

The Institution of Engineers, Australia Sydney Engineering Heritage Committee Oral History Program INTERVIEW TAPE LOG			
Interviewee:	(William) Ross BLUNDEN	Tape Numbers:	IEA SYD 26 - 28
Interviewer:	Richard RAXWORTHY	Number of Tapes:	3 (three)
Place of Interview:	Not stated		
Date of Interview:	30.06.1992		
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Tape: IEA SYD: 26, Side A		
Time/ Counter	Subject	Proper Names & Keywords
000-047	Born Five Dock, grew up in Haberfield, village atmosphere in 20's and 30's. Had light rail then. Went to Medels Movies in Leichhardt for threepenny movies.	Five Dock Haberfield Hawthorn Canal Light rail Abbotsford Leichhardt Stadium Medels Picture Theatre
048-084	Family in moderate circumstances, lived with mother, brother and great-uncle in small Federation house. Describes suburb and houses. Original estate owned by Ramsays. Yasmar which faces Parramatta Road once belonged to Grace Bros family, now a rehabilitation centre. Yasmar is Ramsay spelt backwards.	Haberfield Ramsay Richard Stanton Yasmar Grace family
085-124	Early influences were mother and family friends. Family anecdote of early interest in trams.	Mother Scholarship Reginald McKay Trams
125-180	Hobbies and interests, reading, automobiles, gearboxes, machines, Meccano. Won Bridge Week competition for scale model of Harbour Bridge. Schooling, liked maths. Honours in Maths 1 and 2, English and Physics.	Wonder Books Meccano Bridge Week Competition Farmers Haberfield Primary School Dux of Fort Street High School Killeen Memorial Prize Sydney University
181-232	Influence of good teachers, importance of discipline and hard work.	Education Sandy McLaughlin <i>Lady of Shallott</i>
233-275	Commenced Engineering at Sydney University 1933. Great mathematician, Professor of Mathematics 'Cocky' Carslaw. Discusses concept of engineering, underlying principles.	Sydney University Horatio Scott Carslaw

276-325	Talks about various other inspiring lecturers. Gives reasons for taking up Civil Engineering instead of Electrical or Mechanical	Professor Willie Miller Tommy Leach Civil Engineering Aerodynamics Victor Bailey Von Muller Professor Warren
326-399	Bradfield and sons. Discusses finding the Australian I.K. Brunel, suggests Bradfield or Monash. Impact of Monash on students. WW2 looming, served time in Sydney University Regiment. Joined Dept of Main Roads following graduation, left to join AIF in 1939, change of course in professional activity.	Bradfield Keith Bradfield Sir John Monash Sydney University Regiment Graduation Department of Main Roads AIF
400-477	Began to use Science Degree rather than Engineering. Talks about university courses and double degrees; university characters. Privileges of belonging to the University Union, ability to open a David Jones account.	Murray Gosbo (?) George Fox Sydney University Film Society University Union David Jones Andersonians Left Book Club
478-564	Student engineers separated from the girls doing Arts. Mentions personalities in Sydney University Regiment. Relates that he has always intertwined military and civil sides of his profession.	Segregation Sydney University Regiment Colonel Windeyer Colonel Crawford Colonel Davies
565-615	Discusses becoming first commanding officer of University of NSW Regiment, recalls coming back years later as Professor.	Corps of Electrical & Mechanical Engineers Professor Traffic & Transport
616-660	Talks about theses done at University, including final year thesis 'The Effect of Regular Roughness on the Drag on Flat Plates' under Tommy Leach. Recalls experimental work done in small wind tunnel built by Leach.	Theses Tommy Leach Wind tunnel
661-703	Aeronautical Research Laboratory set up in Melbourne, Chair created in Sydney, funded by Federal Government for aircraft development, in preparation for approaching war. Pioneering work of Tommy Leach.	Chair of Aeronautical Engineering Melbourne Professor Stephens
End Side A, Tape 26		

