

PROFESSOR ROSS BLUNDEN INTERVIEWED BY RICHARD RAXWORTHY - 30.6.92.
TAPE ONE SIDE ONE.

014 - Born Fivedock, grew up in Haberfield - like a village then in the twenties and thirties. Had light rail then. Went to Medels Movies in Leichhardt for threepenny movies.

026 - Family in moderate circumstances. Lived with mother, brother and great uncle in small Federation house.

030 - Talks about Haberfield housing. Richard Stanton development, responsible for the subdivision housing design. Original estate belonged to the Ramsays. Yasmar which faces Parramatta road once belonged to the Grace Bros family. Now a rehabilitation centre. Yasmar is Ramsay spelt backwards and was their original home.

047 - Mother main early influence. Encouraged him to university. Engineers then mostly left school at 14 and became apprenticed. Reginald McKay who became Chief Electrical Engineer of the Railways and later Assistant Commissioner a friend of his mothers.

070 - Influenced by 'Wonder Books' - 'Wonder Book of Engineering'

074 - Main passion as a teenager - the automobile and its mechanics.

070 - Also loved Meccanno.

082 - Built a scale model of the Harbour Bridge for a competition run by Farmers and won it. Aged 15.

089 - School - Haberfield Primary then Fort Street.

093 - At Fort Street most interested in Maths. Honours in both Maths 1 & 2. Also honours in English and Physics. Dux of Fort Street which earned the Killeen Memorial Prize.

102 - Talks about the influences of his teachers and the discipline of learning then.

120 - Story about Sandy McLaughlin a Scottish English teacher.

132 - Sydney University. Engineering. 1933. His first year overlapped with the famous Horatio Scott Carslaw, Professor of Mathematics. (Cocky Carslaw).

149 - Talks about his conception of engineering - underlying principles .

156 - Professor Willie Miller also there.

160 - Colourful professorial character then Tommy Leach.

Influenced him to to Civil Engineering rather than Electrical and Mechanical. Leachs special interest aerodynamics and fluid mechanics. Talks about this.

RICHARD STANTON, RAMSAY, GRACE FAMILY, REGINALD MCKAY, SANDY MCLAUGHLIN, HORATIO SCOTT CARSLAW, PROF. WILLIE MILLER|PF1.

173 - Another influence, Victor Bailey - pioneer in electronics. Talks about the development of this.

180 - Von Muller.

186 - Bradfield and his sons. Keith Bradfield.

190 - Talks about wanting to find the Australian I.K. Brunel. Bradfield a candidate and Sir John Monash. Talks about Monash.

212 - Served in the Sydney University Regiment.

215 - Graduated 1939. Went to Department of Main Road and then left to join the AIF in 1939.

224 - Began to use his Science Degree rather than Engineering. Talks about University courses and double degrees.

241 - Talks about University characters - George Fox who ran the Sydney University Film Society.

245 - Talks about the privileges of the University Union and the ability to open an account with David Jones - not a usual thing for for the average Australian to have accounts.

273 - Student engineers separated from the girls doing Arts up near the Quadrangle.

281 - Sydney Uni. Regiment personalities some notable in WW2. Colonel Windeyer, Colonel Crawford.

311- Always intertwined the civil and military side of his profession.

320 - Prof Blunden the first commanding officer of the University of N.S.W. Regiment which started in 1951. Talks about this. His Corps was the Corps of Electrical and Mechanical Engineers.

343 - Later on was the first Professor of Traffic and Transport.

347 - Theses done at University. Worked under Tommy Leach for his final thesis which was 'The effect of regular roughness on flat plates'. Talks about this and the wind tunnel Leach built.

372 - The Aeronautical Research Labs in Melb were set up later and the Chair of Aeronautical Engineering created in Sydney both as a result of the approaching war. Funded by the Federal Govt.

384 - Pioneering work of Tommy Leach one reason for the Sydney Chair. Professor Stephens got the Chair.

