

CHAPTER 18

EDUCATION, CULTURAL ACTIVITIES AND RESEARCH

For the most recent statistics available on subjects dealt with in this chapter reference should be made to the series of mimeographed bulletins *Social Statistics* issued by this Bureau. The *Quarterly Summary of Australian Statistics* contains summarized information on these subjects, and financial aspects are dealt with in the annual bulletins *Commonwealth Finance and State, Territory and Local Government Authorities' Finance and Government Securities*. The Annual Reports of the respective State Education Departments provide detailed statistical and other information concerning particular States.

EDUCATION

An account of the development of the Australian school system up to 1929 may be found in Year Books Nos. 1, 2, 17 and 22. In Year Book No. 40 a review of changes which occurred up to 1951 and of the practices then current was presented from material furnished by the Commonwealth Office of Education, which contributed much of the textual matter in the following sections.

Education in Australian schools

Administration and organization

In Australia the provision of schools is mainly the responsibility of State Governments. During the nineteenth century all six Australian colonies had established systems of compulsory education, beginning with the *Education Act 1872* in Victoria, and followed by similar Acts in Queensland (1875), South Australia (1875), New South Wales (1880), Tasmania (1893), and Western Australia (1893). These Acts, with subsequent amendments, constitute the legal basis of compulsory education in the Australian States to-day.

School attendance is compulsory throughout Australia between the ages of six and fifteen at least. The minimum leaving age is fifteen years in New South Wales, Victoria, Queensland, and South Australia, and sixteen years in Tasmania, while in Western Australia attendance is compulsory until the end of the year in which the child turns fifteen years. The Education Acts require that all children between the prescribed ages must attend either a government school or some other recognized educational institution. Children may be exempted from the requirement of compulsory attendance if they live too far from a school or suffer a physical disability. These children usually receive correspondence tuition.

The school year in Australia begins at the end of January or early in February; it ends in mid-December. The long vacation is taken over the summer months (December to February) and two short vacations divide the school year into three terms.

At government primary schools it is usual for both boys and girls to attend the same school; at the secondary level practices vary, but the trend is towards mixed schools. Non-government schools cater mainly for boys and girls separately.

Government school systems

Government schools, except in the Commonwealth Territories, are a responsibility of the six State Governments. Although the educational systems are not identical, they have many similar features. Responsibility for framing educational policy and having it put into effect rests with a Minister for Education, who is a member of the State Cabinet. The administrative authority in each State is an Education Department headed by a Director-General or Director of Education. Separate divisions of the Education Department in each State administer primary, secondary and technical education (in New South Wales there is a separate Department of Technical Education). Other divisions look after such matters as the recruitment and training of teachers, pupil guidance, research, and the education of atypical children. In some States administration has been decentralized to a degree by the appointment of 'Area' or 'Regional' directors, who are responsible for policy in the area which they control.

Tuition at government primary and secondary schools is free in all States. Parents are usually expected to bear the cost of text-books, uniforms and charges for such things as the use of sports materials. However, income tax concessions exist in respect of these expenditures for both government and non-government systems, and certain text-book costs are subsidized in the case of pupils attending government and non-government schools in some States.

Non-government schools systems

More than 80 per cent of the children at non-government primary and secondary schools attend Roman Catholic schools, which form a highly developed but not centralized system. At the primary level these children normally attend mixed parish schools, but at the secondary level there are boys' schools, approximately half taking boarders, and girls' schools. Some of the small convent schools in country districts enrol young boys as well as girls. The organization of Roman Catholic schools is primarily on a diocesan basis under the general direction of the bishop, although many of the religious orders which conduct schools are Australia-wide, and have their own internal organization.

The majority of other non-government schools, sometimes known as 'private' or 'independent' schools, are conducted by, or are under the auspices of, various religious denominations, particularly the Church of England, Presbyterian and Methodist Churches. Others are conducted by the Baptist, Lutheran, Congregational, and Seventh-day Adventist Churches and by smaller religious groups. There are Jewish schools in several capital cities. A few non-government schools, including some of the foremost, are undenominational and conducted under the auspices of corporate bodies.

The methods adopted by the educational authorities to ensure an acceptable standard of education at non-government schools vary from State to State. In New South Wales, Victoria, Western Australia, and Tasmania these schools are regularly inspected. In Victoria and Tasmania, schools and teachers must be registered. In Queensland eight grammar schools which exist by statutory authority and are subsidized by the State are subject to annual inspection. Other non-government schools in Queensland and also those in South Australia are not subject to inspection.

The principals of a number of the larger non-government schools have formed organizations with both State and Australia-wide coverage, namely, the Headmasters' Conference of Australia and the Headmistresses' Association of Australia.

Schools and courses

Primary education in government schools. Though school attendance is not compulsory until the age of six, most Australian children begin school when they are five, attending infants' schools or infants' classes attached to a primary school. In some States the first year in the infants' department is known as 'kindergarten'. The emphasis in infants' classes, which occupy two or three years, is on general development, play activities and the informal aspects of education, with a gradual shift towards more formal activities in the second and third years. Creative expression through drawing, dancing, handiwork, dramatization, painting and similar activities is encouraged. Attention is given to speech training and to activities with music. At the end of their infants' school training most children are able to read with some fluency, carry out simple arithmetical operations founded on the basic number facts, and write in pencil. In addition, they have acquired elementary skills in art, music and the like.

At about the age of eight most children pass into the primary school proper, where they usually spend four or five years. Primary schools are normally provided when and where there is sufficient population to justify them. Irrespective of the size or the location of the school, standards of tuition do not vary appreciably, because teachers within a State follow similar courses of training and transfer freely between metropolitan and country areas. The Education Departments prescribe syllabuses of instruction, which are drawn up with the assistance of expert committees. The primary syllabuses have an emphasis on basic subjects like reading, writing, arithmetic, social studies, and oral language, but the teacher has some freedom to modify courses to suit local circumstances and the varying abilities of his students.

Children attend primary schools in their own districts, usually within walking distance of their homes, on five days each week. The school day is broken up into three or four sessions by a lunch break and by a morning and sometimes an afternoon recess. The total period of instruction is four and a half to five hours daily with individual subject lessons lasting twenty to thirty minutes. Periods are set aside for physical education and sport. One teacher generally has charge of a class and teaches it all the subjects set out in the curriculum for the particular grade.

Pupils do not, as a rule, sit for a public examination during or at the end of their primary course, and progression from primary to secondary school is automatic. Allocation to particular schools or particular courses is based on the recommendations of the headmaster, general ability tests, tests of achievement in the basic subjects, and parents' wishes. In South Australia pupils may proceed to secondary school on receiving the Progress Certificate, which is awarded on satisfactory completion of the seventh grade, the highest grade at primary level.

Secondary education in government schools. The age of transfer from a government primary to secondary school is usually between twelve and thirteen. Most secondary schools are co-educational, although separate schools for boys and girls are not uncommon in capital cities. In the cities and larger country centres secondary courses are provided in separate schools from primary courses, but in less populous areas secondary classes sometimes share buildings with primary classes.

The secondary student takes up new studies such as foreign languages and technical or commercial subjects, and moves on to more specialized studies in natural and social sciences and mathematics. The study of basic subjects begun in primary school is continued. The actual subjects studied depend on the ability of the pupil and the type of school. A school day is divided into 'periods' and the children are taught by a number of teachers, each specializing in a particular subject or group of subjects.

In the past, to meet the varying abilities and needs of students, various kinds of secondary schools were established in which different types of education were provided, although in country areas secondary schools tended of necessity to be comprehensive and offered a full range of secondary courses. But following the re-examination by expert committees in all States of the problems associated with the provision of appropriate secondary education for all, significant changes in the structure and curricula of secondary schools are taking place. In New South Wales, for example, following a committee's recommendation that the secondary curriculum should offer a core of common basic education to all students, secondary schools have become comprehensive. Pupils of different aptitudes and interests in a given locality now attend the same secondary school, undertake this core of common basic studies, and in addition specialize according to their proven abilities and interests.

The most common type of secondary school is the comprehensive or multi-purpose high school, which offers a wide range of subjects. To cater for this diversity of subjects, most high schools now have modern facilities for the teaching of domestic science, commercial subjects, woodwork and other technical subjects. In some States there are still, however, separate high schools specializing in technical, commercial or home science subjects. In some States there are also a few separate agricultural high schools, some of them residential. The curriculum consists of general educational subjects and practical farm training. There are also 'area' and 'rural' schools offering up to three years of secondary study, and in some States courses in agriculture are also given at high schools.

Primary and secondary education in non-government schools. Non-government schools follow curricula similar to those laid down by Education Departments, and prepare their students for examinations conducted by public examining authorities. Most non-government schools are comprehensive type schools, providing a range of subjects and courses at various levels. Although there are similarities between non-government and government schools in the courses they provide, more emphasis is given to the religious training of pupils in denominational schools. A few schools, mostly Roman Catholic secondary schools, specialize in agricultural and technical courses. Non-government schools offer some facilities additional to those normally found in government schools, such as personal tuition in music, ballet, etc. A few are organized on 'experimental' lines.

Examinations

During the course of secondary education State-wide examinations are taken at two levels. The earlier examination qualifies pupils for entry to trade courses at technical colleges and agricultural colleges, to junior commercial positions in, for instance, insurance and banking, to nursing and secretarial courses, to lower grades of the public service, and to industry. The examination at the end of the secondary school course qualifies students for entry to teachers' colleges, the higher grades of the public service, and commercial occupations; this examination is also the qualification for entry to the university, certain subjects and combinations of subjects being set down as the matriculation requirements by the respective universities.

In most States the higher examination is controlled by a board consisting of representatives of the Department of Education, the universities, non-government schools, and sometimes of other bodies such as teachers' organizations. A brief description of the examinations in each State follows.

New South Wales. For pupils who commenced their secondary education in 1961 or earlier, the secondary course was of five years duration with an Intermediate Certificate Examination taken at the end of three years, at about the age of fifteen, and the Leaving Certificate Examination (Matriculation) taken after a further two years. For pupils who commenced their secondary education in 1962 or later, the full secondary course is of six years' duration, with a School Certificate Examination at the end of the fourth year, age about sixteen, and a Higher School Certificate Examination (Matriculation) after a further two years. The last Intermediate and Leaving Certificate Examinations under the old system will be conducted in 1966. Thereafter pupils who leave school before gaining their School Certificate will receive a signed statement of attainment from their school principal.

Victoria. The Intermediate Examination is taken at the end of the fourth secondary year, at about the age of sixteen, the School Leaving Examination at the end of fifth year, and the Matriculation Examination at the end of sixth year. Pupils at approved non-government schools and certain government schools may be accredited for the Intermediate and Leaving by passing examinations set by their own schools.

Queensland. The Junior Public Examination is taken at the end of third year, at about the age of fifteen and a half. The Senior Public Examination conducted by the University of Queensland is taken at the end of fifth year, at about the age of seventeen and a half, and matriculation is obtained on results in this examination.

South Australia. The Intermediate Examination is taken at the end of the third year, at about the age of fifteen and a half. The Leaving Examination is taken at the end of the fourth year and up to 1965 matriculation was gained on results in this examination. From 1966 matriculation will be gained from a Matriculation Examination to be held at the end of the fifth year.

Western Australia. The Junior Certificate Examination is taken at the end of third year, at about the age of fifteen and a half. Students who pursue a less academic course may take the High School Certificate Examination at this level. The Leaving Certificate Examination is taken at the end of fifth year, at an average age of seventeen and a half, and matriculation is gained on results in this examination.

Tasmania. The Schools Board Certificate Examination is taken at the end of the fourth year, at about the age of sixteen and a half, and the Matriculation Examination conducted by the University of Tasmania at the end of the fifth or sixth year.

Numbers of schools, teachers and pupils

The statistics which follow relate generally to schools providing education according to the primary or secondary school curricula of the various State Education Departments, or both, whether provided in government or non-government schools. Junior technical schools, correspondence schools, and schools in institutional homes, hospitals and similar establishments are included. Institutions providing only pre-school education, senior technical and agriculture colleges, evening schools, continuation classes, and institutions such as business colleges and coaching establishments are, as a rule, excluded.

School censuses are conducted annually at or about the beginning of August throughout all States and Territories of Australia. The numbers of pupils in the tables which follow refer to enrolments at the school census date. The numbers of schools and teachers refer to the position at dates which vary from State to State and in some instances from year to year. While it has not been possible to present all figures on a uniform basis between States, continuity of the figures for any one State over the period of years shown has been maintained as far as possible. Particulars relating to senior technical colleges are given on pages 597-600.

Schools, teachers and pupils

The numbers of government and non-government schools, teachers, and pupils for 1965 and earlier years are shown in the following tables.

NUMBERS OF SCHOOLS AND PUPILS, BY CATEGORY OF SCHOOL STATES AND TERRITORIES, 1965

Category of school	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
SCHOOLS									
Government	2,692	2,232	1,336	675	544	296	41	28	7,844
Non-government—									
Denominational—									
Church of England	35	33	21	12	9	4	..	3	117
Hebrew	2	7	..	..	1	..	..	..	10
Lutheran	3	8	3	13	..	..	1	..	28
Methodist	6	4	(a) 5	4	3	1	4	..	27
Presbyterian	13	14	6	2	2	2	..	..	39
Roman Catholic	668	485	300	130	180	50	11	14	1,838
Seventh-day Adventist	18	8	5	4	5	3	..	..	43
Other . . . . .	..	4	1	2	2	1	5	..	15
Udenominational	61	19	9	5	2	3	5	..	104
Total, non-government	806	582	350	172	204	64	26	17	2,221
Grand total	3,498	2,814	1,686	847	748	360	67	45	10,065

(a) Presbyterian and Methodist Schools Association.

NUMBERS OF SCHOOLS AND PUPILS, BY CATEGORY OF SCHOOL STATES AND TERRITORIES, 1965—*continued*

Category of school	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
PUPILS (CENSUS ENROLMENT)									
Government	653,436	504,120	262,225	202,636	140,951	71,615	6,943	15,194	1,857,120
Non-government—									
Denominational—									
Church of England	12,320	15,467	5,463	4,312	3,573	1,843	..	1,170	44,148
Hebrew	351	2,194	..	..	125	..	..	..	2,670
Lutheran	246	591	837	1,496	..	..	128	..	3,298
Methodist	2,863	3,885	(a)2,130	2,042	1,480	343	544	..	13,287
Presbyterian	5,470	8,008	1,079	1,478	1,161	627	..	..	17,823
Roman Catholic	185,717	145,952	69,638	26,606	30,877	10,505	1,565	5,538	476,398
Seventh-day Adventist	1,072	569	254	140	433	144	..	..	2,612
Other	2,221	133	476	150	972	480	..	..	4,432
Undenominational	6,580	3,719	3,879	1,316	60	254	81	..	15,889
<i>Total, non-government</i>	<i>214,619</i>	<i>182,606</i>	<i>83,413</i>	<i>37,866</i>	<i>37,859</i>	<i>14,688</i>	<i>2,798</i>	<i>6,708</i>	<i>580,557</i>
Grand total	868,055	686,726	345,638	240,502	178,810	86,303	9,741	21,902	2,437,677

(a) Presbyterian and Methodist Schools Association.

NUMBERS OF TEACHERS: STATES AND TERRITORIES, 1965(a)

State or Territory	Government schools			Non-government schools			All schools		
	Full-time	Part-time		Full-time	Part-time		Full-time	Part-time	
		No.	Eq. f.t.u. (b)		No.	Eq. f.t.u. (b)		No.	Eq. f.t.u. (b)
New South Wales	26,831	878	415	6,842	1,743	443	33,673	2,621	858
Victoria	20,083	c 1,816	c 1,134	5,551	1,149	278	25,634	2,965	1,412
Queensland	9,316	696	56	2,543	492	107	11,859	1,188	163
South Australia	7,872	468	143	1,252	355	114	9,124	823	257
Western Australia	4,934	119	39	1,247	186	46	6,181	305	85
Tasmania	3,231	194	55	509	150	29	3,740	344	84
Northern Territory	282	4	1	(d) 72	1	..	354	5	1
Australian Capital Territory	596	34	24	240	28	6	836	62	30
Total	73,145	4,209	1,867	18,256	4,104	1,023	91,401	8,313	2,890

(a) Excludes teachers-in-training generally. (b) The methods used for calculating *equivalent full-time units* of part-time teaching vary from State to State, between government and non-government schools, and between primary and secondary schools within States. For most schools the information is based on either the total hours worked or total number of class periods taken in a week by part-time teachers, in relation to the normal hours worked or periods taken by full-time teachers. (c) A large proportion of male part-time teachers in Victoria are engaged in junior technical schools. A teacher is included as part-time if his teaching time at a junior technical school is less than 32 hours a week. (d) Excludes unqualified teachers and teaching assistants at mission schools.

NUMBERS OF SCHOOLS AND PUPILS: AUSTRALIA, 1961 TO 1965

—	1961	1962	1963	1964	1965
Schools—					
Government	7,965	7,941	7,910	7,872	7,844
Non-government	2,149	2,178	2,193	2,205	2,221
<i>Total schools</i>	<i>10,114</i>	<i>10,119</i>	<i>10,103</i>	<i>10,077</i>	<i>10,065</i>
Pupils(a)—					
Government	1,664,062	1,713,265	1,756,538	1,801,364	1,857,120
Non-government	527,197	539,887	552,759	565,415	580,557
<i>Total pupils</i>	<i>2,191,259</i>	<i>2,253,152</i>	<i>2,309,297</i>	<i>2,366,779</i>	<i>2,437,677</i>

(a) Census enrolment.

NUMBERS OF TEACHERS, BY CATEGORY OF SCHOOL STATES AND TERRITORIES, 1965(a)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Government schools—									
Full-time	26,831	20,083	9,316	7,872	4,934	3,231	282	596	73,145
Part-time—									
Number	878 ^b	1,816	696	468	119	194	4	34	4,209
Eq. f.t.u.(c)	415 ^b	1,134	56	143	39	55	1	24	1,867
Non-government schools—									
Baptist—									
Full-time . . . . .	..	109	..	(d) 23	..	..	..	..	132
Part-time—									
Number . . . . .	..	24	..	(d) 3	..	..	..	..	27
Eq. f.t.u.(c) . . . . .	..	7	..	(d) 1	..	..	..	..	8
Church of England—									
Full-time	751	871	286	225	190	97	..	75	2,495
Part-time—									
Number	187	168	40	41	59	31	..	2	528
Eq. f.t.u.(c)	71	45	20	15	16	8	..	1	176
Hebrew—									
Full-time	22	151	..	..	7	..	..	..	180
Part-time—									
Number	3	22	..	..	1	..	..	..	26
Eq. f.t.u.(c)	1	8	..	..	..	..	..	..	9
Lutheran—									
Full-time	14	24	35	65	..	..	4	..	142
Part-time—									
Number	4	1	7	22	..	..	..	..	34
Eq. f.t.u.(c)	1	..	3	4	..	..	..	..	8
Methodist—									
Full-time	165	203 ^(e)	97	97	74	19	18	..	673
Part-time—									
Number	38	36 ^(e)	16	17	17	5	..	..	129
Eq. f.t.u.(c)	25	11 ^(e)	5	8	7	1	..	..	57
Presbyterian—									
Full-time	310	423	66	70	68	36	..	..	973
Part-time—									
Number	64	96	16	25	8	21	..	..	230
Eq. f.t.u.(c)	24	33	3	13	1	4	..	..	78
Roman Catholic—									
Full-time	5,003	3,513	1,878	703	876	283	32	165	12,453
Part-time—									
Number	1,328	702	384	216	95	82	1	26	2,834
Eq. f.t.u.(c)	279	140	69	58	20	13	..	5	584
Seventh-day Adventist—									
Full-time	58	34	10	10	24	10	..	..	146
Part-time—									
Number	23	6	..	1	5	1	..	..	36
Eq. f.t.u.(c)	5	2	..	..	2	..	..	..	9
Other denominational—									
Full-time . . . . .	..	13	2	..	5	52	13	..	85
Part-time—									
Number . . . . .	..	5	..	..	..	8	..	..	13
Eq. f.t.u.(c) . . . . .	..	1	..	..	..	3	..	..	4
Undenominational—									
Full-time	519	210	169	59	3	12	5	..	977
Part-time—									
Number	96	89	29	30	1	2	..	..	247
Eq. f.t.u.(c)	37	31	7	15	..	..	..	..	90
Total, non-government schools—									
Full-time	6,842	5,551	2,543	1,252	1,247	509 ^(f)	72	240	18,256
Part-time—									
Number	1,743	1,149	492	355	186	150	1	28	4,104
Eq. f.t.u.(c)	443	278	107	114	46	29	..	6	1,023
Grand total—									
Full-time	33,673	25,634	11,859	9,124	6,181	3,740	354	836	91,401
Part-time—									
Number	2,621	2,965	1,188	823	305	344	5	62	8,313
Eq. f.t.u.(c)	858	1,412	163	257	85	84	1	30	2,890

(a) Excludes teachers-in-training generally. (b) A large proportion of male part-time teachers in Victoria are engaged in junior technical schools. A teacher is included as part-time if his teaching time at a junior technical school is less than 32 hours a week. (c) For basis of calculating equivalent full-time units of part-time teaching see footnote (b) page 586. (d) Baptist and Congregational. (e) Schools conducted by the Presbyterian and Methodist Schools Association. (f) Excludes unqualified teachers and teaching assistants at mission schools.

**NUMBERS OF TEACHERS: GOVERNMENT AND NON-GOVERNMENT SCHOOLS(a)
STATES AND TERRITORIES, 1961 TO 1965**

	Government schools			Non-government schools			All schools		
	Number of full-time teachers	Part-time teachers		Number of full-time teachers	Part-time teachers		Number of full-time teachers	Part-time teachers	
		Number	Eq. f.t.u. (b)		Number	Eq. f.t.u. (b)		Number	Eq. f.t.u. (b)
New South Wales—									
1961	(c)22,739			5,789	1,569	n.a.	n.a.	n.a.	n.a.
1962	(c)23,330			6,019	1,555	n.a.	n.a.	n.a.	n.a.
1963	(c)24,672			6,215	1,586	n.a.	n.a.	n.a.	n.a.
1964	(c)25,993			6,541	1,621	n.a.	n.a.	n.a.	n.a.
1965	26,831	878	415	6,842	1,743	443	33,673	2,621	858
Victoria—									
1961	16,476		n.a.	4,860		n.a.	21,336		n.a.
1962	17,724		n.a.	5,102		n.a.	22,826		n.a.
1963	17,373	(d) 1,668		5,038	978	n.a.	22,411	2,646	n.a.
1964	19,026	(d) 1,568		5,326	1,004	n.a.	24,352	2,572	n.a.
1965	20,083	(d) 1,816	1,134	5,551	1,149	278	25,634	2,965	1,412
Queensland—									
1961	8,257	857	n.a.	2,262	414	n.a.	10,519	1,271	n.a.
1962	8,583	805	n.a.	2,331	459	n.a.	10,914	1,264	n.a.
1963	8,810	854	n.a.	2,333	468	n.a.	11,143	1,322	n.a.
1964	9,058	819	n.a.	2,472	539	n.a.	11,530	1,358	n.a.
1965	9,316	696	56	2,543	492	107	11,859	1,188	163
South Australia—									
1961	5,870	451	n.a.	1,104	338	n.a.	6,974	789	n.a.
1962	6,312	432	n.a.	1,130	324	n.a.	7,442	756	n.a.
1963	6,895	431	n.a.	1,165	319	n.a.	8,060	750	n.a.
1964	7,340	477	n.a.	1,231	329	n.a.	8,571	806	n.a.
1965	7,872	468	143	1,252	355	114	9,124	823	257
Western Australia—									
1961	4,117	108	n.a.	1,110		n.a.	n.a.	n.a.	n.a.
1962	4,241	91	18	1,097	96	n.a.	5,338	187	n.a.
1963	4,471	74	17	1,148	n.a.	44	5,619	n.a.	61
1964	4,713	103	16	1,188	141	32	5,901	244	48
1965	4,934	119	39	1,247	186	46	6,181	305	85
Tasmania—									
1961	2,479	109	n.a.	497	73	n.a.	2,976	182	n.a.
1962	2,797	111	n.a.	503	94	n.a.	3,300	205	n.a.
1963	2,919	183	n.a.	509	85	n.a.	3,428	268	n.a.
1964	3,016	141	n.a.	503	132	n.a.	3,519	273	n.a.
1965	3,231	194	55	509	150	29	3,740	344	84
Northern Territory—									
1961	158	6	n.a.	(e) 54	1	n.a.	212	7	n.a.
1962	182	2	n.a.	(e) 61	1	n.a.	243	3	n.a.
1963	207	4	n.a.	(e) 68	1	n.a.	275	5	n.a.
1964	239	6	n.a.	(e) 65	..	n.a.	304	6	n.a.
1965	282	4	1	(e) 72	1	..	354	5	1
Australian Capital Territory—									
1961	(c)400			129	37	n.a.	n.a.	n.a.	n.a.
1962	(c)463			160	32	n.a.	n.a.	n.a.	n.a.
1963	(c)476			183	18	n.a.	n.a.	n.a.	n.a.
1964	(c)554			215	27	n.a.	n.a.	n.a.	n.a.
1965	596	34	24	240	28	6	836	62	30

(a) Excludes teachers-in-training generally. (b) For basis of calculating *equivalent full-time units* for part-time teachers, see footnote (b) on page 586. (c) Includes numbers of full-time teachers (including casual teachers) and part-time casual teachers expressed in equivalent full-time units, for government schools. (d) A large proportion of male part-time teachers in Victoria is engaged in junior technical schools. A teacher is included as part-time if his teaching time at a junior technical school is less than 32 hours a week. (e) Excludes unqualified teachers and teaching assistants at mission schools.

Ages of pupils

The ages of pupils at school census dates for 1965 and earlier years are shown in the following tables.

GOVERNMENT AND NON-GOVERNMENT SCHOOLS: PUPILS, BY AGE AND SEX AUSTRALIA, 1965

(Census enrolment)

Age last birthday (years)	Government schools			Non-government schools			Total		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total (a)
Under 6	78,193	73,717	151,910	22,220	22,105	44,325	100,413	95,822	196,235
6	92,610	87,644	180,254	25,955	25,956	51,911	118,565	113,600	232,165
7	90,945	85,795	176,740	25,567	25,953	51,520	116,512	111,748	228,260
8	89,321	83,507	172,828	25,339	26,031	51,370	114,660	109,538	224,198
9	89,077	82,253	171,330	24,733	25,466	50,199	113,810	107,719	221,529
10	86,831	81,279	168,110	24,528	25,826	50,354	111,359	107,105	218,464
11	85,536	79,525	165,061	24,490	25,349	49,839	110,026	104,874	214,900
12	85,782	78,624	164,406	24,309	27,192	51,501	110,091	105,816	215,907
13	84,414	76,534	160,948	23,436	26,194	49,630	107,850	102,728	210,578
14	80,175	72,510	152,685	21,732	24,922	46,654	101,907	97,432	199,339
15	59,029	48,656	107,685	18,706	20,302	39,008	77,735	68,958	146,693
16	32,509	23,052	55,561	13,586	12,552	26,138	46,095	35,604	81,699
17	14,364	8,565	22,929	8,260	5,371	13,631	22,624	13,936	36,560
18 and over	4,920	1,753	6,673	3,329	1,148	4,477	8,249	2,901	11,150
Total	973,706	883,414	1,857,120	286,190	294,367	580,557	1,259,896	1,177,781	2,437,677

(a) Includes Aboriginal children.

SCHOOLS: PUPILS, BY AGE, STATES AND TERRITORIES 1965

(Census enrolment)

Age last birthday (years)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.(a)
Under 6	81,419	58,508	19,544	18,719	7,710	7,225	871	2,239	196,235
6	82,017	64,334	34,263	22,597	17,574	8,112	1,113	2,155	232,165
7	81,689	62,800	33,114	21,676	17,499	8,206	1,078	2,198	228,260
8	78,796	62,032	32,983	21,970	17,422	7,983	1,060	1,952	224,983
9	77,157	61,186	32,930	21,485	17,777	8,049	1,030	1,915	221,529
10	76,344	60,180	32,670	21,203	17,584	7,698	996	1,789	218,464
11	76,180	58,778	31,755	21,084	16,850	7,548	873	1,832	214,900
12	77,439	58,800	31,569	21,231	16,864	7,411	827	1,766	215,907
13	74,666	57,473	30,841	20,856	16,850	7,430	734	1,728	210,578
14	71,792	55,482	27,328	20,319	15,057	7,167	546	1,648	199,339
15	50,397	43,362	19,991	15,968	9,777	5,537	385	1,276	146,693
16	27,312	26,465	10,599	8,865	4,807	2,584	152	915	81,699
17	10,425	13,101	5,718	3,538	2,338	995	61	384	36,560
18 and over	2,422	4,225	2,333	991	701	358	15	105	11,150
Total	868,055	686,726	345,638	240,502	178,810	86,303	9,741	21,902	2,437,677

(a) Includes Aboriginal children.

SCHOOLS: PUPILS, BY AGE AND SEX, AUSTRALIA, 1961 TO 1965

(Census enrolment)

Age last birthday (years)	1961		1962		1963		1964		1965 (b)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Under 6	90,219	85,518	91,801	88,208	95,454	91,544	97,651	93,404	100,413	95,822
6	107,059	132,905	110,551	104,032	112,486	107,528	114,888	109,812	118,565	113,600
7	106,046	101,615	108,735	104,722	112,251	105,595	113,685	108,423	116,512	111,748
8	106,902	103,090	106,567	102,267	109,026	104,940	111,882	106,358	114,660	109,538
9	105,561	100,303	107,531	103,527	106,932	102,944	109,601	105,826	113,810	107,719
10	104,860	100,516	106,418	101,299	109,020	104,124	108,446	103,905	111,359	107,105
11	104,298	99,549	105,413	100,722	107,441	102,169	109,593	105,278	110,026	104,874
12	100,687	95,897	104,823	99,480	105,461	101,110	107,342	102,220	110,091	105,816
13	100,986	95,538	100,160	95,567	104,744	99,760	105,434	100,668	107,850	102,728
14	99,348	90,987	93,321	86,377	93,578	87,336	99,617	94,053	101,907	97,432
15	58,341	47,706	74,412	61,759	71,323	59,772	71,619	61,317	77,735	68,958
16	30,339	22,127	35,384	24,920	44,182	32,741	43,843	33,045	46,095	35,604
17			15,147	8,670	17,709	10,117	22,826	13,642	22,624	13,936
18 and over	16,760	8,478							8,249	2,901
Not stated	2,777	2,837	4,947	2,480	1,476	1,412	1,549	1,540		
Total	1,134,193	1,057,066	1,167,646	1,085,506	1,196,447	1,112,850	1,225,048	1,141,731	1,259,896	1,177,781

(a) Comprises Aboriginal children at special schools whose ages were not collected. (b) Aboriginal children included in specified age groups.

Grades of pupils

The numbers of pupils enrolled in grades in each State and Territory are shown in the following table. The grading of pupils differs for the various school systems in Australia because of the differences in curricula set by Education Departments. In addition, the methods of allocating classes to grades vary from State to State, and there are also differences in the administrative methods of aggregating grades of a more or less similar nature. The figures presented in these tables represent essentially the system of grading adopted in each different State and are therefore not comparable between States.

