groups in Belgium, Canada, France, Germany, Holland, Japan, Sweden, Switzerland, the UK and the USA. The NTP team commissioned a large number of studies by external expert consultants across Australia, as well as many studies within the PMG. In addition to making projections on the growth of a range of current and future telecommunications services up until the year 2000, it devoted a whole chapter to 'Open Planning', and an even braver chapter on 'The Future Role of the Telecommunications Authority'.

Many in the Australian telecommunications industry and in academia regard this report as being the crowning achievement of his work. It used new multi-disciplinary approaches to arrive at its recommendations. It was widely and well received and was used for a long time as a teaching and reference tool in many countries and academic courses. However, while open planning was warmly endorsed by the Whitlam Government (1972-75), it ceased to

receive support from the senior bureaucracy under the subsequent Fraser Government (1975-83).

In year 2000, Tony was persuaded to write an article for the Telecommunications Journal of Australia providing an overview of Telecom 2000, and reviewing the extent of its success in predicting the take-up of a range of telecommunications services 25 years into the future.

We reproduce below the famous Table 1 – Forecast Growth of Telecommunications Services from that paper (Newstead, 2000), in which the quantitative estimates in December 1975 for seven classes of services are compared with the estimates for June 2000, based on the Australian Bureau of Statistics most recent data (1998-99). What is striking is how close the estimates were in four of the seven classes of the services: telephony, facsimile, Data/Internet and Cable TV. The poor predictions were for mobile services (which barely existed in 1975); for telex, which was rendered obsolete by digital data services, email and text messages (SMS) in the 1990s; and for the videophone, much promoted by Bell Labs in the 1970s but which never came to fruition in its own right, having become subsumed by ISDN-based videoconferencing in the 1990s (and later, after 2007, by the invention of the iPhone and other smart phones, using broadband mobile connections).

Table 1 – Forecast Growth of Telecommunications Services

Network Service	1975 level	2000 Forecast Lower Bound	2000 Forecast Upper Bound	Actual Services at June 2000*
Telephone	3.7 million	8 million	10.8 million	10.2 million
Mobile Telephone	7,000	80,000	800,000	7.5 million
Facsimile	In-house only	600,000	1.3 million	1.2 million
Telex	16,000	50,000	300,000	<5,000
Data/Internet	In-house only	500,000	3 million	4.8 million
Videophone	Nil	9,000	200,000	Nil
Cable TV	Nil	260,000	1.1 million	1.2 million

*Estimates based on 1998-99 statistics of the Australian Bureau of Statistics and Australian Communications Commission.

Career moves: Hong Kong and then Monash University

On 1 July 1975, a few months before publication of the Telecom 2000 report, the telecommunications functions and staff of the PMG were spun off as Telecom Australia, an arms-length government-owned business enterprise, undergoing a major re-organisation. Because of the Telecom 2000 report’s call for open planning, there was some internal political unease at this recommendation and it was widely believed at the time amongst Tony’s colleagues that this counted against Tony for selection to the top planning job at Telecom, for which he was an obvious contender.

Coincidentally, he received intelligence that the wholly private Hong Kong Telephone Company was quietly searching for a new Chief Engineer. Tony and Soe were invited to Hong Kong for discussions and just a month later they returned there, to start a new chapter in their life. He served two 3-year terms, whilst still on secondment from Telecom Australia.

Back in Australia in 1984 he decided he could set up a consultancy which addressed a suite of opportunities that had more clearly emerged since the Telecom 2000 report. To start with, the HK Telephone Company had asked him to do two months' work each year for them, and the World Bank was looking for outside help. In addition he soon garnered work from the Victorian and NSW State governments, and later in the 1990s he was invited to head up the Victorian Government-owned new telecommunications company, VISTEL.

Always mindful of the social implications of the technology changes, he joined with Professors Alan Fels and Henry Ergas at a new research unit MONICT (Monash Information and Communications Technology) at Monash University in Melbourne. By 1990, MONICT lost its primary sponsor Telstra, so Tony continued on a part-time basis at Monash as the sole telecommunications advisor in the Business Faculty. He developed two elective units in their MBA programme, which up until then had little content that addressed the coming information society.

Retirement from telecommunications

In 1999, at age 76, he finally retired from active professional work and enjoyed a further 18 years of retirement, with tennis, jazz and life with five grandchildren (Laura, Alister, Ryland, Oscar and Millie) and their parents. He and Soe used to escape the more acutely felt cold of Melbourne's winter at Soe's family compound at Bali's Sanur Beach.

He also enjoyed reliving his early childhood visits to Sorrento beach, where he and Soe established a holiday house that was shared generously with guests. However, he could never fully give up his routine of Saturday morning overalls and house maintenance chores, accompanied by jazz on the radio.

