

By **S. A. RAYNER**

F. B. LUCAS

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ARCHITECTURE

IN

QUEENSLAND

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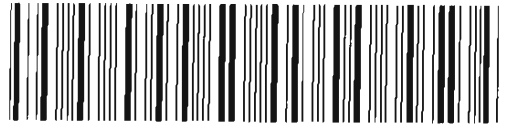
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OCCUPATIONAL SURVEY

NUMBER THREE

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Occupational Survey No. 3

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By

S. A. RAYNER

F. B. LUCAS

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INTRODUCTORY

Background to the Study

During 1958, in the course of a review of its ancillary services, the Senate decided that the University should undertake regular surveys of the major occupations for which it provided teaching. It was expected that the results of these surveys would be of interest and value in at least the following respects:

- (i) information on the anticipated growth of a profession would enable the University to expand its training facilities to meet any unsatisfied demand for graduates;
- (ii) the historical and descriptive material would be valuable to university student counsellors and to school vocational guidance officers;
- (iii) as the series of studies was extended, the comparison of conditions and salaries in different occupations would be of interest to those engaged in the professions; and
- (iv) repetition of such surveys over a period of years would provide more exact information about trends in a profession than had hitherto been available.

The marked rise in the number of first-year students in the University and in the Central Technical College in 1961 was among the factors which caused the Board of the Faculty of Architecture and the Queensland Chapter of the Royal Australian Institute of Architects to propose a survey similar to that already completed in three other professions.

Historical

The modern architectural profession has a tradition of more than three centuries. During the Middle Ages, the architect and the builder were the same person; Inigo Jones (1573-1651) is regarded as "the first English representative of a profession whose technique is based upon study, and whose function is supervisory rather than executive".¹

In the late eighteenth century,² with the establishment of the distinct professions of surveyor and civil engineer, the architect took a further step towards his present specialized functions as administrator and co-ordinator and especially as the artist working as intermediary between the employer and the builder.

The establishment of the Institute of British Architects in 1834 (R.I.B.A. in 1866) marked the beginnings of the professional body which "has come to dominate the architectural profession".³

¹ A. M. Carr-Saunders and P. A. Wilson, *The Professions* (Oxford: Clarendon Press, 1933).

² F. Jenkins, *Architect and Patron* (London: Oxford University Press, 1961).

³ Carr-Saunders and Wilson, *op. cit.*

The student in England obtained his training as an articulated pupil, for there were no schools of architecture whatsoever. "There were ornaments to copy at the Government School of Design at Somerset House, there were lectures for selected students at The Royal Academy, there were even chairs in architecture at University College and Kings College";⁴ but none of these were intended to meet the need for professional training.

In 1847 a group of pupils and assistants, "desperate for an education to supplement the fragmentary and inadequate instruction they received in their offices",⁵ founded the Architectural Association for the purpose of providing instruction for one another.

Fifteen years later, in 1862, the Institute of British Architects established a voluntary examination for architects, but it conferred no recognition of success, not even a certificate of proficiency. Its sole value was that it presented the student with an opportunity to test himself. The A.A. thereupon established a class to prepare for the examination, the "class of Construction and Practice" as it came to be called, and it followed the A.A. pattern of mutual instruction—"each member is expected to acquire information for himself, to be afterwards shared in common with his fellow students".⁶

The voluntary examination was superseded in 1882 by compulsory examination for admission to Associateship of the R.I.B.A., and at the beginning of the nineties the A.A. announced that "the past session had seen the introduction of the most complete course of study for architectural students that had ever been attempted in England. It was an evening course of four years with paid lecturers and instructors and, for the first time, a studio."⁷

The school of architecture at Liverpool University was founded in 1895, and at the opening of the present century the A.A. established its first full-time day course of two years, extended by a further two years in the evening. By 1918 the course had been extended to a full-time course of five years.

Only in 1931 was limited protection granted by legislation which set up a class of "Registered Architect" but which did not prevent others from describing themselves as "architects". This defect was remedied by new legislation in 1938; this did not, however, prevent unregistered persons from practising as architects, provided they did not use the term architect.

⁴ A. Cox, "The Architectural Association's Job", *Architectural Association Journal*, Vol. LXXVII, No. 866 (November, 1962).

⁵ *Ibid.*

⁶ *Ibid.*

⁷ *Ibid.*

The first architect recorded⁸ as reaching Australia was D. D. Mathew, who arrived in Sydney in 1813. More significant was the arrival in the following year of the convicted forger, Francis Greenway, whose appointment as Civil Architect in 1816 stimulated the substantial building programme of the later years of Macquarie's governorship.

The date of arrival of the first trained architect in Queensland is uncertain. Charles Tiffin, who took up office as Clerk of Works of the Moreton Bay District prior to separation, became the Colonial Architect in 1860; in the following years a number of others arrived in the new colony.⁹ The Queensland Institute of Architects was founded in 1888, became affiliated with R.I.B.A. in 1913, and became a chapter of the Royal Australian Institute in 1934.

Following the example of New South Wales seven years earlier, the Queensland Parliament in 1928 passed an Architects Act which set up a board to control registration and which limited the use of the term "architect" to those qualified for registration. After thirty-four years without amendment, this was replaced by the *Architects Act of 1962* which, *inter alia*, makes it an offence for other than a registered architect to use such terms as "architectural consultant", "architectural designer", or by inference to imply that he is qualified to practise architecture.

Prior to 1918 there was no formal course of architectural training in this State. After World War I the Central Technical College offered a four-year evening course leading to a diploma, the first of which was awarded in 1923. In 1937 the University of Queensland offered a three-year evening post-diploma course which was merged a few years later with the course offered by the Central Technical College into a composite part-time course of six years' duration, the first three of which were conducted by the Central Technical College and the final three by the University of Queensland. The award upon completion of this course was a diploma of the University.

In 1949 a Chair of Architecture was created at the University and a degree course of six years' duration (the first three years full time and the final three years part time) was provided.