GOVERNMENT AND NON-GOVERNMENT SCHOOLS: PUPILS, BY GRADE, ETC. AND SEX, STATES AND TERRITORIES, 1965

Grade, year or form	Government schools			Non-government schools			All schools		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
NEW SOUTH WALES									
Infants—									
Kindergarten	33 720	31,311	65,031	10,827	10,807	21,634	44,547	42,118	86,665
1	38,096	35,147	73,243	10,445	10,055	20,500	48,541	45,202	93,743
2	34,447	32,191	66,638	10,272	10,181	20,453	44,719	42,372	87,091
Primary—									
3	33,011	30,544	63,555	9,971	9,866	19,837	42,982	40,410	83,392
4	32 099	29,942	62,041	9,542	9,817	19,359	41,641	39,759	81,400
5	31,234	29,425	60 659	9,494	9,647	19,141	40,728	39,072	79,800
6	30,354	28,837	59,191	9,332	10,019	19,351	39,686	38,856	78,542
Special primary grades	3,479	2,363	5,842	904	748	1,652	4,383	3,111	7,494
Secondary—									
1st (or 7)	30,883	28,202	59,085	9,170	10,053	19,223	40,053	38,255	78,308
2nd (or 8)	28,490	26,624	55,114	8,389	9,186	17,575	36,879	35,810	72,689
3rd (or 9)	22,090	20,377	42,467	7,559	8,284	15,843	29,649	28,661	58,310
4th	13,021	10,834	23,855	5,775	5,749	11,524	18,796	16,583	35,379
5th	9,593	6,152	15,745	4,952	3,575	8,527	14,545	9,727	24,272
Special secondary grades	712	258	970	..	..	..	712	258	970
Total	341,229	312,207	653,436	106,632	107,987	214,619	447,861	420,194	868,055
VICTORIA									
I(a)	50,293	45,808	96,101	16,130	15,720	31,850	66,423	61,528	127,951
2	24,474	22,564	47,038	8,591	8,345	16,936	33,065	30,909	63,974
3	23,943	22,075	46,018	8,165	8,474	16,639	32,108	30,549	62,657
4	23,706	21,687	45,393	8,343	8,416	16,759	32,049	30,103	62,152
5	22,986	21,287	44,273	8,018	8,120	16,138	31,004	29,407	60,411
6	22,355	20,761	43,116	8,122	8,424	16,546	30,477	29,185	59,662
Ungraded(b)	1,325	844	2,169	136	142	278	1,461	986	2,447
7 or I	24,654	21,817	46,471	7,057	8,387	15,444	31,711	30,204	61,915
8 or II	23,543	20,557	44,100	6,218	7,957	14,175	29,761	28,514	58,275
III	21,214	17,782	38,996	5,801	7,024	12,825	27,015	24,806	51,821
IV	15,601	12,822	28,423	5,295	6,022	11,317	20,896	18,844	39,740
V	8,979	6,462	15,441	4,236	4,273	8,509	13,215	10,735	23,950
VI	3,742	2,839	6,581	3,079	2,111	5,190	6,821	4,950	11,771
Total	266,815	237,305	504,120	89,191	93,415	182,606	356,006	330,720	686,726
QUEENSLAND									
Primary—									
Preparatory				386	354	740	386	354	740
I	16,200	14,661	30,861	4,609	4,403	9,012	20,809	19,064	39,873
II	14,917	13,740	28,657	4,010	3,911	7,921	18,927	17,651	36,578
III	14,308	13,423	27,731	3,792	3,819	7,611	18,100	17,242	35,342
IV	14,269	13,144	27,413	3,630	3,735	7,365	17,899	16,879	34,778
V	13,766	12,929	26,695	3,721	3,797	7,518	17,487	16,726	34,213
VI	13,345	12,668	26,013	3,423	3,627	7,050	16,768	16,295	33,063
VII	13,230	12,282	25,512	3,673	3,940	7,613	16,903	16,222	33,125
Ungraded	1,090	523	1,613	42	36	78	1,132	559	1,691
Secondary—									
1st	12,038	11,135	23,173	3,922	4,071	7,993	15,960	15,206	31,166
2nd	10,604	10,070	20,674	3,553	3,722	7,275	14,157	13,792	27,949
3rd	8,431	7,800	16,231	3,367	3,572	6,939	11,798	11,372	23,170
4th	2,421	1,771	4,192	1,900	1,480	3,380	4,321	3,251	7,572
5th	2,026	1,434	3,460	1,818	1,100	2,918	3,844	2,534	6,378
Total	136,645	125,580	262,225	41,846	41,567	83,413	178,491	167,147	345,638

(a) In Victoria children who are expected to reach five years of age by 1 July are admitted at the beginning of the school year. The younger children may not reach grade 2 until they have been at school for two years.

(b) Pupils at certain special schools classified as primary.

GOVERNMENT AND NON-GOVERNMENT SCHOOLS: PUPILS, BY GRADE, ETC. AND SEX, STATES, ETC., 1965—continued

Grade, year or form	Government schools			Non-government schools			All schools		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
SOUTH AUSTRALIA									
Pre-primary				132	122	254	132	122	254
Kindergarten	2,274	2,208	4,482				2,274	2,208	4,482
I	12,183	11,202	23,385	2,184	2,228	4,412	14,367	13,430	27,797
II	10,369	9,618	19,987	1,655	1,742	3,397	12,024	11,360	23,384
III	10,452	9,658	20,110	1,661	1,746	3,407	12,113	11,404	23,517
IV	10,179	9,663	19,842	1,583	1,785	3,368	11,762	11,448	23,210
V	10,180	9,369	19,549	1,679	1,707	3,386	11,859	11,076	22,935
VI	9,931	9,210	19,141	1,632	1,744	3,376	11,563	10,954	22,517
VII	9,487	8,761	18,248	1,574	1,660	3,234	11,061	10,421	21,482
Ungraded(a)	1,142	789	1,931	11	14	25	1,153	803	1,956
VIII or 1st	10,057	9,014	19,071	1,572	1,851	3,423	11,629	10,865	22,494
IX or 2nd	8,242	7,619	15,861	1,502	1,712	3,214	9,744	9,331	19,075
X or 3rd	6,867	6,238	13,105	1,495	1,697	3,192	8,362	7,935	16,297
XI or 4th	3,540	2,582	6,122	1,225	1,031	2,256	4,765	3,613	8,378
5th	1,166	621	1,787	622	300	922	1,788	921	2,709
Ungraded(b)	10	5	15				10	5	15
Total	106,079	96,557	202,636	18,527	19,339	37,866	124,606	115,896	240,502

WESTERN AUSTRALIA

Primary—									
Kindergarten				140	195	335	140	195	335
1	8,081	7,465	15,546	2,061	1,932	3,993	10,142	9,397	19,539
2	7,406	6,975	14,381	1,707	1,835	3,542	9,113	8,810	17,923
3	7,670	6,947	14,617	1,771	1,795	3,566	9,441	8,742	18,183
4	7,583	6,750	14,333	1,649	1,728	3,377	9,232	8,478	17,710
5	7,437	7,011	14,448	1,515	1,789	3,304	8,952	8,800	17,752
6	6,868	6,557	13,425	1,453	1,744	3,197	8,321	8,301	16,622
7	6,875	6,495	13,370	1,449	1,806	3,255	8,324	8,301	16,625
Special classes(c)	833	411	1,244				833	411	1,244
Secondary—									
1	6,906	6,133	13,039	1,734	2,045	3,779	8,640	8,178	16,818
2	6,289	5,571	11,860	1,516	1,929	3,445	7,805	7,500	15,305
3	4,782	4,177	8,959	1,507	1,568	3,075	6,289	5,745	12,034
4	1,544	1,156	2,700	872	809	1,681	2,416	1,965	4,381
5	1,036	674	1,710	729	581	1,310	1,765	1,255	3,020
Special classes(c)	278	175	453				278	175	453
Special schools(c)	515	351	866				515	351	866
Total	74,103	66,848	140,951	18,103	19,756	37,859	92,206	86,604	178,810

TASMANIA

Pre-school	1,222	1,209	2,431	54	38	92	1,276	1,247	2,523
Primary—									
Kindergarten	1,034	1,035	2,069	195	169	364	1,229	1,204	2,433
1	5,206	4,626	9,832	948	955	1,903	6,154	5,581	11,735
2	3,636	3,350	6,986	676	622	1,298	4,312	3,972	8,284
3	3,688	3,407	7,095	571	663	1,234	4,259	4,070	8,329
4	3,636	3,369	7,005	613	641	1,254	4,249	4,010	8,259
5	3,359	3,208	6,567	577	627	1,204	3,936	3,835	7,771
6	3,282	3,234	6,516	598	687	1,285	3,880	3,921	7,801
Secondary—									
I	3,468	3,155	6,623	734	850	1,584	4,202	4,005	8,207
II	3,336	3,014	6,350	636	735	1,371	3,972	3,749	7,721
III	2,771	2,608	5,379	550	708	1,258	3,321	3,316	6,637
IV	1,569	1,307	2,876	551	597	1,148	2,120	1,904	4,024
V	393	355	748	223	233	456	616	588	1,204
VI	275	127	402	117	103	220	392	230	622
Special schools(c)	431	305	736		17	17	431	322	753
Total	37,306	34,309	71,615	7,043	7,645	14,688	44,349	41,954	86,303

(a) Pupils in special centres and classes at primary levels. (b) Speech and hearing classes at secondary level. (c) For physically and mentally, etc., handicapped children.

GOVERNMENT AND NON-GOVERNMENT SCHOOLS: PUPILS, BY GRADE, ETC.
AND SEX, STATES, ETC., 1965—*continued*

Grade, year or form	Government schools			Non-government schools			All schools		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
NORTHERN TERRITORY									
Kindergarten	24	20	44	..	..	..	24	20	44
I	562	478	1,040	83	99	182	645	577	1,222
II	296	276	572	84	71	155	380	347	727
III	350	310	660	65	66	131	415	376	791
IV	314	263	577	50	46	96	364	309	673
V	290	288	578	41	58	99	331	346	677
VI	260	231	491	42	42	84	302	273	575
VII	225	199	424	27	48	75	252	247	499
Ungraded(a)	12	9	21	..	..	..	12	9	21
VIII or 1st	167	179	346	18	34	52	185	213	398
IX or 2nd	143	150	293	8	12	20	151	162	313
X or 3rd	110	110	220	3	17	20	113	127	240
XI or 4th	41	29	70	..	..	..	41	29	70
5th	14	3	17	..	..	..	14	3	17
Ungraded(b)	820	770	1,590	926	958	1,884	1,746	1,728	3,474
Total	3,628	3,315	6,943	1,347	1,451	2,798	4,975	4,766	9,741

AUSTRALIAN CAPITAL TERRITORY

Infants—									
Kindergarten	849	830	1,679	385	349	734	1,234	1,179	2,413
1	971	838	1,809	366	316	682	1,337	1,154	2,491
2	783	718	1,501	347	311	658	1,130	1,029	2,159
Primary—									
3	743	708	1,451	306	304	610	1,049	1,012	2,061
4	719	747	1,466	253	279	532	972	1,026	1,998
5	665	592	1,257	277	289	566	942	881	1,823
6	672	670	1,342	269	242	511	941	912	1,853
Special primary grades(a)	81	44	125	..	..	..	81	44	125
Secondary—									
1st	657	574	1,231	301	315	616	958	889	1,847
2nd	547	594	1,141	293	258	551	840	852	1,692
3rd	489	471	960	250	257	507	739	728	1,467
4th	382	283	665	244	164	408	626	447	1,073
5th	343	224	567	210	123	333	553	347	900
Total	7,901	7,293	15,194	3,501	3,207	6,708	11,402	10,500	21,902

(a) Opportunity classes. (b) Mainly Aboriginal children at special schools at missions and pastoral stations.

Teacher training and recruitment

Teachers for government schools

Recruitment of teachers. The teacher shortage evident in past years has now been overcome to a certain extent. Some States have no difficulty in recruiting and training sufficient staff to meet the present needs of primary schools. Despite expanded training programmes the shortage of secondary school teachers has proved a greater problem, especially in mathematics and science.

State Education Departments recruit most prospective teachers for government service from students leaving schools after a secondary course. Each Department offers training awards annually on the basis of academic merit and personal suitability. The traineeships cover the cost of a teacher training course (which may include university studies) and provide a living allowance. Students are usually required to enter into a bond to serve for a specified number of years in the government schools of the State where they have trained. In some States intending teachers can obtain a scholarship at Intermediate Certificate level to enable them to complete teachers' college entrance requirements. Such an award entails a bond of service for a longer period.

Training of primary school teachers. In most States teachers for government primary schools are trained in teachers' training colleges controlled and administered by the State Education Departments. These colleges are described on page 616. Generally, the duration of courses for primary teachers is two years. The basic subjects taken in the various courses are history and

principles of education, general and special methods of teaching in the primary school, school organization, and educational psychology. In addition, students undertake courses in English (including speech training), mathematics, handicrafts, music, art, social studies, natural science, and physical and health education. Optional subjects may include dramatic art, visual aids, and so on. Supervised practice teaching in schools and the observation of demonstration lessons form part of all training courses. Since primary teachers in Australia may be called upon at some time to teach grouped classes in a small school or a 'one-teacher' school, special training for this kind of work is included in their course.

Training of secondary school teachers. Secondary teachers are normally specialists in a combination of subjects, such as English and history, modern languages, or mathematics and science. Intending secondary school teachers are normally required to complete a university degree and a year of professional training qualifying for a Diploma in Education. The degree courses followed are usually in arts, science, or economics, with the major studies providing the essential background for future subject teaching. During the post-graduate or professional year the student takes such subjects as the history and principles of education, comparative education, educational psychology, and special teaching methods. Training also includes practice teaching under the supervision of teachers' college and university staff, and the observation of demonstration lessons.

At several Australian universities students wishing to take up teaching as a profession can receive their professional training along with the study of their teaching subjects as part of a first degree course in Education. The time taken to complete such a Bachelor of Education degree course is four years.

Training for specialist teaching. Teachers of specialist subjects, such as music, art, manual arts, domestic science, and commercial subjects, receive from two to five years training which varies according to the institution concerned and the type of secondary school in which the teacher is to serve. In several States the shorter courses are provided wholly by the teachers' colleges. In five States teachers of music receive their specialist training at conservatoria of music. Where the specialist course is given at an institution other than the teachers' college—e.g. at a university, technical college, or conservatorium of music—as is usual for teachers of specialist subjects in high schools, trainees are required to attend teachers' college or university lectures in education, and in some cases the specialist course is followed by a year of professional training. Courses designed to train physical education teachers are offered in universities in all States, and in three States at a teachers' college as well.

Training for teachers of agricultural subjects in secondary schools is available in five States and consists of either an agricultural college diploma or a university degree course together with professional training. In Victoria there is also a two-year agricultural college diploma course which follows on the normal two-year primary teachers' course. Teachers of technical subjects in secondary schools may be trained in manual or industrial arts courses of two to four years duration, at teachers' colleges, technical colleges, or, in one State, at a university. These courses include basic training in such subjects as wood and metal work, and geometrical drawing. In Victoria there is a separate Technical Teachers' College. Some teachers of trade subjects in technical schools are recruited from the ranks of qualified tradesmen engaged in industry or commerce. These teachers upon appointment usually receive instruction in classroom teaching techniques and procedures.

In-service training. As almost all teachers now enter the profession by way of teachers' colleges or universities, where they receive basic professional training, in-service training in Australia is directed chiefly towards keeping teachers abreast of developments and adding to their basic training. In-service training usually takes the form of short courses held sometimes during vacations, sometimes during school-time or in the evening. In some States in-service courses for teachers in remote areas are provided by correspondence. Courses consist of discussions and lectures given by senior staff members of Education Departments and university and teachers' college lecturers on such subjects as classroom techniques and supervision, librarianship, visual aids, music, arts and crafts, and physical education. In some States there are also in-service courses for special groups of teachers such as headmasters or teachers in one-teacher schools. In addition, district inspectors are responsible for organizing short conferences of teachers, where professional topics are discussed. Education Departments encourage teachers to pursue university courses and in some States pay the cost of courses undertaken by selected teachers.

In 1965 and 1966 groups of Australian teachers again attended refresher courses in New Caledonia for Australian and New Zealand teachers of French. These courses were offered to the Australian Government by the French Government. The official publications of the Education Departments contain articles dealing with educational theory and practice. Magazines of the teachers' organizations, which reach the majority of government teachers, also contain articles of this type.

Status of teachers. Most teachers in governmental schools are permanent public servants and have security of tenure, superannuation rights, and the right of appeal in matters of promotion. The centralized education systems and the general policy of providing fully trained teachers for both city and country areas mean that teachers are subject to transfer to any part of the State in which they serve. It is common for a teacher's first appointment to be to a country school.

In each State there is a union of State school teachers and these together form a federal body, the Australian Teachers' Federation. Their aim is to advance the teachers' status and conditions and to stimulate community interest in educational problems.

Training of non-government school teachers

Teachers for non-government schools receive their training in a number of ways. The Roman Catholic Church staffs both its primary and secondary schools mainly with members of religious orders whose training has been obtained in conformity with the requirements of the particular order concerned. In recent years there has been a growth in the number of lay teachers being employed in Catholic schools, and training of students to become lay primary teachers has been instituted. Secondary teachers receive their academic training mostly through courses provided by Australian universities.

Other non-government schools tend to recruit their staffs from teachers who have already obtained qualifications in Australia or overseas. In New South Wales and Victoria non-government school authorities offer courses designed specially for teachers in their schools. Non-government schools recruit also university graduates who are then given professional guidance by senior members of the school staff. In some instances private students may enrol at government teachers' colleges on payment of a fee, but the number of places available is limited. Some teachers destined for non-government schools train in this way.

During vacations many non-government teachers attend in-service training courses organized by Education Departments. In recent years vacation courses have been provided by bodies other than Education Departments for teachers from both government and non-government schools. For example, an independent body, the Nuclear Research Foundation, has provided such courses for teachers of science in secondary schools in New South Wales. The training of pre-school teachers is carried out in five States in kindergarten training colleges set up by the Kindergarten Unions. These are described on page 616.

Other aspects of school education

Information relating to school medical and dental services is given in the chapter Public Health, and particulars of School Savings Banks in the chapter Private Finance.

Provisions for isolated areas

Although the task of bringing education to isolated areas in Australia presents problems, all education authorities have aimed at providing opportunities for country children comparable to those available to city children. Country children follow the same curricula (with local adaptation, if desirable) and are under the guidance of teachers who are trained for service in country and city schools alike.

In areas where there are sufficient children of school age a 'one-teacher' school may be formed with all primary grades in a single classroom under the control of the one teacher. Special training is given to teachers undertaking work of this kind. Children who complete a primary course in a one-teacher school and cannot attend a secondary school may do secondary correspondence lessons under the teacher's supervision.

In districts where a number of small centres are scattered around a larger centre or country town the tendency is to close the one-teacher schools and transport pupils each day by buses to a 'consolidated' school in the larger centre. Consolidated schools provide primary instruction and from two to four years of post-primary instruction. The post-primary curriculum adopted is usually directed towards practical activities and training in subjects bearing on the primary industries of the locality.

Where a group of children is too small to warrant the establishment of a one-teacher school at public expense a 'subsidized' school may be opened. The Education Department pays part of the cost and in some States appoints a teacher. Some States also administer 'provisional' schools, which are completely financed by the Government but which are not large enough, or sufficiently assured of adequate continued attendance of pupils, to warrant classification as permanent schools.

Correspondence schools. These have been established in each State capital city to meet the needs of children whose daily attendance at school is prevented by distance between home and school, by illness or by physical disability. The correspondence schools also cater for inmates of penal institutions, Australian children overseas, pupils of other schools in which particular courses are not available, student teachers, members of the Defence Forces, and other adults completing their secondary education. Where children are involved, lessons are done with the help of a supervisor, usually a member of the child's family, and posted back to the correspondence school in the capital city, where they are corrected and returned with helpful comments. Every endeavour is made to maintain a personal link between teacher and pupil. Correspondence schools began with primary grades only, but were soon extended to cater for secondary pupils, and it is now possible to do a complete secondary course to matriculation standard by correspondence. Each year more than 20,000 students receive all or part of their instruction by correspondence.

Schools of the air. These are intended to give the outback child of school age some of the benefits of school life and to supplement correspondence education. Using the two-way wireless equipment developed first by the Royal Flying Doctor Service, children hundreds of miles apart participate in the same lesson, and teacher and pupils can talk directly with each other. The first School of the Air was established in 1950 at Alice Springs in the Northern Territory; it has been followed by similar schools at Broken Hill in the far west of New South Wales; Ceduna and Port Augusta in South Australia; Charleville, Mount Isa and Charters Towers in Queensland; and Meekatharra, Derby, Kalgoorlie and Port Hedland in Western Australia. These eleven schools serve children in an area of a million square miles.

Handicapped children

Special provision is made for the education of physically and mentally handicapped children, both by the State authorities and by church and voluntary organizations, often working in conjunction. In many cases, where residential schools are necessary for particular groups, educational facilities and teaching staff are provided by a State Education Department, while a voluntary organization provides accommodation and accepts responsibility for the general welfare of the children. Among the facilities available are: hospital schools for sick and crippled children; 'spastic centres' for cerebral palsied children; special schools and special classes for deaf children; schools for blind children; and special schools and classes for mentally retarded children. Special schools and classes have involved the appointment of departmental specialists, the provision of special training courses, and close liaison with school health services. In some States clinics attached to hospitals, or functioning as an independent child welfare service, handle cases of personality maladjustment and work in co-operation with the psychological services of the Education Departments.

Educational guidance

Each Australian State has a comprehensive system of educational guidance administered by trained and experienced educational psychologists and backed by a system of individual pupil record cards. The functions of these services are advice concerning suitability of various secondary studies for particular children, diagnosis and guidance of atypical children, preliminary guidance and, in some States, research. The weight given to each of these functions varies from State to State, but the aim is to provide thorough educational guidance for all children.

Throughout Australia branches of the Commonwealth Employment Service co-operate with State Education Departments by giving post-school vocational guidance, using the data obtained during the school careers of the children and made available by the Education Departments. In New South Wales a similar service is also provided by the Youth Welfare Section of the State Department of Labour and Industry.

Research

All State Education Departments have set up branches undertaking research directed towards departmental activities. The work of the research branches is concerned with such matters as curriculum content, new teaching methods, evaluation procedures, wastage rates, and educational statistics.

School broadcasting and television

Over the years an extensive school broadcasting system has been developed in Australia by the co-operative efforts of the Australian Broadcasting Commission and education authorities. The Australian Broadcasting Commission's Education Department is responsible for preparing and broadcasting programmes, but it draws freely on the advice and services of teachers and maintains permanent liaison with State Education Departments. It is estimated that in 1965 approximately ninety-six per cent of Australian schools were equipped to receive radio broadcasts. In 1965 over 3,500 separate programmes were produced for schools.

School broadcasts are presented as part of the regular Australian Broadcasting Commission programmes without separate stations or wave lengths. Special efforts are made to relate the broadcasts to school work by the extensive distribution of booklets, giving details of programmes in advance, and subject notes accompanied by picture sheets, work books, and teachers' notes. Broadcasting has proved to be a most effective way of reaching the outback children of Australia, and radio lessons have been designed to supplement correspondence lessons.

The year 1965 saw a further increase in the number of schools receiving television broadcasts and in the number of programmes produced. During 1964, after consultation with the six Education Departments, the Australian Broadcasting Commission increased its output of school television programmes, especially instructional programmes in mathematics and science for secondary schools. This was increased further in 1965. At the same time most Education Departments began to subsidize the purchase of television sets, and by the end of 1965, 2,879 schools in Australia were equipped to use educational television programmes. Some 700 separate programmes were produced for telecast to schools in 1965.

Scholarships and bursaries

All States have schemes of financial assistance to school pupils, mostly at the secondary level, through scholarships or bursaries. As tuition in government schools is free, this assistance is usually in the form of maintenance allowances, both for children living with their parents and for those living away from home. These may be paid in a lump sum or in instalments throughout the year. Awards are usually made on the results of a competitive examination, and sometimes a means test is applied. Other government and private authorities, such as the Repatriation Department and the Legacy War Orphans Fund, assist special categories of pupils with their school education. Many non-government schools also award scholarships, on a competitive basis, which enable students to attend the particular schools without payment of fees.

In 1964 the Commonwealth Government, with the co-operation of the State Departments of Education, introduced a programme of secondary scholarships to encourage successful candidates to complete the final two years of secondary schooling. Ten thousand of these scholarships are awarded each year. In addition, there are 2,500 scholarships for technical education each year.

School transport

All States have systems of subsidies whereby transport is made available free or at concession rates for children travelling to and from school. In some States allowances are paid if private transport has to be used.

School buildings

The great increase in the school population in the last decade led to an expansion in school building. To cope with this growth in population, it was necessary at first to make use of temporary and emergency structures, but the period of resorting to this expedient has now given way to one of consolidation and development in school building programmes. Quite large schools may be built in stages to match increase in local population in new and rapidly developing suburbs in metropolitan areas. Authorities are giving much attention to the use of new materials and especially to the planning of sites. An increasing number of schools are planned with playing fields and tennis courts. Gymnasiums which may also serve as assembly halls are included, and lighting, heating and ventilation to meet different climatic conditions are carefully planned.

During the period 1 July 1964 to 30 June 1968 a total of \$39,623,200 will have been provided by the Commonwealth Government for the building and equipping of science laboratories in both government and non-government schools. Non-government schools in the Australian Capital Territory and the Northern Territory do not receive this assistance. In these areas the Commonwealth Government meets interest charges on loans raised for approved building projects and also repays the amounts of capital borrowed in equal annual instalments over periods of twenty years.

Textbooks, materials and other equipment

The State Education Departments supply government schools, free of charge, with essential equipment, including scientific apparatus, maps, blackboards, chalk and cleaning materials, and non-consumable equipment for commercial, home science and manual training. Garden tools and physical training equipment are also supplied in most States. Readers and writing equipment for individual pupils are usually supplied free in primary schools, and several Education Departments produce monthly school magazines which are supplied free or cheaply. In primary schools (except in one State) and in secondary schools, textbooks must, however, be purchased by students. In several States schools own stocks of textbooks which are hired to students, and in one State secondary textbooks are sold at reduced prices. In four States certain textbook costs are subsidized for pupils attending government and non-government schools. Equipment such as

radios, television sets, film and filmstrip projectors, pianos, duplicators, and library books is ordinarily purchased for individual schools by the parent and citizen organizations associated with them, with the assistance of subsidies from the Departments.

The design of school furniture is undergoing considerable change following research on posture and the physical measurement of children. Dual desks are now being replaced in many schools by individual tables and chairs, provided in a range of sizes suitable to each class. In line with modern educational practice, the new type of furniture has been designed to allow more flexible arrangements of the classroom.

Visual aids

Visual aids are widely used in Australian education. Each of the State Education Departments has a visual education branch to handle the production and distribution of such materials. Film strips and posters are distributed free or at low cost. Films are held in central libraries and are requisitioned by schools as required for teaching purposes.

Pre-school education

Pre-school centres of various kinds are conducted by approved private individuals, by church bodies and by voluntary organizations such as the Kindergarten Unions. Over recent years the Commonwealth Government, State Governments, and some municipal councils have provided an increasing amount of financial assistance and they themselves maintain centres.

The Australian Pre-School Association is a federal body composed of the Kindergarten Unions and several other organizations. Its aim is to promote the development of pre-school education throughout Australia. It is also responsible for the administration of six Lady Gowrie Child Centres which were established in capital cities by the Commonwealth Government as model pre-school centres. Pre-school centres are located in city and country areas. Programmes are adapted to suit the areas in which centres are situated. Types of pre-school centres are nursery kindergartens, crèches with full-day care for children in closely settled industrial areas, play groups and play centres, occasional care centres, and residential holiday homes. Pre-school centres can cater only for a small proportion of children in the three to five or six year age group, but radio and television have brought a form of education within the reach of practically every pre-school child in Australia. 'Kindergarten of the Air', the first programme of its kind in the world, is a session of twenty-five minutes broadcast every week-day over the national radio network of the Australian Broadcasting Commission. Through it, young children in hospitals, in homes in city and country towns and in bush homesteads in the outback, perhaps many miles from any school, receive many of the advantages of pre-school training. 'Kindergarten Playtime' is a fifteen minute television programme transmitted each week-day. It is based on the interests of children from three to five years and is now broadcast in all State capital cities and many country regions by the Australian Broadcasting Commission. It is envisaged that this programme will be replaced by a more comprehensive thirty-minute programme 'Kindergarten Play School' in 1966.

Technical education

The following description of technical education refers to training in technical fields given by institutions other than secondary schools and universities. Students may proceed to this kind of training after completing three to five years at secondary school. Each State has developed a system of technical education based on institutions set up in all the State capital cities and in many country areas. These institutions are known variously as technical colleges, technical schools, institutes of technology, and schools of mines. The earliest began as local and even private ventures in the second half of the nineteenth century, but almost all of them have now come under the control of the State Governments.

The technical colleges in Queensland, South Australia, Western Australia, and Tasmania are administered by branches of the State Education Departments and are financed from the budget of the State Minister for Education. Certain recommended technical colleges and institutes are assisted by special Commonwealth Government grants introduced in 1965 following recommendations of a Committee set up to consider the future of tertiary education in Australia. New South Wales has a separate State Department of Technical Education. In Victoria there is a dual system with a number of the older colleges controlled by their own 'councils' in addition to government-controlled colleges administered by the Technical Education Branch of the Education Department. The council-controlled colleges receive government grants-in-aid and their teachers' salaries are paid by the State Government.

Australian technical colleges offer training in all the major industrial skills and in a wide variety of commercial, artistic and domestic occupations. The three main types of courses are described below.

Trade courses

These offer part-time training for apprentices. In developing a system of technical education, the Australian authorities were influenced by the British tradition which regards practical experience on the job as the fundamental training procedure, to be supplemented by theoretical and practical training at an appropriate school. In each of the Australian States there is an apprenticeship authority which supervises the administration of apprenticeships and an education authority which provides technical education through its technical colleges.

The time spent on training varies from three to five years in different trades and States. Between four and eight hours instruction a week are required. Most of this takes place in the employer's time, and it is unusual for more than two hours a week to be spent in attending classes outside working hours.

Certificate courses

There is considerable variation between the States in the aims and organization of certificate courses. In New South Wales they provide training of a semi-professional nature in occupations for which no apprenticeship awards exist. Some of the courses are open to qualified tradesmen only. For others no occupational entry qualifications are demanded, but it is necessary to hold an Intermediate Certificate or its equivalent. The courses are usually for four years, most of them being part-time.

The Victorian certificate course is designed to develop specialized skills in a particular phase of an occupation. In the building field, for instance, there is a certificate course in architectural drafting. The courses are offered at three levels—professional certificate courses which include diploma subject-matter and can be counted towards a diploma; special short courses which are designed to increase the efficiency of people in their chosen field; and technicians' courses which give a standard of training between trade and professional courses. In general, they consist of part-time day and/or evening instruction concurrent with employment in the field, and entrance requirements are of approximately Intermediate Examination standard. Courses in other States are mostly part-time and of two to seven years duration. They provide a wide range of training for skilled technical and semi-professional workers, and in most cases entrance is at the level of the Intermediate Examination or equivalent.

Diploma courses

Diploma courses are designed to provide professional training in fields such as architecture, art, building, commerce, management, public administration, manual arts, the various branches of engineering and metallurgy, and pure and applied science. They usually follow completion of a full secondary school course. The courses consist of complete progressive units of study in which the lecture room, laboratory and workshop are closely associated. They vary from three to five years full-time and from three to seven years part-time study. At least one full year of employment in an appropriate occupation is usually required. The aim of the courses is to develop highly trained technologists with the qualifications and experience required for membership of a professional institution.

Other technical courses

Most colleges provide short post-diploma and refresher courses to keep students in touch with new developments in their fields, as well as courses of general interest, such as handicrafts and motor mechanics. Training in certain technical aspects of agriculture such as farm mechanics and wool classing is often given in the technical colleges. Some also offer general secondary courses to enable adults to prepare for matriculation and other public examinations.

Technical correspondence teaching

Each State has a well developed system of technical education by correspondence to extend the facilities of a metropolitan college to rural students. Entrance qualifications are identical with those for the regular classes. A major problem of correspondence work is the linking of theory with practice. This is overcome to a certain extent by holding practical sessions at appropriate training centres once or twice a year at the technical college where the correspondence school is based, or at a mobile workshop stationed for the time at a focal point within the district. In New South Wales these mobile workshops are rail cars equipped with machinery and fittings to make them self-contained training schools for engineering and other trades. Among practical courses offered by correspondence are trade drawing, fitting and machinery, welding, diesel engine operation, automotive engineering and workshop practice, and farm mechanics.

Technical colleges, teachers and students

The numbers of colleges, teachers and enrolments of individual students during the years 1960 to 1964 are given in the following table.

**TECHNICAL EDUCATION: COLLEGES, TEACHERS AND ENROLMENTS
STATES AND TERRITORIES, 1960 TO 1964**

State or Territory	Colleges	Teachers			Students enrolled		
		Full-time	Part-time	Total	Males	Females	Persons
New South Wales(a)(b)—							
1960	51	1,286	1,682	2,968	62,523	34,195	96,718
1961	51	1,302	2,051	3,353	66,715	35,495	102,210
1962	52	1,348	2,390	3,738	68,889	35,165	104,054
1963	52	1,474	2,399	3,873	73,402	36,145	109,547
1964	53	1,535	3,099	4,634	79,371	36,456	115,827
Victoria—							
1960	57 (c)	2,796	(c) 1,766	(c) 4,562	42,526	11,390	53,916
1961	63 (c)	3,333	(c) 1,929	(c) 5,262	47,053	13,424	60,477
1962	70 (c)	3,438	(c) 1,956	(c) 5,394	48,939	12,487	61,426
1963	73 (c)	4,010	(c) 2,033	(c) 6,043	50,325	13,456	63,781
1964	73 (c)	4,328	(c) 2,067	(c) 6,395	52,031	13,399	65,430
Queensland(a)—							
1960	14	174	647	821	18,155	9,942	28,097
1961	14	174	663	837	18,290	9,156	27,446
1962	15	228	718	946	19,365	10,843	30,208
1963	15	247	820	1,067	21,949	12,074	34,023
1964	14	200	891	1,091	23,134	11,243	34,377
South Australia(a)—							
1960	25	323	737	1,060	15,728	7,722	23,450
1961	25	363	712	1,075	15,596	8,457	24,053
1962	24	387	827	1,214	17,599	10,177	27,776
1963	24	432	916	1,348	18,661	11,291	29,952
1964	25	436	1,063	1,499	19,956	11,503	31,459
Western Australia(a)—							
1960	19 (d)	307	(d) 802	(d) 1,109	17,017	8,739	25,756
1961	20 (d)	317	(d) 862	(d) 1,179	17,992	9,083	27,075
1962	25 (d)	352	(d) 1,136	(d) 1,488	20,362	10,386	30,748
1963	32 (d)	363	(d) 1,257	(d) 1,630	20,126	10,286	30,412
1964	32 (d)	444	(d) 1,387	(d) 1,831	23,528	11,183	34,711
Tasmania—							
1960	8	111	413	524	5,253	2,085	7,338
1961(e)	12	97	383	480	4,871	1,427	6,298
1962	11	95	414	509	4,884	1,763	6,647
1963	10	90	449	539	5,564	2,023	7,587
1964	9	102	488	590	5,520	2,023	7,543
Northern Territory—							
1960	2	3	50	53	620	349	969
1961	2	4	53	57	629	484	1,113
1962	2	4	54	58	700	440	1,140
1963	2	1	66	67	759	644	1,403
1964	2	1	72	73	748	625	1,373
Total—							
1960	176	5,000	6,097	11,097	161,822	74,422	236,244
1961	187	5,590	6,653	12,243	171,146	77,526	248,672
1962	199	5,852	7,495	13,347	180,738	81,261	261,999
1963	208	6,627	7,940	14,567	190,786	85,919	276,705
1964	208	7,046	9,067	16,113	204,288	86,432	290,720

(a) Excludes correspondence students. (b) Includes A.C.T. (c) Includes teachers in both junior and senior technical colleges. (d) Number of teaching positions. (e) In 1961 there was a transfer of classes in the hobby category to the Adult Education Board.

