

INSTITUTION OF ENGINEERS - SYDNEY DIVISION
TAPE 71 A
SIDE 1

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INTERVIEWEE: DR KEITH BOWLING

12 Born in Brisbane in 1927

14 Moved to Sydney . Father returned from World War 1, had difficulty fitting into civilian life. Had worked in railway workshops in Brisbane (Ipswich).

19 Worked at Marcus Clarkes - retail trader.

21 Father kind, honest, upright man. Instil the need for hard work and serious studies. Good worker with his hands - valued manual work and things of a practical nature. Emphasised the need to be practical and not only theoretical.

31 School - South Hurstville. Towards end of primary school, was selected to go to an opportunity class at Hurstville.

34 High school at Canterbury High School.

36 Strong emphasis on the need to take and use the opportunity to be at the school. Many boys left when they were 14 and went out into the workforce. Encouraged to do well at school.

41 Sporting figures at the school did well. Arthur Morris (top grade cricketer).

45 Liked science best of all - always enjoyed chemistry which shaped him in the direction of chemical engineering.

50 Never good at English - partly due to the teachers.

52 Liking for Chemistry, read about Industrial Chemists - set mind at being an Industrial Chemist.

56 Concentrated in school so that had required qualifications. Played with chemistry in spare time.

61 After school wanted to do science at Sydney University - family situation did not allow for this.

66 Sydney Technical College where you got practical training . Diploma course in Industrial Chemistry and Chemical Engineering.

78 War had started when in second year - there was an idealistic requirement on all young men to be responsible citizens - preparing themselves for careers that were important - and this was regarded as one of them.

86 Very good lecturers at the college - Mr Ron Niholm? later became a professor at University College London - excellent teacher of Inorganic Chemistry.

RON NIHOLM|PF1.

- 90 Francis Dwyer - eminent Physical Chemist.
- 92 Dr R. K. Murphy founded the course - came over from America.
- 100 Among contemporaries was Stan Livingston - became Professor of Chemistry at the University of NSW.
- 103 Ron Warner (Atomic Energy Commission) and Bill Briggs(ICI) - both got PhD at about the same time.
- 112 Working full time during that period - 6 year part time course.
- 114 Worked for the first three and a half years in a food laboratory at the Egg Marketing board of NSW doing chemical and bacteriological analysis of eggs and egg products.
- 118 Bi-products and chemicals in Alexandria. Harry Leathard part time teaching staff on diploma - manager. Small company.
- 123 Buy up cinematography film, strip the silver off, recover the silver and melt it down to bullion or alternatively make into silver nitrate and sell the chrystals. The film would be dissolved in solvents and sold as low grade lacquers.
- 130 Recovering old solvents , distill them and make them into something sellable.
- 135 All batch processes. Only worked on a day shift - never continous . Never the same day to day.
- 140 Mostly involved in the univale reagents(??) which are used as analytical reagents today - Ajax chemicals.
- 147 Not all recyclable materials.
- 151 Had to meet the specifications before bottling.
- 156 Second in charge of the company.
- 161 Always careful not to do dangerous things.
- 164 Accident during the 1949 coal strike - year completed diploma Gas only available from time to time - and not available to industry. Company got a methylated spirit bunsen - tank of methylated spirits on the wall - connected via a pipe to the bunsen. Lit it up - and the hose came out, sprayed him with methylated spirits - and the flame caught. Badly burnt.
- 183 On completion of diploma - UTS was offering conversion courses to do a Batchelors Degree.
- 190 Got a job as a demonstrator at the university to pay way.
- 195 Did the conversion course in 1950.
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FRANCIS DWYER, DR. R.K. MURPHY, STAN LIVINGSTON, RON WARNER, BILL BRIGGS, HARRY LEATHARD|PF1.

365 Research not followed up by anyone else.

369 Demonstrator had to participate in practical work - help the students, get stuff that they may have needed, give them advice, general instruction.

376 Technical officer could do some of that, had to prepare new types of experiments and set up new experiments.

TAPE 71 B

SIDE 2

11 Name change of the University.

18 The old Sydney Technical College which was a top class educational institution in its time, actually the "parent" of two of the major universities - University Of NSW and UTS - grew out of the technical college.