This was followed by the transfer in 1952 of the diploma from the University to the Department of Public Instruction, now the Education Department, which then offered the six-year part-time diploma course through the Central Technical College from the middle of that year onwards. The diploma students continued to take their final three years at the University until 1961 when the fourth year was transferred to the Central Technical College. At

⁸ M. Herman, *The Early Australian Architects and Their Work* (Sydney: Angus & Robertson, 1934).

⁹ [Qld.] State Chapter of the Royal Australian Institute of Architects (ed.), *Buildings of Queensland* (Brisbane: Jacaranda Press, 1959).

the beginning of 1963 the fifth year was transferred and only the final year of the diploma course is now taken at the University.

Numbers in the Profession

The Appendices provide a summary of the principal statistics relating to registration in Queensland.

Appendix I shows how the number of registered architects fell to a wartime low of 143 in 1944 and then rose rapidly in the post-war period. The 40 per cent increase between 1958 and 1962 reflects the expanded number of registrations over this period. As comparison of Appendices I and II will show, this has apparently been due to a relatively large migration of architects who qualified outside the State.

Appendix II draws attention to the relatively small number of persons who, each year, have qualified as architects; in the decade 1950-59, for example, there was an average annual output of fewer than twelve.

It is of some interest to compare the relationship between the number of architects on the register and the total population of the State.

TABLE I
RELATIONSHIP BETWEEN NUMBER OF ARCHITECTS
AND STATE POPULATION

Year	Number of Registered Architects	State Population at 1st January (1,000)	Number of People in State per Registered Architect
1950	221	1,170	5,300
1951	223	1,205	5,400
1952	235	1,238	5,270
1953	250	1,271	5,090
1954	265	1,298	4,900
1955	269	1,325	4,930
1956	279	1,359	4,860
1957	298	1,393	4,700
1958	286	1,421	4,970
1959	323	1,449	4,500
1960	346	1,477	4,260
1961	382	1,502	3,940
1962	399	1,525	3,820
1963	436	1,550	3,560

Table 1 shows how the number of registered architects has risen more rapidly than the general population.

DATA FROM THE SURVEY

The Survey Plan

The architects included in this survey were those on the Architects' Roll of Queensland for the year 1962 together with those admitted to the Register by 3rd May, 1962.

From the total of 427 on these lists, a questionnaire, together with an accompanying letter from the Vice-Chancellor (Sir Fred Schonell), was sent on 3rd May to 374 with a registered address in Queensland. A stamped, addressed envelope was enclosed to facilitate a reply.

The questionnaire was similar to those used in earlier surveys of dentistry, veterinary science and pharmacy, with modifications introduced after discussions with representatives of the Institute. Most items could be answered by placing a tick opposite one of the answers supplied, and the questionnaire was self-coding in format to permit easy analysis by machine methods.

Since a questionnaire survey is immediately suspect if the sampling is inadequate and since it has been found that many of those approached in similar surveys have not responded to the first letter, a series of four follow-up letters and personal contact by telephone were used to secure maximum response.

RESPONSE TO QUESTIONNAIRE

Number of replies used in following analysis	..	310
Interstate or overseas	.. .. .	66
Died, retired, or not practising	.. .. .	29
Working in another profession	.. .. .	3
No reply	.. .. .	19
		<hr/>
		427
		<hr/>

Accordingly, the outcome of this survey was that information was available on 408 of the 427 architects registered in the State. A coverage of 95 per cent represents a splendid response to a questionnaire sent to all members of a profession in a State the size of Queensland and lends credence to the results.

After the first review of the responses, some editing appeared desirable. In particular, it appeared that more than one partner of a firm was replying to the section for principals of firms; in these cases only one reply was included.

Women in Architecture

Only four women have been included in the analysis. Two claim to be fully employed; the others are employed three-quarter time. Four married women who indicated that household duties prevented practice have been omitted from the survey. The fact that

so few women are in full-time architectural practice in Queensland is not in accord with the increasing trend to employ women in other professions.

Number Not in Full-Time Practice in Queensland

It has been indicated above that ninety-eight registered architects (22 per cent of those on the Roll) are not practising in this State; these include those who had left the State, retired, transferred to other occupations, or never practised. In addition to those who are not now in practice, there are a further fourteen architects who state that they are not engaged full time in the profession. Six of these say they are engaged about half-time in their practice at present, and a further eight state they are occupied less than half-time.

It is, of course, difficult at times to reconcile these statements with other evidence provided. Two who state they are working about fifty hours per week, and another five who are working over forty hours per week, claim they are working half-time only or less. Of those working relatively short hours or receiving little income, four are aged sixty-eight to seventy-seven years.

Although there are inconsistencies in some of these replies, it appears from the hours worked and the incomes that the 310 registered architects on whom information is available might be regarded as equal to some 303 full-time architects. In other words, the evidence from this survey suggests that the number of architects working in Queensland may be equal to only three-quarters of the number registered.

Time Spent in General Practice

The answers to the question on the number of hours per week spent in the practice of architecture are summarized in Table 2.

TABLE 2
TIME SPENT IN ARCHITECTURAL WORK

Hours per Week	Number
70 - 79	3
60 - 69	24
50 - 59	77
40 - 49	130
30 - 39	45
20 - 29	3
10 - 19	2
0 - 9	1
Not stated	25
Total	310

Table 2 indicates that 82 per cent of all practising architects consider they work a forty-hour week or more and that 10 per cent claim to be working sixty or more hours each week. Long hours are less common than in veterinary science but more common than in dentistry. Of the twenty-seven who state they are working sixty or more hours per week, the principal characteristic is that these are sole practitioners; sixteen are in this category, a proportion almost three times as great as would be expected in a representative sample. There is a slight tendency for the younger members of the profession to work longer hours, and for those working longer hours to have a higher net income; but eight of the twenty-seven are earning less than £2,000 per annum.