Training of technical instructors

Prior to the 1939-45 War technical colleges were staffed chiefly by trained teachers in the employment of the Education Departments or technicians drawn from industry. Although some of the latter were highly qualified, the great majority had not been trained as teachers.

To preserve links with industry and trade practice, schemes have been developed which continue the recruitment of specialist tradesmen as instructors but provide also for their training in educational method and teaching techniques. In Victoria the Technical Teachers' College provides training for students with appropriate diploma or trade qualifications and suitable industrial experience. In New South Wales technical college lecturers and tradesmen-instructors receive an in-service course of teacher training in general educational theory and teaching method,

while correspondence courses and visiting lecturers assist the newly appointed tradesman-instructor in country colleges. Variations of this scheme are in operation in other States. Many technical teachers, principally of academic, commercial and domestic science subjects, hold trained teacher's certificates from teachers' colleges.

Government expenditure on schools and technical education

The following tables show particulars of the total net expenditure (i.e. gross expenditure less receipts for services rendered) from certain funds on government schools, education departments and technical education. The data have been compiled on the same basis as far as differences in organization and accounting methods between States and Territories will permit. The tables include only expenditure from the consolidated revenue funds and certain trust or special funds. They exclude loan fund expenditure; expenditure on debt charges, pay-roll tax and superannuation payments, in so far as it is possible to identify these items; and some items for which information cannot be obtained from the public accounts of all States.

Government schools' and education departments' expenditure

The figures relate throughout to years ended 30 June. Net expenditure per pupil relates the total net expenditure to the mean of the numbers of pupils enrolled at government schools at two consecutive school censuses. Net expenditure per head of population relates the total net expenditure to the mean population.

GOVERNMENT SCHOOLS AND EDUCATION DEPARTMENTS: NET EXPENDITURE STATES AND TERRITORIES, 1960-61 TO 1964-65

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T. (a)	A.C.T.	Aust.
TOTAL NET EXPENDITURE									
(\$'000)									
1960-61	93,160	61,524	27,862	23,616	18,542	9,546	677	1,584	236,511
1961-62	101,868	68,344	30,218	27,011	20,204	10,854	856	1,826	261,181
1962-63	108,088	76,262	33,604	29,540	21,684	11,678	932	2,224	284,012
1963-64	119,778	84,756	37,246	33,363	23,894	12,966	1,087	2,498	315,588
1964-65	140,803	91,593	40,011	36,380	26,810	14,413	1,352	3,264	354,626
TOTAL NET EXPENDITURE PER PUPIL									
(\$)									
1960-61	156.81	142.72	115.12	138.95	151.72	145.00	157.41	172.98	144.33
1961-62	167.88	152.49	122.07	152.99	159.03	160.84	180.59	176.05	154.67
1962-63	174.53	164.63	133.45	161.40	164.75	169.27	176.88	190.69	163.70
1963-64	190.18	177.12	145.81	175.24	176.11	184.86	182.14	192.05	177.40
1964-65	218.83	184.79	153.87	183.16	192.51	202.63	202.33	226.13	193.86
TOTAL NET EXPENDITURE PER HEAD OF POPULATION									
(\$)									
1960-61	24.04	21.26	18.53	24.67	25.41	27.27	26.37	28.68	22.76
1961-62	25.80	23.10	19.79	27.56	27.09	30.43	32.22	29.25	24.63
1962-63	26.92	25.24	21.66	29.57	28.37	32.25	33.76	32.13	26.27
1963-64	29.31	27.42	23.67	32.71	30.55	35.41	36.16	32.35	28.62
1964-65	33.87	28.90	25.07	34.87	33.62	39.16	41.68	38.60	31.53

(a) Figures exclude expenditure on new buildings and works, which amounted to \$413,000 in 1960-61, \$648,000 in 1961-62, \$661,000 in 1962-63, \$462,000 in 1963-64, and \$709,000 in 1964-65.

The following table shows, for the six States, the net expenditure on government schools and education departments classified into the following headings: Primary Education, Secondary Education, Administration, Transportation of School Children and Students, and Training of Teachers. Expenditure on technical and agricultural education is excluded from the tables. It has been necessary to estimate some items of expenditure, largely because the meanings of 'primary' and 'secondary' differ between States and because elementary and higher educations are sometimes given in the same school by the same teachers. Expenditure on government schools in the Northern Territory and Australian Capital Territory is not included in the following table because the detail is not available.

GOVERNMENT SCHOOLS AND EDUCATION DEPARTMENTS: CLASSIFICATION OF EXPENDITURE, STATES, 1959-60 TO 1963-64

(\$'000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total(a)
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PRIMARY EDUCATION

1960-61 . . .	50,152	32,732	18,704	12,018	9,860	3,852	127,318
1961-62 . . .	54,050	35,538	19,434	13,242	10,572	4,046	136,882
1962-63 . . .	55,880	38,976	20,816	13,992	11,154	4,330	145,148
1963-64 . . .	60,824	42,590	21,066	15,586	12,258	4,990	157,312
1964-65 . . .	70,199	45,492	20,995	16,640	13,800	5,521	172,647

SECONDARY EDUCATION

1960-61 . . .	29,652	15,076	5,582	8,241	4,436	3,018	66,005
1961-62 . . .	33,102	18,000	6,906	9,710	5,166	3,670	76,554
1962-63 . . .	35,386	20,460	8,094	10,964	5,918	3,958	84,780
1963-64 . . .	40,706	23,852	10,458	12,699	6,686	5,034	99,435
1964-65 . . .	49,992	26,027	12,778	14,193	7,522	5,678	116,190

ADMINISTRATION

1960-61 . . .	3,706	1,620	1,214	498	726	1,062	8,826
1961-62 . . .	4,148	1,672	1,276	530	716	1,118	9,460
1962-63 . . .	4,138	1,780	1,344	600	750	1,374	9,986
1963-64 . . .	4,522	1,906	1,484	698	858	810	10,278
1964-65 . . .	5,503	2,232	1,571	813	1,021	833	11,973

TRANSPORTATION OF SCHOOL CHILDREN AND STUDENTS

1960-61 . . .	4,116	4,786	1,370	1,046	1,996	1,138	14,452
1961-62 . . .	4,564	5,048	1,556	1,134	2,108	1,230	15,640
1962-63 . . .	5,300	5,352	1,806	1,172	2,170	1,284	17,084
1963-64 . . .	5,582	5,600	2,076	1,270	2,362	1,336	18,226
1964-65 . . .	5,867	6,009	2,474	1,312	2,611	1,418	19,691

TRAINING OF TEACHERS

1960-61 . . .	5,534	7,310	992	1,813	1,524	476	17,649
1961-62 . . .	6,004	8,086	1,046	2,395	1,642	790	19,963
1962-63 . . .	7,384	9,694	1,544	2,812	1,692	732	23,858
1963-64 . . .	8,144	10,808	2,162	3,110	1,730	796	26,752
1964-65 . . .	9,242	11,833	2,193	3,422	1,856	963	29,509

(a) Excludes Northern Territory and Australian Capital Territory.

Technical education expenditure

The following table shows the net expenditure on technical education from the State consolidated revenue funds, together with expenditure in the Australian Capital Territory.

**TECHNICAL EDUCATION: NET EXPENDITURE, STATES AND
AUSTRALIAN CAPITAL TERRITORY, 1960-61 TO 1963-64
(\$'000)**

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
1960-61 . . .	8,228	12,100	2,468	701	1,836	690	138	26,161
1961-62 . . .	9,264	13,280	1,966	840	2,176	492	146	28,164
1962-63 . . .	9,530	15,712	2,144	960	2,336	688	162	31,532
1963-64 . . .	10,684	18,048	2,044	1,330	2,772	732	211	35,821
1964-65 . . .	12,637	19,963	1,892	1,386	3,426	813	305	40,422

Non-government schools' finance

Most Roman Catholic parochial schools charge fees, but payment is not insisted on in the case of families who cannot afford it. At the majority of non-government secondary schools privately endowed scholarships are available in varying numbers, and reductions in fees are normally made for children of clergy or for two or more members of one family attending the same school. With these exceptions, pupils of non-government schools must pay fees.

Certain State scholarships and bursaries are tenable at approved non-government secondary schools. Since the establishment of educational systems by the State Governments, official policy has been largely against the provision of direct financial assistance to non-government schools. Most States, however, have come to assist non-government schools in approved building projects. This assistance takes the form of payment of interest charges on loans raised for the extension of teaching space. The eight undenominational grammar schools in Queensland receive a State subsidy under '*The Grammar Schools Acts 1860 to 1900*'. In 1956 the Commonwealth Government undertook to contribute to the interest payments on loans raised in order to build non-government secondary school accommodation in the Australian Capital Territory. This contribution is now available for both primary and secondary school buildings, extensions and additions. As from 1964-65 the Commonwealth Government has provided assistance to non-government schools for the building and equipping of science laboratories. (See page 596.)

Universities

Students qualify for entrance to Australian universities by passing a matriculation examination in one of the States after five or six years of secondary education. Each university has its own regulations for matriculation, specifying the number and combination of subjects to be passed for admission. Students entering the universities have the choice of undergraduate study in various faculties. All universities provide also postgraduate courses of study. The Australian universities, with their faculties, are listed below in the order of their foundation.

University of Sydney, 1850, Sydney, New South Wales: Agriculture, Architecture, Arts, Dentistry, Economics, Engineering, Law, Medicine, Science, Veterinary Science.

University of Melbourne, 1853, Melbourne, Victoria: Agriculture, Applied Science, Architecture, Arts, Dental Science, Economics and Commerce, Education, Engineering, Law, Medicine, Music, Science, Veterinary Science.

University of Adelaide, 1874, Adelaide, South Australia: Agricultural Science, Architecture and Town Planning, Arts, Dentistry, Economics, Engineering, Law, Medicine, Music, Science, Technology and Applied Science.

University of Tasmania, 1890, Hobart, Tasmania: Agricultural Science, Arts, Commerce, Education, Engineering, Law, Medicine, Science.

University of Queensland, 1909, Brisbane, Queensland: Agriculture, Architecture, Arts, Commerce and Economics, Dentistry, Education, Engineering, Law, Medicine, Science, Veterinary Science.

University of Western Australia, 1912, Perth, Western Australia: Agriculture, Arts, Dental Science, Economics and Commerce, Education, Engineering, Law, Medicine, Science.

Australian National University, 1946, Canberra, Australian Capital Territory: Institute of Advanced Studies—John Curtin School of Medical Research, Research School of Physical Sciences, Research School of Social Sciences, Research School of Pacific Studies; School of General Studies (formerly Canberra University College, established in 1930)—Arts, Economics, Law, Oriental Studies, Science.

University of New England, 1954 (formerly New England University College, established in 1938), Armidale, New South Wales: Agricultural Economics, Arts, Economics, Rural Science, Science.

University of New South Wales, 1958 (formerly the New South Wales University of Technology, established in 1948), Sydney, New South Wales: Applied Science, Architecture, Arts, Commerce, Engineering, Medicine, Science.

Monash University, 1958, Melbourne, Victoria: Arts, Economics and Politics, Engineering, Law, Medicine, Science.

University of Newcastle, 1965 (formerly Newcastle University College, established in 1951), Newcastle, New South Wales: Applied Science, Architecture, Arts, Commerce, Engineering, Science.

Flinders University of South Australia, 1966 (formerly the University of Adelaide at Bedford Park), Bedford Park, South Australia: Arts, Science.

Each of the universities was established by a parliamentary Act as an autonomous institution, with its own Governing Council or Senate. Nevertheless, the Australian universities receive substantial government support from both State and Commonwealth sources, only part of their income being derived from students' fees, private donations and bequests.

There are also two university colleges. Townsville University College, founded in 1961, is a part of the University of Queensland. It offers some courses in the faculties of Agriculture, Arts, Commerce and Economics, Dentistry, Education, Engineering, Law, Medicine, Science and Veterinary Science. Wollongong University College was opened in 1962 and is affiliated with the University of New South Wales. It offers some courses in the faculties of Arts, Commerce, Engineering, and Science.

Organization of courses

Bachelor degree courses are from three to six years in length, depending on the faculty, and for the majority full-time attendance is required. Certain courses, however, may also be undertaken by part-time or evening students. The university academic year begins in March and finishes in early December. At most universities two short vacation periods divide the year into three terms, but there are four terms in some universities.

Several universities make provision for external tuition, whereby students living away from university towns may take a restricted number of courses by correspondence. The University of Queensland has developed a system of correspondence tuition which now caters not only for students within the State but for those in the Northern Territory, Papua and New Guinea, adjacent Pacific islands and Asian countries. External students living in Queensland receive tutorial assistance at university centres in the principal country towns.

The University of New England's Department of External Studies offers a wide range of subjects for external study, leading to the degrees of Bachelor of Arts, Bachelor of Letters, Bachelor of Education, the Diploma of Education, and the Diploma in Educational Administration. External students must attend short annual residential schools of instruction in their subjects, usually held at the university.

Post-graduate courses leading either to a Master's degree or to a Doctorate are available at all universities. Facilities cover the humanities, social sciences and pure and applied sciences. Additional courses are constantly being introduced by the universities at both the undergraduate and the post-graduate level to cover new fields of knowledge and specialization. Among announcements of new courses made in 1965 were: at the University of New South Wales, Diploma in Hospital Administration, Bachelor of Social Work, and postgraduate Diplomas in Biochemical Engineering and Civic Design; at the University of Adelaide, Diploma of Computing Science; and at the University of Tasmania, a Faculty of Medicine was established.

Research

A wide range of research work and training in research techniques is carried out by the universities as part of their normal functions. Post-graduate students and members of university staff are engaged in research, both as part of their work for post-graduate degrees and also as part of group and departmental research programmes. Support for research in universities is derived from public and private sources, including funds and foundations established to encourage research in a particular field.

University expansion and development

Since the 1939-45 War the Australian universities have had to face greatly increased demands on their facilities, firstly from large numbers of ex-service personnel in the immediate post-war years and later from greatly increased numbers of students leaving secondary schools each year. By 1965 the total enrolments in Australian universities had reached a figure of 83,320, compared with an early post-war peak of 32,453 in 1948.

To assist the universities to cope with these demands, increasing co-operation between the Commonwealth Government and the State Governments in university finance became necessary. The Commonwealth Government set up a Committee on Australian Universities, whose 1957 report ('The Murray Report') led to more finance becoming available to universities and to the setting up of a permanent body, the Australian Universities Commission, to advise the Commonwealth Government on university development. In the years since the Murray Report the following major developments have taken place in the Australian university structure: the University of New South Wales was created from the earlier University of Technology in 1958; in the same year Monash University was established in Victoria; in 1960 the Australian National University was reconstituted, combining both undergraduate and post-graduate facilities, and now consists of the Institute of Advanced Studies and the School of General Studies created from the Canberra University College; the University of Queensland set up the University College of Townsville in 1961; the University of New South Wales established the Wollongong University College in 1962; in 1965 the University of Newcastle was created from the Newcastle University College; and in 1966 the University of Adelaide at Bedford Park became The Flinders University of South Australia.

The New South Wales Government is proceeding with plans for the construction of a fifth university, to be called Macquarie University, on a site at North Ryde. It is intended that the new university should be opened not later than 1967. In 1964 the Victorian Government announced plans for the extension of facilities for tertiary education. These plans include the development of a third university in the metropolitan area, to be named La Trobe University, and the extension of the Ballarat School of Mines to teach the humanities and to provide degree courses. The Queensland Government is proceeding with plans for the construction of a third university Institution at Mount Gravatt. It is expected that the campus will be established within the next four years as a satellite of the University of Queensland.

Despite their expansion, the Australian universities are still faced with a problem in providing tuition for all students who reach matriculation standard. As a result, several universities have found it necessary to impose quotas on enrolments in their courses.

During 1961 the Commonwealth Government set up a committee to consider the pattern of tertiary education in relation to the needs and resources of Australia and to make recommendations to the Australian Universities Commission on the future development of tertiary education. The first two volumes of the Committee's Report were made public early in 1965, and the third volume in October 1965.

University teaching and research staff

The following tables show particulars of the teaching and research staff of the universities during 1965 and earlier years.

UNIVERSITIES: TEACHING AND RESEARCH STAFF(a), 1965

University	Full-time teaching and research staff					Part-time teaching and research staff(c)	Full-time research only staff	Part-time research only staff(d)
	Professors	Associate professors and readers	Senior lecturers and lecturers	Assistant lecturers, demonstrators, etc.(b)	Total			
Australian National Sydney	27	26	128	44	225	141	583	..
New South Wales	84	77	484	214	859	1,310	298	11
New England	66	64	470	133	733	857	102	3
Newcastle	25	21	143	74	263	28	44	..
Melbourne	12	9	90	9	120	85	6	..
Monash	73	85	502	154	814	994	205	20
Queensland	46	8	238	113	405	287	29	..
Adelaide	54	60	396	217	727	486	102	8
Flinders	59	50	301	69	479	397	208	7
Western Australia	11	..	1	..	12	..	2	..
Tasmania	44	37	209	31	321	379	137	4
Total	20	12	88	27	147	203	36	3
Total	521	449	3,050	1,085	5,105	5,167	1,752	56

(a) Filled positions. Teaching and research staff includes all staff with teaching functions, but excludes research only staff which is shown separately. (b) Includes tutors and teaching fellows. (c) Teaching hours in units of 100 hours per annum. (d) In equivalent full-time units of 35 hours per week.

UNIVERSITIES: TEACHING AND RESEARCH STAFF(a), AUSTRALIA, 1961 TO 1965

Year	Full-time teaching and research staff					Part-time teaching and research staff(c)	Full-time research only staff	Part-time research only staff(d)
	Professors	Associate professors and readers	Senior lecturers and lecturers	Assistant lecturers, demonstrators, etc.(b)	Total			
1961	337	289	2,142	628	3,396	3,199	1,163	30
1962	363	330	2,438	770	3,901	3,472	1,369	27
1963	404	374	2,663	848	4,289	3,847	1,481	35
1964	463	409	2,847	1,004	4,723	4,358	1,675	45
1965	521	449	3,050	1,085	5,105	5,167	1,752	56

(a) Filled positions. Teaching and research staff includes all staff with teaching functions, but excludes Research only staff which is shown separately. (b) Includes tutors and teaching fellows. (c) Teaching hours in units of 100 hours per annum. (d) In equivalent full-time units of 35 hours per week.

University students enrolled

The numbers of students enrolled for courses at the universities for 1965 and earlier years are shown in the following tables.

UNIVERSITIES: STUDENTS ENROLLED, 1965

University	Degree courses	Diploma courses		Certificate courses	Miscellaneous subjects (a)	Adjusted total(b)
		Post-graduate	Sub-graduate			
Australian National	2,852	..	..	..	126	2,901
Sydney	15,077	717	234	34	244	16,237
New South Wales	10,110	251	230	..	685	11,248
New England	3,612	320	..	1	63	3,964
Newcastle	1,611	47	14	..	54	1,722
Melbourne	12,453	99	652	..	803	13,705
Monash	4,059	146	..	..	14	4,199
Queensland	12,255	83	612	198	433	13,581
Adelaide	7,058	242	1,576	23	263	8,658
Western Australia	4,796	151	..	..	97	5,022
Tasmania	1,826	90	64	67	253	2,083
Total	75,709	2,146	3,382	323	3,035	83,320

(a) Includes *ad hoc* courses. (b) Adjustment made for students enrolled for more than one course.

Of the students enrolled in 1965, 61,285 were males and 22,035 females. Included in those enrolled for degrees were 6,169 enrolled for higher degree courses: Australian National University, 512; Sydney, 1,652; University of New South Wales, 843; New England, 182; Newcastle, 60; Melbourne, 794; Monash, 210; Queensland, 710; Adelaide, 606; Western Australia, 480; and Tasmania, 120.

UNIVERSITIES: STUDENTS ENROLLED, AUSTRALIA, 1961 TO 1965

Year	Degree courses		Diploma courses		Certificate courses	Miscellaneous subjects (a)	Adjusted total(b)
	Higher degrees	Bachelor degrees	Post-graduate	Sub-graduate			
1961	3,170	46,338	1,328	3,379	1,760	2,461	57,672
1962	3,814	50,757	1,622	3,307	1,779	2,849	63,317
1963	4,551	56,077	1,764	3,349	1,424	2,504	69,074
1964	5,383	62,936	1,984	3,476	628	2,777	76,188
1965	6,169	69,540	2,146	3,382	323	3,035	83,320

(a) Includes *ad hoc* courses. (b) Adjustment made for students enrolled for more than one course.

University new students enrolled

The numbers of new students enrolled for courses at the universities during 1965 and earlier years are shown in the following tables.

UNIVERSITIES: NEW STUDENTS ENROLLED, 1965

University	Degree courses	Diploma courses		Certificate courses	Miscellaneous subjects (a)	Adjusted total(b)
		Post-graduate	Sub-graduate			
Australian National	1,175	..	..	..	103	1,248
Sydney	3,228	151	111	34	66	3,590
New South Wales	3,302	107	74	..	484	3,967
New England	1,244	110	..	1	21	1,371
Newcastle	561	3	..	..	15	579
Melbourne	2,582	15	230	..	260	3,008
Monash	1,892	46	..	..	13	1,935
Queensland	3,147	9	226	24	180	3,586
Adelaide	1,821	8	362	3	28	2,215
Western Australia	1,245	3	..	..	19	1,267
Tasmania	562	6	6	15	126	670
Total	20,759	458	1,009	77	1,315	23,436

(a) Includes *ad hoc* courses. (b) Adjustment made for students enrolled for more than one course.

Of the new students enrolled in 1965, 16,263 were males and 7,173 females. Included in those enrolled for degrees were 697 enrolled for higher degree courses: Australian National University, 164; Sydney, 107; University of New South Wales, 140; New England, 16; Newcastle, 10; Melbourne, 55; Monash, 66; Queensland, 34; Adelaide, 50; Western Australia, 19; and Tasmania, 36.

UNIVERSITIES: NEW STUDENTS ENROLLED, AUSTRALIA, 1961 TO 1965

Year	Degree courses		Diploma courses		Certificate courses	Miscellaneous subjects (a)	Adjusted total(b)
	Higher degrees	Bachelor degrees	Post-graduate	Sub-graduate			
1961	349	13,254	231	884	605	1,040	16,263
1962	475	14,487	279	926	455	1,149	17,626
1963	538	15,717	387	944	236	960	18,746
1964	603	18,339	462	971	158	1,118	21,528
1965	697	20,062	458	1,009	77	1,315	23,436

(a) Includes *ad hoc* courses. (b) Adjustment made for students enrolled for more than one course.

Full-time, part-time and external university students

The following tables classify students at universities in 1965 and earlier years according to whether they were studying full-time, part-time or externally.

UNIVERSITIES: FULL-TIME, PART-TIME AND EXTERNAL STUDENTS, 1965

University	Full-time	Part-time	External	Total
Australian National	1,608	1,293	..	2,901
Sydney	12,437	3,800	..	16,237
New South Wales	5,373	5,742	133	11,248
New England	1,250	146	2,568	3,964
Newcastle	744	976	2	1,722
Melbourne	9,096	4,020	589	13,705
Monash	3,606	593	..	4,199
Queensland	6,238	4,773	2,570	13,581
Adelaide	5,314	2,875	469	8,658
Western Australia	2,971	1,681	370	5,022
Tasmania	1,279	593	211	2,083
Total	49,916	26,492	6,912	83,320

**UNIVERSITIES: FULL-TIME, PART-TIME AND EXTERNAL
STUDENTS, AUSTRALIA, 1961 TO 1965**

Year	Full-time	Part-time	External	Total
1961 . . .	30,834	21,048	5,790	57,672
1962 . . .	34,723	22,430	6,164	63,317
1963 . . .	38,931	23,752	6,391	69,074
1964 . . .	44,327	25,316	6,545	76,188
1965 . . .	49,916	26,492	6,912	83,320

Assistance to university students

The Commonwealth Government, through the Commonwealth Scholarships Board, grants undergraduate and post-graduate scholarships to university students. (Details of the Commonwealth Scholarship Scheme are given on page 618.) Commonwealth, State and local governments also award cadetships and other assistance to their employees. Foreign students are assisted by the Commonwealth Government under arrangements such as the Colombo Plan. The Universities themselves grant exhibitions and scholarships as well as special assistance to teachers, etc.

The following tables give details of students assisted at universities in 1965 and earlier years.

UNIVERSITIES: ASSISTED STUDENTS, 1965

University	Source of assistance					Type of course	
	Commonwealth Government	State Governments	Universities	Other	Adjusted total (a)	Higher degrees	Other
Australian National	661	1	897	33	1,438	403	1,035
Sydney . . .	5,533	2,995	3,805	141	9,082	486	8,596
New South Wales .	1,853	795	1,431	728	4,147	429	3,718
New England . . .	377	580	1,628	50	2,618	148	2,470
Newcastle . . .	281	345	601	144	1,022	42	980
Melbourne . . .	4,655	2,706	3,870	170	9,057	546	8,511
Monash . . .	996	1,214	267	24	2,501	192	2,309
Queensland . . .	3,054	898	547	290	4,789	386	4,403
Adelaide . . .	2,041	2,143	1,612	158	5,432	393	5,039
Western Australia .	1,276	781	120	105	2,220	152	2,068
Tasmania . . .	506	530	97	61	1,100	41	1,059
Total . . .	21,233	12,988	14,875	1,904	43,406	3,218	40,188

(a) Adjustment made for students assisted from more than one source.

UNIVERSITIES: ASSISTED STUDENTS, AUSTRALIA, 1961 TO 1965

Form of assistance	1961	1962	1963	1964	1965
Government assistance . . .	20,937	23,020	26,670	31,035	34,221
University assistance . . .	9,025	10,710	12,063	13,765	14,875
Other assistance . . .	2,726	1,553	1,620	1,771	1,904
Adjusted total(a) . . .	28,953	31,041	33,678	39,416	43,406

(a) Adjustment made for students assisted from more than one source.

Resident university students

In 1965, 6,658 full-time and 267 part-time students were in residence at affiliated colleges, halls of residence and university hostels. The 6,925 students in residence were distributed as follows: Australian National University, 658; Sydney, 818; New South Wales, 285; New England, 1,063; Melbourne, 1,475; Monash, 205; Queensland, 1,181; Adelaide, 381; Western Australia, 578; and Tasmania, 281. There were 5,131 male students and 1,794 female students in residence.

University degrees conferred, etc.

The following table shows the numbers of degrees conferred and diplomas and certificates granted for males and females separately at each university during the year ended 31 July 1965.

UNIVERSITIES: DEGREES CONFERRED, AND DIPLOMAS AND CERTIFICATES GRANTED, YEAR ENDED 31 JULY 1965

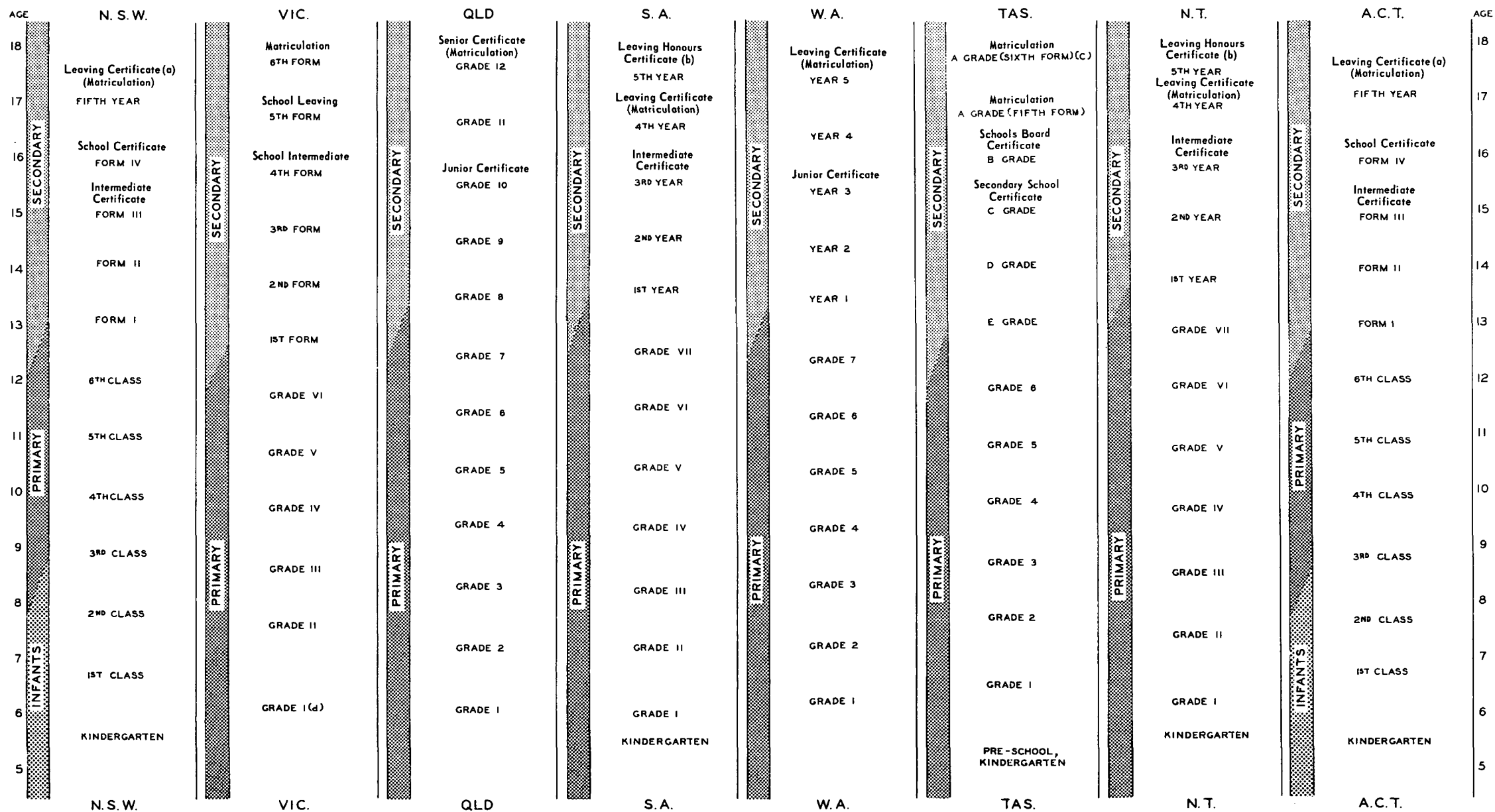
Course	Aus- tralian National		Sydney		New South Wales		New England		New- castle		Mel- bourne	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Degrees—												
Arts	52	30	308	420	70	68	164	63	42	34	229	237
Divinity . . . . .	..	..	2	..	..	..	..	..	..	..	..	..
Music . . . . .	..	..	..	1	..	..	..	..	..	..	5	18
Psychology . . . . .	..	1	..	..	6	1	..	..	..	..	..	..
Law	10	1	129	7	..	..	..	..	..	..	150	21
Commerce/Economics	35	3	117	9	131	4	..	..	17	..	199	21
Education . . . . .	..	..	18	9	..	..	..	..	..	..	51	13
Social studies	10	..	..	..	..	..	..	..	..	..	..	..
Science	27	6	294	115	354	42	79	18	20	9	232	83
Applied science . . . . .	..	..	..	..	..	..	..	..	24	..	8	3
Architecture and town plan- ning . . . . .	..	..	28	5	41	1	..	..	3	..	61	8
Building . . . . .	..	..	2	..	13	..	..	..	..	..	..	..
Engineering . . . . .	..	..	175	2	298	..	..	..	40	..	145	..
Surveying . . . . .	..	..	..	..	16	..	..	..	..	..	3	..
Dentistry . . . . .	..	..	43	2	..	..	..	..	..	..	25	2
Medicine	10	..	249	43	4	1	..	..	..	..	133	24
Optometry . . . . .	..	..	..	..	6	..	..	..	..	..	..	..
Pharmacy . . . . .	..	..	92	54	..	..	..	..	..	..	..	..
Physiotherapy . . . . .	..	..	..	..	..	..	..	..	..	..	..	..
Agriculture . . . . .	..	..	48	16	..	..	28	3	..	..	36	1
Agricultural economics . . . . .	..	..	..	..	..	..	20	3	..	..	..	..
Forestry	1	..	10	..	..	..	3	..	..	..	5	..
Veterinary science . . . . .	..	..	52	3	..	..	..	..	..	..	1	..
<i>Total degrees</i>	<i>145</i>	<i>41</i>	<i>1,567</i>	<i>686</i>	<i>939</i>	<i>117</i>	<i>294</i>	<i>87</i>	<i>146</i>	<i>43</i>	<i>1,283</i>	<i>431</i>
Post-graduate diplomas—												
Education . . . . .	..	..	112	180	17	29	56	55	17	29	50	45
Engineering . . . . .	..	..	39	6	23	..	..	..	..	..	11	..
Medicine . . . . .	..	..	62	7	..	..	..	..	..	..	14	2
Agriculture . . . . .	..	..	4	1	..	..	..	..	..	..	..	..
Other . . . . .	..	..	(a) 1	..	(b) 7	b 28	..	..	..	..	(c) 1	..
<i>Total post-graduate diplomas</i> . . . . .	..	..	<i>218</i>	<i>194</i>	<i>47</i>	<i>57</i>	<i>56</i>	<i>55</i>	<i>17</i>	<i>29</i>	<i>75</i>	<i>48</i>
Sub-graduate diplomas	1	..	3	27	6	2	..	..	..	..	34	59
Certificates . . . . .	..	..	..	..	43	1	..	..	..	..	..	..