Tape: IEA SYD: 26, Side B		
Time/ Counter	Subject	Proper Names & Keywords
000-056	Discusses classroom and lab work done at University, research for its own sake, higher degree work not his concern at that time. Advent of electronics and interest of the physics school in it resulted in major developments in Australia. Setting up of National Standards Laboratory in the grounds of the University, work they did and problems encountered.	National Standards Laboratory Radio Physics Division Vibration problems Electro technology and Metrology Divisions
057-101	Graduation from University with Science and Civil Engineering degrees. Comments on reasons for not doing Mechanical Degree and talks about courses. Changed because of extra grounding in Maths and Physics, opportunity to get involved with radar and computers when war came. War service in Middle East; course taken at Royal College in England.	University degrees Radar and computers Middle East Royal College of Military Science
102-145	Demobbed, back to civil life, went to CSIRO as head of Mathematical Instrument Section. Discusses this and people involved. Development of automatic computing machine and electro mechanical machine.	CSIRO Mathematical Instrument Section Sir John Madsen Differential Analyser Institute of Engineers Journal Digital computing
146-213	Talks about anti-aircraft predictors and his interest in them during the war, took over French equipment after Syrian campaign – discusses equipment and its advances. Talks about course of the war and resources in Middle East.	Anti-aircraft predictors Middle East Syrian campaign Palestine Egypt Greece Crete India
214-270	Recalls sailing for Middle East in large convoy from Sydney and Melbourne; was in AIF unit, gives service number and code number. Arrived 1941, talks about other divisions, their war progress and arrival of Rommel and Afrika Corps. Withdrawal of 6 th Division.	War service Great Australian Bight Perth Fremantle Bombay Rommel Australian 6 th Division Suez Italian prisoners
271-332	To Palestine by train. Talks about progress of war.	Palestine Syria Suez Canal Tobruk Afrika Corps Gen (later Field Marshal) Sir Claude Auchinleck. Benghazi
333-468	Withdrawn from Syria and returned to Australia. Discusses British support for Australia during the war. Became Inspector of Radar Development. Trained in radar in the Canal Zone. Seconded to Army Headquarters, talks about his job there to speed up the manufacture and deployment of radar equipment in Australia. Talks about type of radar and uses. Discusses radar installation called Shore Defence (SHD) organised by research labs of Post Office in Melbourne.	Radar Development Canal zone Radar training AWA Electronic Industries Shore Defence (SHD) North Head Rottnest Island Darwin
469-508	Discusses engineers responsible.	Radio Physics Division CSIRO Bill Boswell

		CEO of Atomic Energy Commission
509-620	Overall picture of events in Australia at that time. Increasing interest of his own Corps, ran training schools in radar techniques. Talks further about radar, building and design, adaptations etc. Attended Royal Military College of Science in 1944.	Radar Training Schools Radar design Dover Royal Military College of Science
621-705	Gave first lecture at Sydney Uni in automatic control systems, discusses. Mentions papers published in Institution of Engineers Journal as a result of wartime experience. Talks about his work in basic electronic computing and the building of something akin to the first chip to store information in binary form. Original discovery made at Manchester University (continued next tape).	Sydney University Automatic Control systems Institution of Engineers Journal Differential Analyser Digital computers Building of first chip Manchester University
End Side B, Tape 26		

Tape: IEA SYD: 27, Side A		
Time/ Counter	Subject	Proper Names & Keywords
000-088	Continuation of discussion about Professor Williams' method of storing data, and the old way. IBM'S discovery of magnetic core, miniaturisation into the chip; discusses technicalities. Describes work of a young German migrant at CSIRO on magnetic drum storage. Talks about various computer storage methods.	Professor F C Williams Cathode Ray storage system IBM Heidelberg Magnetic drum storage Random Access Memory
089-170	Talks about his work teaching and supervising students at the Electrical Engineering School at Sydney Uni while still with CSIRO. Discusses advances made during early 1950's and Australian production at that time compared to now; difference between Holden and American cars. Holden a truly Australian car suited to Australian conditions.	Electrical Engineering School Sydney University Dr Brian Speedy Professor Murray Allan Professor Fred Evans Holden car AWA Philips General Motors Vauxhall Woomera Rocket Range Snowy Mountains Scheme
171-247	Visit to Woomera. New post as Scientific Adviser to Military Board provided opportunity to apply a great wartime discovery, Operations Research - discusses its applications and possibilities.	Woomera Scientific Adviser Operations Research Sir Charles Goodeave British Iron & Steel Association
248-276	Paper given at Institution of Engineers Canberra Conference 1954. Ground to air missiles, atomic energy tests at Woomera. Reflects on great suitability of Holden cars to Woomera conditions.	Operations Research Paper Canberra Ground to air missiles Atomic tests Holden
277-348	Describes qualifications to accept new challenge in 1950's to take up new Chair of Traffic Engineering at University of New South Wales, and his continuing interest in transport and traffic. Regrets that we appear to be drifting away from fundamentals in everything and looking for the short-term return.	Chair of Traffic Engineering University of New South Wales Traffic flow Short term returns Newton's laws
349-368	Involvement in debate on Sydney Harbour Tunnel – believes it to be conceptually inadequate and operationally ineffective.	Sydney Harbour Tunnel
369-420	Discusses application of Operations Research concept to new job as Chair of Transport, also theory of traffic flow.	Chair of Transport Operations Research Traffic flow
421-458	Queuing Theory, theory of queues and waiting lines discussed and explained.	Queuing Theory [Harbour Bridge] tollgates
459-562	German method of signal funnelling and flow light system discussed, also system used in Melbourne. Basic characteristic of queuing theory discussed.	Use of traffic funnelling Melbourne Hooke's Law Ohm's Law Traffic congestion North Sydney
563-701	Solution to traffic problems. Basic road pattern in Sydney is disastrous – lack of ring roads. Talks about original County of Cumberland plan and its results. Roads based on radial routes instead of circumferentials. Discusses Bradfield's vision for the railways (continued on next tape).	Sydney Ring road County of Cumberland Road pattern Rail Bradfield
End Side A, Tape 27		