In a further attempt to discover the extent to which architects consider themselves fully engaged, respondents were asked to indicate whether they were receiving more requests for appointments than they could handle, or whether they could handle more appointments. Results were as follows:

TABLE 3
EXTENT TO WHICH ARCHITECTS CONSIDER THEMSELVES FULLY
EMPLOYED

	Number	%
More work than you should be attempting to handle	26	8
Fully occupied	253	82
Only occupied about 75% of time	13	4
Only occupied about half-time	6	2
Occupied less than half-time	8	3
No reply	4	1
	310	100

From the information supplied by those claiming to handle too much work it was apparent that although the median number of hours worked was slightly higher than that of the "fully occupied" group, there was considerable overlapping. Thus all six who reported that they were working sixty-five and more hours per week merely felt that they were "fully occupied"; eight of those who felt there was too much work to handle were working less than forty-five hours per week. As in surveys of other professions, it appears that the attitude to the amount of work that can be handled is a reflection of the personality of the respondent rather than of any objective criteria.

The Ages of Queensland Architects

Table 4 indicates the effect of the post-war expansion on the age-composition of the profession and, in conjunction with Table 5, suggests that architects qualify at a relatively late age. Over one-half

TABLE 4
AGES OF QUEENSLAND ARCHITECTS

Age	Number of Architects	% of Group
75 - 79	4	1
70 - 74	4	1
65 - 69	6	2
60 - 64	10	3
55 - 59	20	7
50 - 54	28	9
45 - 49	27	9
40 - 44	51	17
35 - 39	56	18
30 - 34	69	22
25 - 29	29	9
20 - 24	3	1
Not stated	3	1
	310	100

of those actively practising in Queensland are aged thirty to forty-five years. Although fourteen architects over the age of sixty-five years are still in practice, the relatively low income reported by all except three of the over sixty-five group suggests that older members of the profession are gradually withdrawing from practice.

Experience in Architectural Work

TABLE 5
EXPERIENCE OF QUEENSLAND ARCHITECTS

Number of Years' Experience	Number
56 - 60	1
51 - 55	—
46 - 50	3
41 - 45	4
36 - 40	9
31 - 35	17
26 - 30	24
21 - 25	22
16 - 20	20
11 - 15	40
6 - 10	82
1 - 5	79
Not stated	9
Total	310

Table 5 indicates the number of years the respondents have been actively engaged in the practice of architecture. The evidence that over one-half of the group have less than eleven years' architectural experience is in accord with the age of the group. By contrast, one man has been practising for fifty-seven years and seven others have over forty years' experience. These figures are in accord with a survey of the dental profession, which showed it was common for older men to continue practice, but differ from the findings on veterinarians.

One hundred and two (one-third of the respondents) have practised their profession outside Queensland. The extent of this experience is as follows:

TABLE 6
EXPERIENCE OUTSIDE QUEENSLAND

Number of Years' Experience Outside Queensland	Number
20 +	7
15 - 19	3
10 - 14	15
5 - 9	22
0 - 4	55
	102

Qualifications

Table 7 shows that only fifty-five architects (18 per cent of the respondents) are graduates.

TABLE 7
QUALIFICATION FOR INITIAL QUEENSLAND REGISTRATION

Qualification	Number
Queensland—University Degree	35
—University or C.T.C. Diploma	162
—Board of Architects Registration Examination	20
Interstate—Degree	13
—Diploma	14
R.A.I.A. Membership as basic qualification	24
R.I.B.A. Membership as basic qualification	17
Overseas—Degree	7
—Diploma	11
Other qualifications	5
Not stated	2
Total	310

In addition to the qualifications required for initial registration, fifty-six architects have obtained further qualifications. One holds an overseas doctorate, thirty-eight hold F.R.A.I.A., nine hold F.R.I.B.A.

Nature of Employment

Architects were asked what kind of employment they were engaged in. The answers are shown in Table 8.

TABLE 8
TYPE OF EMPLOYMENT

Type of Employment	Number	% of Total
Sole practitioner	64	20½
Partner in practice	80	26
Associate in practice	35	11
Employed by private firm	37	12
Employed by local authority	4	1
Employed by State Government	52	17
Employed by Commonwealth Government	21	7
Employed by university or educational body	6	2
Employed by non-architect	9	3
Other and no reply	2	½
Total	310	100

Table 8 indicates that over one-half of those surveyed are in private practice either as sole practitioners or as partners or associates in practice. Some 42 per cent are employees.

Table 9 sets out the nature of the work performed by those in each type of employment.

In view of the pattern overseas for specialist specification writers to be used, even on a consultant basis, it was surprising that no qualified architect described himself as being principally engaged in specification writing. The small number who consider they are principally engaged in design work suggests that the senior men are doing this work but have listed themselves under administration or general architectural work.

Geographical Location

The number of architects and the population in each statistical division are shown in Table 10. An indication of the extent to which architectural services are available in each division is shown in Column 4.

Table 10 indicates that 90 per cent of all architects in the State are located in Brisbane and the Moreton Division and that in many of the statistical divisions there are no architects at all. Outside Brisbane and the Moreton Division architects are located only in the cities of Townsville, Toowoomba, Rockhampton, Cairns, Mackay, Maryborough, Bundaberg, or Gympie. None are located further from the coast than Toowoomba.