VICTOR BAILEY, VON MULLER, BRADFIELD, KEITH BRADFIELD, I.K. BRUNEL, GEORGE FOX, COLONEL WINDEYER, COLONEL CRDAWFORD, TOMMY LEACH, PROFESSOR STEPHENS.

END SIDE ONE TAPE ONE. | PF1.

SIDE TWO TAPE ONE. PROFESSOR ROSS BLUNDEN INTERVIEWED BY RICHARD RAXWORTHY.

016 - Classroom and laboratory work done at University but the research for its own sake and higher degree work at that time not his concern at uni. Advent of electronics and the interest of the physics school in it did result in some major developments in Australia. Talks about this and the setting up of the National Standards Laboratory in the grounds of the University and the work they did. Also problems encountered.

039 - Left Uni with two degrees - Science and Civil Engineering.

041 - Comments on reason for not taking a Mechanical Degree. Pre war engineering course fairly general. Talks about the courses.

053 - He changed because of extra grounding in Maths and Physics. When the war came - opportunity to get involved with radar and computers. Continued to work in this area in the Middle East and then in England at the Royal College of Military Science.

061 - De-mobbed. Stayed with the same kind of things. Went to CSIRO to head mathematical instrument section. Talks about this and people involved - Professor Sir John Madsen who retired late 40's.

070 - Mathematical instrument section then moved to School of Electrical Engineering. Spent 4 or 5 years there.

073 - Developed the first large scale computing machine in Australia the CSIRO Differential Analyser. This is documented in the Inst of Engineers Journal in 1952.

078 - Getting interested in digital computing the new trend. Discusses this - the electro mechanical machine. Only one in the U.S. and England. The Australian one was an advance as it was electro-mechanical not fully mechanical.

087 - Talks about anti-aircraft predictors and his interest in these forms during the war.

095 - After the Syrian campaign they took over the French equipment in Syria - discusses their equipment and its advances.

106 - Also was in Egypt in the delta waiting for orders.

108 - Talks about the passage of the war in the Middle East area.

127 - Went to Africa in a big convoy from Sydney and Melbourne. Was in an AIF unit - his number NX12367. The unit code number was 13 and they left on Friday 13th.

143 - Went first to the Middle East. Changed ships in Bombay.

148 - Arrived early 1941. Talks about other divisions and their war progress and the arrival of Rommel.

PROFESSOR SIR JOHN MADSEN, ROMMEL | PF1.

- 160 - Moved to Palestine first and then to Syria.
- 173 - Talks about the sequence of events after first successes in the war. Tobruk.
- 194 - Returned to Sydney after Syria.
- 202 - Talks about Britain and its support of Australia in the war.
- 225 - Back in Australia became Inspector of Radar Development.
- 236 - Trained in radar in the canal zone. Very secret.
- 238 - In Australia seconded from the unit he went away with to Army Headquarters. Talks about his job there to hurry up the manufacture and deployment of radar equipment in Australia.
- 250 - AWA and Electronics Industries in Melbourne both made radar equipment. Talks about this, the type of radar and its uses.
- 261 - Coastal defenses described. North Head, Rottnest Island, Perth and Darwin.
- 263 - Large Radar installation called Shore Defense (SHD) at all these places.
- 270 - Organised by the research labs of the Post Office located in Melbourne.
- 278 - Responsible engineers for these works included a PMG engineer named Bill Boswell - Later became CEO of the Atomic Energy Commission.
- 306 - Increased interest of his own Corps the Royal Australian Mechanical and Electrical Engineers. Ran training schools in radar techniques mainly at Ingleburn for new Engineering Officers who had to know about radar.
- 318 - As well as making radar here the Army had to be oriented towards it as a new speciality.
- 323 - Radar not really designed here - just built.
- 342 - Designs and plans adapted here.
- 346 - Went to Britain to the Royal Military College of Science to do the advanced course.
- 353 - This paid off when he was demobbed and went to CSIRO.
- 358 - Gave first course of lectures at Sydney Uni in automatic control systems. These dominate industry today as well as digital storage and data.