Tape: IEA SYD: Tape 27, Side B		
Time/ Counter	Subject	Proper Names & Keywords
000-035	Continues discussion of Sydney's road patterns and problems.	Sydney
036-114	Talks about his research on traffic; geometry and kinematics; road systems in various capital cities. Discusses route factors.	Traffic research Melbourne Sydney Adelaide Route factors Radials Circumferentials
115-154	Today's environmental issue, talks about 70's oil crisis and effect on the population towards public transport. Environmental issue may induce people to reduce their dependence on the car.	Environmental issue 70's oil crisis
155-198	Ted Mack talked Blunden into conducting traffic and parking study for North Sydney, discusses results. Relates Bradfield's schemes for better traffic flow which would have made Sydney a much more consolidated place.	Ted Mack North Sydney Eastern and Western Suburbs Loops Warringah Railway
199-320	Discusses density of land use activity, residential living. Integration of public and private transport.	Electric cars England Trunk system Canada USA Electric buses L. Roy Leembruggen
321-381	Discusses other practical studies he has done. Role of government at the moment and interference with local councils.	Singapore Urban Renewal & Development Project Central Traffic Study Manila P.G. Pak Poy Australia Square Centrepont Town Hall Balmain Leichhardt Council
382-426	Talks about Park Street Tunnel idea: has merit if it's for a bypass, but not if it's to feed parking stations.	Park Street Tunnel Darling Harbour World Square site North Sydney Ted Mack
427-479	Other aspects of Blunden's career. Member of Institution of Engineers. Relates a function at Wentworth Hotel for visit of H.G. Wells. Institution concerned then about raising status of engineers	Institution of Engineers Wentworth Hotel H G Wells Royal Charter
480-550	After the war was active in Electrical & Communications Branch. Served on Transport Panel of Civil Engineering Branch. Discusses awards and other organizations of which he was a member.	Electrical & Communications Branch Transport Panel Australian Statistical Society Australian Institute of Physics Retirement

551-666	Recalls being a visiting professor at overseas institutions. Cars not the answer to city problems, relates an anecdote re proposed Embarcadero Freeway near San Francisco in 1956, which did not go ahead.	California Birmingham Bradford West Coast of US University of California Embarcadero Freeway San Francisco Berkeley
667-705	Worked on private toll road Sydney-Newcastle.	John Tate
	End Tape 27, Side B	

Tape: IEA SYD: Tape 28, Side A		
Time/ Counter	Subject	Proper Names & Keywords
000-066	Continuation of discussion regarding proposed toll road and why it did not go ahead. Merits of freeways and tollway in certain situations. Discusses difference between use of toll roads in country and city, and their uses.	Patonga West Head Gosford-Woy Woy Basin Mooney Mooney Bridge Newcastle Sydney Harbour Tunnel
067-108	Discusses involvement in various Commissions and Inquiries; difficulty in getting points through to the bureaucracy. Lay people feel that RTA are unofficial planners for Sydney, fixed ideas on road schemes.	Kirby Inquiries Kyeemagh-Chullora Link Warringah Transport Corridor Castlereagh Expressway Balmain Inquiry Sydney
109-191	Kirby Inquiries – first person Blunden had struck who felt that traffic was not a sin per se. Discusses aspects of this; use of inland ports. Discusses Warringah transport corridor.	Kirby Kyeemagh-Chullora Botany Warringah
192-	Light rail for Harbour Bridge, Bradfield's scheme. Discusses this and various forms of transport for metropolitan area. Talks about expansion of railway and moratorium on road building.	Bradfield Light rail Bus road
245-270	Discusses how similar problems are handled in other countries.	France
271-306	Relates involvement with Transport Panel of the Institution of Engineers Sydney Division. Reasons for taking a "low profile".	Transport panel Institution of Engineers
307-410	Summary of working life. Discusses inter-relationship between land use and transport, refers to the Sharp Report from Britain. Transport planning and land use are an integral and continuous key process and cannot be done in isolation, nor even by liaison between separate departments, must be a single chief officer or committee responsible. Not happening in Sydney.	Operations Research Control Systems Computers Traffic Main Roads Department Sharp Report Transport planning
411-453	Disappointed that we have not made more progress in integrating land use and transport planning. Mention of Greater Sydney Movement, which never eventuated. Talks about Sydney and Melbourne and their roads coming into the cities.	Greater Sydney Movement Melbourne Country Roads Board
	End of Tape 28, Side A END OF INTERVIEW	