TABLE 9
COMPARISON OF PRESENT EMPLOYMENT AND TYPE OF WORK

Type of Employment	Adminis- tration	Research	General Arch. Work	Design	Drafting	Super- vision	Teaching	Other	Total
Sole practitioner	5		54	2	1	1		1	64
Partner in practice	9		70	1					80
Associate in practice	3		29	2		1			35
Employed by private architectural firm			28	2	5	2		1	37
Employed by local authority			3					1	4
Employed by State Government	15		22	8	1	5		1	52
Employed by Commonwealth Government	5	1	8	2		5	4		21
Employed by educational body	1	1							6
Employed by non-architectural firm	1		7	1	1			1	9
Other and no reply									2
	39	2	221	18	8	14	4	4	310

TABLE 10
RELATION OF NUMBER OF ARCHITECTS TO
POPULATION IN STATISTICAL DIVISIONS

Statistical Division	Number of Architects in Survey	Population (at 30.6.62)	Number of Architects per 10,000 Population
Brisbane and Moreton	280	827,430	3.4
Townsville	9	91,590	1.0
Downs	6	143,220	0.4
Rockhampton	4	94,720	0.4
Cairns	4	101,260	0.4
Maryborough	4	129,270	0.3
Mackay	3	47,280	0.6
Other districts	—	107,859	—
Total	310	1,542,629	2.0

Income

The question on the present rate of net income for architectural work was answered by virtually all respondents. They were specifically asked to include only the net income from their architectural practice; allowance should have been made for expenses incurred in professional duties but not for the deductions allowed for taxation purposes for dependants, medical expenses, and so on.

TABLE 11
NET INCOME FROM ARCHITECTURAL WORK

Net Income	Number	%
£5,001 +	19	6
4,501 - 5,000	9	3
4,001 - 4,500	11	4
3,501 - 4,000	15	5
3,001 - 3,500	23	7
2,501 - 3,000	52	17
2,001 - 2,500	79	25
1,501 - 2,000	60	19
1,001 - 1,500	21	7
Under £1,000	10	3
Not stated	11	4
Total	310	100

From Table 11 it can be seen that the median income lies close to £2,350. However, as the following Tables show, an architect's income is related to age and type of employment.

TABLE 12
RELATIONSHIP BETWEEN AGE AND INCOME

AGE AT 31.12.62	NET INCOME FOR 1961-2 (£)											Total
	Not Stated	Under £1,000	£1,001 to £1,500	£1,501 to £2,000	£2,001 to £2,500	£2,501 to £3,000	£3,001 to £3,500	£3,501 to £4,000	£4,001 to £4,500	£4,501 to £5,000	Over £5,000	
75 - 79		1					1				1	4
70 - 74	1	3										4
65 - 69	1	2	1	1							1	6
60 - 64	1		1	3	3	1	3	1	1	1	1	10
55 - 59	1		1	5	6	3	3	1	2	2	7	20
50 - 54	1		1	10	7	5	3	2	2	2	7	28
45 - 49	1		1	18	13	7	1	3	2	2	2	27
40 - 44	1		4	12	11	7	1	3	2	2	2	51
35 - 39	1	4	15	24	8	2	2	3	1	2	2	56
30 - 34			21	6		4	2	2	2	1	1	69
25 - 29			16									29
20 - 24												3
Not stated	3											3
Total	11	10	21	79	52	23	15	11	9	19		310

TABLE 13
RELATIONSHIP BETWEEN INCOME AND TYPE OF EMPLOYMENT

TYPE OF EMPLOYMENT	NET INCOME FOR 1961-2 (£)											Total	Median Salary
	Not Stated	Under £1,000	£1,001 to £1,500	£1,501 to £2,000	£2,001 to £2,500	£2,501 to £3,000	£3,001 to £3,500	£3,501 to £4,000	£4,001 to £4,500	£4,501 to £5,000	Over £5,000		
Sole practitioner	4	8	4	5	7	7	7	5	5	5	7	64	2,950
Partner in practice	5		3	10	13	16	6	6	3		12	80	2,850
Associate in practice			3	9	12	7	3	1				35	2,250
Employed by private architectural firm			9	18	9	1						37	1,750
Employed by local authority				1	2	1						4	2,250
Employed by State Government	2			7	21	17	4	1				52	2,450
Employed by C'wealth Gov.			1	8	9	2	1					21	2,100
Employed by univ. or educational body					2	1	2	1				6	3,000
Employed by non-architectural firm			1	2	4			1	1			9	2,200
Other and no reply		2										2	
Total	11	10	21	60	79	52	23	15	11	9	19	310	2,350

TABLE 14
RELATIONSHIP BETWEEN INCOME AND TYPE OF EMPLOYMENT

TYPE OF EMPLOYMENT	NET INCOME FOR 1961-2 (£)											Total	Medians £
	Not Stated	Under £1,000	£1,001 to £1,500	£1,501 to £2,000	£2,001 to £2,500	£2,501 to £3,000	£3,001 to £3,500	£3,501 to £4,000	£4,001 to £4,500	£4,501 to £5,000	Over £5,000		
Administrative	1		2	7	14	5	2	2	1	5	39	2,850	
Research		1			1						2		
General architectural work	10	6	18	47	30	16	12	8	7	12	221	2,300	
Design				7	4			1		2	18	2,250	
Drafting	1	1	2	2	2						8	1,600	
Supervision				2	7	1			1		14	2,350	
Teaching				2	3		1				4	2,750	
Clerk of works				1							1		
Other	2			1							3		
	11	10	21	60	79	23	15	11	9	19	310	2,350	

Table 12 shows that at all ages there are very marked discrepancies in the income obtained. Some architects in every age group above thirty to thirty-four have high incomes and there are others of all ages with relatively moderate incomes. The median for the whole group lies at £2,350; but there appears to be a steady rise in the average incomes of older age groups; the small number in the sixty to sixty-four age group have a median income of £3,600.

Table 13 indicates that the highest median salary is obtained by the small group employed by educational bodies. However, virtually all with an income of over £4,000 are in sole practice or are partners in private practice.

A similar comparison between salary and type of work indicates that although those teaching the subject may not have the same opportunities for very high incomes, they do, as a group, rank first, along with those who classify themselves as being principally engaged in administrative work. As might be expected, those who classify themselves as being principally engaged in drafting work have the lowest average income.

In one small comparison the salaries reported by twelve Queensland graduates and thirty-four Queensland diploma holders born in the years 1930 to 1934 were tallied. The four architects earning less than £1,500 were diploma holders; of the four earning over £3,000, one graduate was earning £3,001-£3,500 and three diploma holders were earning £4,001-£5,000. The numbers concerned are almost certainly too small for any firm conclusions to be drawn from these data.