BILL BOSWELL|PF1.

279 - Out of war time experience four original papers published in the Institute of Engineers Journal. The CSIRO Differential Analyser, then later a paper on the application of electronic techniques to high speed digital computers digital computers.

391 - Talks about his work in basic electronic computing and the building of something 'akin' to the first chip.

403 - Original discovery of this made at Manchester University by a (tape two side one) Professor F.C. Williams. Describes this.

TAPE TWO SIDE ONE. PROFESSOR ROSS BLUNDEN INTERVIEWED BY RICHARD RAXWORTHY.

015 - Professor F.C. Williams and his method of storing data, and the old way of storage.

024 - IBM discover the magnetic core memory unit. This has been miniaturized into the chip. Discusses technicalities.

031 - A young German from Heidleburg (brought out as war reparations) at CSIRO also working on this. Describes his work and how general computers work.

051 - He was still with CSIRO but working in the Electrical Engineering School at Sydney Uni.

053 - Still teaching and supervising some research students.

055 - One became Professor of Automatic Control Systems at the Uni of NSW - Dr. Brian Speedy.

057 - One of Boswell's staff became Professor of Computing at NSW - Professor Murray Allan.

058 - Another student became Professor of Power Engineering at NSW - Professor Fred Evans.

066 - Talks about the early 50's and production in Australia at that time. Talks about the early Holden and the difference from American cars and its influence on Australian life.

109 - Woomera. After five years at CSIRO developing computers then took up another post - First Scientific Advisor to the Military Board.

120 - One of the other great wartime discoveries, Operations Research. Describes this and its application.

131 - In Britain in the early fifties - called on Sir Charles Goodeave who was the Operations Research Chief of the British Iron and Steel Association.

136 - Saw Scientific Advisor to the Military Board as an opportunity to apply Operations Research in Australia.

PROFESSOR F.C. WILLIAMS, DR. BRIAN SPEEDY, PROF. MURRAY ALLAN, PROF FRED EVANS, SIR CHARLES GOODEAVE|PF1.

139 - Another paper in 1954 was on Operations Research.

143 - This job got him to Woomera. Witnessed one or two of the atomic energy tests later.

162 - Another challenge - in the middle fifties he took on the Chair of Traffic Engineering at NSW and for the next twenty five years of working and in retirement has remained interested in transport and traffic.

177 - Talks about the drifting away from fundamentals in everything.

207 - Chair of Transport and Traffic at NSW and Operations Research. Discusses this and the Theory of Traffic Flow.

283 - Queueing Theory discussed and explained.

353 - Basic road pattern in Sydney disastrous. Talks about the original Country of Cumberland plan and its results.

END TAPE TWO SIDE ONE.

TAPE TWO SIDE TWO.

019 - Still on the basic road pattern for Sydney. Focussed on radial routes not circumferential.

028 - Continues to talk about his work in traffic and his theories.

031 - Geometry and kinometrics of road networks. Discussion of various states.

043 - Work on the route factors - discussion.

071 - Today's environmental issue - talks about the first oil crisis in the 70's and its effect on the public towards public transport.

088 - Environmental issue may induce people to reduce their dependence on the motor car.

092 - Ted Mack talks Blunden into a traffic and parking study for North Sydney. Talks about this.

109 - Bradfield's schemes for better traffic flow - Eastern Suburbs Loop, the Western Suburbs Loop, the Warringah Railway and a railway from St. Leonards to Epping up the North Ryde valley.

119 - Talks about the density of land use activity.

190 - Chief offshore consultant to the Singapore Urban Development and Renewal project for four years in the late sixties and early seventies. Also mixed up with the central traffic study in Manila which was mainly done by an ex student Mr. P.G. Pak Poy whose firm was based in Adelaide.