27 Encouraged independence and resourceful in projects.

35 Close contact with eminent people - Professor Baxter always available to talk to. Modest , competent person. Later he became Sir Philip Baxter the Vice Chancellor of the University of NSW.

48 Finished work for PhD - Professor Baxter suggested the atomic energy industry . Not interested.

55 Didn't want to be involved in atomic weaponry - idealistic from that point of view.

59 Approached by a company recruiting at the university - Chemical Plant and Engineering - small chemical engineering manufacturing company - HQ in Melbourne, looking for someone to start an office in Sydney.

63 Not an easy company to work with - involved straight salesmanship for their equipment - didn't find it too much to his liking - not very talented in that field. Didn't feel succesful.

69 Made continuous rotary filters - under licence from Filtration Engineers Incorp in the USA. Got more technical work to do, including testing of experimental filtration systems, with a view to selling filters to companies.

73 Got around Australia a bit - working in the sugar industry, mining, paper industry.

80 Filtration work in the paper industry was a waste drain that had to be cleaned up before disposal. Contained fibres and pigments.

84 Queensland worked at Mount Morgan.

85 Bundaberg Sugar Company looking to upgrade their refining system.

SIR PHILIP BAXTER|PF1.

90 Queensland - treating crushed quartz.

94 Demonstrate the filters - calculate the size of the filters required based on the test results.

97 Had to try and sell the filters.

102 Carlton and United Brewery - pressure filters for filtering beer and chlorofying the beer - to produce a clear filtrate which was carbonated and bottled.

107 yeast cells and hop resins which would make the beer cloudy - this was at the end of the filtration dropped on the floor and hosed down the drain.

112 The Melbourne Metropolitan Board of Works objected to this - the filtration project was set up on the basis of this material being sent to a rotary vacuum filter (such as we might supply), which would produce a filter cake andf a clear liquid which could go down the drain. The cake would be sent to the tip.

118 Thought that the filter was superfluous - no-one listened.

132 Set up by Alan Thompson.

145 Got back into research - went to CSIRO - the coal researech section at North Ryde - work on coal processing - fluidise carbonisation.

153 Applied line of research.

166 CSIRO - first project - designed to produce low volatile char from coal --- granular material that could be incorporated with unprocessed coal to produce a better grade of metalurgical cake.

179 Work done showed that partial - of coal could help this because you could blend the char back.

182 Come up with a practical method of making a good uniform grade of char which could be blended back with the high volatile coal.

186 Study the process, come up with a suitable design of a reactor and get it going on a reasonable scale (1500 or more kgs of stuff at the time) and recover the bi-products - set up a process to do that.

191 Bi-products are a low temperature tar - contains more pitchy material - primary tar that hasn't been cracked.

198 Feed through into the coking industry (BHP and the people who operate Beehive coking ovens).

206 No ethos to get funding from industry.

222 Able to demonstrate that it was possible to be done - didn't have a huge need to use low grades of coal.

ALAN THOMPSON|PF1.

- 231 No move to completely stop underground mining.
- 234 Open cut mining was being done - did do a fair amount of damage to the environment - had a bad image.
- 243 Moved through a series of coal processing projects.
- 244 High temperature carbonation using similar methods - which gives you a different type of tar.
- 248 Interesting project to produce carbonatious filter aids - gives an explanation of the process...
- 271 Interest in total gasification of coal - responsible for a project on the fluidisation of the gasification of coal in a twin vessel system.
- 279 Gasification o carbon with steam is endothermic - difficult to keep enough heat flowing into a fixed bin in a gasifier.
- 282 Explanation of the process
- 305 Set up a pilot unit in North Ryde CSIRO never applied commercially.
- 320 Had a fluidised bed - therefore easy to transfer heat from an exothermic combustion zone to an endothermic gassification zone continuously.
- 358 Cat cracker in the petroleum industry.
- 373 Long term interest in coal gasification for power generation - for firing gas turbines.
- 398 Possible application for this kind of gas - source of hydrogen. |PF1.