Size of Architectural Firms

Tables 15 and 16 show how the architectural firms in Queensland are staffed. The size of firms varies from the large firm with twenty qualified architects and twenty-one other staff through the firms of medium size to the sole practitioner.

TABLE 15
TOTAL NUMBER OF EMPLOYEES
REPORTED BY PRINCIPALS OF FIRMS

Number of Staff per Firm	Number of Firms
40 - 44	1
35 - 39	
30 - 34	
25 - 29	
20 - 24	3
15 - 19	5
10 - 14	12
5 - 9	33
0 - 4	60
Total	114

TABLE 16
NUMBER OF SUBORDINATES IN FIRMS*

NUMBER IN FIRM	TYPE OF STAFF						
	Partner and Associates	Other Qualified Architectural Staff	Students (Degree)	Students (Diploma)	Students (Private Study)	Draftsmen	Other Technical Staff
12				1			
11	1	1					
10	2						
9	1			1		1	
8	3			2		3	1
7	5			4	1	9	5
6	10	4	3	6		19	10
5	16	17	3	15			
4	29	22	16	25	3		
3							
2							
1							
Number of firms	67	44	24	55	5	32	17
Total persons in this category	158	79	40	124	9	52	28

* Table 16 consists of seven unrelated sections. It shows, for example, that there is one firm with ten partners or associates. In the next column there is one firm (which may not be the same as the other large firm) with eleven other qualified architectural staff.

It is of interest to compare the data in Table 15 with the size of offices in Britain, where 2,700 offices were estimated to employ nearly 17,000 architectural staff.¹⁰ In Britain nearly 70 per cent of the private offices have 1-5 architectural staff (including unqualified assistants), a figure similar to that of Queensland; about 13 per cent of offices have eleven or more architectural staff, a figure slightly lower than in Queensland.

Value of Architectural Work in Queensland

Table 17 indicates the value of the average building work reported by principals of firms as being completed in a normal year. In compiling this Table only the amounts reported by the older partner in a firm were taken into account.

TABLE 17
AVERAGE VALUE OF BUILDING WORK COMPLETED IN NORMAL YEAR

Value Reported (£'000)	Number of Principals Reporting
1,750	1
1,500	1
1,250	1
1,000	1
750 - 799	2
600 - 649	2
550 - 599	1
500 - 549	8
450 - 499	3
400 - 449	6
350 - 399	2
300 - 349	1
250 - 299	7
200 - 249	11
150 - 199	16
100 - 149	18
50 - 99	15
0 - 49	6
Total	102

From these data, the total value of work completed by these architects appears to be some £29,000,000. As the total value of buildings (both private and governmental) completed for the year 1961-2 was some £55,000,000, it appears that little more than one-half has been undertaken by architects replying to this questionnaire. When allowance is made for government building and for the work undertaken by architects from other States, it is probable that, as in Britain,¹¹ about 60-70 per cent of the work passes through an

¹⁰ R.I.B.A., *The Architect and His Office* (London, 1962), p. 27.

¹¹ *Ibid.*, p. 237.

TABLE 18
NUMBER OF JOBS OF A GIVEN VALUE IN A NORMAL YEAR

NUMBER OF JOBS	VALUE					
	Under £2,500	£2,501 to £10,000	£10,001 to £25,000	£25,001 to £100,000	£100,001 to £500,000	Over £500,000
70	1					
45	1					
30	1	2				
25	1	1				
20	5		1			
17 - 18	1					
15 - 16	7	6				
13 - 14		3	2			
11 - 12	8	9				
9 - 10	16	10	8	2		
7 - 8	7	14	1	1		
5 - 6	12	24	15	7	1	
3 - 4	13	18	27	20	1	
1 - 2	10	10	37	50	27	1
Total replies	83	97	91	80	29	1
Total jobs of this value	813	746	368	201	42	1
% of number in each category	38%	34%	17%	9%	2%	—

architect's office. If, as in Britain, it may be possible to raise that figure to 80 per cent, there is scope for a considerable increase in the work of architects.

Table 18 indicates the number of jobs of a given size reported by principals of firms.

TABLE 19
ADDITIONAL STAFF REQUIRED FOR 1963

Number Required by One Firm	Students	Qualified Architects	Draftsmen
5		1	
4			
3	1		1
2	8	3	1
1	32	22	17
Number of firms requiring staff	41	26	19
Total additional staff required	51	33	22

Although nearly three-quarters of all jobs completed by architects' offices have an individual value of under £10,000, these appear to account for less than one-fifth of the *value* of work completed during the year.

Architects' own estimates of their need for additional staff are shown in Table 19.

The figures in Table 19 suggest a greater shortage of qualified architects than would be met by the year's graduations and a shortage of students that could be readily met by the output of fourth-year university students and those commencing the C.T.C. course.

Preferred Systems of Architectural Training

Respondents were asked to indicate which of five systems of training they would prefer the profession to aim at. The frequency of response (some indicated two preferences) is set out in Table 20.

TABLE 20
PREFERRED SYSTEMS OF ARCHITECTURAL TRAINING

System	Number	%
Three years full-time and three years part-time (as at University of Queensland)	173	46
Day release of part-time students for some full-time training	59	16
Five years' full-time training (as in Sydney and Melbourne)	58	15
Part-time training (evening only)	54	14
Articled pupillage	19	5
Some other system	13	4
Total	376	100

An analysis has been made to discover the characteristics of the groups who favoured and opposed each of these systems of training. For this purpose each choice of an educational system was related to the qualification for registration, nature of present employment, and income of the respondent.

The present Queensland University system tends to be favoured by those whose own training was in this State and by those with an income of £2,501-£3,500, i.e. slightly above the average. Those who favour the system of day release do not have distinctive characteristics.