(a) Anthropology. (b) Librarianship. (c) Criminology.

Table continued on next page.

GRADES AND EXAMINATIONS IN THE PRIMARY AND SECONDARY SCHOOL SYSTEMS IN EACH STATE AND TERRITORY, 1965

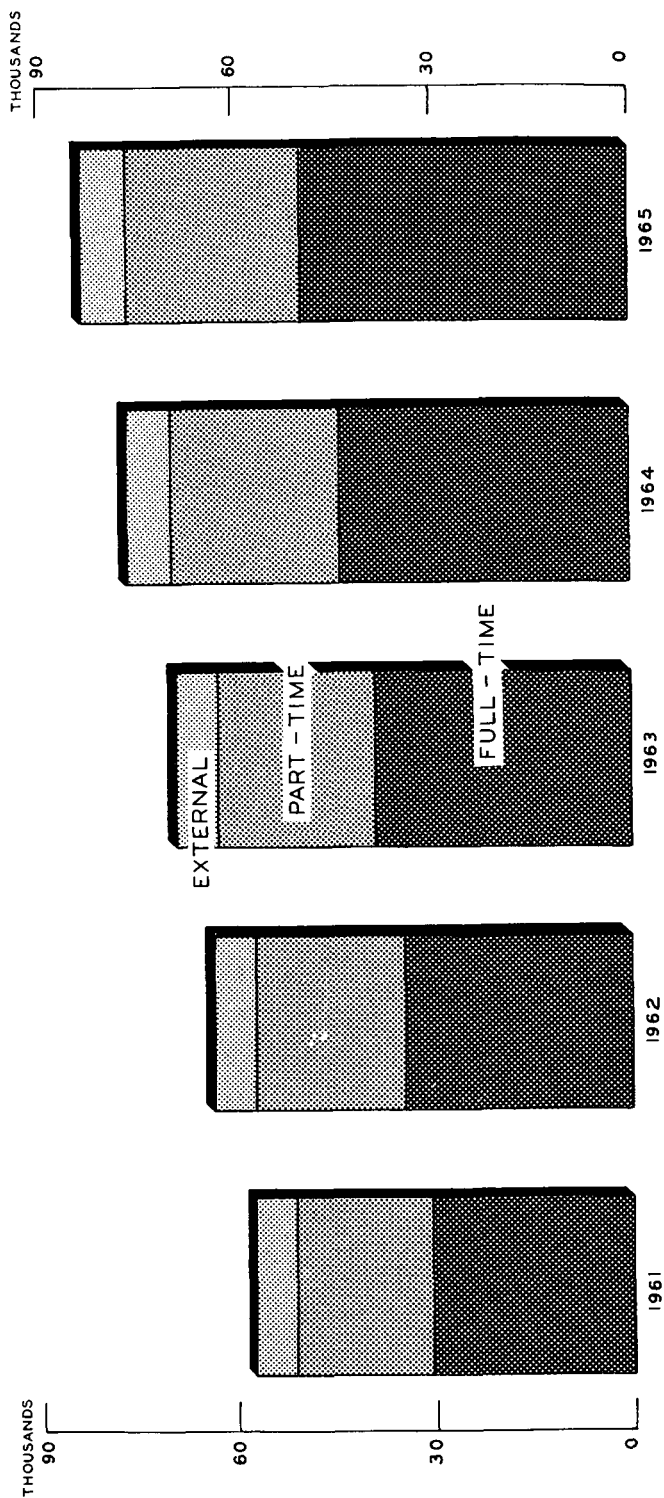
The grade terminology follows, as nearly as possible, that used in government primary and high schools in each State in 1965. It is not necessarily used in all types of schools. The grades have been written in approximately to agree with the age-scale shown on the diagram, in order to indicate differences in age-grade patterns between States. The diagram should not be taken as a comparison of academic standards of grades between States. For a more detailed presentation of the systems operating in each State, reference should be made to diagrams etc. appearing in the annual reports of State Ministers of Education.



(a) In N.S.W. and A.C.T. an additional secondary grade (Form VI) will operate as from 1967. (b) In S.A. and N.T. Matriculation may be gained only at end of Fifth Year as from 1966, and Leaving Honours Certificate will alter to Matriculation. (c) In Tasmania many A GRADE pupils study for Matriculation over a two year period. (d) In Victoria, owing to differences in age of commencing school, younger pupils spend two years in Grade I.

UNIVERSITIES: STUDENTS ENROLLED, AUSTRALIA

1961 TO 1965



UNIVERSITIES: DEGREES CONFERRED, AND DIPLOMAS AND CERTIFICATES GRANTED, YEAR ENDED 31 JULY 1965—*continued*

Course	Monash		Queensland		Adelaide		Western Australia		Tasmania		All Universities	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Degrees—												
Arts	57	60	93	151	69	71	132	88	57	61	1,273	1,283
Divinity . . . . .	..	..	..	..	..	..	..	..	..	..	2	..
Music . . . . .	..	..	..	..	6	7	1	..	..	..	12	26
Psychology . . . . .	..	..	..	..	..	..	7	2	..	..	13	4
Law . . . . .	..	..	20	..	23	11	24	1	11	..	367	41
Commerce/Economics	30	1	105	13	34	1	36	3	15	1	719	56
Education . . . . .	..	..	29	10	..	..	15	4	..	..	113	36
Social studies . . . . .	..	..	4	6	..	..	..	..	..	..	14	6
Science	18	7	151	56	247	48	129	31	55	9	1,606	424
Applied science . . . . .	..	..	11	..	9	..	..	..	..	..	52	3
Architecture and town planning . . . . .	..	..	17	..	9	1	..	..	..	..	159	15
Building . . . . .	..	..	..	..	..	..	..	..	..	..	15	..
Engineering	4	..	129	1	159	..	40	..	21	..	1,011	3
Surveying . . . . .	..	..	6	..	..	..	..	..	..	..	25	..
Dentistry . . . . .	..	..	41	1	21	..	9	1	..	..	139	6
Medicine	3	..	81	16	87	9	38	6	..	..	605	99
Optometry . . . . .	..	..	..	..	..	..	..	..	..	..	6	..
Pharmacy . . . . .	..	..	27	17	..	..	..	..	..	..	119	71
Physiotherapy . . . . .	..	..	..	1	..	..	..	..	..	..	..	1
Agriculture . . . . .	..	..	34	4	30	4	23	..	..	..	199	28
Agricultural economics . . . . .	..	..	..	..	..	..	..	..	..	..	20	3
Forestry . . . . .	..	..	11	..	..	..	5	..	2	..	37	..
Veterinary science . . . . .	..	..	63	1	..	..	..	..	..	..	116	4
<i>Total degrees</i>	112	68	822	277	694	152	459	136	161	71	6,622	2,109
Post-graduate diplomas—												
Education	12	18	24	21	77	43	43	22	18	16	426	458
Engineering . . . . .	..	..	4	..	..	..	..	..	..	..	77	6
Medicine . . . . .	..	..	1	1	..	..	2	1	..	..	79	11
Agriculture . . . . .	..	..	5	..	..	..	..	..	..	..	9	1
Other . . . . .	..	..	..	..	..	..	..	..	..	..	8	29
<i>Total postgraduate diplomas</i>	12	18	34	22	77	43	45	23	18	16	599	505
Sub-graduate diplomas . . . . .	..	..	38	61	127	1..	..	..	8	..	217	281
Certificates . . . . .	..	..	210	49	10	..	..	..	16	15	279	65

Table continued from previous page.

The next table shows total degrees conferred at all Australian universities during each of the years 1961 to 1965.

UNIVERSITIES: DEGREES CONFERRED, AUSTRALIA, 1961 TO 1965(a)

Degree	1961			1962			1963			1964			1965		
	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.
Arts	742	647	1,389	890	733	1,623	936	946	1,882	1,102	1,107	2,209	1,273	1,283	2,556
Divinity	1	1	2	3	3	6	4	5	10	6	11	20	11	14	25
Music	9	15	24	9	17	26	8	25	33	13	19	32	12	26	38
Psychology	..	..	..	8	1	9	12	1	13	4	1	5	13	4	17
Law	244	29	273	310	30	340	260	39	299	297	43	340	367	41	408
Commerce/Economics	389	42	431	552	49	601	545	59	604	692	59	751	719	56	775
Education	94	20	114	97	19	116	103	20	123	114	29	143	113	36	149
Social studies	..	..	..	4	5	9	6	8	14	4	9	13	14	6	20
Science	983	247	1,230	1,033	276	1,309	1,222	320	1,542	1,346	357	1,703	1,606	424	2,030
Applied science	14	..	14	12	..	12	31	..	31	36	..	36	52	3	55
Architecture and town planning	60	9	69	79	5	84	133	8	141	128	13	141	159	15	174
Building	..	..	..	2	..	2	6	..	6	6	..	6	15	..	15
Engineering	703	..	703	785	..	785	829	1	830	912	..	912	1,011	3	1,014
Surveying	5	..	5	11	..	11	15	..	15	14	..	14	25	..	25
Dentistry	117	17	134	139	16	155	141	3	144	143	17	160	139	6	145
Medicine	453	71	524	466	84	550	538	74	612	572	83	655	605	99	704
Optometry	..	..	..	..	..	..	..	..	..	..	..	..	6	..	6
Pharmacy	..	..	..	..	..	..	53	..	39	76	..	128	119	71	190
Physiotherapy	..	..	..	..	..	..	1	..	3	4	..	1	..	1	1
Agriculture and agricultural economics	178	16	194	168	12	180	191	17	208	189	16	205	219	31	250
Forestry	32	..	32	16	..	16	27	..	27	30	..	30	37	..	37
Veterinary science	58	4	62	65	4	69	79	4	83	90	7	97	116	4	120
Total—															
Higher doctorates	26	2	28	35	1	36	32	1	33	32	2	34	36	1	37
Ph.D.'s	112	14	126	124	14	138	161	13	174	188	15	203	253	25	278
Master's degrees	279	28	307	301	31	332	319	47	366	342	45	387	398	81	479
Bachelor's degrees	3,665	1,078	4,743	4,185	1,206	5,391	4,625	1,506	6,131	5,209	1,751	6,960	5,935	2,002	7,937
Grand total	4,082	1,122	5,204	4,645	1,252	5,897	5,137	1,567	6,704	5,771	1,813	7,584	6,622	2,109	8,731

(a) Figures for 1962 and later years refer to degrees conferred during the 12 months ended July. Figures for 1961 refer to degrees conferred during the calendar year. Details of degrees conferred during the five months ended December, 1961, which are included in both 1961 and 1962 figures shown in the table, are as follows: Arts, 129; Music, 10; Law, 59; Commerce and Economics, 45; Education, 18; Science, 97; Architecture and town planning, 9; Engineering, 56; Dentistry, 8; Medicine, 207; Physiotherapy, 1; Agriculture and agricultural economics, 15; Forestry, 3; Veterinary science, 25; total degrees, 682, including 10 Higher doctorates, 34 Ph.D.'s, 86 Master's degrees, and 552 Bachelor's degrees.

University finance

Australian universities are incorporated by statute. Since their establishment they have come to depend greatly on government grants for their income. In recent years large amounts have been required for new buildings, as well as for current expenditure to provide staff and equipment to cope with increased student enrolments. In 1964 income from other than State and Commonwealth grants, including student fees, amounted to little more than one-fifth of the total income. Income from non-government sources includes grants, mainly for research purposes, from businesses, international foundations, and private individuals. Some income is also received from endowments.

Financial assistance to universities from the Commonwealth Government

Prior to 1939 Commonwealth assistance was almost entirely concerned with research projects carried out by or in collaboration with the universities. During and since the 1939-45 War the Commonwealth extended assistance to university students, at first to increase the number of highly trained people required for the war effort, then with the object of rehabilitating ex-servicemen, and finally as a social service benefit to the community. For the purpose of reconstruction training, the Commonwealth Government made available to the universities approximately \$2 million for buildings and \$1 million for equipment.

Following a report submitted by a committee of inquiry appointed to report on university finances and requirements, the Commonwealth, since 1951, has made matched grants to the States for recurrent expenditure on university purposes. Since 1958 the Commonwealth has also assisted with the capital needs of the universities for building projects and for equipment, and provided unmatched recurrent grants and grants for the building programmes of residential colleges affiliated with universities. In the 1961-63 triennium the Commonwealth matched State grants for buildings at teaching hospitals and in 1960 instituted grants for research at universities. As well as making grants available for State universities, the Commonwealth has continued to support the university institutions for which it is responsible.

In 1959, following the Report of the Committee on Australian Universities, the Commonwealth Government established the Australian Universities Commission under the *Australian Universities Commission Act 1959*. The Commission's principal functions are to advise the Prime

Minister on financial assistance to Commonwealth universities and to States in relation to their universities and also on the balanced development of Australian universities. The Commission commenced its work in July 1959. Since its establishment the Commission has produced two reports; the first, presented in October 1960, and covering the years 1961 to 1963, recommended Commonwealth grants totalling \$86 million for State universities. The Commission later recommended a separate grant of \$4 million for teaching hospitals. The Commission's second report was presented in August 1963, and recommended Commonwealth grants totalling more than \$121 million for State universities, subsequently increased by \$3 million for teaching hospitals, for the period 1964 to 1966. The *Universities (Financial Assistance) Act 1963* gave effect to the major financial recommendations contained in the Commission's second report and was later amended by the *Universities (Financial Assistance) Act 1965*.

Commonwealth grant for recurrent expenditure in universities. This is a continuation of matched grants provided since 1951. The maximum amounts available in 1964, 1965 and 1966 are shown in the following table. These amounts have been adjusted to allow for the recommendations of the Report of the Inquiry into Academic Salaries by Mr. Justice Eggleston. However, the amounts are subject to further amendment when the full cost is known.

**STATE UNIVERSITIES, ETC.: COMMONWEALTH GRANT
FOR RECURRENT EXPENDITURE, 1964 TO 1966**

University, etc.	1964	1965	1966
	\$'000	\$'000	\$'000
Sydney	4,640	5,154	5,676
New South Wales(a)	4,450	4,352	4,832
New England	1,364	1,454	1,550
Newcastle . . . . .	..	618	704
Macquarie . . . . .	..	112	224
Melbourne	3,868	4,298	4,796
Monash	2,072	2,770	3,358
La Trobe . . . . .	..	106	218
Queensland(b)	2,968	3,430	3,884
Adelaide(c)	2,582	2,856	3,246
Western Australia	1,794	1,974	2,166
Tasmania	744	844	942
South Australian Institute of Technology	230	258	290
Total	24,712	28,226	31,886

(a) Includes grants for the University Colleges at Wollongong and Newcastle (the University of Newcastle as from 1 January 1965). (b) Includes grants of \$160,000, \$192,000 and \$240,000 respectively for each of the three years for the University College at Townsville. (c) Includes grants of \$112,000, \$208,000 and \$418,000 respectively for each of the three years for the University of Adelaide at Bedford Park (The Flinders University of South Australia as from 1 July 1966).

Since 1961 matched grants have been made on a basis of \$1 of Commonwealth money for every \$1.85 of income received by a university from fees and State grants. From 1951 to 1960 the matching ratio was, in general, \$1 to \$3.

Commonwealth grants for the teaching and administrative costs of residential colleges. From 1964 the grants consist of unmatched Commonwealth payments each year of \$5,000 (previously \$4,000) to each college affiliated with or administered by a university, plus the sum of \$30 for each resident student, and a further \$10 for each non-resident student receiving tutorial assistance. The total Commonwealth grant paid in 1965 was \$464,450.

Commonwealth grants for selected building projects in universities. Those grants, for the period 1964 to 1966, are shown in detail in the Second Schedule to the 1965 Act. Payments are made up to a given maximum for each project, on the basis of \$1 from the Commonwealth for every \$1 of State grants. From 1964 there was a change in this grant in that, where appropriate, an allowance for furnishings and equipment is included in the building grants for each project. Previously, separate grants were provided for these items. Also, from 1964, the schedule showing grants for university building projects includes grants for university computing facilities, but grants for the erection and alteration of buildings for halls of residence administered by universities are shown elsewhere. The total Commonwealth grant under this heading for each University is shown in the following table. The amounts shown include additional grants recommended in the *Report of the Committee on the Future of Tertiary Education in Australia* and approved by the Commonwealth Government.

**STATE UNIVERSITIES, ETC.: COMMON-
WEALTH GRANTS FOR BUILDING PROJECTS
ETC., 1964 TO 1966**

University, etc.	Amount
	\$'000
Sydney	4,680
New South Wales	3,880
New England	1,352
Newcastle	1,020
Macquarie	2,100
Melbourne	4,812
Monash	4,470
La Trobe	1,410
Queensland(a)	3,216
Adelaide(b)	3,668
Western Australia	1,920
Tasmania	936
South Australian Institute of Technology	662
Total	34,126

(a) Includes amount of \$100,000 for new university institution in Brisbane. (b) Includes amount of \$2,835,000 for University of Adelaide at Bedford Park (the Flinders University of South Australia as from 1 July 1966).

Commonwealth grants for special research projects in universities. Under the 1963 Act special provision is made to assist universities to develop and extend their research programmes, including the purchase of equipment. Under the 1961-1963 legislation grants were provided for equipment only. The grants are available on the basis of \$1 from the Commonwealth for every \$1 of State grants. For the 1964 to 1966 triennium the Australian Universities Commission recommended a Special Research Grant of \$10 million for the State universities. Of this amount \$6 million is being allocated by the Commission in agreement with State governments, while the remaining \$4 million is being allocated by the Australian Research Grants Committee (*see* page 618) to individuals or research teams whether inside or outside universities. To the end of 1965 \$4 million had been allocated by the Commission; the maximum amount available to each university is shown in the following table.

**STATE UNIVERSITIES: COMMONWEALTH
GRANTS FOR SPECIAL RESEARCH PURPOSES
ALLOCATED BY AUSTRALIAN UNIVERSITIES
COMMISSION, 1964 TO 1966**

University	Amount
	\$'000
Sydney	624
New South Wales	396
New England	120
Newcastle	34
Melbourne	624
Monash	176
Queensland(a)	288
Adelaide(b)	370
Western Australia	244
Tasmania	124
Total	3,000

(a) Includes \$12,000 for Townsville University College. (b) Includes \$40,000 for the University of Adelaide at Bedford Park (Flinders University of South Australia as from 1 July 1966).

Commonwealth grants for buildings for halls of residence and affiliated residential colleges. Under the 1963 Act an amount representing the grant available to each university for both types of student residence is shown in the Fourth Schedule. Previously, grants for buildings for university-administered halls of residence were included in the Schedule showing university building projects. Payments were made up to a given maximum for each project. For halls of residence the grant comprised \$1 from the Commonwealth for every \$1 of State grants. For affiliated residential colleges Commonwealth grants were up to half of the cost of a project, the other half being met from college or State Government sources. For the 1964-66 triennium, however, payments are made up to a given maximum for each project on the basis of \$1 from the Commonwealth for every \$1 of residential college funds and State grants. The maximum Commonwealth grants available for each State university in the 1964-66 triennium are shown in the following table.

STATE UNIVERSITIES: MAXIMUM COMMONWEALTH GRANTS FOR BUILDINGS FOR HALLS OF RESIDENCE AND AFFILIATED RESIDENTIAL COLLEGES, 1964 TO 1966

University	Amount
	\$'000
Sydney	632
New South Wales	588
New England	950
Newcastle	220
Melbourne	560
Monash	1,210
La Trobe	440
Queensland	774
Adelaide	640
Western Australia	618
Tasmania	354
Total	6,986

University income and expenditure

The following tables show particulars of the income and expenditure of each university in 1964 and the totals for 1960 to 1964.

UNIVERSITIES: INCOME, 1964

(\$'000)

University	Government grants ^(a)		Other income			Total income
	Cwth Government grants	State Government grants	Donations and endowments ^(b)	Student fees ^(c)	Other income	

INCOME FOR SPECIFIC CAPITAL PURPOSES^(d)

Australian National	4,990	..	..	..	192	5,182
Sydney	2,250	1,626	172	..	..	4,048
New South Wales	1,678	2,542	78	..	..	4,298
New England	368	804	204	..	58	1,434
Melbourne	1,228	1,842	222	..	..	3,292
Monash	2,676	2,678	..	..	..	5,354
Queensland	766	1,752	170	..	..	2,688
Adelaide	1,144	1,060	40	..	..	2,244
Western Australia	702	368	..	..	..	1,070
Tasmania	294	352	..	..	..	646
Total	16,096	13,024	886	..	250	30,256

For footnotes see next page.

UNIVERSITIES: INCOME, 1964—*continued*
 (\$'000)

University	Government grants(a)		Other income			Total income
	Cwth Government grants	State Government grants	Donations and endowments(b)	Student fees(c)	Other income	

INCOME FOR OTHER PURPOSES

Australian National	10,268	..	236	216	708	11,428
Sydney	5,768	5,642	2,740	3,090	422	17,662
New South Wales	5,162	6,700	474	1,808	664	14,808
New England	1,636	2,184	190	370	544	4,924
Melbourne	4,440	4,188	1,404	2,312	1,888	14,232
Monash	1,930	3,056	230	510	256	5,982
Queensland	2,814	3,752	1,412	1,790	356	10,124
Adelaide	3,164	4,168	460	792	398	8,982
Western Australia	2,032	2,560	452	680	558	6,282
Tasmania	894	1,182	96	266	150	2,588
<i>Total</i>	<i>38,108</i>	<i>33,432</i>	<i>7,694</i>	<i>11,834</i>	<i>5,944</i>	<i>97,012</i>

TOTAL INCOME

Australian National	15,258	..	236	216	900	16,610
Sydney	8,018	7,268	2,912	3,090	422	21,710
New South Wales	6,840	9,242	552	1,808	664	19,106
New England	2,004	2,988	394	370	602	6,358
Melbourne	5,668	6,030	1,626	2,312	1,888	17,524
Monash	4,606	5,734	230	510	256	11,336
Queensland	3,580	5,504	1,582	1,790	356	12,812
Adelaide	4,308	5,228	500	792	398	11,226
Western Australia	2,734	2,928	452	680	558	7,352
Tasmania	1,188	1,534	96	266	150	3,234
<i>Total</i>	<i>54,204</i>	<i>46,456</i>	<i>8,580</i>	<i>11,834</i>	<i>6,194</i>	<i>127,268</i>

(a) Includes funds expended by various government departments and other bodies in respect of universities but not controlled by the universities. (b) In the case of endowments, only income from property and other investment of these endowments is included. The treatment of donations depends on the terms of the gift, etc. When the capital sum is specified to be expended over several years, only the portion of the capital sum allocated to each year is shown as income in that year, but if the capital sum is available for spending without limitation as to time, the full amount is recorded as income in the year it is received, irrespective of whether it is spent in that year or not. The capital value of land and buildings donated to the universities is not recorded as income, unless these properties are sold, in which case the amounts realized are included. (c) Excludes fees collected on behalf of student unions. (d) Income received specifically for new buildings, major alterations and additions to buildings, installation of services, purchase of land and buildings and major equipment.

UNIVERSITIES: EXPENDITURE, 1964

(\$'000)

University	Teaching and research	Administration and general overhead	Libraries	Buildings, premises, grounds	Sundry auxiliary expenditure	Total expenditure
Australian National	9,018	1,098	482	4,906	622	16,126
Sydney	13,294	1,502	664	4,692	394	20,546
New South Wales	10,660	1,310	614	3,908	786	17,278
New England	2,606	592	234	1,836	886	6,154
Melbourne	9,762	910	580	4,372	1,498	17,122
Monash	4,242	514	614	5,226	104	10,700
Queensland	7,832	596	438	3,668	192	12,726
Adelaide	6,646	638	602	2,414	448	10,748
Western Australia	4,166	478	300	2,098	630	7,672
Tasmania	1,656	232	134	812	160	2,994
Total	69,882	7,870	4,662	33,932	5,720	122,066

UNIVERSITIES: INCOME AND EXPENDITURE, 1960 TO 1964

(\$'000)

University	1960	1961(a)	1962(a)	1963(a)	1964(a)
Australian National—					
Income	7,572	11,328	11,182	12,992	16,610
Expenditure	7,174	10,106	12,276	14,020	16,126
Sydney—					
Income	11,994	14,032	16,438	19,232	21,710
Expenditure	11,450	14,606	16,342	17,302	20,546
New South Wales—					
Income	10,320	14,140	15,622	16,294	19,106
Expenditure	9,844	14,906	15,800	15,248	17,278
New England—					
Income	3,386	3,846	4,166	5,532	6,358
Expenditure	3,952	4,086	4,676	4,888	6,154
Melbourne—					
Income	11,470	11,194	14,614	15,390	17,524
Expenditure	10,316	12,228	15,412	15,340	17,122
Monash—					
Income	2,892	7,998	8,508	8,292	11,336
Expenditure	2,034	7,842	9,054	8,254	10,700
Queensland—					
Income	7,574	8,360	9,888	10,442	12,812
Expenditure	7,326	8,322	8,726	9,986	12,726
Adelaide—					
Income	5,190	7,008	7,836	9,152	11,226
Expenditure	5,516	6,734	7,478	10,020	10,748
Western Australia—					
Income	4,670	4,806	6,044	7,414	7,352
Expenditure	4,122	5,126	5,706	7,566	7,672
Tasmania—					
Income	2,354	2,550	3,304	2,764	3,234
Expenditure	2,306	2,648	3,264	2,828	2,994
Total income	67,422	85,262	97,602	107,504	127,268
Total expenditure	64,040	86,604	98,734	105,452	122,066

(a) Figures for 1961, 1962, 1963 and 1964 were compiled on a new basis and totals for individual universities are not necessarily comparable with previous years.

Other tertiary institutions

In addition to the degree-granting universities, various other institutions offer courses at tertiary level which may lead to a certificate, diploma, or similar qualification. Included among these institutions are technical colleges, which have been described on pages 597-9.

Teachers' colleges

The State Education Departments conduct teachers' colleges to train teachers for government schools. There are eight colleges in New South Wales, twelve in Victoria, four in South Australia, and two each in Queensland, Western Australia and Tasmania, making a total of thirty colleges. These colleges provide a variety of teacher training courses, including those for primary teachers, secondary teachers, and those specializing in teaching infants, handicapped children, art, music, and handicrafts. A description of the courses is given on page 593. Teachers' colleges are co-educational and, in the larger States, have been established in country areas as well as in cities. Students entering them have completed their secondary schooling and are usually about seventeen years of age. The principal and staff of the colleges are responsible to the Director of Education in the State concerned.

Kindergarten training colleges

The Kindergarten Unions in all States except Tasmania have established teacher training colleges providing three-year courses. The minimum entrance age is usually seventeen years and at least the Leaving Certificate is required for admission. In addition, in New South Wales, the Sydney Day Nursery and Nursery Schools' Association maintains a training college.

The pre-school teacher training courses in these colleges are all full-time diploma courses and are similar in content and standards. Teachers are trained for work with children between the ages of two and seven years, and the training courses include the study of general educational theory, the theory of pre-school education, general cultural subjects, and art and crafts (including music). In addition, training is given in practical pre-school teaching.

Agricultural colleges

There are seven State agricultural colleges—Hawkesbury and Wagga (New South Wales), Longerenong and Dookie (Victoria), Lawes (Queensland), Roseworthy (South Australia), and Muresk (Western Australia), offering a comprehensive course of two or three years leading to the award of a Diploma in Agriculture or in a specialized field such as animal husbandry, dairy manufactures, and horticulture. The School of Horticulture, Burnley, Victoria, also offers a three-year diploma course.

Agricultural colleges are government institutions administered by the State Departments of Agriculture in New South Wales, Victoria, South Australia, and Western Australia, and by the State Department of Education in Queensland. Their purpose is to teach the principles and practices of agriculture and its specialized branches to those intending to take up farming as a career and to those who propose to enter such occupations as agricultural field officer or technical officer in food processing industries.

The minimum entrance standard is the penultimate major secondary examination of the State concerned, except in Western Australia where it is the sub-leaving examination. As entry is competitive, there is a tendency for students to hold better than the minimum qualifications. All the colleges are fully residential, and the minimum age at which students may enter them varies from fifteen to seventeen years, depending on the college and the type of course.

In addition to their formal courses of training, agricultural colleges offer short courses of from three days to one month to farmers and teachers in country districts.

Schools of forestry

Since 1965 tertiary training in forestry, previously carried out by the Australian Forestry School, Canberra, has been provided by a Department of Forestry in the Faculty of Science within the Australian National University's School of General Studies. A four-year degree course is offered. Training in forestry is also carried out at the Creswick School of Forestry in Victoria.

Conservatoria of music

There are conservatoria of music in five States. Those in Victoria and South Australia are attached to the Universities of Melbourne and Adelaide respectively. The New South Wales State Conservatorium, the Queensland State Conservatorium and the Tasmanian Conservatorium are controlled by the respective Departments of Education. All five conservatoria offer diploma courses for entry to which matriculation status is not required; at Melbourne and Adelaide degree courses are also available to matriculated students.

The Canberra School of Music was established in July 1965. It is administered by the Department of the Interior.

Service and administrative colleges

Each of the three armed services maintains institutions for the training of officers. Descriptions of these can be found in the chapter Defence. The Royal Military College, Duntroon, Australian Capital Territory, has arrangements with universities whereby its graduates may enter university courses at an advanced stage. The Royal Air Force Academy, Point Cook, Victoria, has evolved from the Royal Australian Air Force College, which was established in 1948 as a tertiary training centre to provide a professional education for permanent officers of the Air Force. It is affiliated to the University of Melbourne and has adopted that University's Bachelor of Science course leading to the degree of Bachelor of Science (Melbourne). The Academy is also permitted to present students for higher degrees in science and the degree of Doctor of Philosophy. Students may also proceed to the University of Sydney to take a degree in Engineering.

The Australian School of Pacific Administration, controlled by the Department of Territories, trains students in the various aspects of service and administration in Commonwealth Territories, including teaching.

Australian Administrative Staff College

Opened in 1957, the Australian Administrative Staff College is a private organization working in close co-operation with government and other public bodies, the armed services and the trade union movement. It was founded, and is owned, by a large group of leading Australian companies and has its permanent premises at Mount Eliza, near Melbourne. The College conducts residential courses for administrators to further the study of the problems which arise in managerial work.

Commonwealth activities in education

Fields of activity

Although education is primarily the responsibility of the States, the Commonwealth has instituted a number of measures of direct assistance to educational institutions and to students. It is responsible for public education in its own Territories and is engaged in educational activities incidental to its responsibilities in such areas as defence, external relations, immigration, and social services. Activities of the Commonwealth in education are not administered by a single authority but are divided among a number of departments and instrumentalities. Education in Commonwealth Territories is described in the chapter The Territories of Australia; various schools and colleges for the defence services are treated in the chapter Defence; and other activities which may be considered broadly as educational are described in the section on Broadcasting and Television and elsewhere in the chapter Transport and Communication.

Education Division, Prime Minister's Department

The major responsibilities of the Commonwealth in support of education services in Australia rest with the Minister-in-charge of Commonwealth Activities in Education and Research. He is assisted by the Education Division of the Prime Minister's Department which, under the Minister's direction, is concerned with Commonwealth policy in education and support of research and with Commonwealth-State relations in this field, including, in particular, grants for universities, colleges of advanced education, technical training facilities, and science laboratories; special grants for research projects; and the various Commonwealth Scholarship schemes.