The telecommunications industry can celebrate Tony Newstead's full life, richly enjoyed and generously shared with so many.

Other sources

Those interested in Tony's parallel jazz career and in the history of trad jazz in Australia can check out the second list of references provided below.

In addition, Dr Clemens Pratt has kindly contributed his own short memoir on Tony's valuable role as a colleague and mentor to him, which we have published in full as Attachment A to this paper.

John Burke provides the valuable perspective of an external collaborator of Tony in producing the Telecom 200 report, in Attachment B.

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List A: Tony's career in telecommunications

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Attachment A: Memories of Tony Newstead by Clemens Pratt

At the time of my going to London in 1961 to undertake PhD studies, Tony had recently returned from London where he had undertaken a diploma course at Imperial College under Professor of Telecommunications Colin Cherry.

He had attended the second International Teletraffic Congress (ITC) in The Hague in 1958, and with the third ITC in prospect in Paris in September 1961, he asked me to present a paper there on his behalf. That fitted in with my travel plans: Sitmar Line ship *Fairsky* from Brisbane to Naples, train to Paris, and after the Congress, train and Channel ferry across to England for the beginning of the academic year in October 1961. This helped to establish Tony's standing in the ITC, and he was subsequently invited to join the ITC's governing body, the International Advisory Council as Australia's representative.

[Returning to Melbourne from London in late 1963, I was assigned to Internal Plant Planning in the Victorian administration, where I spent two years planning telephone exchange extensions for the south eastern part of Melbourne.]

When I moved from Victorian Metropolitan Planning Section to Headquarters Traffic Engineering Section (headed by Norm Smith) in 1966, Tony was Norm's boss as ADG Fundamental Planning reporting to SADG Planning Ron Turnbull. Tony and Norm supported me in specifying data recorders for use by State administrations in their regular traffic measurement programmes, on which network planning depended. Also Tony particularly sponsored my development of the first two-week residential course on a technical subject within the PMG, ie. traffic engineering.

During these years Tony represented Australia at CCITT meetings at various locations around the world (it was only later that all such meetings had to be held in Geneva for reasons of economy), and there is a story of Tony attending such a meeting in New York. As part of the social program, delegates took a boat trip around Manhattan Island, with a jazz band on board for entertainment. Tony, who had his trumpet with him, offered to play along with the band. The MC made a patronising condescending announcement about this player from down under; however the attitude changed markedly once he started to play. Tony was

a superb jazz trumpeter who frequented the jazz venues in Greenwich Village, where he was well known and accepted whenever he visited.

I recall going to a pub near the Richmond station to hear Tony play – he was very good; his trumpet was placed on his coffin at his funeral.

With Tony's move to the World Bank in 1970, he relinquished his position as Australia's representative on the International Advisory Council of the ITCs, and advocated for me to replace him, a role I held for 35 years.

Tony was also instrumental in initiating my regular attendances at the Traffic Engineering Working Party of the CCITT in Geneva between 1970 and 1975.

I have much to thank Tony for, and have great admiration for his abilities and achievements.

Clemens Pratt, 5 December 2017

Attachment B: John Burke's recollections

While clearly an expert telecommunications engineer, and maintaining a necessary commercial focus, Tony had a strong interest in how telecommunications could benefit individuals and society. The Telecom 2000 project demonstrated this with its emphasis on open planning, pursued in practice through a range of seminars and other contributions. Tony welcomed conceptual challenges from the community organisation, Malvern Learning Exchange, with which I was then involved, inviting continued participation. I well remember, when we were putting together an outline of the Telecom 2000 project in our monthly newspaper in late 1974, Tony accepting an invitation to review the copy and joining us on a Sunday afternoon in a back room in Malvern. Years later, after his corporate career, Tony maintained this interest, seeking to understand the necessary characteristics of telecommunication service innovations to be successful, concluding they had to be: useful, easy-to-use, cost-effective, socially acceptable and psychologically acceptable – a simple but stimulating structure. Tony documented his research in a report to Telecom Business Planning in the early 1990s, which was subsequently published by CIRCIT (Centre for International Research on Communication and Information Technologies). Tony became a research associate of CIRCIT and a strong supporter of its activities.

John Burke was Group Manager, Business Planning, Corporate Strategy in Telecom/AOTC/Telstra in the early 1990s, and later Director of CIRCIT.

Endnotes

¹ Amongst the junior members of this multidisciplinary team were Dr Terry Cutler, later to become Head of Corporate Strategy for Telstra in the late 1980s and subsequently founding principal of the consulting company Cutler & Co; and Dr Judith Brett, now an Emeritus Professor of Political Science at La Trobe University, and the writer of political biographies of Australian Prime Ministers Alfred Deakin, Robert Menzies and John Howard.