The system of five years' full-time training is favoured by those whose own training was gained in another State or country, and by

teachers of architecture. It tends not to be favoured by those who qualified by means of the Queensland Diploma or Board of Architects Registration Examination and by practitioners or partners in practice. Only one of the twenty-eight with a net income in excess of £4,500 favours this system.

The system of part-time training only is favoured by a relatively large proportion of those who have qualified under this system in Queensland, and by a slightly high number (proportionately) of those with incomes above £4,500. It is opposed by all but two of the fifty-six graduates.

Articled pupillage tended to be favoured by those with higher incomes and opposed by those employed by government or semi-governmental bodies and by those with incomes below £2,500.

Principals of firms were asked to enlarge on the reasons for their choice of a system of architectural training. Eighty-nine did so; of these, sixteen had selected more than one style of training. The distribution of choices was similar to that of all respondents but there was a slight tendency to choose the five year full-time course or articled pupillage.

Those favouring the present Queensland University system typically drew attention to the desirability of a balance between the academic study gained in the lecture room or laboratory and the practical experience gained in the final three years in an architect's office. The advantages of prior academic study before entry to an office were pointed out.

Those favouring five years' full-time training referred to such factors as the desirability of obtaining parity with other professions, the need to raise the status of the present course, the fact that some firms do not give students adequate training, and the conflict between work and study in a busy office. Those who favoured this type of course drew attention to the need for one or two years' practical experience prior to registration, and the need for providing adequate courses for draftsmen.

Those favouring a course consisting entirely of part-time study stressed the advantage to the student of being able to gain practical experience concurrently with his academic studies. Others suggested that this system produced the most able office assistant.

Day release was seen as an alternative means of blending practical and academic training under conditions that would be less arduous for students.

It is of interest to compare these conclusions with those of an English conference on "architectural education"¹² which *inter alia* decided:

- “3. Ultimately, all schools capable of providing the high standard of training envisaged for the architect should be

¹² Reported in *R.I.B.A. Journal*, LXV, No. 8 (June, 1958), 279-82.

'recognised' and situated in universities or institutions where courses of comparable standard can be conducted.

- "4. Courses followed by students intending to qualify as architects should be either full-time or, on an experimental basis, combined or sandwich courses in which periods of training in a school alternate with periods of training in an office.
- "6. The Conference regards post-graduate work as an essential part of architectural education. It endorses the policy of developing post-graduate courses which will enlarge the range of specialised knowledge, and will advance the standards of teaching and practice."

The conclusion that full-time training in recognized schools is the most satisfactory method of preparing students for modern architecture is in line with the practice in other professions and appears to have significant implications for architectural education in Queensland.

Views on Architectural Training

Those answering the questionnaire were asked to indicate whether they had any strong views on the present training of architects, or any suggestions for desirable changes to existing courses. Classification of their replies showed a very general belief that the architectural course should include more practical experience on building sites and in job supervision. Seventy-one of those who replied to this question answered in these terms. Typical comments include the suggestion:

"It is considered an added advantage would be the introduction into the architectural course of measures to enable students to become familiar with the practical aspects of the building trade. Failing actual participation in the practical work of the various building trades, organized and regular inspection of projects should be arranged to enable the student to study the application of the theory presented in lectures."

In addition to the repeated emphasis on the importance of a number of visits to sites where construction was proceeding and on the desirability of gaining close practical experience in a wide variety of construction, it was suggested by some that it would be an advantage for students to gain some practical building experience either on an actual job in progress or on a typical job designed by the University. The actual building work would be done by students under the guidance of qualified tradesmen. The principal benefit to be gained by having a student working for limited periods with perhaps a carpenter, a joiner, a plumber, or other tradesman would be to enable him to gain experience in judging reasonable work as opposed to perfect work, and to acquire by the end of his course a

standard of workmanship and finish by which he could compare the acceptable and the unacceptable.

There is very general agreement that an important part of the young architect's training could be gained only through professional practice in an architect's office. One suggestion was that every architect should have a minimum of five years' practical experience in an established office before he commenced private practice on his own. It was suggested that his work in the office, in addition to enabling him to develop skill in the preparation of estimates and to obtain and handle clients, would give him that essential familiarity with the running of an office which is picked up by working in one over a period of years. An important part of this training would be to develop an appreciation of the importance of studying and understanding clients' requirements and wishes.

Forty-three respondents drew attention to the desirability of including in the architectural course subjects such as economics, accountancy and business administration. The criticism was made that the existing courses do not include adequate tuition and training to enable the young graduate to evaluate good architecture in terms of investment return and maintenance. Students receive insufficient training in keeping the capital cost of the project within the financial limits of the client and in reducing future costs of maintenance.

Other topics were mentioned less frequently by the respondents. Eleven mentioned the need for better teaching and for top-level lecturers. However, of these only three were Queensland graduates, and one was a graduate from outside the State.

Ten mentioned the desirability of giving more attention to structural principles and construction technology. Comments on this point were allied to the importance of practical experience in on-the-job construction.

Nine respondents favoured the view that there should be only one course of training leading to an architectural qualification in Queensland. As one respondent put it: "If high status is to be obtained, corresponding qualifications must be obtained. There is no 'side door' to Medicine. There should be no 'side door' to Architecture."

Several respondents referred to the desirability of one combined course in lieu of the two existing courses.

A number of other topics were mentioned. Nine considered that there is not sufficient design in the present course; on the other hand five considered that the course would be adequate with less design. Some suggested that the course be concentrated less on extraneous subjects; others suggested the inclusion of courses on real estate development, on ethics, and on the desirability of a broader general education. As only half a dozen or fewer respondents commented on most of these points, it is difficult to determine whether or not

there is any strong body of opinion favouring change in these directions.