Commonwealth Office of Education

The Commonwealth Office of Education, whose officers are members of the Education Division, Prime Minister's Department, was set up under the *Education Act* 1945 to provide advice to the Commonwealth Government on educational matters and to serve as a channel for liaison between Commonwealth and State educational authorities. Among its major commitments are those which arise from international relations in education, including the association of Australia with the aims and activities of the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the planning and supervision of training for overseas students given awards by the Australian Government to attend Australian universities and similar institutions. The Office acts as the administering authority for Australian participation in the Scheme of Commonwealth Co-operation in Education and concerns itself with the techniques of teaching English as a second language in connection with the assimilation of immigrants and tuition for sponsored foreign students.

Commonwealth Scholarships Board

This Board under its former title of the Universities Commission was also established by the *Education Act* 1945. Prior to 1945 the Commission had functioned under wartime National Security Regulations. The Board consists of a chairman, who is the Director of the Office of Education, and four other members. The main responsibilities of the Board at present are advising the Government on the policy and administration of Commonwealth University and Commonwealth Advanced Education scholarships and Commonwealth Post-graduate Awards. The Board

is responsible for arranging and supervising the training of ex-service personnel and war widows at university and university type institutions under the Korea and Malaya Training Scheme and the Disabled Members' and Widows' Training Scheme. It was also responsible for arranging and supervising training under the Commonwealth Reconstruction Training Scheme until its completion at the end of 1961.

Advisory bodies

The Commonwealth Government has established various advisory bodies whose fields of concern relate to matters of education. Already mentioned (pages 610-11) is the Australian Universities Commission which advises the Commonwealth Government on university development. The Commonwealth Advisory Committee on Advanced Education advises the Minister on the balanced development of tertiary education outside universities. Within financial limits nominated by the Minister, the Committee recommends grants to the States for colleges of advanced education and directs grants to any such colleges established by the Commonwealth. The Australian Research Grants Committee advises the Minister on the merit of applications for research grants from individuals and research teams, and suggests the allocation of funds. The Queen Elizabeth II Fellowships Committee advises the Minister on the merit of applicants for these Fellowships, which are awarded for post-doctoral study in the physical and biological sciences, and advises generally on the administration of this scheme of Fellowships.

Assistance to students

The Commonwealth Government provides financial assistance to students who are undergoing tertiary training through a number of scholarship schemes, all of which are administered by the Commonwealth Scholarships Board. The most extensive of these is the Commonwealth University Scholarship Scheme, under which 6,000 scholarships are offered annually to undergraduates at universities.

The majority of the undergraduate scholarships are open entrance awards allocated among the States on a population basis and awarded competitively on the results of examinations accepted for matriculation in each State. In addition, 1,530 later year awards are available to students who have completed one or more years of a course, and mature age awards are available to older persons in the twenty-five to thirty years age group. All successful applicants have their fees paid. Scholarship holders may also be paid a living allowance subject to a means test. As from 1 January 1965 the maximum rates of allowance have been £396 10s. (\$793) per annum for a scholar living away from home and £260 (\$520) per annum when living at home.

At 30 June 1964, 18,464 Commonwealth scholars were enrolled in undergraduate courses. These included 5,610 new award holders. Up to the end of 1964, 24,368 scholars had completed undergraduate courses under the scheme. In addition to these awards the Commonwealth Government provides up to 1,000 scholarships each year for students taking approved courses of advanced education at institutions other than universities. Benefits are as for Commonwealth University Scholarships.

In 1959 a scheme of Commonwealth post-graduate awards tenable at Australian universities was introduced under which 100 awards were made available each year. The benefits comprise a living allowance without means test, and payment of university fees. The possible number of post-graduate awards was increased to 225 from 1963 and to 400 from 1965. The Commonwealth Government contribution towards the stipend in respect of each award was raised to \$1,800 per annum from 1 January 1964. Awards may be renewed annually up to a maximum period of four years; in 1965, 621 students were holding awards.

When training under the Commonwealth Reconstruction Training Scheme was completed at the end of 1961, a total of 21,424 students had completed training. At the end of 1965 twenty-three students were in training under the Korea and Malaya Training Scheme and the Disabled Members' and Widows' Training Scheme, seven of them following full-time courses.

The Commonwealth schemes of secondary and technical scholarships are referred to on page 596.

International relations

The Commonwealth has been actively involved in the considerable extension which has recently taken place in relations and exchanges with other countries in the field of education. A significant encouragement to this growth has been membership in UNESCO, to which Australia has belonged since 1946 when the organization was founded.

Twelve specialist UNESCO committees in Australia are responsible for a wide and varied programme of activities and have helped to make Australia's contribution to many international conferences and seminars highly effective. The Committees' projects include the organization of Australian and regional seminars, information programmes, and the preparation and circulation of travelling exhibitions which deal with subjects forming part of UNESCO's programme. The Australian National Advisory Committee for UNESCO co-ordinates the work of the specialist committees and advises the Commonwealth Government on Australian participation in UNESCO.

With the co-operation of educational institutions, State Education Departments and other bodies, the Commonwealth has accepted increasing commitments in schemes of international assistance and co-operation. The Colombo Plan Technical Co-operation Scheme, the United Nations Expanded Programme of Technical Assistance, the Australian International Awards Scheme, the Australian South Pacific Technical Assistance Programme, and the Special Commonwealth African Assistance Plan are some of the programmes through which the Commonwealth Government is providing training for oversea students in Australia and is sending Australian experts and equipment to many of the newly developing countries, especially in Asia and Africa. Australia is also actively sharing with other Commonwealth countries in the Scheme of Commonwealth Co-operation in Education which includes the Commonwealth Scholarship and Fellowship Plan. There were some 1,700 sponsored foreign students in Australian educational institutions in 1965, compared with about 800 in 1956. Over three-quarters of these were Colombo Plan trainees, most of whom were studying in various fields of engineering, science, medicine, education and economics.

In 1964, by agreement between the United States and Australian Governments, the Australian-American Educational Foundation, financed jointly by the two Governments, was established to operate a scheme of educational exchanges between the United States and Australia. This new scheme has similar aims and purposes to the Fulbright Scheme which it replaces and which had operated wholly on American funds.

Support is given to Australian participation in many international governmental and non-governmental organizations. For example, Australian educationists have attended yearly meetings of the International Bureau of Education, and regular contributions are made to the Bureau's international surveys into various aspects of education. Assistance has been given to bodies such as the Australian Teachers' Federation in sending delegates to meetings of the World Confederation of Organizations of the Teaching Profession.

Grants for other educational purposes

The Commonwealth gives assistance to various educational schemes and institutions. Grants are made each year by the Commonwealth to the Australian Pre-school Association for the development of kindergarten education, to the Commonwealth National Fitness Council, to the Australian Council for Educational Research, to the Department of Adult Education at the University of Sydney for the publication of the *Current Affairs Bulletin*, and to assist in the provision of training in occupational therapy, physiotherapy, and nursing. The cost of the Departments of Indonesian and Malayan Studies at the University of Melbourne and the University of Sydney is also met by the Commonwealth Government.

Migrant education

The Commonwealth Government's post-war immigration policy has brought to Australia a large number of immigrants with little or no knowledge of English. To assist the assimilation of these newcomers into the Australian community, a system of migrant education has been developed to teach them English and to give them information about Australia. This service is provided free of charge to immigrants above school leaving age.

Before arriving in Australia migrants who do not speak English are given some instruction in English by shipboard education officers. Some may have attended classes in Europe organized by the Inter-governmental Committee for European Migration, with which the Australian Government co-operates. In Australia evening classes are arranged by State Education Departments wherever nine or more migrants in country areas, or twelve or more migrants in city areas, wish to learn English. There is also available through State Education Departments a free correspondence course in English. In addition, English lessons are broadcast regularly by the Australian Broadcasting Commission. The Commonwealth Office of Education provides technical advice on all aspects of migrant education and is responsible for the preparation of teaching materials, while responsibility for the overall supervision of the programme rests with the Department of Immigration, which also meets the costs.

In November 1965, 12,670 migrants were enrolled in classes and 6,986 were enrolled in radio and correspondence courses. Since the inception of the programme in 1948 approximately 500,000 migrants have been enrolled for English tuition.

Technical training by government departments

Although most needs of departments for trained staff are met by apprenticeship schemes and other technical college courses and by the universities, some departments provide training which is not available elsewhere. The most important field for which such training is provided is the training of telephone, telegraph, radio, and television technicians by the Postmaster-General's Department.

Adult education

The term 'adult education' as used in Australia refers mainly to non-vocational educational and cultural activities for adults. While the nature of the recognized adult education authorities varies from State to State, their major activities have many common features. Regular courses of lectures are organized on such topics as literature, music, drama, international affairs, languages, and crafts. Some authorities also organize discussion groups, festivals and summer schools, and provide special services for groups in remote areas. In 1960 an Australian Association of Adult Education was formed, and its first Annual Conference was held in Adelaide in 1961. The Association handles matters pertaining to adult education at a national level and arranges liaison with similar bodies in other countries.

One of the first bodies active in the field of adult education in Australia was the Workers' Educational Association, which formed associations in all States in 1913. Its aims are to bring the universities into closer relationship with the community in general and to provide for higher education in civic and cultural subjects. These associations have been superseded by Adult Education Boards or Councils set up by the State Governments in Victoria, Queensland and Tasmania, and by the University in Western Australia. In the other two States, New South Wales and South Australia, the associations continue to co-operate with the universities in their extension work and are given direct grants by the Governments concerned.

There are throughout Australia various other organizations which are active in the field of adult education. The New Education Fellowship, for example (see page 623), has since its inception in Australia been interested in adult education.

The organization of adult education and some of the activities in each State are described in the following pages.

New South Wales

The majority of State Government grants for adult education are allocated on the advice of the Adult Education Advisory Board. Grants are made to the University of Sydney (Department of Adult Education), the Worker's Educational Association, the University of New England (Department of University Extension), the Public Library of New South Wales (Adult Education Section), the Arts Council of Australia (New South Wales Division), and the New Education Fellowship.

University of Sydney. There were formerly two separate authorities concerned with adult education at the University of Sydney, the Extension Board and the Department of Tutorial classes. However, administrative amalgamation of the work of these two bodies took place in 1964 with the formation of a new Department of Adult Education. This new Department provides all the services previously supplied by the two bodies. The two earlier bodies, however, maintain their identities under the new organization. The work of the Department of Adult Education is carried out under the supervision of two Senate Committees, namely, the University Extension Board and the joint committee for Tutorial Classes.

The University Extension Board provides two forms of education—the extension of existing university education to the public in the form of lectures, or to graduates in the form of refresher courses: and the extension of academic education beyond the existing university curriculum by special courses or classes in subjects not provided by University Departments. The Joint Committee for Tutorial Classes works in conjunction with the Worker's Educational Association. Its activities include the provision of tutorial classes in a wide variety of subjects, discussion groups, and 'kits' to serve the needs of country districts and people who cannot be catered for by tutorial classes. It also publishes the fortnightly *Current Affairs Bulletin*.

University of New South Wales. The Division of Post graduate and Extension Studies was formed in 1961 and is largely financed by the Council of the University. Its major concern is to provide university courses of an academic nature through correspondence, radio and television. In addition, however, extension courses in the humanities, languages and child development are offered.

University of New England. The Department of University Extension at the University of New England brings university extension activities especially to the people of northern New South Wales and conducts lectures, discussions, courses, radio talks, and classes in arts and social sciences in towns throughout this region. Short residential courses are held on topics of interest to primary producers in the area. Vacation schools attract participants from many other areas as well.

Workers' Educational Association. In addition to co-operating with the University of Sydney Department of Adult Education, the Workers' Educational Association itself provides classes in a wide variety of fields. It publishes *The Australian Highway*, a bi-monthly journal of adult education, and maintains a property near Sydney where short residential schools are held through the year. The Association also organizes educational conferences and public lecture series at frequent intervals.

Public Library of New South Wales. The Public Library of New South Wales Adult Education section provides an adult education library service for all classes and groups conducted by the bodies mentioned above, with the exception of the University of New South Wales Division of Postgraduate and Extension Studies.

New South Wales Department of Education. The New South Wales Department of Education has established evening colleges consisting of classes held in school buildings and staffed largely by departmental teachers. Such colleges provide a wide range of educational, cultural and leisure activities for adolescents and adults, and at some there are facilities enabling adults to prepare for public examinations.

Arts Council of Australia. Adult education of a more informal kind is provided by the New South Wales Division of the Arts Council of Australia, which maintains a mobile theatre unit and organizes touring ballet, opera and drama companies to country towns.

Victoria

The Council of Adult Education is a government instrumentality established by the *Adult Education Act* 1946. Its aims are to stimulate adult education in Victoria and to encourage voluntary organizations and associations by giving them advice and assistance. Its activities include a variety of classes, usually lasting from ten to twenty weeks, on topics ranging from social studies, psychology, language and literature to crafts, music and drama. The general Summer School organized by the Council of Adult Education for many years, is no longer held. In its place four separate non-residential schools are held in the Melbourne area. The Council publishes a monthly newsletter *Group Affairs* and a quarterly journal *Adult Education*. Its group service assists, and provides programme material for, discussion groups formed by organizations and individuals throughout the State. An important development is the extension of the council's activities, including classes and discussion groups, to the prisons, as part of a general plan for penal reform in Victoria. Through its Community Arts Service the Council organizes tours by musicians and by theatrical and other companies to country towns which otherwise would have no opportunity of seeing such performances. The Council's income is derived mainly from a government grant, but also from student fees and Community Arts Service performances.

The University of Melbourne Extension Committee arranges free public lectures and organizes classes for matriculation students on points of interest in their studies.

The Victorian Education Department arranges classes in commercial subjects, arts and crafts, and shorthand and typing. Evening classes in leaving and matriculation subjects are also offered.

Queensland

The Queensland Board of Adult Education was constituted in 1944 and is responsible under the Minister for Education for the provision of adult education facilities throughout the State. Under the executive officer of the Board are seven district officers, one based in Brisbane and six in large country towns, who are responsible for organizing activities in country areas. The cost of the programme is borne by the State Government and admission to all courses is free. Activities include lectures, group meetings on a variety of topics, generally short-term but some extending over a full year, and film screenings. Library and film services are provided. A Public Lecture Committee established by the University of Queensland is responsible for organizing public lectures by local speakers and distinguished visitors to the University. Through the Institute of Modern Languages the University provides facilities for the study of modern languages by members of the general public.

The Queensland Division of the Arts Council of Australia sponsors and organizes lectures, film screenings, exhibitions, drama festivals, and professional performances.

South Australia

Since 1917 the University of Adelaide, through the Joint Committee for Tutorial Classes, has provided in the metropolitan area a series of tutorial classes, lecture classes and study circles on a wide range of subjects of cultural and current interest, in co-operation with the Workers' Educational Association of South Australia. In 1957 a Department of Adult Education was established in the University and a full-time Director appointed. A wide range of university extension courses and educational conferences, summer schools and seminars, including a number dealing with subjects at post-graduate level, are organized directly by the University. The Workers' Educational Association of South Australia, in addition, carries on an independent educational programme of classes, schools, exhibitions, and film festivals.

The State Education Department also arranges an extensive programme of educational activities for adults. In addition to classes in academic and craft subjects, the Department's Adult Education centres offer a wide range of leisure interests and cultural subjects.

The Arts Council of Australia (South Australian Division) organizes adult education activities in the liberal arts.

Western Australia

Adult education in Western Australia is organized by the Adult Education Board established in 1928 under the terms of the statutes of the University of Western Australia. The Board has a considerable degree of autonomy. Its executive officer is the Director of Adult Education. In the metropolitan area the Board conducts classes, refresher courses and short schools, conferences, seminars, and public lectures and maintains a library. The Board's country work operates mainly through a box library scheme for discussion groups. Lecture tours and week-end schools are held, and local adult education is encouraged through local committees. Metropolitan work and country work are drawn together in an annual summer school. The Board also operates a community arts service and arranges screenings of foreign films. Regional drama festivals and music festivals are arranged, culminating in the annual Festival of Perth, inaugurated and administered by the Board.

Tasmania

Some form of adult education has existed since the formation in 1913 of a Workers' Educational Association, which worked in conjunction with the University of Tasmania for a number of years. The Association received a grant through the university, which had a Director of Tutorial Classes. Later, the grant was paid direct to the Association by the Government, and the university's tutorial department ceased to exist. The Adult Education Board, established under the *Adult Education Act* 1948, organizes classes of ten weeks duration on a wide range of subjects. The Board sponsors special lectures, film screenings and art exhibitions, recitals of music, and dramatic performances in both city and country areas. Its income is derived from a State Government grant and from students' fees. The executive officer of the Board is the Director of Adult Education. Activities are organized on a regional basis by organizers based in Hobart, Launceston and three large country centres.

The Arts Council of Australia (Tasmanian Division), which works in close contact with the Adult Education Board, organizes exhibitions, concerts and public performances.

Australian Capital Territory

The School of General Studies of the Australian National University has organized classes and discussion groups through its Adult Education Department since 1959.

The Arts Council of Australia (A.C.T. Division) organizes cultural activities of general community interest.

Overseas students in Australian educational institutions

The development of closer ties in education between Australia and other countries and the demand for education in many countries in Asia, Africa and the Pacific have brought about a remarkable growth in the number of overseas students who come to Australia to further their education. Part of the growth and much of the awareness of the facilities available may be attributed directly to the schemes mentioned on pages 618-9. Since 1955, when there were about 3,500 overseas students in Australia, the number has increased to almost 13,000 in 1965. More than half attend institutions of higher education such as universities and technical colleges. Between 1955 and 1965 the numbers of foreign students in institutions of higher education have risen from about 1,800 to 7,200, most of whom came from Asian countries. Australian institutions have shown a readiness to accept overseas students, and in many cases special provisions have been made to suit their needs. Nevertheless, population growth and the demand for education, especially for higher education, within Australia have forced many institutions to restrict the admission of overseas students in common with Australian students.

Organizations associated with education

Australian Council for Educational Research

The Australian Council for Educational Research, a non-governmental body, is engaged on educational research in a wide variety of fields, ranging from tertiary to pre-school education. It conducts surveys and inquiries, makes grants to approved educational investigators, serves as a centre for disseminating educational information, provides training for research workers, and standardizes and distributes educational and psychological tests for use in Australia. Although this council is an autonomous body, the Commonwealth and State Governments give substantial financial support.

New Education Fellowship

The New Education Fellowship is a world organization of parents, educators and other citizens interested in the development of new educational practices. It was founded in London in 1915 and spread to Australia at the time of a regional conference held here in 1937. There are now sections in each State. Its Australia-wide journal *New Horizons in Education* is published twice a year. A major conference of the world organization was held in Australia in 1962, during which prominent educationists from Australia and overseas met in all States.

Australian College of Education

The Australian College of Education was formed in 1959. Its aim is to bring together leading teachers and administrators in every field of education, to raise the standard of the profession of education in Australia, to establish and proclaim fundamental educational values, and to recognize outstanding contributions to educational practice. Chapters of the College have been set up in all States, and several of the addresses and papers delivered at meetings of the College have been issued in published form.

Parent and citizen organizations

In Australia, where all government schools are administered by central departments, there is limited opportunity for local participation in education. Public interest is expressed through parents' committees or organizations of parents and other citizens interested in supporting their local school. The Education Acts of all States provide for the formation of groups of this type, whose aims are to promote an interest in the school by bringing parents and teaching staff together, to help provide supplementary teaching aids and recreation materials, to foster the regular attendance of children at school, and to help find accommodation for teachers. In several States the general maintenance of school buildings, equipment and grounds is a statutory responsibility of the parent groups, costs being covered by government grants. Lunch canteen services at local schools are maintained by groups in some States. Parent groups have established school children's insurance schemes, operated through State Government insurance offices or private insurance companies. These schemes cover accidents to children which occur between the time of leaving home for school and returning home by the usual direct route.

State-wide councils of federations of parents' groups are associated in a federal body, the Australian Council of School Organizations.

CULTURAL ACTIVITIES

Libraries

The Munn-Pitt report of 1935 greatly stimulated interest in libraries and librarianship throughout Australia. This is seen in the rapid development of libraries, the passing of legislation in all States to increase library services, and the establishment in 1937 of the Australian Institute of Librarians to improve the standard of librarianship. This body was reconstituted in 1949 as the Library Association of Australia and incorporated by Royal Charter in 1963, and its functions now include the promotion and improvement of libraries and library services. The Association conducts annual examinations in all States, for which students are prepared by courses of instruction. Formal library schools are conducted by the National Library of Australia, Canberra, the Library Board of New South Wales (held at Newcastle Public Library), and the State Library of Victoria, Melbourne. In 1960 the first library school to be attached to an Australian University was opened in the University of New South Wales, and the Royal Melbourne Institute of Technology set up a library school in 1963.

Commonwealth libraries

National Library of Australia. This Library grew directly from the Library of the Commonwealth Parliament established in Melbourne in 1901, the Committee of which soon afterwards announced its intention of developing a library patterned on the Library of Congress at Washington, U.S.A., capable of serving purposes beyond those essential to the Parliament itself, appropriate to a national library and on a national scale. This policy was steadily pursued, so that, in addition to its primary function of serving Parliament, it gradually became a central source of information for the Government and its departments and other agencies, and assumed increasing reference and bibliographical responsibilities in relation to scholarship and research in Australia and abroad. It was also influenced by the basic elements of the national library concept of the older countries of Europe: namely, that a national library is the proper place to collect the national literature systematically and to make it known and available for use, and that it is a place to which scholars may turn for what is most significant in the literature of other countries. For these growing extra-Parliamentary activities the Parliamentary Library Committee, in 1923, adopted the title of Commonwealth National Library.

In 1957 a committee appointed to examine the future control and functions of the Commonwealth National Library recommended its establishment as the National Library of Australia, separate from the Parliamentary Library, with wide functions and controlled by a board subject to a Minister; the transfer, as a separate agency to an appropriate department, of its Archives Division, which constituted the Commonwealth's agency for the custody and organization of departmental records of permanent value which need no longer be held within departmental offices; and that the Parliamentary Library be a separate library under separate Parliamentary control. Continuing co-operation, where possible, between the two libraries was also proposed.

Effect was given to these recommendations by the *National Library Act 1960*, which created the National Library of Australia as a body corporate under the control of a Council of nine members, of whom one is a Senator elected by the Senate, one a member of the House of Representatives elected by that House, and seven appointed by the Governor-General. Its functions are: to maintain and develop a national collection of library material, including a comprehensive collection relating to Australia and the Australian people; to make the national collection available to such persons and institutions in such manner and subject to such conditions as the Council determines with a view to its most advantageous use in the national interest; to make available such other services in relation to library matters and material, including bibliographical services, as the Council thinks fit, particularly for the purposes of the library of the Parliament, the Departments and authorities of the Commonwealth, and the Territories of the Commonwealth; and to co-operate in library matters (including the advancement of library science) with authorities or persons, whether in Australia or elsewhere.

The National Library comprehensively collects and preserves Australian books, periodicals, newspapers, government publications, pictures, prints, manuscripts, maps, moving picture films and sound recordings. It is assisted in this by the deposit provisions of the *Copyright Act 1912-1950* and has also been enriched by the acquisition of such notable collections as the Petherick collection of 16,500 items in 1911, the Cook manuscripts in 1923, the Cumpston collection on Public Health in Australia in 1936, the Mathews Ornithological collection in 1940, the Nan Kivell collection of 16,000 items of Australian and Pacific interest including original paintings, prints, manuscripts and printed material in 1959, the David Nichol Smith collection of 18th century English literature in 1962, the Clifford Family collection in 1964, and the Ferguson collection which is still under transfer. A feature of the Library's Australian work is the copying on microfilm, in association with the Public Library of New South Wales, of all important unique material overseas relating to Australia, including over three million pages in the Public Record Office in London. Compilation of a guide to collections of manuscripts relating to Australia began in 1964. The Library maintains a permanent exhibition of selected paintings, prints and other historical material from its collections. This exhibition is displayed in Parliament House, Canberra.

The Library publicizes Australian publications, both at home and abroad, through select lists which include *Australian Books* (annual) and *Australian Public Affairs Information Service* which is a subject index to current literature (monthly with an annual cumulation), and by collections of Australian books maintained by it at all posts at which Australia is officially represented abroad. In London and New York the National Library maintains and staffs Australian Reference Libraries supervised by its own Liaison Officers in those centres. In the discharge of its wider bibliographical responsibilities, the library publishes the *Australian National Bibliography* (monthly with an annual cumulation), which lists books, pamphlets, maps, prints, sheet music, government publications, the first issue of each new periodical or newspaper, and moving picture films produced in or relating to Australia. Commonwealth and State official documents, both monographic and serial, are listed in *Australian Government Publications* (annual). The Library is also building up union catalogues of serials in the social sciences and humanities, and of monographs in Australian libraries. A revised loose-leaf edition of *Serials in Australian Libraries: Social Sciences and Humanities*, of which the letters A-E have been issued since 1964, will progressively supersede the interim edition published in two volumes in 1963.

In 1956 the Australian Bibliographical Centre was established within the National Library to serve as the secretariat of the Australian Advisory Council on Bibliographical Services. The Council, made up of representatives of the National Library, State libraries and library boards, the Commonwealth Scientific and Industrial Research Organization, each of the universities, and the Library Association of Australia, plans the further development and co-ordination of bibliographical services and co-operates with UNESCO and its committees. The Centre organizes bibliographical projects recommended by the Council and operates as a centre for bibliographical information in Australia and overseas. It has published a *Union List of Newspapers in Australian Libraries: Part 1: Newspapers published outside Australia* (1959); and *Part 2: Newspapers published in Australia* (1960). Both were supplemented in 1964. *Resources of Australian Libraries*, a summary report of a survey conducted for the Council in 1961 by Maurice F. Tauber, was published in 1963.

The Library acts as a central library of documentary and educational films, its film collection containing approximately 8,000 titles, together with Australian historical films and a great number of film strips. It published *Australian Films: a Catalogue of Scientific, Educational and*

Cultural Films, 1940-58 in 1959 and annual supplements in succeeding years. A revised edition of the *Catalogue of 16-mm. Films*, which lists all films available for loan, was published in 1960. It was supplemented in 1964 and annual accession lists are issued. Special efforts are made to discover and preserve samples of early Australian film production.

Through its Extension Services Section the Library conducts the Canberra Public Library Service for residents of the Australian Capital Territory, to whom 702,931 books were lent during 1964-65. It also assists in the provision of similar services in the Northern Territory, the Territory of Papua and New Guinea, and Norfolk Island.

The National Library's collections contain approximately 810,000 volumes, 26,000 paintings, pictures and prints, 15,000 reels of microfilm, 1,000 running feet of manuscripts, 25,000 motion picture stills, 14,800 reels of moving picture films, 135,000 maps, and 400,000 aerial photographs. Special features of the book collection are its strong holdings of Australiana, materials relating to the Pacific area and east and south-east Asia, the publications of foreign governments and international organizations, and works in the social sciences, particularly in political theory and economics.

Patent Office Library. The Library of the Commonwealth Patent Office, Canberra, contains approximately 10,650 books and a wide variety of periodicals and other literature relating to pure and applied science, industrial technology and the industrial property (patent, trade mark, design and copyright) laws and practice of most countries. Patent specifications of inventions are received from the principal countries of the world; present holdings are more than 9,500,000. Indexes include a microfilm of a classified index to 3,000,000 U.S.A. patents and translations of abstracts of U.S.S.R. patents.

Commonwealth Archives Office. In 1943, following a report by an Inter-departmental Committee, the Prime Minister directed the formation of a War Archives Committee to arrange for the preservation of war records. This Committee recognized that war archives could not be separated from peace-time archives, and in 1946 the name was changed to the Commonwealth Archives Committee. In 1952 the National Library became the sole Archival Authority for the Commonwealth, and the Chief Archives Officer became the Executive Officer for the Committee. In March 1961, in accordance with a recommendation of the National Library Inquiry Committee, the Archives Division of the National Library was reconstituted as the Commonwealth Archives Office within the Prime Minister's Department. The Archives Office is primarily a central agency for the control of those records created by the Commonwealth Government which are no longer required for frequent use in the day-to-day business of government. This function is carried out through the following three basic activities.

Control of destruction. No Commonwealth records may be destroyed without the concurrence of the Chief Archivist whose responsibility it is to safeguard reference interests other than those of the department which compiled the records. This concurrence is given as far as practicable through continuing disposal authorities which enable Commonwealth departments to destroy certain routine classes of records automatically, but records not covered by such continuing authorities are checked before destruction is authorized.

Provision of accommodation. Any records which are no longer in active use but which are considered, either by the originating department or by the Archives Office, to warrant preservation, either permanently or for a further period, may be transferred to an archives repository. While in archival custody they are arranged and described so that the best use can be made of them.

Provision of information. Records in the custody of the Archives Office are available for use by the depositing and other departments of the Commonwealth Public Service. The Office also provides departments with a service for the provision of information from the records in its custody.

As a complementary function the Office also provides a service to persons engaged in academic and other forms of research. The headquarters of the Commonwealth Archives Office is in Canberra and there are branches in Sydney, Melbourne, Brisbane, Adelaide, and Perth.

Commonwealth Scientific and Industrial Research Organization. The library holdings of the Organization cover the pure and applied sciences. In addition to the Central Library in East Melbourne, each of the Divisions and Sections has a specialized collection covering such subjects as food preservation, forest products, chemistry, physics, animal health, and fisheries. The collections are particularly strong in the publication of oversea scientific and technical research institutions, with many of which extensive exchange arrangements have been made.

The Central library maintains a union catalogue of the holdings of all C.S.I.R.O. libraries and is responsible for the following publications: *Scientific Serials in Australian Libraries: Australian Science Index*, an index of articles published in Australian scientific and technical periodicals; a Directory of Scientific and Technical Research Centres in Australia; and *C.S.I.R.O. Abstracts*, which include abstracts of papers published by C.S.I.R.O. officers,

C.S.I.R.O. translations, translations available from other Australian organizations, and additions to the British Commonwealth Index of Scientific Translations. The larger libraries in the Organization have photocopying facilities which, while normally for internal use, provide a service for the public when a publication is not held elsewhere in Australia.

The Australian War Memorial Library. In the War Memorial library are housed the documentary and pictorial records of Australia's fighting services in the 1914-18 and 1939-45 Wars, together with collections covering the war in Korea, 1950-53, and earlier wars in which Australian troops participated—Sudan, 1885; South Africa, 1899-1902; and the Boxer Rebellion in China, 1900-01. Books, periodicals and other records covering contemporary trends and events in the fields of military history and military science are constantly being added.

The printed records section contains approximately 70,000 volumes, a large collection of military maps, newscuttings and newspapers, sound recordings of war leaders, personalities and events, war posters, and postage stamps. Many personal collections by distinguished soldiers and historical documents relating to the wars have also been placed in the Memorial's custody for preservation. Written records comprise correspondence files of headquarters and units of both World Wars, and the original war diaries compiled from day to day by each unit during its service. The collection of official war photographs covering the 1914-18, 1939-45 and Korean Wars numbers over 250,000, and a collection of official motion picture film depicts Australia at war. Facilities for public research are not yet fully developed, but requests for information are met where practicable.

Other Commonwealth Government libraries. Most Commonwealth authorities have specialized collections in their own fields and in addition draw largely on the National Library.

Northern Territory Library Service. The Northern Territory Library Service maintains five centres in the Territory. At 30 June 1966 stocks totalled 52,371 volumes which were held at the following centres: Darwin, 24,035; Nightcliff, 3,829; Alice Springs, 16,298; Tennant Creek, 4,405; Katherine, 3,804.

State libraries

State Public Libraries (other than university *see* pages 630-2). In each of the capital cities, there is a well-equipped public library, the libraries in Melbourne and Sydney especially comparing very favourably with similar institutions elsewhere in the world. The following statement gives the number of volumes in the public library of each capital city at 30 June 1964. Later figures for some of the libraries and details of other library services in the States are given in the text relating to the respective States.

STATE PUBLIC LIBRARIES, 30 JUNE 1964

Library	Number of volumes in—		
	Reference branch	Ordinary lending branch	Country lending branch
Public Library of New South Wales	(a) 662,578	..	(b) 110,987
State Library of Victoria . . .	830,000	135,000	48,000
Public Library of Queensland . . .	173,663	..	78,802
Public Library of South Australia . .	220,558	(c) 92,960	220,660
State Library of Western Australia (d)	211,059	..	..
State Library of Tasmania . . .	96,355	(e) 210,283	172,950

(a) Includes 186,415 volumes in the Mitchell Library and 20,519 volumes in the Dixon Library. (b) Includes 1,941 volumes in the model school library. (c) Includes 34,178 volumes in the children's branch and 14,254 volumes in the youth lending branch. (d) The State Library is the reference division of the Library Board of Western Australia. (e) Includes 155,549 volumes in the children's branch.

New South Wales. The Free Library Movement in New South Wales, founded for the establishment of a system of public libraries on the basis suggested in the Munn-Pitt Report of 1935, helped to pave the way for the Library Act, 1939-1959, which was fully proclaimed as from 1 January 1944. At 30 June 1965, 168 councils had established libraries in terms of the Library Act. During 1965 they spent on their libraries \$3,536,582, including \$967,778 received in subsidy.