Ted Mack, Bradfield, P.G. Pak Poy | PF1.

- 200 - When the school was first started there were no consultants and members of the staff took on this role.
- 212 - Talks about the role of government at the moment and interference with local councils.
- 223 - The Park Street tunnel and its use or otherwise.
- 237 - The viability of North Sydney due to the constraint on parking.
- 240 - Park Street tunnel idea - good if its for a bypass for through traffic - not if its to feed parking stations.
- 250 - Involvement with the Institute of Engineers. Blunden a member since he was a student.
- 253 - 1939 (Sydney's Black Friday). Institute held a function at the old Wentworth Hotel for the visit of H.G.Wells. Describes this.
- 274 - Went to many meetings of the Institute then. Worries then about raising the status of engineers. Sought a Royal Charter and got it.
- 279 - Soon after the war active in the electrical and communications branch. Secretary for many years. At this time working on computers and control systems.
- 285 - Served on the transport panel for some years of the Civil Engineering Branch, Sydney Division.
- 297 - A Fellow of the Institute and recently awarded the inaugural medal in Transport Engineering.
- 305 - Served on committees in Washington and London. Blunden joined both organisations and became a Fellow.
- 310 - A member of the Australian Statistical Society and the Australian Institute of Physics until he retired.
- 317 - A visiting professor to various overseas institutions.
- 326 - Story about the USA and University of California, and the Embacadero freeway in 1956.
- 389 - Proposed private toll road from Sydney to Newcastle in the early sixties. Consortium under an architect developer, (John Tate) had been a Senator of the Commonwealth and he was the first Chairman of the Cumberland County Council. Talks about this.

H.G. WELLS, JOHN TATE

END TAPE TWO SIDE TWO. | PF1.

TAPE THREE SIDE ONE.

PROFESSOR ROSS BLUNDEN INTERVIEWED BY RICHARD RAXWORTHY 30.6.1992

003 - More on proposed private toll road from Sydney to Newcastle to go from West Head to Patonga and then straight up through the Gosford - Woy Woy Basin to Newcastle. Would have cut off about 50 kms on the road from Sydney to Newcastle. Govt. decided not to go ahead at that time but popular demand because of accidents and delays forced them to do their own road on an alternate route. Talks about the route and reasons for the road.

022 - Discusses the difference between the use of toll roads in the country and the city and their uses.

038 - Involvement in Commissions since retirement

040 - Two Kirby enquiries into the Kiama - Chullora link and the Warringah Transport Corridor enquiry.

042 - Castlereagh Expressway Enquiry and the Balmain Enquiry.

043 - Talks about how difficult it is to get points through to the bureacracy.

053 - Sydney - the RTA are the unofficial planners for Sydney - have very fixed ideas on road schemes - radials rather than arterials.

061 - Kirby enquiries - he was the first person Blunden had struck that felt traffic was not a sin per se. Discusses this.

070 - Kiama - Chullora enquiry. Discusses aspects of this.

082 - The evolvment of the use of inland ports for containers. Discusses.

097 - Warringah transport corridor. Issue discussed.

108 - Light rail on the Bridge. Bradfields original scheme for trains to replace the tram tracks which became the Cahill Expressway. Discusses various forms of transport for the Metropolitan area.

137 - Discusses how other countries handle the problem e.g. France.

152 - Talks about involvment with the Transport Panel of the Institute of Engineers Sydney Division.

174 - Summary of working life

200 - Summary of relationship between land use and transport - talks about the British Sharp Report.

220 - Sydney has no machinery for the proper integration of land use and planning. Discusses. |PF1.

234 - The Greater Sydney movement which never evolved. Talks about
Sydney and Melbourne and their roads coming into the cities.
END TAPE ONE SIDE ONE - END OF INTERVIEW

KIRBY ENQUIRIES, BRADFELD.-|PF1.