The conclusion drawn from replies to the questionnaire is that many Queensland architects would endorse the conclusions of a recent British survey:

“2.61. In the view of many practising architects, it was desirable that students should:

- (i) acquire more knowledge of the first principles of building design and construction;
- (ii) be taught to anticipate and plan ahead;
- (iii) acquire a stronger sense of building economy;
- (iv) have joint training with other professions concerned with building;
- (v) have a period of training in a builder's office, or as a foreman or assistant to the site manager or clerk of works.”¹³

The Scope and Limitations of Women in Architecture

Although forty-three of those answering indicated that there were no limitations or that women were suitable for all kinds of architectural work, an overwhelming majority were of the opinion that there were very definite limitations on the scope of work women could be expected to perform in architecture. In particular, 127 suggested that women were not suitable for undertaking job supervision; another 43 suggested that the public were not yet ready to accept women, and a further 96 suggested that women could be best employed in such specialized tasks as interior decorating (34), design (44), domestic projects (15), or as specialists (3).

The principal fear of many seemed to be that “Australian workmen would not take kindly to being given directions by women”. The principal of one of the largest architectural firms operating in Queensland commented as follows:

“The lay opinion that women are especially suited for domestic work is overrated. They are unsuitable for supervision during the early stages and during rough construction of major works. However, they are quite suitable in the finishing stages in decoration. There is no reason why they should not be equal to men in the planning and design, plans and specifications.”

Similarly, another respondent who reported experience in charge of a large government department reported that he had found the best women architects equal to men on the drawing

¹³ R.I.B.A., *The Architect and His Office*, p. 38.

board. They were, however, handicapped by their inability to supervise jobs as builders and tradesmen resent women supervising. Similarly, they were not normally suited to handling big contracts or to dealing with "tough" contractors.

The women themselves tend to be divided in their opinions. One reports that there is prejudice to overcome with regard to the public and that there is possibly some difficulty in dealing with contractors. She considers that there is more scope for women architects in design than in the technical side of domestic architecture. Another suggests that the principal drawback for women is the definite prejudice of builders and co-workers of equal status rather than of clients.

Improving Architectural Services and the Status of the Profession

Responses to requests for suggestions on how to improve architectural services and the status of the profession could be classified into three major broad headings. There were over one hundred suggestions on proposals for the education of the public and for an increase in publicity about the profession. There were a similar number of suggestions on means of obtaining more status for architects. There were twenty-seven suggestions for raising the standard of architectural education in Queensland.

Suggestions for improved publicity included more advertising by the Institute to make the public aware of the nature and scope of an architect's work, an increase in the number of architectural awards and competitions, together with publicity for these, and the presentation of carefully constructed articles which would appear regularly in the press to inform the public about an architect's services and his fees. Use of radio, television, and films was also suggested as a means through which the R.A.I.A. might acquaint the public with the value of professional service.

Proposals for educating the public included a public relations programme to convince the general public that the architect is as much needed in the building programme as a doctor is in a health scheme. Some suggested that this long-term programme of public education should start at the earliest possible age-level in the schools.

Among the suggestions for improving the status of the profession the most common point was made by the forty-four respondents who emphasized the desirability of having architects adhere to a code of ethics. It was suggested that unethical practices were being tolerated within the profession at the moment and that immediate and positive action, if necessary by legal means, must be taken to enforce the existing code of ethics. Others suggested that action along these lines by the Institute would make the Institute stronger and would limit the activities of unregistered architects.

More than twenty respondents commented on the need for stronger laws to bar practice by unqualified architects. It was suggested, for example, that present regulations governing the erection of buildings in Queensland are such that any individual, provided he or she is capable of drawing a few lines on paper, can obtain a permit to commence building operations in the erection of practically any size of building either in the Brisbane area or in most country areas of Queensland. One suggestion was that legislation should be introduced making it compulsory for all building work costing above a given figure to be carried out by architects. The figures suggested ranged from £1,000 to £10,000.

The various suggestions for the improved training of architects included the points mentioned above; in particular, there was emphasis on better office management, better handling of clients and the necessity for due account to be taken of the need for financial budgeting by clients. Others drew attention to the need for more and better supervision of projects.

THE NEED FOR ADDITIONAL ARCHITECTS

Is There a Shortage?

One of the most important tasks facing the community is to determine the minimum number of workers required in each profession, and if possible to achieve a balance between over-supply and under-supply. In Queensland there has never been any serious unemployment of graduates. On the contrary, although the number of graduates has risen sharply in the past ten years, there has been a continuing shortage in many professional fields.

In architecture there might seem to be an appropriate balance at the present time. The great majority of the 310 Queensland architects who replied to the questionnaire considered that they were fully occupied. These figures were similar to those in earlier surveys of dentists and veterinary scientists, where, however, other criteria suggested there was a major shortage.

The present survey provides some evidence of the present demand for architects: principals of firms suggest a shortage of thirty-three qualified architects, fifty-one students, and twenty-two draftsmen. As a result of recent amendments to the Architects Act and of a public relations campaign by the profession, reduction of the significant part of the current building construction in this State not under the direction of architects may increase the demand for qualified architects. Possibly of more significance is the rapid increase in the value of new construction between 1958 and 1960, when completions rose from £41,000,000 to £56,000,000. Although figures for 1961 and 1962 were slightly lower than those for 1960, it is perhaps indicative that they were still considerably above the figures for 1959, and that the value of commencements in 1962 was nearly three million pounds above that for 1961. With improved business conditions a further demand for architectural services is probable.

Number of Architects in Other Countries

One criterion of the future need for architects in Queensland is provided by estimates of the number of architects in other Australian States and in other countries.

Miss R. C. A. McGaw of the Economic Research Department of the Royal Institute of British Architects has drawn attention to a survey conducted by the International Union of Architects which suggested that the number of inhabitants per architect in countries which submitted comparable figures was as follows:

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Country	Number of Inhabitants per Architect
Norway	2,949
United Kingdom	3,118
West Germany	4,333
East Germany	4,400
France	5,232
U.S.A.	7,616

In Australia, in 1960, the registers of six States and two Territories contained 3,536 names; in a population of some 10,400,000 that is approximately one per 2,940 of the population. In the same year, in Queensland, the ratio was 1:3,940. However, it must be remembered that these numbers do not present an accurate picture: one architect may be on the register in more than one State; other architects (especially those employed by governmental and semi-governmental authorities) may not be on any register. The overall position, both State and Commonwealth, is probably worse than is indicated above.