There are 225 libraries, of which sixty-six are in the metropolitan area and 159 in the country. There are also twenty-one bookmobiles, of which two are in Sydney, seven in the suburbs of Sydney and twelve in country municipalities and shires. These libraries contain 3,066,124 volumes.

New South Wales departmental libraries are staffed by officers attached for duty from the State Library, which also provides a central cataloguing service for municipal and shire libraries constituted under the 1939-1959 Act. The State Library maintains an adult education section servicing adult education activities for the universities of Sydney and New England and the Workers' Educational Association.

The Circulation Department forwards books on loan to country State schools, to municipal and shire libraries, and to individual borrowers. During 1964-65, 83,849 books were lent to small State schools, 3,637 to public libraries and institutions, many of them in country areas, and 32,749 to individual borrowers.

The State Library, known as the Public Library of New South Wales, includes a general reference department of 494,886 volumes, together with the Shakespeare Tercentenary Memorial Library and the Mitchell and Dixon Libraries and Galleries which are mainly devoted to Australian and Pacific material. The Mitchell Library, with more than 60,000 volumes and pamphlets and 300 paintings, was bequeathed to the trustees of the Public Library in 1907 by Mr. D. S. Mitchell, together with an endowment of \$140,000. In 1965 there were 207,550 volumes in the library, in addition to valuable manuscripts, maps and other material. In 1929 Sir William Dixon gave a collection of historical pictures then valued at \$50,000. These were subsequently added to and at his death in 1952 Sir William bequeathed the whole of his collection of books, manuscripts, pictures and other material, together with an endowment of more than \$226,000, mainly for the printing or reprinting of historical documents relating to Australia and the Pacific. The total number of volumes in the State Library now exceeds 832,000, apart from manuscripts, historical pictures and other material. The maintenance and control of the ordinary lending branch of the Public Library were transferred in 1908 to the Sydney Municipal Council to become the City of Sydney Public Library. The State Library, which had previously been the repository for State archives, transferred this responsibility to an Archives Authority in June 1961. The Authority consists of nine members, of whom the Trustees of the Public Library have a right to nominate one.

Other important libraries in New South Wales are: Teachers' Colleges, 280,022 volumes; the City of Sydney Public Library, 252,237; Railway Institute, 170,475; Technical Education Branch, 168,436; Australian Museum, 34,748; Government Transport Institute, 32,727; New South Wales Teachers' Federation Library, 22,500; Workers' Educational Association, 15,000; and the Library at the National Herbarium, 10,430 volumes. At 30 June 1964 the Parliamentary Library contained 149,500 volumes.

Victoria. Until the establishment of the Free Library Service Board in 1947 the only public library facilities available in Victoria (apart from those of the Public Library and one or two Metropolitan municipal libraries) were those offered by about 200 Mechanics' Institute Libraries situated in country areas all over the State. The Board's policy has been to replace these services with modern public libraries controlled by local Municipal Councils and subsidized by the Board. Since the Board's inception 112 municipalities have established libraries. Of these, twenty-seven are in the city and eighty-five in the country. An amount of \$854,000 was paid to the Councils in library subsidy for the year 1964-65 and \$1,648,000 was expended in municipal library services for the same year. More than 1,700,000 books are available to the communities in which libraries are established.

A feature of the services provided in the country is the number of co-operative or regional library groups now being developed. These services, of which there are eighteen comprising a total of seventy-two councils, consist of groups of councils which pool their financial resources, book-stocks and trained staff, in order to provide more comprehensive, efficient library facilities. Approximately 140 Mechanics' Institute Libraries are still in existence in country areas. In 1964-65 forty-five of them shared a grant of \$4,000.

The State Library of Victoria was established in 1856. It is controlled by a board of seven trustees and receives its finance from the State Government. The reference collections now total about 830,000 volumes, and the lending and travelling libraries have another 183,000 volumes. In addition, the library files 3,000 current periodicals, about 2,000 government publications from Australia and overseas, and 500 newspapers, in all about 50,000 volumes. Special collections include the J. K. Moir Collection of Australiana, the M. V. Anderson Chess Collection and the Green and Brodie Shipping Collections. The Victorian Historical Collection contains nearly 20,000 pictures, drawings, prints and objects of historical interest. The Archives Division is responsible for the preservation of government records. Under the *Library Council of Victoria Act* 1965 the administration of both the State Library of Victoria and of the Free Library Service Board will be merged under a nine-member council. The library system will be reorganized into

three divisions, namely the State Library Division, the Public Records Division (at present the archives division of the State Library), and the Extension and Circulation Division. The functions previously carried out by the Free Library Service Board will be carried out by this latter division.

Queensland. The Library Board of Queensland was established in 1945 under the provisions of 'The Libraries Act of 1943'. Its duty is to attain the fullest co-operation and improvement of the library facilities of the State, with the object of placing such facilities on a sound basis for the benefit and educational improvement of the citizens generally. The Board consists of eight members including the State Librarian as *ex officio* member and secretary. A general function of the Board is to ensure that the fullest co-operation exists with the Department of Education, the University of Queensland, local bodies, and other bodies having for their object the encouragement of education, literature and the arts and sciences. A specific function of the Board is the control and management of the Public Library of Queensland. Its policy is to build up the main collection of the Library as the State's reference centre.

The Country Extension Service, which is administered as a department of the Public Library, lends books of non-fiction free to adults and children residing outside the metropolitan area and to municipal libraries in areas of low population.

The Oxley Memorial Library, established in 1923, has been administered as a department of the Public Library since 1946 and the collection has been kept separate. It contains books, manuscripts, pamphlets and other graphic material relating to the history and literature of Australia, and of Queensland in particular, and provides facilities for research students in Queensland literature and history.

In 1958 the section of the Libraries Act dealing with the preservation of public records was proclaimed, and in 1959 an Archives Section of the Public Library was instituted and an archivist appointed.

The Library Board staffs the libraries of the Teachers' Colleges as well as the libraries of nine government departments, of which the largest is the Department of Primary Industries. The work is co-ordinated by an officer-in-charge, who also gives assistance and advice when required to independently staffed departmental libraries.

Since 1948 a course in librarianship has been held annually at the Public Library for the purpose of preparing trainees for the examinations of the Library Association of Australia, up to 1961 for its Preliminary Examination, from 1962 for subjects 1 to 3 of its re-organized Registration Examination. In 1959 a course covering some compulsory subjects of the Association's Registration Examination was inaugurated at the Central Technical College, Brisbane.

The holdings of the Public Library of Queensland and its extension services in 1964-65 were: main reference collection, 162,999 volumes and 9,507 maps and pamphlets; Country Extension Service, 84,227 volumes; Oxley Memorial Library, 23,681 volumes and 19,692 maps, pamphlets and miscellaneous items.

Local authorities are empowered by the Libraries Act to establish and conduct library services as a function of local government. The Board encourages local authorities to use these powers. In 1964-65 seventy-three local authorities were conducting 117 library services. The Brisbane City Council has established fifteen of these libraries. There were 100 libraries in Queensland free to adults. To help overcome the problems of a large area and sparse population, various local authorities provide library services on a regional basis. By 30 June 1965 four regional library services had been established: the South Western (seven shires), the Central Western (eight shires), the North Western (ten shires), and the Central Highlands (five shires), with head-quarters at Charleville, Barcardine, Mt. Isa and Emerald respectively. Other regional services are being planned. During 1964-65 the Board received a grant of \$494,330 from consolidated revenue to finance the activities of the Public Library and to pay subsidies to local bodies of 50 per cent of endowable expenditure on books and the acquisition or improvement of library buildings and equipment. Subsidies were paid to four regional library service boards, fifty-three local authorities and thirty-seven other bodies.

The library of the Parliament of Queensland was established in 1860. At 30 June 1965 the library held 93,867 books and pamphlets, consisting of official publications and books devoted largely to history, the social sciences, biography and literature.

'The Libraries Act Amendment Act of 1949' provides for the Public Library and the Parliamentary Library each to receive a copy of all books, pamphlets, maps, and other printed material published in Queensland.

South Australia. In the reference department of the Public Library of South Australia there are about 227,600 volumes, most of which may be borrowed. Over 4,000 periodicals are filed and the collection of newspapers includes every newspaper printed in South Australia. There

are 46,200 volumes in the lending department available to persons living in the metropolitan area and the country lending service has 262,000 volumes, of which more than one-third are suitable for children. The library has an active programme for the publishing of facsimile editions of early Australian texts.

The Research Service specializes in scientific and technical inquiries and supplements the resources of the Public Library by borrowing from other libraries and by obtaining microfilm copies of material not available locally. It has an extensive collection of trade catalogues.

The library of the Parliament of South Australia held approximately 65,000 volumes at 31 December 1965.

There are twenty-two local public libraries in South Australia provided by fourteen local government authorities. The libraries are subsidized on a \$1 for \$1 basis by the State Government. The Libraries Board of South Australia, through the Public Library of South Australia, provides various central services. Book-stocks are pooled in the Public Library of South Australia and are interchanged between the libraries.

At the end of June 1965 these local public libraries contained 145,800 books. There were 93,856 registered borrowers. During 1964-65, 1,444,170 books were lent.

Western Australia. In 1955 the Library Board of Western Australia was made responsible for all public library services throughout the State to which the State Government contributes funds. The Board has the following major functions: to encourage local authorities throughout the State to establish public libraries and to provide as a State subsidy all books and bibliographical services necessary for such libraries when established; to administer the State Library; to advise the Government on all matters relating to libraries; and to provide for the training of librarians.

Local public libraries are subsidized on a \$1 for \$1 basis, the local authority providing accommodation and staffing, and the Board all books and related services. The Board provides at least one volume per head of the population. All non-fiction books may be made available at any public library throughout the State on request to the Board. All cataloguing is done by the Board. The first library under this scheme was opened in August 1954. By 31 December 1965 eighty-one libraries had been established.

The State Library, established in 1887, is the reference division of the Library and Information Service of Western Australia. In addition to providing the normal facilities of a reference library for the metropolitan area, it extends its service throughout the State through local public libraries. It is divided into four subject departments as follows: J. S. Battye Library of West Australian History; Library of Business, Science and Technology; Library of Social Sciences, Philosophy and Religion; and Library of Literature and the Arts.

The State Bibliographical Centre and the Central Music Library are housed in the State Library building and there is also a commercial information centre. The State archives are maintained by the State Library and managed by the staff of the Battye Library. The State Library is fully equipped with microfilm and photocopy apparatus.

The book-stock of the Board at 30 June 1965 was: 681,628 volumes comprising lending library services (including books in public libraries), 454,466 volumes; State Library, 216,700 bound volumes; Central Music Library, 2,561 books on music and 7,901 scores.

The University of Western Australia, through its Adult Education Board, manages the Adult Education Library of some 17,000 volumes of general reading and fiction. Books are sent to country readers each month.

There are some 100 special libraries in government departments and industrial firms. Union catalogues of periodicals and books received in the libraries in Western Australia are maintained by the Library Board of Western Australia in the Bibliographical Centre in the State Library building.

Tasmania. The Tasmanian Library Board, constituted in 1944, is responsible for administering the State Library headquarters in Hobart, for the extension of library services throughout the State, for the control of State aid to libraries and for the State archives. The first stage of a new State Library headquarters building in Hobart was completed in 1962. The State Government provided \$435,040 towards the cost of library services in 1964-65.

Municipal libraries are assisted with the purchase of books and participate in a book exchange scheme. In 1965 forty-five municipalities took part in the service, leaving only four outside the scheme. In Hobart the Board operates the Hobart Lending Library on behalf of the City Council. Two bookmobiles operate in Hobart and country districts, catering for areas without library premises, for children, old people's homes, etc.

The Board also operates a Reference Library in Hobart from which reference services are available to people throughout the State. There is also a documentary film library and a recorded music library. The Board arranges screenings of documentary films, recitals of recorded music, lectures, library weeks in country centres, puppetry demonstrations, etc.

The Parliamentary Library works in close collaboration with the State Library, which provides a reference officer to serve members during sessions.

University libraries

These libraries provide material not only for the education of graduates and undergraduates, but also for research workers and practical investigators all over the continent. Much of the material they contain is not available elsewhere, for although in most cases smaller, they are in many directions more highly specialized than the public libraries. They lend to one another and to State and private institutions as well as to individual investigators. Each of them is governed by a librarian, who is responsible as a rule to an executive sub-committee and a committee which is practically co-extensive with the professorial staff.

The following table shows the volumes held, accessions during the year, and expenditure of the Australian university libraries.

UNIVERSITY LIBRARIES, 1965

University	Volumes	Accessions during year	Expenditure (a)
			\$'000
Australian National	363,937	34,723	482
Sydney	922,176	52,224	664
New South Wales	274,208	41,067	615
New England	193,717	18,765	234
Newcastle	92,813	12,602	(b)
Melbourne	421,207	31,365	579
Monash	195,000	35,000	615
Queensland	379,276	42,676	438
Adelaide	383,213	29,199	603
Flinders	51,157	25,443	(c)
Western Australia	260,479	13,148	300
Tasmania	139,119	8,821	134
Total	3,676,302	345,033	4,664

(a) 1964. (b) Included with University of New South Wales. (c) Included with University of Adelaide.

Australian National University. This library consists of two main collections; the former Australian National University Library, founded in 1948, which serves primarily the Institute of Advanced Studies, and the former Canberra University College Library, founded in 1938, which serves primarily the School of General Studies. At the end of 1965 the stock included 70,600 volumes in oriental languages. The collection serving the Institute of Advanced Studies (198,600 volumes) specializes in the fields of the physical and medical sciences, excluding clinical works. The R. G. Menzies Building of the University Library, which was opened by Queen Elizabeth in March 1963, houses the administrative, cataloguing, etc., departments serving the whole university as well as certain research collections of the Institute of Advanced Studies. In the social sciences the library endeavours to provide a good working collection while giving consideration to the holdings of the Commonwealth National Library. It possesses significant collections in anthropology, linguistics, mathematics, and mathematical statistics. The collection serving the School of General Studies (114,800 volumes) has been built up to meet the needs primarily of undergraduates studying arts, economics, law, oriental studies, and science.

University of Sydney. The library consists of the central collection which is known as the Fisher Library, the Law Library, the Medical Branch Library, the Burkitt Library for pre-clinical medicine, and some fifty-two departmental libraries. The University Library, together with departmental libraries and associated libraries in the University grounds, holds a total of more than one million volumes.

The first books were acquired in 1851, and shortly afterwards the library of Sydney College was added. The collection of Nichol D. Stenhouse was acquired in 1878 as the gift of Thomas Walker. In 1885 Thomas Fisher bequeathed the sum of \$60,000, the income from which is used as a book fund. The Fisher Fund was matched in 1961 by establishment of the W. H. and Elizabeth M. Deane Library Fund. Perhaps the finest collection in extent and importance which has been given to the University is that of Sir Charles Nicholson. There have been numerous other benefactions, among which may be mentioned the library of Sir Francis Anderson, the W. H. Deane collection of books and manuscripts and the Dalley-Scarlett music library. In 1961 the University acquired the English literature collection of the late Hugh Macdonald, and the late Professor J. Stewart's library, an outstanding collection on archaeology and numismatics, was acquired in 1963. The Sydney University Library has an extensive collection of mediaeval manuscripts and early printed books.

University of New South Wales. The libraries in this university consist of the Central Library and a Bio-medical Library at Kensington. There is also a library at Wollongong University College. The Broadway campus is serviced by the Sydney Technical College Library, where about 20,000 books from the University's library are placed. Service to the university division at Broken Hill is also provided by the Department of Technical Education. In December 1965 the university had 283,321 volumes in its libraries and in Department of Technical Education libraries. This figure is less than the 1964 figure because it does not include volumes at the University of Newcastle which was then affiliated with this institution.

University of New England. The library was founded in 1938, when the New England University College was established. Sir William Dixon was its first benefactor. The library, which contains 135,000 bound volumes, is adding to its collection at the rate of 20,000 volumes a year. It receives about 3,500 current periodicals annually. It is housed in a three-storied, air-conditioned building, which also makes provision for a bindery and photographic and archives division. A further wing is to be built later to house a library of post-graduate and research volumes which, at present, are on the library's main shelves. The library has its own training officer and conducts formal courses in librarianship.

University of Melbourne. Early in 1854 the first allocation for books was made, but the library was housed in temporary quarters until 1959. The W. L. Baillieu Trust made available the first instalments of a \$200,000 gift for building purposes, which have been followed by subsequent gifts and substantial grants from the Commonwealth and State Governments, and a new building was occupied at the beginning of 1959, the first in the University to be designed specifically for library purposes. Since 1959 the use of the library has increased fourfold, and during the academic year admissions of readers to the building average 8,000 a day. The resources of the library are also used extensively on inter-library loan by industries and other organizations throughout Australia. The University Library, including thirteen branch libraries in various departments, is administered from the centrally situated Baillieu Library. The large medical branch library is specially rich in periodicals.

Monash University. The library started to acquire books in 1960 and subscribes to some 4,300 journals. It has been decided that the library organization will develop into four large units—the main library, a bio-medical library, a law library, and a library for the physical sciences and technology. The physical sciences and technology library has been named the Hargrave Library and was opened in December 1962. The main library, catering mainly for the humanities, was occupied in November 1963. The bio-medical library was occupied in 1966.

University of Queensland. The library was founded in 1911. The main library is in its own building in the University and there are a considerable number of departmental libraries. Among the more important possessions of the library are its large holdings of periodicals, its geology collection, and its material relating to the history, development and culture of the countries surrounding the Pacific Ocean. Tropical aspects of agriculture and veterinary science are also emphasized.

University of Adelaide. The main library is the Barr Smith Library which commemorates its first benefactor, Robert Barr Smith, who, with members of his family in and after 1892, gave the university over \$100,000 for the library. Seats are provided for 1,000 readers, including 270 in the main reading room. There are branch libraries for medicine, law and music. The South Australian branches of the Australian Medical Association, the Australian Physiotherapy Association and the Australian Dental Association make annual contributions towards the maintenance of the medical library in return for borrowing privileges for their members. The Waite Agricultural Research Institute has a separately administered library of about 20,000 publications in agriculture. Total holdings of the university libraries at the end of 1965 were 395,000 volumes. Some 13,500 serial titles are received.

University of Western Australia. The first full-time library staff was appointed in 1927. Provision for a permanent library building was not possible when the university moved to its present site, and space and facilities were inadequate for many years. A new four-storey building was completed at the end of 1963. The building provides facilities for microfilm readers, type-writing booths and photo-copying facilities. The University Library developed very slowly in the early years, but recently has been adding about 14,000 volumes a year to its stock. In addition to the main library there are a number of departmental libraries of which the more important are engineering, agriculture, pre-clinical, and law. There is also a medical library, in accommodation provided by the Royal Perth Hospital, for the use of the medical school.

University of Tasmania. Although this library was founded in 1893, a full-time librarian was appointed for the first time at the end of 1945. The library receives currently about 3,800 periodicals. The University Library also collects private and business archives and it has some important classical manuscripts as well as a collection of early printed books.

Children's libraries and school libraries

New South Wales. Children's libraries are being developed as departments of municipal and shire libraries. The Education Department maintains a school library service for the fostering of State school libraries, which are maintained partly by parents' and citizens' associations and partly by departmental subsidy. Secondary and central schools, and an increasing number of primary schools, have teacher librarians.

Victoria. Under the auspices of the Free Library Service Board 120 municipal children's libraries have been, or are being, established as part of the library services provided by the councils concerned. All these libraries provide comprehensive modern children's book collections which are constantly being augmented. An annual grant of \$10,000, which is additional to the ordinary annual municipal library grant, is provided to assist these libraries. In addition, twelve independently controlled children's libraries shared in this grant in 1965.

The Education Department is making provision for the building of library rooms in new schools. Where accommodation is available in existing schools, library furniture is provided free of cost to the schools and the Government subsidizes the purchase of books. In June 1965, 515 schools had central libraries. A scheme of circulating libraries for small schools, particularly in remote areas, has been operating for some years. One hundred and forty schools benefited from this scheme in 1965. Since that date the scheme has been varied and books are no longer circulated, but individual schools receive books on a non-circulatory basis. The Education Department has a library service officer with a small staff to advise and assist schools in the establishment and organization of libraries. A one-year course for the training of teacher-librarians was established at Melbourne Teachers' College in 1955. Approximately twenty-five teachers are trained each year.

Queensland. The Library Board of Queensland stresses to local bodies the importance of providing adequate library services for children. There are in Queensland 121 libraries free to children, of which thirteen are conducted by the Brisbane City Council. The children's libraries at Rockhampton, Toowoomba and Townsville are particularly active. Country children who are not catered for locally may borrow from the Country Extension Service which possesses a separate children's collection. The purchase of books for State school libraries in Queensland is financed by school committees and parents' associations, with a subsidy from the Department of Education on a \$1 for \$1 basis. Trainees at the Teachers' Colleges are instructed in school library organization and management.

South Australia. A children's library of 36,000 volumes is used by school classes and individual children living in the metropolitan area. In 1964-65, 234,800 books were lent. There is a large collection of historical children's books assembled for the use of research workers. In August 1957 a youth lending service was opened for young people from thirteen to eighteen years of age. It has a stock of 14,900 volumes.

Western Australia. The Education Department provides library services, issues of books and subsidies on library books to schools. The Library Services Branch of the Department provides advisory services to assist schools in all aspects of library organization and service. It also relieves schools of the professional and routine tasks of book preparation by providing a central cataloguing service for both new books and those previously uncatalogued in school libraries, a central processing service to cover books in plastic and prepare them for use, and a library book repair and binding service. Book selection in schools is assisted by a Model Library and by lists of recommended books.

The Teachers' Colleges provide courses in school library organization and service. At the Perth Technical College part-time courses are provided on the syllabus for the examinations of the Library Association of Australia and are attended by many school librarians. The proposed Western Australian Institute of Technology is planned to have a large library to serve students and staff. The Perth Technical College and technical schools are equipped with libraries, and an allocation of funds is provided annually to each school and college department for the purchase of books and periodicals. Books for technical schools other than Perth Technical College are centrally ordered, catalogued and processed by the Library Services Branch.

All high schools are provided with library accommodation and furniture. New high schools opened in 1965 and 1966 have been provided with a main library, reading room, private study room, and librarian's office. High school libraries are staffed by one or two trained teacher-librarians according to the size of the school. New high schools are issued with books to a value of \$1,000 in each of their first three years. All high schools receive annually an issue of books, as well as being entitled to a subsidy for the purchase of library books. A number of primary schools have organized school libraries in rooms which have become available, or in premises provided by the Parents' and Citizens' Associations. Annual issues of books are made to all primary schools, varying according to the size of the school, and a subsidy is provided for the purchase of library books. The Charles Hadley Travelling Library provides 400 boxes of books which are circulated to all small schools, mission schools and special classes. Children who are unable to attend school, mainly those in isolated areas, are provided with books from the Correspondence School's Library.

Tasmania. The Lady Clark Memorial Children's Libraries, with headquarters at the State Library, Hobart, aim at serving all children in Tasmania. At 30 June 1965, 163 children's libraries and depots had been established.

The Education Department provides library quarters in all high schools and in some of the larger primary schools. The purchase of books is financed by parents' associations and by departmental subsidies. Teacher-librarians are appointed in high schools. The Schools Library Service issues loan collections of books to schools and gives advice on the setting up of school libraries.

Special libraries

Before the 1939-45 War the number of special libraries, apart from those maintained by government departments, was small, but during recent years many manufacturing, commercial, research, and other firms, as well as statutory bodies, have found it necessary to establish special libraries to serve their staff. These libraries, which are most numerous in Sydney and Melbourne, are being increasingly administered by trained librarians.

Museums and art galleries

In 1964 an annual collection of statistics on a uniform basis was commenced from Australian museums and art galleries. So far, the collection is essentially exploratory and detailed statistics have not yet been compiled. The following paragraphs provide summarized results of the collection and refer individually to the more important museums and art galleries.

A museum or art gallery is considered to be a building, group of buildings or parts of buildings, managed as a unit and intended predominantly for the permanent display of objects of interest (museum) or objects of art (art galleries) to the general public. Institutions displaying live exhibits are excluded (the more important of these are mentioned on pages 638-9), as are buildings used for temporary displays (exhibitions, commercial galleries exhibiting only for sale) without a permanent stock of exhibits; permanent exhibitions which are ancillary to other activities, such as exhibits at council chambers, libraries, hotels, and other commercial enterprises providing services to tourists and sightseers; collections which are not readily accessible to the general public, such as university collections for the use of students and research workers; and historic homes, etc. not specifically intended for the permanent display of objects of interest (i.e. where the building itself and its normal fittings are essentially on display).

Museums and art galleries, 1965

The following table sets out summary information in respect of the institutions in Australia which have been identified in 1965 as museums and art galleries (branches of museums and art galleries are not shown separately).

MUSEUMS AND ART GALLERIES: SUMMARY, 1965
(Number)

	Major institutions			Other institutions			All institutions
	Museums	Art galleries	Mixed institutions	Museums	Art galleries	Mixed institutions	
States—							
New South Wales	3	1	..	3	2	1	10
Victoria	2	1	..	4	7	..	14
Queensland	1	1	..	..	3	..	5
South Australia	1	1	..	4	1	..	7
Western Australia	1	1	..	1	1	..	4
Tasmania . . . . .	..	..	2	..	..	..	2
Northern Territory . . . . .	..	..	..	1	..	..	1
Australian Capital Territory	1	..	1	..	..	..	2
Ownership—							
Commonwealth Government	1	..	1	..	..	..	2
State Governments	8	5	1	..	..	1	17
Municipal authorities . . . . .	..	..	1	5	7	..	13
Private trusts . . . . .	..	..	..	1	5	..	6
Universities . . . . .	..	..	..	2	1	..	3
Private . . . . .	..	..	..	3	1	..	4
Display area—							
Under 1,000 sq. ft. . . . .	..	..	..	2	1	..	3
1,000 and under 5,000 sq. ft. . . . .	..	..	..	9	10	..	19
5,000 and under 10,000 sq. ft.	1	2	1	2	2	1	9
10,000 and under 20,000 sq. ft.	1	..	..	..	1	..	2
20,000 sq. ft. and over	7	3	2	..	..	..	12
Estimated attendance during year—							
Under 10,000 . . . . .	..	..	..	8	6	..	14
10,000 and under 20,000 . . . . .	..	..	..	3	1	..	4
20,000 and under 50,000	1	..	..	2	5	..	8
50,000 and over	7	4	2	..	..	..	13
Not available	1	1	1	..	2	1	6
Staff—							
Under 5 . . . . .	..	..	..	9	10	..	19
5 to 9 . . . . .	..	..	..	4	4	..	9
10 to 19	1	2	2	..	..	..	5
20 and over	8	3	1	..	..	..	12
Expenditure—							
Under \$2,000 . . . . .	..	..	..	3	5	..	8
\$2,000 and \$10,000 . . . . .	..	..	..	5	3	..	8
\$10,000 and under \$20,000 . . . . .	..	..	..	..	2	..	2
\$20,000 and under \$100,000	2	3	3	1	3	..	12
\$100,000 and under \$200,000	3	1	..	..	..	..	4
\$200,000 and over	3	1	..	..	..	..	4
Not available	1	..	..	4	1	1	7
Total museums and art galleries	9	5	3	13	14	1	45

Major institutions

Some detail is provided here in respect of the seventeen institutions identified in 1965 as major because of the size of their display, the value of their exhibits, their popularity, and the extent of the information and investigation services which they provide.

Australian Capital Territory

The Australian War Memorial, Canberra. The Memorial comprises the national collection of war relics and the building in which these are preserved. The building was opened in 1941. The memorial is owned by the Commonwealth Government and is administered by a director responsible to a board of twelve trustees. There is a collection of 4,000 art works and a museum collection of more than 40,000 war relics, the gathering of which began on the battlefields of the 1914-18 War and was continued during the subsequent campaigns in which Australian forces have participated. The collection has been enhanced by gifts of relics from the Governments of Great Britain, the sister dominions, and of allied countries, and also by presentations made by ex-servicemen and relatives of those who died. The collection consists of items such as tanks, aeroplanes, submarines, field-guns and boats, and the widest possible range of war trophies down to the smallest items, each relic dependent for its value on its historical background. The works of art, all by Australian artists, depict battle scenes, individual officers and men, etc., and include oil and water colour paintings, drawings, statuary, bronzes, dioramas, and mosaics. There is also a library, which is described on page 626. The area used for display is 80,300 square feet. Total

attendance during 1964-65 was 510,736 with an average attendance of 1,139 on weekdays, 1,796 on Saturdays and 2,306 on Sundays. Staff numbered sixty-nine. Expenditure (excluding expenditure on the maintenance of the building and environs) was \$341,350, and the major items of receipt were Commonwealth Government contributions (\$251,578) and the sale of publications, etc. (\$51,286).

The Australian Institute of Anatomy, Canberra. The Institute is described in the chapter Public Health, page 569. The museum has a display area of 9,048 square feet. It contains displays of biological and anatomical aspects of man and the anatomy of Australian animals. A display of Aboriginal and Melanesian artefacts from the National Ethnographic Collections is temporarily housed in the Institute. Estimated attendance in 1965 was 170,000. The museum has a staff of twelve. Museum expenditure, wholly met by the Commonwealth Government, was about \$32,000 for administration and other current expenditure, and \$7,400 for maintenance of building, etc. in 1965.

New South Wales

The Australian Museum, Sydney. Founded in 1836, this is the oldest museum in Australia. It is administered by a director and a board of twenty-five trustees as a Government Department attached to the New South Wales Department of Education, with a staff of seventy-six. It has fine collections of all groups of animal, including insect fossils as well as mineral and ethnological collections, particularly in relation to Australia and the Pacific. There is a valuable library which in 1964-65 comprised 34,748 bound volumes. Its staff, during 1964-65, spent 620 man-days on field work in Australia and New Guinea, engaged in the collection of zoological, geological and anthropological specimens and a study of animal habits and environments. Total attendance in 1964-65 was 358,045 with an average daily attendance of 885 on weekdays, 1,058 on Saturdays, and 1,385 on Sundays. Twenty-two educational course lectures and 520 lectures to school parties were provided, as well as 62 other lectures, film sessions, etc., with total attendance at these of nearly 34,647. The total area available for display is 51,874 square feet. Current expenditure (excluding amounts spent by the Public Works Department on maintenance, major additions and alterations), amounted to \$254,280.

Museum of Applied Arts and Sciences, Sydney. This museum, with branches at Bathurst, Goulburn and Broken Hill, New South Wales, is owned by the New South Wales Government, and administered by a director and a board of seven trustees appointed by the Governor of New South Wales. The museum specializes in applied arts (ceramics, glass, oriental arts, costumes, musical instruments, furniture, etc.), applied science and technology (engineering, transport, textiles, electronics, etc.), and among its special features are a Watt beam engine of 1785, No. 1 New South Wales locomotive, Lawrence Hargrave models, and a planetarium. Total display area is 20,700 square feet. The museum's library contains about 7,500 books and periodicals. Attendances in 1965 were Sydney, 201,112, Bathurst, 15,810, and Goulburn (estimated), 18,000. The museum had, in 1965, a staff of forty-seven. During 1965, 101 man-days were spent on field work in New South Wales. Botanical material for phytochemical studies was collected and field experiments were undertaken to determine growth rates, oil yields and fertilizer responses in oil-bearing species.

Geological and Mining Museum, Sydney. This museum is administered as a branch of the Department of Mines by a curator under the control of the Government Geologist. This museum is the only one in Australia devoted solely to geology and mining. The display contains a unique collection of ores and economic minerals from New South Wales with material from the other States and from overseas for comparison. Its most important functions are the identification of mineral and rock specimens, several thousands of which are received annually, and the supply of some 20,000 to 30,000 specimens free of charge to schools. The museum has 8,500 square feet of display area and a staff of thirteen. Total attendance during 1965 was 24,637 with an average attendance of forty on weekdays, 114 on Saturdays and 158 on Sundays. During the year ten man-days were spent on fieldwork in the collection of bulk specimen material for distribution to schools and palaeontological specimens for research. Expenditure (excluding new works and maintenance) amounted to \$30,940 in 1965.

Art Gallery of New South Wales, Sydney. The Gallery originated in the Academy of Art founded in 1871. It is administered by a director and secretary under a board of thirteen trustees responsible to the New South Wales Minister for Education. The gallery has 7,789 exhibits, including 1,641 oils and 157 pieces of sculpture. Australian art in all aspects (except early colonial and native) and modern European painting and sculpture are featured. An Aboriginal art collection includes a unique set of large Melville Island graveposts. There are display areas of 40,000 square feet and a library with 4,292 books. Assistance is provided to governments and private organizations in the design of books, coins, notes, etc., the preparation and judging of exhibitions, and in the supply of research material and information. Total attendance in 1965 was estimated at 312,000. Staff numbered thirty-one. Apart from payment of wages and salary and maintenance of buildings, the State Government in 1965 contributed \$20,000 to the Gallery. Other income came mainly from the sale of publications, etc. (\$12,393).

Victoria

National Museum of Victoria, Melbourne. The museum was founded in 1854. It is State-owned and administered by a director and board of seven trustees. It houses substantial collections in the fields of zoology, geology and anthropology. There is a small branch at Tidal River, Victoria. The museum has display areas of 40,738 square feet and a library. Fieldwork involving 67 man-days was undertaken in 1964-65 for the collection of specimens and research. Two hundred and twenty-five lectures were provided to school parties with a total attendance of 9,011. Staff numbered fifty-four. Total expenditure by and on the museum in 1964-65 amounted to \$163,222.