An Estimate of the Demand, 1962-70

From this evidence it is suggested that an interim goal of one architect on the Queensland register for every 3,000 population, a figure similar to that of Norway, the United Kingdom, and other Australian States, would not be an unreal one. This would mean a shortage in 1962 of about 109 architects, a figure which may be compared with the reported shortage of 33 qualified architects and 51 students.

As the State's population is expected to rise by 291,000 between 1962 and 1970, an additional ninety-seven architects may be required; as the number of deaths and retirements in the next eight years will be taken as eight-tenths of those aged fifty-five to sixty-four years, a further twenty-four will be required to fill these gaps.

In brief, the minimum number of additional architects required by 1970 may be:

Present shortage	..	..	..	..	..	109
For rising population	..	..	..	..	..	97
To replace deaths and retirements	..	..	..	..	..	24
Total	..	..	..	..	..	230

This would require an average of twenty-nine additional architects per year.

The suggestion that the number of "active" architects be raised by over two-thirds over a period of eight years may not be unrealistic when account is taken of the shortage of architects in coastal cities

except in the south-east, and the complete absence of architects away from the coast. Even when allowance is made for the work done in Queensland by southern offices, there appears ample scope for architects to increase their share of the building programme of the State. Moreover, an increase of this same magnitude occurred over the past decade.

Likely Number of Additional Architects Trained in Queensland

Present indications are that most of the required number will graduate from the University of Queensland by 1970.

The University has sixty-one students in the final three years of the course; as many students do not proceed in the minimum time, there may not be more than an additional fifty graduates in the next three years. In 1966, the present third year (thirty-four students) should produce twenty-five to thirty graduates. Although it is difficult to determine the degree of wastage and delay in the present large first-year class of fifty-seven students, or to gauge the size of the first-year classes in 1964 and 1965, it seems certain that, between 1963 and the end of 1970, some two hundred additional university architects will graduate in Queensland. The significance of this development can best be appreciated by the fact that only fifty-six architects had graduated in Queensland by mid-1962, and that seven of these had left the State.

If it be assumed that one-eighth of all graduates will leave the State in future years, then about 175 additional graduates will be practising in Queensland early in 1971.

During the next eight years, others will be qualifying as architects by means of the C.T.C. course, which in a typical first-year subject (History of Architecture, Stage 1) has risen from fifty in 1960 to sixty-five in 1961, to sixty-seven in 1962, and then fallen to fifty in 1963. Although the drop-out of students between the first and second years may have been as high as one-third in recent years, enrolments in a second-year subject such as History of Architecture, Stage II (Renaissance) have risen from eighteen in 1957 to forty-six in 1963, and in Architectural Design V numbers have risen from fifteen in 1961 to twenty-six in 1963. As these twenty-six students would be drawn principally from the average intake of some thirty-five first-year students per year of 1957-9, it is possible that over twenty students per year will soon be gaining C.T.C. diplomas.

The conclusion is inescapable that, even after full allowance is made for the relatively small percentage of diploma students who complete their course in minimum time, the supply of newly qualified architects should shortly be more than sufficient for the State's minimum needs.

APPENDIX I

NUMBER OF REGISTERED ARCHITECTS, 1929-62
(Extracted from printed copies of the rolls)

Year	Total Number of New Registrations for the Year	Actual Number on Roll as at 1st January in Each Year
1929	173	—
1930	16	173
1931	5	—
1932	3	—
1933	9	—
1934	4	197
1935	11	—
1936	7	—
1937	5	165
1938	5	166
1939	6	160
1940	8	161
1941	5	165
1942	2	164
1943	2	147
1944	3	143
1945	9	150
1946	20	168
1947	10	191
1948	14	198
1949	12	214
1950	4	221
1951	10	223
1952	12	235
1953	27	250
1954	21	265
1955	22	269
1956	24	279
1957	22	298
1958	28	286
1959	26	323
1960	36	346
1961	29	382
1962	43	399

The numbers on the roll are those as at 1st January in each year; the average number of registered architects would be somewhat higher than the numbers shown on the roll, as qualified persons in the employ of the government and local authorities may use the title "architect" without being registered. The number of such qualified but unregistered architects is not known.

APPENDIX II

ARCHITECTURAL DEGREES AND DIPLOMAS AWARDED IN QUEENSLAND

Year	University Degree	University Diploma	Education Dept. Diploma	Total
1923			4	4
1924			4	4
1925			7	7
1926			2	2
1927			1	1
1928			2	2
1929			—	—
1930			8	8
1931			2	2
1932			3	3
1933			8	8
1934			5	5
1935			5	5
1936			—	—
1937			1	1
1938			1	1
1939			3	3
1940			3	3
1941		2	4	6
1942		3	2	5
1943		—	3	3
1944		—	—	—
1945		3	4	7
1946		3	6	9
1947		2	6	8
1948		7	8	15
1949		6	3	9
1950		6	1	7
1951		5	—	5
1952		8	1	9
1953	5	6	2	13
1954	6	4	—	10
1955	3	1	—	4
1956	9	11	—	20
1957	3	15	—	18
1958	8	12	—	20
1959	2	7	—	9
1960	5	2	—	7
1961	6	1	5	12
1962	8	1	7	16
Total	55	105	111	271

**OTHER OCCUPATIONAL SURVEYS AVAILABLE
OR FORTHCOMING**

Occupational Survey No. 1: Dentistry in Queensland (1960) 3/-

*Occupational Survey No. 2: Veterinary Science in Queensland
(1962)* 4/-

In preparation:

Occupational Survey No. 4: Pharmacy in Queensland

Occupational Survey No. 5: Surveying in Queensland