Institute of Applied Science of Victoria, Melbourne. The Institute was founded in 1870. It is State-owned and administered by a director and board of seven trustees. Its collections are concerned with aspects of application of all science subjects, but with special emphasis on transport, astronomy, public health, arms, agriculture and electronics. The total area available for display is 26,000 square feet. Its library contains about 3,000 books and periodicals. A planetarium was opened in December 1965. Total attendance during 1964-65 was estimated at 371,670. The Institute provided 108 educational course lectures and 103 lectures to school parties. Total attendance at these and other lectures amounted to about 7,141. Staff numbered sixty-five. Expenditure during 1964-65 (including works and maintenance) amounted to \$138,732.

National Gallery of Victoria, Melbourne. The State-owned gallery is administered by a director and board of seven trustees. Its large collections of over 20,000 items feature paintings by Rembrandt, Tiepolo and the Flemish primitives, Durer engravings, Blake drawings, and English 18th century furniture. Attendance during 1964-65 was estimated at 371,670. The gallery has a display area of 44,000 square feet. During 1964-65 there were 465 art school educational course lectures, seventy-one guide lectures to adult parties, and 325 guide lectures to school parties with a total attendance at these lectures of 31,576. Staff numbered forty-four. Excluding new works and maintenance, expenditure in 1964-65 amounted to \$297,356 and \$80,000 was spent by the Felton Bequest Committee on the acquisition of new exhibits.

Queensland

Queensland Museum, Brisbane. The Museum, founded in 1855, is the State museum of natural science. It is administered by a Director as a sub-department of the Queensland Department of Education. The collections are in the fields of the natural sciences, ethnology and history and include extensive collections of fossil vertebrates. The museum has a display area of 27,700 square feet. Field work involving seventy-five man-days was undertaken in 1964-65 for the collection of zoological, geological and anthropological material for research, reference and display purposes. Its extensive library contained about 36,000 volumes of books and periodicals. Total attendance in 1964-65 was estimated at 119,800. Twenty school holiday film programmes and forty-nine guide lectures to school parties were provided as well as seventeen other lectures, and the total attendance amounted to 7,857. Staff numbered twenty-nine. Expenditure (excluding maintenance of buildings) amounted to \$90,344.

Queensland Art Gallery, Brisbane. This State gallery was established in 1895. It is administered by a director and board of thirteen trustees. The gallery especially features Australian art of all periods, British modern art, French sculpture, and French paintings from the Rubin collection. The Art Gallery has a display area of 6,600 square feet and 1,749 display items, including 540 oils. Its library contains 892 items, and special attention is given to the collection of books and periodicals on Australian art of any period and to books and periodicals which have particular reference to works in the collection. There were forty art school and educational course lectures in 1964-65, and attendances at these and other lectures, film sessions, etc. was more than 2,000. Staff numbered fifteen. Its expenditure (including maintenance) was \$64,024. It had no bequest income.

South Australia

The South Australian Museum, Adelaide. The museum forms a part of the South Australian Department of Public Service and is administered by a director and board of five trustees. It features natural science and anthropological collections. The latter refer to the Australasian and Pacific regions and include an outstanding collection of Aboriginal artefacts. During 1964-65, 780 man-days were spent in field work in South Australia to supplement the State collections of fauna and flora and to assist the projects of the research staff. The museum's area available for display is 39,980 square feet, and it has a library of more than 23,000 books and periodicals. Total attendance during 1964-65 was estimated at 190,000 with an average attendance of 175 on weekdays, 540 on Saturdays and 810 on Sundays. There were fifty-four lectures to school parties and fifteen other lectures, sessions, etc., with a total attendance of 2,140. The museum had, in 1964-65, a staff of sixty-one. Total expenditure in 1964-65 (including new works and maintenance) was \$229,428.

National Gallery of South Australia, Adelaide. The gallery originated in 1881. It is State-owned and administered by a director and board of seven trustees. Apart from the usual art gallery collections, devoted chiefly to British and Australian works, it features a large collection of prints containing examples from European, British, Oriental, and Australian schools and a numismatic collection which is widely regarded as the finest in Australia. It also contains the South Australian Historical collection and a small collection of weapons. It has a display area of 28,178 square feet and a library. In June 1965 it had 55,805 exhibits, including more than 2,000 oils and watercolours, and nearly 12,000 engravings and prints. Six loan exhibitions were conducted in conjunction with other Australian art galleries in 1964-65, and there were eighty guide lectures to school parties and thirty-one other guide lectures, film sessions, etc., with a total attendance of 4,925. Staff numbered twenty-five. Total expenditure (including maintenance) was \$138,058.

Western Australia

Western Australian Museum, Perth. The museum was established in 1895. It is administered by a director and board of five trustees appointed by the Western Australian Government. The zoological collections cover all vertebrate and most invertebrate fields, particularly marine. There are collections relating to vertebrate palaeontology and meteorites, fossil invertebrates, and some fossil plants. There are extensive collections of Aboriginal artefacts and European arms and armour. In 1964-65 the area available for display totalled 16,750 square feet. During that year 340 man-days were spent on field work in collecting zoological, palaeontological and anthropological material in many parts of the State. The library contained 1,860 books and periodicals. Total attendance was 140,290 in 1964-65 with an average daily attendance of 392 on weekdays, 394 on Saturdays and 336 on Sundays. There were 320 guide lectures to school parties in 1964-65 with a total attendance of 14,000, and in addition 41,000 children visited the Museum's Children's Centre during vacation periods for supervised activities. No other lectures were given at the Museum, but the staff participated in adult education programmes outside the Museum and in university teaching. Staff numbered thirty-seven. Total expenditure (including works and maintenance) amounted in 1964-65 to \$146,196, which was met mainly from State funds, but also from trust funds from private persons for specific purposes.

The Western Australian Art Gallery, Perth. The gallery was established in 1895 and is administered by a director and government-appointed board of five trustees. It features especially collections of Australian paintings, drawings, ceramics and sculpture, a fine collection of Australian contemporary art, and a major Henry Moore sculpture. It has collections of coins and of Western Australian stamps. Altogether there are 3,387 items. The gallery has a library with some 950 books and periodicals and a display area of 9,000 square feet. Total attendance in 1964-65 was 120,348 with an average attendance of 294 on week days, 491 on Saturdays and 347 on Sundays. There were ten guide lectures to school parties and twenty-one other lectures, film sessions, etc., with a total attendance of 2,551. Staff numbered eighteen. Expenditure (including maintenance) in 1964-65 was \$82,122.

Tasmania

Tasmanian Museum and Art Gallery, Hobart. Opened in 1887, the Tasmanian Museum and Art Gallery is State-owned and administered by a board of trustees. It has a branch at Zeehan, namely The West Coast Pioneer's Memorial Museum. The museum part contains zoological, anthropological and geological displays relating to Tasmania. The art displays contain an excellent holding of Tasmanian historical works. The area available for display is 52,000 square feet. In 1964-65 there was a staff of twenty-five. Total expenditure (including expenditure on new extensions) amounted to \$167,880.

Queen Victoria Museum and Art Gallery, Launceston. This institution, opened in 1891, is owned and administered by the Launceston City Council through a director and a sub-committee of aldermen. It has a branch at Cradle Mountain. Attention is concentrated on collections relating to the natural, biological and historical environment of Tasmania, featuring Tasmanian fauna, Aboriginal relics and historical material. The arts associated with Tasmania are represented by an excellent collection of early colonial period painting and also by a fine collection of costumes, lace and ceramics. Total display area amounts to 26,456 square feet and there is a library with some 2,000 books. In 1964-65, 141 man-days were spent on fieldwork in geological, zoological and anthropological activities. Attendance was 60,133 with an average attendance of 173 on weekdays and Saturdays and 112 on Sundays. There were seventy-one educational course lectures and twenty-two other lectures, with an estimated total attendance of 3,200. There was a staff of sixteen. The Queen Victoria Museum and Art Gallery received \$14,000 in 1964-65 from the State Government, but the remainder out of a total expenditure of \$50,064 was met, in the main, by the municipality.

Other museums and art galleries

A short description of some of the twenty-eight remaining museums and art galleries is given in the following paragraphs. The institutions are grouped into those owned by the States, by municipalities and private trusts, by universities, and by private persons.

State-owned institutions. The Dixon and Mitchell Libraries (sections of the Public Library of New South Wales) have galleries in which paintings, drawings, engravings, photographs, coins, and postage stamps, all related to Australian and south-west Pacific history, are exhibited. The main area of display comprises 7,051 square feet. Only a fraction of the many thousands of items can be shown. There is a geological museum, maintained by the Victorian State Mines Department, with a comprehensive collection of geological specimens. In South Australia there is a small museum of local and tourist interest—the Old Government House, Belair, displaying furniture, etc. of the colonial era.

Municipal and private trust institutions. In 1965 there were twelve institutions owned by various non-metropolitan municipalities throughout Australia. These range from the Mildura Art Centre with expenditure of more than \$60,000 in 1965 to the Broken Hill Art Gallery, a part of the Broken Hill Technical College, where local artists' pictures of mining activities are exhibited amongst others. Similar institutions are often maintained in major provincial cities by private trusts. These and the municipal institutions often exhibit artistic, historical and other items of special local interest, and as a rule there are associated with them various local societies devoted to the exploration and encouragement of the arts, local history and the like. Thus the Lionel Lindsay Art Gallery and Library at Toowoomba, Queensland, is administered by a board of trustees, originally appointed in 1959 by deed of trust.

University institutions. Most university collections, some of them comprehensive and containing unique material, are reserved essentially for the use of students and research workers, and are therefore not included as museums or art galleries. However, the John Darnell Art Gallery of the University of Queensland, originating from a bequest in 1930, and the Macleay Museum of Natural History at the University of Sydney, stemming from a gift to the university in 1888, and the Nicholson Museum of Antiquities at the University of Sydney are open to the public.

Private museums and art galleries. Only four establishments of this nature combine the sale of objects of art or interest with permanent displays and are therefore included here as museums or art galleries; three of them are in South Australia and one in the Northern Territory.

Botanical and zoological gardens

In addition to the zoological gardens referred to in the following paragraphs there are numerous privately owned zoos and sanctuaries, many of them at tourist resorts, which maintain collections of Australian flora and fauna. There are also various national parks, forests, reserves, etc., dedicated for public use, which are preserved largely in their natural condition.

New South Wales

The Sydney Botanic Gardens are situated on the shores of Farm Cove, Sydney Harbour, close to the heart of the city and on the site of the first farm established in 1788 by Governor Phillip. Now occupying sixty-six acres, they contain a large and varied collection of flowering plants, shrubs and trees as well as hothouses of orchids and ferns.

The Zoological Gardens at Taronga Park, on the northern side of Sydney Harbour, were opened in 1916. The area is about seventy acres. The natural formation has been retained as far as practicable, with the object of displaying the animals in natural surroundings, and an aquarium has been built within the gardens. In 1964-65 admissions to the grounds were 923,115 and to the aquarium 305,983. The receipts of the zoological department of the Taronga Park Trust amounted to \$420,056 in 1964-65, excluding an annual State grant of \$6,500, and expenditure amounted to \$428,768. Exhibits at 30 June 1965 comprised 1,299 mammals, 2,919 birds, 256 reptiles, and 1,048 fish.

Victoria

The main botanical gardens in the State are the Royal Botanic Gardens, an area of eighty-eight acres within one mile of the centre of the City of Melbourne and containing over 12,000 species of plants, of which there are some 30,000 individual specimens. Many species of native birds breed on islands in lakes within the gardens.

The Zoological Gardens are situated in Royal Park and contain a wide selection of animals, birds and reptiles. A wild life sanctuary is also maintained at Healesville and contains specimens of indigenous fauna.

Queensland

Botanical gardens have been established in Brisbane and in several other cities. The Brisbane Botanic Gardens were established in 1855 by the Government of New South Wales. In 1925 the Queensland Government transferred them to the Brisbane City Council. They occupy approximately forty-six acres on the banks of the Brisbane River in the central city area and are noted for their collections of palms, tropical trees and shrubs, and succulents; they contain over 7,500 plants.

South Australia

The Botanic Garden established in 1855, was opened to the public in 1857. It contains forty-five acres of tropical and sub-tropical trees, shrubs and plants, a large range of glasshouses, and a rockery with cacti and succulents. Adjoining is the Botanic Park of seventy-five acres which is treated as an arboretum.

The Zoological Gardens, opened in 1883, have an area of approximately nineteen acres and contain a fine collection of animals, reptiles and birds. There were 312,300 visitors in 1964-65.

Western Australia

A botanic garden for the native plants of Western Australia was officially inaugurated in March 1963, and planting of the garden began in May 1963. It was officially opened in October 1965. The site of twenty-five acres selected for garden development during the first five years is in King's Park, a reserve of almost 1,000 acres close to the centre of Perth. An arboretum of thirty-six acres for the collection of native trees was founded in June 1962. It is now almost fully planted, and, with the exception of some rare mallees, nearly all trees native to the southern part of the State are represented.

The Zoological Gardens, which were opened in 1898 at South Perth, have an area of forty-six acres and are under the control of the Acclimatisation Committee. Animals, birds and reptiles are exhibited. During the year 1964-65, 134,541 adults and 127,324 children visited the zoo.

Tasmania

The Hobart Botanical Gardens adjoining Government House on the Queen's Domain contain a fine collection of exotic trees and shrubs. They are controlled by a Board appointed by the State Government, which supports the gardens by annual grants.

There is no zoo in Tasmania, but a small collection of animals and birds is maintained by the Launceston City Council at the City Park.

Northern Territory

The Darwin Botanical Gardens were established in 1873 and were planted with imported exotic plants and trees. The gardens now occupy eighty acres and feature tropical plants of both native and oversea origin. They are controlled by the Darwin City Council.

Book publishing

Australian book publishing

Some statistics relating to Australian book publishing are compiled by the National Library of Australia as part of its bibliographical responsibilities (*see* page 624). Through the deposit provisions of the *Copyright Act* 1912-1950, its oversea collection agents and its own efforts, the library receives practically all Australian publications, although not necessarily in the year of publication. Because the statistics compiled and shown hereunder are classified according to the year of publication, the figures are subject to revision as publications not yet received in the National Library come to hand.

For books published in 1961 and thereafter, the method of counting conforms with international practice. Each title is counted as one unit. The figures cover all non-periodical publications (i.e. those published at irregular intervals or regularly at intervals of one year or longer) published in Australia. They refer to all publications of five pages or more and include pamphlets, new translations and re-editions. They include government publications, educational textbooks, university theses, etc., but exclude publications not available to the general public, advertising material, publications of transitory interest, off-prints, musical works, children's picture books, maps and charts.

Number of publications

The following table shows the number of books, etc., published in Australia during the years 1961 to 1965 received by the National Library to the end of 1965.

**NUMBER OF PUBLICATIONS RECEIVED BY THE NATIONAL LIBRARY
AUSTRALIA, 1961 TO 1965**

Received by the National Library to the end of—	Published during—				
	1961	1962	1963	1964	1965
1961	1,840	..	..	..
1962	2,848	1,793	..	..
1963	2,963	2,501	1,416	..	
1964	2,993	2,675	2,167	1,385	
1965	3,013	2,700	2,312	1,934	2,039

The next table shows the 1963, 1964 and 1965 publications received up to the end of 1965, classified by subject matter.

**NUMBER OF 1963, 1964 AND 1965 PUBLICATIONS RECEIVED BY THE
NATIONAL LIBRARY, BY SUBJECT(a): AUSTRALIA, TO 1965**

Subject	Published during—		
	1963	1964	1965
Bibliography, libraries, general	61	38	29
Philosophy, psychology	17	17	19
Religion	79	70	52
Social sciences	708	698	789
Philology	33	30	36
Science	223	190	179
Technology, business	517	384	357
Art, amusement	110	106	75
Literature	323	253	297
Australian poetry	47	33	23
Australian drama	4	22	4
Australian fiction	180	153	204
Australian essays	4	3	2
Australian humour and miscellany	10	3	12
Criticisms, anthologies, school editions	45	20	35
Other literature	33	19	17
Travel, biography, history	241	148	206
Total	2,312	1,934	2,039

(a) The classification is based on the divisions of the Dewey Decimal Classification.

Commonwealth Literary Fund

In 1908 the Commonwealth Government, under Alfred Deakin, first established the Commonwealth Literary Fund. The Fund was entirely a compassionate one devoted to literary pensions for aged or infirm authors, for the families of literary men who died in poverty, and for writers who were unable for financial reasons to continue their activities.

In 1939, in an endeavour to encourage the development of Australian literature and to foster appreciation of it, the Commonwealth Government greatly enlarged the scope of the Fund. The Fund now awards fellowships each year, assists in the publication of manuscripts of high literary merit, makes annual grants for lectures in Australian literature, and awards pensions to writers who have achieved a nation-wide reputation for their work in the field of creative literature. The fellowships are awarded each year to writers who have proved their capacity in the field of creative literature, to enable them to devote their time to working on a literary project they specify. A fellowship carries a maximum value of \$4,000 a year. The Fund does not seek out people on whom to bestow fellowships, but considers only those who submit applications.

The Fund also assists in the publication of manuscripts which have outstanding literary merit, but which, in the opinion of publishers, may constitute a commercial risk. This assistance takes the form of a guarantee of assistance to the publisher. The Fund does not itself enter the field of publishing, nor does it make outright grants to authors to enable them to arrange publication. Since 1940 annual grants for special lectures in Australian literature have been made to all universities. In 1956 the Fund initiated a scheme of lectures to the general public and to schools, mainly in country areas, with the co-operation of State adult education authorities and Education Departments. Annual grants are now made to the States for this purpose. The Fund also assists certain literary magazines of long standing and recognized literary value.

The Fund is administered by a Committee consisting of one representative of each of the three main political parties in the Parliament, the Chairman being nominated by the Prime Minister. The Committee is advised on all literary matters by an Advisory Board of six persons with literary qualifications.

Literature Censorship Board

In 1937 the Commonwealth Government introduced legislation to provide for a Literature Censorship Board to advise the Minister for Customs and Excise on imported literature. At the same time an Appeal Censor was appointed to afford appellants an avenue of appeal which did not make expensive court proceedings necessary. The Appeal Censor was replaced by an Appeal Board in 1960. The Literature Censorship Board consists of a Chairman, a Deputy Chairman, and four other members, while the Appeal Board is made up of a Chairman and two other members.

The Boards were set up to deal with that part of the problem which provides the greatest amount of controversy—restriction on books which have a real place in the field of literature. In practice, no imported publication having literary merit is prohibited without prior reference to the Literature Censorship Board. Should the Minister decide to prohibit the importation of a book on the recommendation of the Board, an appeal against the decision may be made for reference to the Literature Censorship Appeal Board. A decision to prohibit the importation of a book may be challenged through the normal processes of law. Control of indigenous matter comes under the jurisdiction of the State Governments.

Film production

Australian film production

Australia was one of the pioneers in the history of film-making, a short story film, *John Vane, Bushranger*, having been made in 1904, only a year after America's *The Great Train Robbery*, which is generally considered to be the first genuine story-film. It has been claimed that *The Kelly Gang*, made in 1905-6, was the first full-length feature film produced in the world. Following the outbreak of the 1914-18 War a series of short patriotic films were produced. In 1917 the first of a successful series of rural comedies was made, featuring a family called the Hayseeds. In the same year *The Kelly Gang* was remade and the first film version of *For the Term of his Natural Life* appeared. A first film version of C. J. Dennis's *The Sentimental Bloke* was made in 1919.

The year 1920 was notable for a number of productions with an authentic Australian flavour: *On our Selection*, a first version of *Robbery Under Arms*, another remake of *The Kelly Gang*, and C. J. Dennis's *Ginger Mick*. Production continued at about the same level until the coming of sound in 1928. Altogether, approximately 255 theatrical films were produced by Australian units in the silent period (1900-1930). Lack of equipment hampered the commencement of production of sound films in Australia, but during the 1930's nearly 60 sound films were produced.

During the 1939-45 War, commercial film production combined with the Commonwealth Government in making films. Since the war, a number of British and American companies have made films in Australia. Altogether, about 129 feature films were produced in Australia between 1930 and 1965.

Australian National Film Board

The Australian National Film Board was inaugurated in April 1945, on the recommendation of a Commonwealth Government inter-departmental committee. It was attached, for administrative purposes, to the Department of Information. With the abolition of that Department in March 1950, administration of the Board was transferred to the News and Information Bureau, Department of the Interior.

In November 1950 the Board was reconstituted as an advisory body to the Minister for the Interior on matters concerned with the production, acquisition and distribution of films required by Commonwealth departments for use within Australia on important matters of national interest and welfare, such as school and adult education, rehabilitation, social development,

international understanding, trade and tourist expansion, and immigration; and for dissemination abroad to expand trade and commerce with other countries, to encourage tourist traffic with Australia, to improve Australia's relations with other countries and, where necessary, to explain Australia's national policies, and to encourage immigration.

The constitution provides for a membership of twelve, with the Director of the News and Information Bureau as chairman and the remainder representative of Commonwealth departments, State government instrumentalities, and organizations interested in the production, distribution or utilization of films for national publicity.

Film Division of the News and Information Bureau

The first Australian Government organization for the production of motion pictures for national information purposes was the Cinema and Photographic Branch of the Department of Commerce, set up in Melbourne in 1920. Early in the 1939-45 War the newly-established Department of Information was made responsible for the operation of the Cinema Branch and for an Official War Photography Unit. When the Australian National Film Board was established in 1945, the Film Division of the Department of Information became the official film production and distribution agency for Commonwealth departments and instrumentalities. In 1950, with the closing down of the Department of Information and the transfer of its functions, the Division became the Film Division of the News and Information Bureau then set up within the Department of the Interior. The Film Division is also known as the Commonwealth Film Unit. Theatrical and television distribution in Australia, and both theatrical and non-theatrical distribution overseas, of all Film Division productions are organized by the Bureau's home office or its overseas representatives. Non-theatrical distribution in Australia is organized through the National Library, Canberra, in co-operation with State film distribution agencies.

Since 1946 the Film Division has produced films for general exhibition, as well as training and special purpose films. In 1964-65 the Film Unit produced 109 reels of new films and thirteen reels of foreign versions of existing films. Prints are distributed to fifty overseas centres. In Britain there is regular distribution through commercial theatres and a large non-theatrical and educational series of circuits. By arrangement with the British Broadcasting Corporation items of topical interest photographed by the Film Division are flown to London for television. In the United States of America there is wide non-theatrical distribution and considerable use of the films by television networks. In Canada an arrangement with the Canadian Film Institute secures placement of films on television and the Australian High Commission handles the films for non-theatrical use. Selected films have been recorded in French, Dutch, German, Italian, Swedish, Russian, Spanish, Japanese, Malay, Thai, and various dialects of Hindustani and Tamil.

In addition to films made on its own initiative, the Film Division produces films under the sponsorship of, or with the co-operation of, Commonwealth departments and many other bodies such as the Australian Road Safety Council, the Snowy Mountains Hydro-electric Authority, the Australian National University, the Australian Broadcasting Commission, the Victorian State Electricity Commission, the National Capital Development Commission, the Atomic Energy Commission, the British Broadcasting Corporation, the Australian National Shipping Line, and the Institute of Aboriginal Studies.

Film censorship

Legislation. The Commonwealth Government's powers over censorship of films extend only to imported films and imported advertising matter and stem from the Customs Act. Under that Act the Customs (Cinematograph Films) Regulations provide for the appointment of a Film Censorship Board whose function is to ensure that films and related advertising material coming within certain defined categories are not admitted into Australia. Under those regulations the Film Censorship Board may pass films in their original form, reject them, or pass them after eliminations have been made. Legislation passed by the State Governments of Victoria, Queensland, Western Australia, and Tasmania names the Commonwealth Film Censorship Board as the censorship authority and vests in it the power to classify films as suitable for general exhibition or not. The State Acts give the Commonwealth Board the authority to censor films made in Australia for commercial exhibition and advertising matter made in Australia.

The Censorship organization comprises a Censorship Board of seven persons and an Appeal Censor, the headquarters being in Sydney. Importers have a right of appeal to the Minister against decisions of the Board and the Appeal Censor.

Thirty-five mm. films for exhibition in motion picture theatres. In 1965, 1,162 films comprising approximately 4½ million feet were censored. This represented approximately 824 hours screening time. Of these films, 351 originated in the United States of America, 349 in the United Kingdom, and 462 in other countries. The principal suppliers among the last mentioned were: U.S.S.R., 87; Italy, 65; France, 42; Greece, 35; Germany, 23; Japan and Switzerland, 21 each. Included in

these figures were 435 full-length feature films which constituted the main theatrical attractions. This was an increase of 13 over imports for 1964. Feature films came from: The United States of America, 144; the United Kingdom, 78; Italy, 53; U.S.S.R., 51; Greece, 34; France, 15; Germany, 14; and Japan, 10. Seventeen feature films were initially rejected and cuts were made from 99. There were sixteen appeals, fifteen against rejections and one against cuts. Two were allowed and fourteen disallowed. Feature films classified as suitable for general exhibition numbered 223, and 212 were not suitable for children. Of the latter, 32 carried the special condition that all advertising should indicate that they were suitable only for adults. These classifications are advisory only and are designed to enable picture-goers and particularly parents to obtain a general idea of the nature of any particular film. In addition to these imported films, 148 35mm. films of 184,729 feet produced in Australia were cleared. These were mainly newsreels and documentaries intended for commercial exhibition or export.

Sixteen mm. films. Excluding those imported for television use, 6,451 16mm. films of approximately 4½ million feet were examined. These were films commercially produced for screening in theatres used by business undertakings for advertising and instructional purposes and for screening in churches, schools and universities, and on home movies. Six were rejected.

Eight mm. and 9.5mm. films. Approximately 76,000 feet of these small dimension type films were examined. One hundred and seven films with an approximate footage of 7,500 feet were rejected.

Television films. In 1965, 11,129 films, predominantly 16mm., of approximately 14½ million feet, for use on television, were censored. The number of films is not a true indication of volume because many of these were of short duration. In terms of screening time the films censored for television amounted to approximately 6,753 hours. On a footage basis the United States of America supplied 79 per cent of the total imports and the United Kingdom 16 per cent. Ninety-four television films were rejected outright and an additional seven were classified as unsuitable for televising. Eliminations were made from 1,082. There were ten appeals, all against rejection, of which four were allowed and six disallowed.

Foreign language films. Countries other than the United Kingdom and the United States of America supplied 462 of the 35mm. films imported for theatrical exhibition, of which 213 were feature films. Generally, the dialogue is in a foreign language with explanatory English captions. A few have an English commentary and in some cases English 'dubbed' dialogue. Of 6,451 16mm. commercial films censored, 1,312 originated from non-English-speaking countries. The chief supplying countries were: Germany, 241; France, 170; Japan, 136; Czechoslovakia, 80; Italy, 74; China, 55; Malaysia, 52; Switzerland, 46; Sweden, 39; U.S.S.R., 38; Holland, 33; and India, 30.

Export of films. The quantity of films exported for the year was approximately 2.5 million feet, consisting mainly of newsreels, advertising films and documentaries. This footage included in many cases several prints of the one film. It also included large quantities of exposed negatives sent overseas for processing.

Arts Council of Australia

Patterned on the Council for the Encouragement of Music and Arts which operated in the United Kingdom during the Second World War, an Australian organization was brought into being in 1943. In 1945 it became The Arts Council of Australia. Originating in New South Wales, Divisions are active now in the Australian Capital Territory, New South Wales, Queensland, South Australia, and Tasmania. A Federal Council was formed in 1964. New South Wales has a country branch network of over fifty centres. Rapid development in Queensland has resulted in the formation of over twenty-six branches.

The Arts Council receives State Government grants through the Departments of Education in New South Wales, Queensland and South Australia. From 1963 to 1966 substantial contributions were received from a private organization. Some activities of the Council are supported financially by non-metropolitan local government bodies and grants were made by the Gulbenkian Foundation in 1964 to 1966 to help in re-establishing the Federal Council. The New South Wales Division is a member of the Adult Education Advisory Board in that State, representing the 'live art' section of adult education. The Tasmanian Division is represented on, and works closely with, the Adult Education Board of that State.

Activities of the Arts Council are directed towards decentralization of the arts for the benefit of country centres and metropolitan and country schools. It is greatly concerned with taking the arts to children as a basic cultural development. Tours of high standard companies in opera, ballet, drama, puppets, etc. are operating throughout the year. The Young Elizabethan Players Company was formed jointly by the Arts Council and the Australian Elizabethan Theatre Trust in 1958 to take Shakespeare to schools in New South Wales and Queensland, and is still operating.

The Council handles a wide range of art exhibitions, both for city and country areas. Summer schools for drama, painting, pottery, music and other arts are an established annual feature of the work of the New South Wales and Queensland Divisions.

Yearly drama festivals are conducted for the Little Theatre movement. In 1963 and again in 1965 the New South Wales Division sponsored the first arts festivals for Sydney (North Side Arts Festival), with a wide range of cultural activities concentrated on the north side of Sydney Harbour. The festival is now a biennial event with the third festival being planned for August 1967.

Australian Elizabethan Theatre Trust

Inaugurated in 1954 to commemorate the first visit to the Commonwealth of Her Majesty the Queen, the Australian Elizabethan Theatre Trust has since presented drama, opera and ballet throughout the Commonwealth. The Trust receives annual grants from the Federal Government, the State Governments and city councils. Its income also includes subscriptions from members and donations from business houses.

In the field of drama it has presented, *inter alia*, the works of Australian playwrights, including plays which were subsequently presented overseas. The Elizabethan Trust Opera Company has given seasons of opera and has presented oversea guest artists, conductors and producers. Since 1956, to the end of 1964, more than 1,000 performances of opera have been given by the Trust Opera Company in all States and in the Australian Capital Territory. Twenty-six operas have been the repertoire in this period. The Australian Ballet, which commenced its inaugural season in November 1962, has visited all mainland capitals and New Zealand and presented world premiere productions of three commissioned ballets during 1964. The Commonwealth Government gave financial assistance for the Ballet to represent Australia at the Commonwealth Festival of Arts in Britain in 1965. The company also danced in Baalbeck, Nice, Paris, Berlin, Copenhagen, and Honolulu. The Trust has also been associated with commercial managements in the presentation of oversea attractions and large-scale musicals.

Country areas have been visited by Trust companies presenting opera, drama and puppets, in association with the Council of Adult Education in Victoria and The Arts Council of Australia. During 1966 four companies of Young Elizabethan Players will again present Shakespeare for schools in five States.

In Victoria the Trust is associated with the University of Melbourne in the Union Theatre Repertory Company. It is also associated with the University of New South Wales Drama Foundation in the Old Tote Theatre Company which had its inaugural season during 1963. The corresponding activity in Adelaide, the South Australian Theatre Company, was introduced by the Trust during 1965. Assistance is given to the Perth Playhouse, the Festival of Perth, the National Theatre and Fine Arts Society of Tasmania, and other companies. The Trust contributes productions to the biennial Adelaide Festival of Arts, five presentations being listed for the 1966 Festival.

One of the most important activities undertaken by the Trust is its association with the University of New South Wales and the Australian Broadcasting Commission in the establishment and maintenance of the National Institute of Dramatic Art. This provides a training ground for young Australian actors, producers and technicians. The Australian Ballet Foundation, in which the Trust and J. C. Williamson Theatres Ltd. are associated, also conducts the Australian Ballet School in Melbourne.

Historic Memorials Committee

The Historic Memorials Committee was established in 1911 for the purpose of securing portraits of distinguished Australians who had taken an active part in Federation. Later the Committee decided to obtain portraits of all Governors-General, Prime Ministers, Presidents of the Senate, Speakers of the House of Representatives, and other notable Australians. In addition the Committee may commission, and has in fact commissioned, paintings recording special events connected with the Commonwealth Parliament.

The Committee comprises the Prime Minister (Chairman), the President of the Senate, the Speaker of the House of Representatives, the Vice-President of the Executive Council, the Leader of the Opposition, and the Leader of the Opposition in the Senate. An Art Advisory Board, comprising a group of artists, was established in 1912 to assist the Committee by advising on works of art to be commissioned by the Committee.

Commonwealth Art Advisory Board

Since its beginning in 1912 the Art Advisory Board has always consisted of artists. At present there are five members. As well as assisting the Historic Memorials Committee the Board also advises the Government on the purchase of works of art for inclusion in the National Collection. In 1965-66, \$40,000 was provided for this purpose. The National Collection now contains over 1,000 works of art.

The Board, on behalf of the Government, also organizes and finances exhibitions of Australian art in overseas countries. In addition, it financially assists the showing in State Art Galleries of major exhibitions from abroad or assembled by one or more State Art Galleries. \$20,000 was provided in 1965-66 to meet the costs involved in these exhibitions.

SCIENTIFIC RESEARCH

This section refers specifically to various organizations, etc. associated with scientific research. Particulars regarding Commonwealth medical research organizations are given in the chapter Public Health.

A special article on Science and Technology in Australia, prepared by the Commonwealth Scientific and Industrial Research Organization of Australia, was included in Year Book No. 49 (see p. 781).

Outline of Research in Australia

Scientific research in Australia prior to 1939-45 War

Interest in science goes back to the beginning of Australian history. Captain James Cook discovered the east coast of Australia when returning from a scientific expedition to the South Pacific, and one of his passengers was the President of the Royal Society, Sir Joseph Banks, who was the first of many naturalists to be fascinated by the unique flora and fauna of the continent. The Stone Age culture of the Aborigines drew the early attention of anthropologists. The Aboriginal boomerang was a source of interest to the Surveyor-General of New South Wales, Sir Thomas Mitchell, who attempted to apply its spinning characteristics in a 'boomerang propeller' for driving steamships.

Until the 1914-18 War Australian science rested on the individual accomplishments of a few outstanding men, working largely in isolation. Three names stand out in this period—Farrer, Hargrave and Mitchell. After years of patient work as a plant breeder, Farrer developed the first successful strain of rust-resistant wheat. Hargrave's experiments in aviation attracted world-wide attention. Mitchell, a hydraulic engineer, invented a thrust bearing which made it possible to increase greatly the motive power of ocean-going screw steamships.

During the first world war Australia followed the British example and set up, in 1916, the Commonwealth Advisory Council for Science and Industry which finally became the Commonwealth Scientific and Industrial Research Organization (C.S.I.R.O.). Between the two world wars most of the systematic research done in Australia was carried out in the Council's laboratories. A little was done by some State departments of agriculture, but very little in the universities, which had not yet come to be regarded as research centres. Many of the most able Australian scientists were attracted to posts abroad.

Scientific research during and following 1939-45 War

The situation changed with the onset of the 1939-45 War and the economic expansion which followed it. Until 1939 the activities of the Council for Scientific and Industrial Research had been concentrated in the biological sciences, stimulated by the needs of primary industry. With the war C.S.I.R.O.'s work expanded greatly and spread into the physical sciences, with particular attention to the technical problems of industrial production. Many products previously imported from overseas, such as drugs and precision instruments, had to be manufactured locally, and much research and developmental work was necessary before this could be done. The work was carried out by C.S.I.R.O., by university science departments, and by industrial firms. These wartime activities had permanent effects, particularly in the universities and in C.S.I.R.O.

Australian National University and other university research

In 1946 the Commonwealth Government established the Australian National University, whose statutory functions required it to 'encourage and provide facilities for post-graduate research and study, both generally and in relation to subjects of national importance to Australia'. The growth of the National University, with its major emphasis on research and post-graduate training, introduced a new influence on the university scene which, apart from its own research activities, has provided an important stimulus, indirectly, for the growth of research in

other universities. This was made financially possible by increased grants from the Commonwealth. Until 1936 only small *ad hoc* research grants had been made to the universities. In 1936 a five-year programme was inaugurated by which £30,000 (\$60,000) was spent annually on grants for research in the physical and biological sciences. This figure had grown to £100,000 (\$200,000) in 1950, after which the amount was absorbed in the new system of Commonwealth grants to the States for university purposes. In 1957 the report of the Committee on Australian Universities (the Murray Report) recommended increases in research funds, and drew attention to the small number of post-graduate students. A further increase was approved in 1963, following the second report of the Australian Universities Commission, and in 1965 the Commonwealth established the Australian Research Grants Committee to administer the awards.

The growth of university research is reflected in the increase of post-graduate studies. The Ph.D. degree was introduced into Australia only after the second world war, and the first such award was made by the University of Melbourne in 1948. From then until 1964 more than 1,000 Ph.D.'s were awarded in mathematics, science and engineering, and more than 150 Ph.D.'s are currently being awarded annually in these fields. More than one-quarter of all Ph.D. degrees awarded in this period have been in chemistry.

Research in the universities is mostly of a 'pure' or 'fundamental' character, although universities have also concerned themselves with 'applied' research directed to the solution of practical problems, e.g. in metallurgy, chemical industry, agriculture, and food processing. A recent example of co-operation between a university and a State government agency was the investigation carried out by the University of Melbourne into the production of town gas from the lignite of the Yallourn-Morwell deposits in Gippsland, Victoria. In 1959 the University of New South Wales established Unisearch Ltd., with the purpose of assisting by research and other suitable means the advancement, development and practical application of science to industry and commerce.

Research by Government agencies

The post-war growth of C.S.I.R.O. has proceeded in both pure and applied science. Although increasing attention is being paid to industrial problems, the major impact of C.S.I.R.O. activities is still in the field of primary production. Research on pasture improvement, for example, is estimated to have brought about a doubling of the high-quality pasture in the decade 1948-58, and the successful programme of rabbit control that followed C.S.I.R.O.'s work on myxomatosis brought about a notable increase in the numbers of sheep during the same period. Apart from C.S.I.R.O., the research activities of other Commonwealth agencies have grown substantially since the war. These include the Weapons Research Establishment (set up in 1947) and other laboratories of the Department of Supply, all concerned with defence research and development. In 1954 the Atomic Energy Commission decided to set up its own research establishment at Lucas Heights, near Sydney. The Royal Australian Navy also maintains an experimental laboratory. Other agencies engaged in research include the Bureau of Meteorology, the Ionospheric Prediction Service, the Bureau of Mineral Resources, Geology and Geophysics, and various laboratories attached to the Commonwealth Health Department.

Research work by State Government agencies remains largely in the field of agriculture. In Queensland the great importance of the sugar industry is reflected in the work of the Bureau of Sugar Experiment Stations. Some coordination of research in agriculture is exercised through the Standing Committee on Agriculture, a joint Commonwealth-State body. In recent years some interest has also been shown in problems related to power generation, public health and water supply.

Research in industry

Research in industry has also expanded, though not at the same rate as in Government agencies or the universities. Since 1955 several large firms have established their own central laboratories, and appreciable sums are being spent on research in the chemical, metals, sugar and paper industries.

Research in social sciences

Research in the social sciences has developed largely since the war. Before 1939 such work was virtually confined to anthropology and economics. The need for a much wider scale of activity was one of the motives for the establishment of the Australian National University, with a Research School of Social Sciences and a Research School of Pacific Studies. In 1952 the Social Science Research Council was established, with support from the Carnegie Corporation and the Commonwealth Government, to encourage the advancement of the social sciences, to foster research and to subsidize the publication of studies. The Institute of Applied Economic Research, supported by private funds, was set up at the University of Melbourne in December 1962; its work ranges from the economics of industry to the economics of welfare. In 1961 the Australian National University set up the New Guinea Research Unit, based in Port Moresby, which is carrying out a range of investigations into economic and social change in the Territory of Papua

and New Guinea as it moves towards self-government. The first election held in the Territory in 1964 was the subject of a full-scale study. In 1964 the Commonwealth Parliament passed an Act to set up the Australian Institute of Aboriginal Studies, whose functions are to promote Aboriginal studies, assist universities and other institutions in training research workers, and to assist in the publication of research results. Despite these developments, the growth of research in the social sciences has been considerably slower than in the natural sciences. Its future growth will, however, be stimulated by the establishment of new universities with strong interests in the social sciences, and by the increased demand for information about social changes arising from both public and private sources.

Distribution of Australian research work

Research in Australia has not, on the whole, been strongly concentrated in particular fields. Nevertheless, some fields have attracted more attention than others, either because of their special economic or social importance or because Australia offers particular facilities for pursuing them. The wool industry, mineral processing, and the manufacture of paper from native hardwoods are examples of the former. The most notable example of the latter is radio-astronomy, for which Australia has special advantages because of its geographical position. The projected installation of one of the world's largest optical telescopes, to work in conjunction with radio-astronomical observations, will enable the exploitation of Australia's climatic advantages for optical astronomy. The combination will give Australia a premier position in this field of physical science. Hitherto the most notable achievements of Australian scientists have been in the biological sciences, as shown by the three Nobel Prizes won by Australians—Florey for work on penicillin, Burnet for immunology, and Eccles for neuro-physiology.

Commonwealth Scientific and Industrial Research Organization

The Commonwealth Scientific and Industrial Research Organization (C.S.I.R.O.) is Australia's largest civil scientific body. Established as the Council for Scientific and Industrial Research (C.S.I.R.) in 1926, it was re-organized in 1949 under the Science and Industry Research Act and now has a staff of more than 5,500 including some 1,700 professional scientists. An account of the organization and work of the former Council, and the earlier Commonwealth Institute of Science and Industry from which the Council was formed, was given in earlier issues of the Official Year Book. (See No. 14, p. 1061 and No. 37, p. 1183.)

The principal function of C.S.I.R.O. is to carry out scientific research for the primary and secondary industries of the Commonwealth and its Territories. C.S.I.R.O. does not conduct defence research, medical research or atomic energy research. The other powers and functions of C.S.I.R.O. as defined in the Science and Industry Research Act of 1949, include:

- the training of scientific research workers and the awarding of scientific research studentships and fellowships;
- the making of grants in aid of pure scientific research;
- the recognition or establishment of associations of persons engaged in any industry, for the purposes of carrying out industrial scientific research and the co-operation with, and the making of grants to, such organizations;
- the testing and standardization of scientific apparatus and instruments and the carrying out of scientific investigation connected with standardization;
- the collection and dissemination of information relating to scientific and technical matters;
- the publication of scientific and technical reports, periodicals and papers.

Before 1939 C.S.I.R. was engaged largely in research into problems of primary industry, in particular, plant and animal diseases and nutrition, soils, pasture improvement, insect pest control, usage of Australian timbers, food processing, and fisheries. Since 1939 an extensive programme of wool research has been developed and research has been extended into the physical and engineering sciences with particular reference to international standards, radiophysics, various aspects of chemistry, metal physics, meteorological research, mineral processing, building research, dairy products research, engineering research, and coal utilization.

Organization

C.S.I.R.O. is a statutory corporation operating under its own Act of Parliament and exercising its powers subject to the regulations and the approval of the Minister. The Minister responsible for the Act is the Prime Minister, but he has delegated this responsibility to the Minister-in-charge of Commonwealth Activities in Education and Research.

The governing body of the Organization is the Executive, which consists of nine members appointed by the Governor-General. There are five full-time members, one of whom is Chairman, and four part-time members. At least five of the members must possess scientific qualifications. The Executive is responsible to the Minister for the policy and the work of the Organization.

For carrying out its research work, C.S.I.R.O. is divided into four major group laboratories and a number of Divisions and Sections. The four group laboratories are the Animal Research Laboratories comprising four Divisions, the Chemical Research Laboratories comprising six Divisions, the National Standards Laboratory comprising two Divisions, and the Wool Research Laboratories comprising three Divisions. There are also seventeen independent Divisions in other research fields and an additional ten independent Sections. The Head Office is in Melbourne and associated with it are the Central Library (*see* pages 625-6), the Film Unit, and the Translation Unit. Regional Administrative Offices are located at Brisbane, Canberra, Melbourne, and Sydney. The Organization also maintains the Australian Scientific Liaison Office in London and the Office of the Scientific Attaché in Washington.

Since the Organization's activities are Commonwealth-wide and often involve extensive field work, a number of branch laboratories and field stations have been established in various parts of Australia. The more important of these are included in the following lists.

Laboratories and Divisions

Animal Research Laboratories, consisting of the following four Divisions:

- Animal Genetics, Sydney, with a branch laboratory and field station at Rockhampton, Queensland, and field stations at Armidale and Badgery's Creek, New South Wales, and at Cunnamulla, Queensland.
- Animal Health, Melbourne, with branch laboratories in Sydney and Brisbane, and field stations at Jimboomba, Queensland, and Werribee, Victoria.
- Animal Physiology, Sydney, with a laboratory and field station at Armidale, New South Wales, and a branch laboratory in Brisbane.
- Nutritional Biochemistry, Adelaide, with a field station at O'Halloran Hill, South Australia.

Chemical Research Laboratories, Melbourne, consisting of the following six Divisions:

- Applied Mineralogy, with branch laboratories in Perth and Sydney.
- Chemical Engineering.
- Chemical Physics.
- Mineral Chemistry.
- Organic Chemistry.
- Physical Chemistry and Microanalytical Laboratory.

National Standards Laboratory, Sydney, consisting of the following two Divisions:

- Applied Physics.
- Physics, with the Solar Observatory at Culgoora, New South Wales.

Wool Research Laboratories, consisting of the following three Divisions:

- Protein Chemistry, Melbourne.
- Textile Industry, Geelong, Victoria.
- Textile Physics, Ryde, New South Wales.

The other Divisions are:

- Building Research, Melbourne, with an office in Port Moresby, New Guinea.
- Coal Research, Sydney.
- Dairy Research, Melbourne.
- Entomology, Canberra, with branch laboratories in Sydney, Brisbane, Hobart, Perth and Armidale, New South Wales, and field centres at Albury, Trangie, and Wilton, New South Wales, and at Amberley, Queensland.
- Fisheries and Oceanography, Cronulla, New South Wales, with branch laboratories in Brisbane, Melbourne and Perth.
- Food Preservation, Sydney, with branch laboratories at Gosford, New South Wales, (operated jointly with the New South Wales Department of Agriculture), and in Brisbane and Hobart.
- Forest Products, Melbourne.
- Land Research, headquarters in Canberra, and field stations and laboratories at Alice Springs, Katherine, and Darwin, Northern Territory, and Kununurra, Western Australia.
- Mathematical Statistics, Adelaide, with officers stationed at a number of Divisions and Sections and at the University of Melbourne.
- Mechanical Engineering, Melbourne.
- Meteorological Physics, Melbourne.
- Plant Industry, Canberra, with branch laboratories in Perth, Hobart, Brisbane and Melbourne, and at Deniliquin and Armidale, New South Wales, field stations and experimental farms at Canberra and Deniliquin, and at Kojonup and Baker's Hill, Western Australia, and a tobacco research institute at Mareeba, Queensland.

Radiophysics, Sydney, with the Australian National Radio Astronomy Observatory at Parkes, New South Wales, and the Solar Observatory at Culgoora, New South Wales. Soils, Adelaide, with branch laboratories in Brisbane, Canberra, Perth, and Hobart, and Townsville, Queensland.
 Tribophysics, Melbourne.
 Tropical Pastures, Brisbane, with branch laboratories at Townsville and Lawes, Queensland, and field stations at Samford and Woodstock, Queensland.
 Wildlife Research, Canberra, with a branch laboratory in Perth.

Sections

Computing Research, Canberra, with subsidiary installations at Adelaide, Melbourne and Sydney.
 Editorial and Publications, Melbourne.
 Horticultural Research, Adelaide, with a field station at Merbein, Victoria.
 Irrigation Research Laboratory, Griffith, New South Wales.
 Mineragraphic Investigations, Melbourne.
 Ore Dressing Investigations, Melbourne.
 Physical Metallurgy, Melbourne.
 Soil Mechanics, Melbourne, with a branch laboratory in Adelaide.
 Upper Atmosphere, Camden, New South Wales.
 Wheat Research Unit, Sydney.

The Organization's total budget for 1965-66 was more than \$38,000,000. About three-quarters of this was provided by the Commonwealth Government, while much of the remainder was provided by trust funds which have been set up by various primary producer groups. The largest of these is the Wool Research Trust Fund, but the wheat, dairy, beef cattle, leather, and tobacco industries also contribute substantial amounts. The funds are derived from a levy on produce matched by a Government contribution.

Mount Stromlo Observatory

Mount Stromlo Observatory—since 1957 incorporated into the Australian National University—is the largest observatory in the southern hemisphere. It is in effect the Department of Astronomy of the Australian National University, and its staff members assist in the training of the future astronomers of Australia. In its instrumental resources it is second only to some of the great observatories of America. Since it is located south of the Equator, it is placed especially advantageously for the conduct of research into the structure of the Milky Way system and of the Star Clouds of Magellan. The telescopes and auxiliary equipment at the Observatory provide access to parts of the sky that are forever hidden from the view of northern hemisphere astronomers. There is increasing emphasis on researches, observational and theoretical, relating to the physics of the atmospheres of the stars. Mount Stromlo astronomers have therefore a special responsibility to do research on stars and other celestial objects at far southern declinations.

Mount Stromlo itself is a ridge of hills, approximately one mile long, situated at 35° 19' 16" South Latitude and 149° 0' 20" East Longitude, seven miles west of the city of Canberra. Its highest point is about 2,560 feet above sea level, and telescopes can be situated so as to be well screened from the lights of the city.

The first permanent installation on the site was established in 1911, but, because of the war and other circumstances, the development of the Observatory was delayed. It was not until 1925 that regular astronomical work could be undertaken. Since then the Observatory has developed steadily, and under its third Director the scientific staff now consists of fifteen astronomers. This does not include fifteen scholars and a number of oversea astronomers visiting Mount Stromlo for periods of a year or so. With technical, clerical and maintenance personnel, the total staff amounts to about 80.

Mount Stromlo Observatory possesses ten mounted telescopes with apertures ranging from five inches to 74 inches. The 74-inch reflector is of the largest size of telescope in the southern hemisphere. There are also special telescopes for the Time Service, and the University of Uppsala, Sweden, has a 26-inch Schmidt telescope on Mount Stromlo.

The principal fields of research at Mount Stromlo are as follows.

- Studies of the structure and dynamics of the Milky Way system.
- Investigation of the Large and Small Magellanic Clouds.
- Studies of the physical properties of the interstellar medium of gas and dust, and its relation to the spiral structure of our galaxy.
- Studies of the physics of the stars of the southern hemisphere by spectrographic means and by photoelectric techniques.
- Maintenance of the National Time Service, leading to studies of the variable rotation of the earth and polar motion.

Published accounts of the researches have a world-wide distribution.

The Observatory is at present completing a major expansion of equipment and staff. A permanent field station is in operation on Siding Spring Mountain (Latitude 31: 16: South; Longitude 148° 41' East; altitude 3,820 feet) near Coonabarabran, New South Wales. This is an area having less cloud than Mount Stromlo. The principal instrument is a modern 40-inch reflector, alongside of which is a 16-inch telescope. Both telescopes were built in the United States and are now in operation. A 24-inch polarization reflector will be placed into operation in the middle of 1966. Other sites are being examined for the future development of astronomy in Australia. A more detailed description of the Observatory's work is given in Year Book No. 46, pages 1142-4.

Australian Atomic Energy Commission

Establishment and functions of the Commission

In November 1952 a Commission of three members was appointed to control the Commonwealth's activities in relation to uranium and atomic energy, and in April 1953 upon the enactment of the *Atomic Energy Act 1953* the Commission was established as a statutory authority with powers and functions as defined in the Act. Under amending legislation the number of Commissioners was increased to five in April 1958. The Commission is a corporate and autonomous body, controlling its own service. It functions under the direction of the Minister for National Development.

The functions of the Commission fall under two main headings. Firstly, it is responsible for undertaking and encouraging the search for and mining of uranium and is empowered to co-operate with the appropriate authorities of the States in connection with these and related matters. Secondly, it is authorized to develop the practical uses of atomic energy by constructing and operating plant for this purpose, carrying out research, and generally fostering the advancement of atomic energy technology.

Uranium prospecting and mining

Production of uranium concentrate in Australia is now confined to the Rum Jungle Plant, Northern Territory. Since 1953 mining and treatment operations here have been conducted for the Commonwealth by a mining company. Mining of presently known reserves of uranium in this area was finished in 1963, but treatment of stock-piled ore will continue for some years. Australia's own domestic requirements of uranium oxide to the end of the present century are expected to be greater than currently known reserves. Because of this the Commonwealth has continued exploration for uranium in the Rum Jungle area, and has sought to encourage private producers to resume exploration.

Research

The Commission's Lucas Heights Research Establishment is Australia's atomic energy research and information centre. Its research programme is concerned with the development of nuclear power, the production and utilization of radioisotopes, and other related fields, and is directed towards the long-term development of national resources.

The research programme over the past few years has been a technical and feasibility study of an advanced high temperature gas cooled reactor system in which the core was composed of ceramic materials—oxides of uranium, plutonium, thorium and beryllium. Carbon dioxide was considered as the coolant gas. The study has been largely concerned with fundamental research and development in the fields of reactor materials, nuclear and reactor physics, and nuclear engineering. The feasibility study has provided valuable personnel training in nuclear science and engineering. The Commission now proposes to widen its research programme to study the technical and economic features of other types of reactors which have particular relevance to future nuclear power generation in Australia.

The use of radioisotopes is increasing rapidly in Australia in scientific research and development, in treatment of diseases and in agriculture and industry generally. Most of these, especially short-lived radioisotopes which cannot be imported, are being produced in the Commission's high flux research reactor HIFAR, at Lucas Heights. The A.A.E.C. is also producing the majority of cobalt 60 teletherapy sources for cancer treatment in Australia, and is exporting high activity sources to New Zealand and to Asia. The Commission is promoting research into radioisotope application and is co-operating with universities, industry and Governmental bodies in making available the most up-to-date techniques involving the use of radioisotopes in every field.

Large-scale hydrological investigations using radioactive tracers have been conducted by the Commission. These have included sand tracing in Botany Bay and silt tracing in Newcastle Harbour and the Hunter River in association with maritime and development authorities.

Extensive research and development work on the technical and scientific applications of gamma radiation is also being carried out. The possibilities of radiation for such purposes as industrial sterilization, food preservation, disinfestation of wheat and flour, and the control of fruit fly and other insect pests are being investigated. Scientists at Lucas Heights are also studying the biological effects of radiation and questions of health and safety.

Considerable potential exists in Australia for possible future application of nuclear explosives for large civil engineering and mining projects. The Commission has maintained close interest in the developmental work under the United States Plowshare Program. A United States expert visited Australia in 1962, and an Australian technical mission visited the United States of America in 1963 to make a detailed examination of the use of nuclear explosives for peaceful purposes. The Commission continues to receive data and reports relating to progress in this field.

The Research Establishment has developed facilities for the absolute standardization of radioisotopes and has participated in international intercomparisons in the health and safety field. Work is directed to various aspects of radiation dosimetry, to radiation biology, and to aspects of the toxicology of beryllium compounds.

Lucas Heights is a centre of specialized equipment and information. In addition to the research reactor HIFAR, used for testing materials and producing radioisotopes, there is much other equipment unique in Australia. All these facilities are available to universities and other institutions under suitable conditions. In these endeavours the Atomic Energy Commission is working in close co-operation with the United Kingdom Atomic Energy Authority, under arrangements which give Australia access to results of British research on peaceful atomic energy uses. Results of research in Australia are in like manner available to Britain. Work in Australia, though constituting a self-contained programme, is co-ordinated with the British programme to avoid overlapping of research objectives and duplication of investigations. Australia also has bilateral arrangements with the United States, Canada and Japan, and recently accredited a diplomatic mission to the European Atomic Energy Community (Euratom). Australia is also taking part in the promotion of the peaceful uses of atomic energy through the International Atomic Energy Agency. For the year 1964-65 the Commission placed \$110,000 worth of research contracts mainly within Australian universities on matters related to the research programme at Lucas Heights. Since 1954 the Commission has placed research contracts to a total value of about \$1,048,000.

The Australian Institute of Nuclear Science and Engineering comprises the Australian Atomic Energy Commission and Australian universities. The Institute's operations are financed by membership subscriptions and a Commonwealth Government grant which amounted to \$150,000 in 1965-66. The purpose of the Institute is to stimulate research and training in nuclear science and engineering within the universities and to arrange access for university research workers to the highly specialized equipment at the A.A.E.C. Research Establishment.

The Australian School of Nuclear Technology is jointly sponsored by the Commission and the University of New South Wales. Courses are now being offered in nuclear technology, production and use of radioisotopes, radiological safety, health physics, and other related topics. Application for admission is open to graduates from Australia and overseas.

Standards Association of Australia

The Standards Association of Australia is the national standardizing organization and issues Australian standard specifications and test methods for materials and products and standard codes of practice.

The Standards Association was established in July 1929 by the amalgamation of the Australian Commonwealth Engineering Standards Association and the Australian Commonwealth Association of Simplified Practice. It was incorporated by Royal Charter in 1950. It is an independent body in close touch with modern industrial requirements and has the full recognition and support of the Commonwealth and State Governments and of industry. Half of its funds are provided by Commonwealth Government grant, the remainder coming from membership subscriptions, other contributions, and sale of publications. Organizations, companies and individuals are eligible for subscription membership.

The governing body of the Association is a Council, on which industry is fully represented, together with official representatives of the Commonwealth and State Governments and their technical departments, and of scientific, professional and commercial organizations. Voluntary assistance is rendered in the drafting of specifications and codes by several thousand individuals who are experts in their particular fields. They are organized into some hundreds of committees. These committees are grouped under broad industry divisions, including building construction and civil engineering, electrical engineering, mechanical engineering, chemical, timber, plastics, packaging, and iron and steel.

The Association publishes standards of many kinds for the benefit of industry and commerce. Its specifications provide a suitable standard of performance, quality and dimension, and an equitable basis for tendering. They help to eliminate redundant qualities and sizes. They enable purchasers to obtain their requirements with greater assurance of satisfaction, with more rapid delivery, and without the necessity of drafting individual specifications. As a rule the Association creates national standards based on Australian practices, but attention is also given to international recommendations issued by the international standards bodies referred to below. There is also some endorsement of British standards, with or without modification. More than 1,400 Australian standards have been published and more than 600 projects are in hand.

The underlying principles covering the preparation of the specifications and codes are that they shall be in accordance with the needs of industry; that the common interests of producer and consumer be maintained; that periodical revision should keep the work abreast with progress; and that standardization be arrived at by general consent without coercion. The Association has two specialized libraries, one in Sydney and one in Melbourne, containing the national standards of all countries with standards organizations. These libraries serve to provide necessary material for committee work and also give freely a service to those concerned with standards or related matters, e.g. to importers and exporters seeking details of practice in other countries.

The Association has international affiliations and is a member, representing Australia, of the International Organization for Standardization (ISO) and of the International Electro-technical Commission (IEC). Close links are maintained with the British Standards Institution and the standards organizations of other British Commonwealth countries. The Association is the Australian agent of the British Standards Institution and can supply all British standards. Its functions are linked to some extent with those of the National Association of Testing Authorities in that whereas the Standards Association establishes and publishes standard test methods, the Association of Testing Authorities works to ensure that registered testing laboratories maintain their level of competence.

The headquarters office of the Association is in Sydney and there is a major branch office in Melbourne. Branch offices are located also in other capital cities and at Newcastle, New South Wales.

National Association of Testing Authorities

The National Association of Testing Authorities organizes testing facilities throughout Australia to serve private and governmental needs.

Membership is open to authorities whose testing laboratories conform to the standards of staffing and operation defined by the Association. Testing authorities may register their laboratories voluntarily. The Association assesses the competence of the laboratories and ensures that their standards of competence are maintained. Certificates of test issued by registered laboratories may be endorsed in the name of the Association. NATA endorsed test certificates are generally accepted by governmental, industrial and commercial interests.

Laboratories are registered for performance of specific tests in the fields of metrology, mechanical testing, electrical testing, optics and photometry, industrial radiography and flaw detection, heat and temperature measurement, chemical testing, biological testing, and acoustic and vibration measurement. At the end of 1965 there were 522 laboratories registered with the Association, which had a further ninety applications for registration before it.

Scientific societies

Royal Societies

The following table contains the latest available statistical information regarding the Royal Society in each State.

ROYAL SOCIETIES, DECEMBER, 1965

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Canberra
Year of charter	1866	1859	1884	1880	1913	1844	1930
Number of members	354	496	343	237	228	623	166
Volumes of transactions issued(a)	98	79	(b) 76	89	57	99	..
Number of books in library	32,000	26,150	66,857	23,000	6,500	35,100	..
Societies on exchange list	395	335	285	350	231	314	..

(a) Cumulative total. (b) Volumes of proceedings.

Australian Academy of Science

The Australian Academy of Science is the national institution representing science in Australia. Constituted by Royal Charter in 1954, the Academy promotes scientific knowledge and research, maintains standards of scientific endeavour and achievement in the natural sciences in Australia, and recognizes outstanding contributions to the advancement of science. The Academy represents Australian science and scientists at the national and international level, organizes meetings of scientists, holds symposia, and arranges for visits of scientists from other countries to Australia.

In its functions it is comparable with the Royal Society of London and national academies of science of many other countries. Its 106 Fellows (designated F.A.A.) are eminent in some branch of the physical or biological sciences in Australia, occupying professional positions in universities, the Commonwealth Scientific and Industrial Research Organization, other research organizations, and industry. A very few places are reserved for Fellows who have rendered conspicuous service in the cause of science. No more than six new Fellows are elected in any one year.

The Australian Academy co-ordinates Australian contributions to such co-operative ventures as the International Geophysical Year, the International Year of the Quiet Sun, and the International Biological Programme. Representation is provided at the General Assemblies of the International Scientific Unions and similar bodies relating to astronomy, geophysics, geology, physics, crystallography, mathematics, biochemistry, physiology, geography, biological sciences, chemistry, Antarctic research, space research, and oceanic research.

As the Australian Academy of Science is too young a body to be financially self-sufficient, the Commonwealth Government makes annual grants of general purpose funds without affecting the autonomy of the Academy. These grants, together with substantial private benefactions, enable the Academy to continue its work. Research fellowships provided by industry are administered. The Academy is managed by an elected council comprising a President, Treasurer, two secretaries and eight ordinary members who are drawn equally from the physical sciences and biological sciences. Chief administrative officer is the Executive Secretary who is not a Fellow. Its conference centre in Canberra was opened in 1959.

Australian and New Zealand Association for the Advancement of Science

This association was founded in 1887. Its headquarters are at Science House, Sydney, and congresses are held at intervals of approximately eighteen months in the various States and in New Zealand. The 39th Congress is to be held in Melbourne in January 1967.

Other scientific societies

The Linnean Society of New South Wales, with headquarters in Sydney, was founded in 1874. Sir William Macleay, who died in 1891, during his lifetime and by his will endowed the Society to the amount of \$134,000, which has been increased by investment to approximately \$240,000. The Society offers annually to graduates of the University of Sydney, who are members of the Society and resident in New South Wales, a research fellowship (Linnean Macleay Fellowship) in various branches of natural history. The library has some 19,000 volumes. Ninety volumes of proceedings have been issued, and the Society exchanges with about 300 kindred institutions and universities throughout the world. The membership at the end of 1965 was 299.

The British Astronomical Society has a branch in Sydney, and in each of the States there is a branch of the Australian Medical Association.

There are more than 200 other learned societies devoted to the study of particular sciences. Some of these, including the Royal Australian Chemical Institute and the Institute of Engineers, Australia, are qualifying bodies, admission to which is by qualification only. Others, such as the Institute of Food Technologists, are open to any interested person. Some societies, such as the Australian Biochemical Society, have annual symposia of a very high standard. A great many of these bodies publish appropriate journals.

STATE GOVERNMENT EXPENDITURE ON EDUCATION, ETC.

Estimates of the expenditure by each State Government on education and related items are shown in the following tables.

Expenditure from revenue and special funds

Details shown on page 654 relate to net expenditure from Consolidated Revenue and the special funds: Opera House Account, Maintenance and Repairs to Schools and Police Buildings Account and the Joint Coal Board Welfare Fund (New South Wales); Forestry Fund (Victoria); and Lotteries Commission Fund (Western Australia). Details exclude expenditure from the Commonwealth university grants, and expenditure on debt charges, pay-roll tax and superannuation payments. The cost of medical and dental inspection of school children is also excluded, as this service is considered to be more appropriately classified under public health.

For these reasons, the figures do not represent total current government expenditure on education in each State. Furthermore, because of differences in organization and accounting methods, the information shown is not on exactly the same basis for all States, and consequently comparisons of State expenditures are approximate only.

STATE NET EXPENDITURE ON EDUCATION, ETC. (a) FROM REVENUE AND SPECIAL FUNDS, 1960-61 TO 1964-65
(\$'000)

Year	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Total
1960-61 . . .	116,270	80,386	33,894	28,254	22,756	11,512	293,072
1961-62 . . .	125,974	89,264	36,016	32,534	25,016	12,722	321,526
1962-63 . . .	135,176	100,352	39,852	35,612	26,922	13,920	351,834
1963-64 . . .	151,262	113,288	43,894	40,318	29,940	15,340	394,042
1964-65 . . .	179,218	124,935	47,265	44,468	34,137	17,382	447,405

(a) Includes expenditure on administration, transport of school children, teacher training, primary, secondary, technical, agricultural, and university education; and expenditure of libraries, museums, etc.

State Loan Fund expenditure on educational buildings

Details in the following table show gross Loan Fund expenditure in each State on educational buildings.

STATE GROSS LOAN FUND EXPENDITURE ON EDUCATIONAL BUILDINGS
1960-61 TO 1964-65
(\$'000)

Year	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Total
1960-61 . . .	31,498	25,500	7,078	9,672	5,468	4,018	83,234
1961-62 . . .	32,356	28,320	6,834	11,888	5,814	3,770	88,982
1962-63 . . .	32,148	28,130	8,818	11,910	5,458	4,046	90,510
1963-64 . . .	35,631	30,566	11,270	9,850	5,867	4,759	97,943
1964-65 . . .	40,177	30,450	9,609	11,183	7,030	4,456	102,905