
Early developments

1860 1900

Colonial background

Technical education emerged in the colony of Queensland to serve the society of that time. What then were the features of that society which were directly or indirectly relevant to helping or hindering the development of technical education?

The economy

By the close of the 1860s, the development of the Gympie goldfields had placed the economy of Queensland on a firm basis. A period of steady growth followed in the 1870s. During the 1880s Queensland experienced an economic boom, with speculation in land, mining and building and considerable government expenditure on railways. A depression followed during the 1890s, which affected particularly the woollen industry and the building trade. The severity of this depression was lessened by the resilience of the manufacturing industries, the development in the dairying and frozen meat industries, and the expansion in gold and sugar production. In Brisbane the number of unemployed rose to a peak in 1893, with tradesmen having great difficulty in finding jobs. The number of unemployed steadily declined until 1898. Recovery was hampered by a drought in 1900.¹

Much of Queensland's economic development was decentralised. For example, an important Queensland foundry was established in Toowoomba, while Walkers Ltd, a major engineering firm, was established in Maryborough. Brisbane's industrial development was chiefly restricted to service and light industries. Main regions developed around the important ports of Rockhampton, Townsville and Brisbane, with many people from these northern regions wanting to establish colonies separate from the colony of Queensland, which was dominated, as they saw it, by Brisbane. Consequently, long-term rivalry developed between these three centres. Furthermore, inhabitants of country areas harboured an element of hostility towards those living in the larger towns, especially Brisbane.²

Population growth

From 1861 to 1881, Queensland's population increased sevenfold, rising from 30 059 to 213 525. From 1881 to

1901, the population more than doubled, increasing from 213 525 to 498 129, with the urban slightly exceeding the rural population. From 1861 to 1890, immigration made the greatest contribution to the growth in population, providing 70 per cent of the increase. During the 1880s, nearly 8 per cent of the large number of immigrants were skilled workers, including carpenters (the largest group), blacksmiths, metal workers and building workers.³

Ideology

One philosophical school of thought that remained influential into the early part of the twentieth century was utilitarianism. This ideology was based on a doctrine of ethics which stated that only what is useful is good, and that usefulness can be rationally determined. The utilitarians' test for the usefulness of the conduct of an individual, of a government, or of an educational institution was in terms of social usefulness, 'the greatest happiness of the greatest number'. As far as the individual was concerned, education was necessary to give an awareness of what pleasures one should seek and an understanding of one's true interests.

Some of the utilitarians emphasised laissez-faire policies and therefore opposed government intervention in many fields of social endeavour. One utilitarian, John Stuart Mill (1806-1873), however, advocated social legislation to improve the conditions of the poor and the working class. He believed that the government should provide an elementary education for the lower classes. Such a theory was readily accepted towards the end of the nineteenth century in Queensland, where there was a continuing democratic tradition and a tendency to look to government intervention to provide needed facilities.

Social Darwinism emerged as another important theory during the last decade of the nineteenth century. As expounded by Herbert Spencer (1820-1903), this sociological conflict theory drew an analogy between the biological organism and human society. Spencer described society in terms of the Darwinian theory of evolution. He included in his evolutionary scheme, ideas of natural selection and survival of the fittest, with adaptation being purposive. Struggle was accepted as an inevitable element in interpersonal and international

relations. Social Darwinism flourished as an ideological support for the struggle for national supremacy and imperialism.

These two theories were often oversimplified by the public. Utilitarianism became a synonym for 'practical' and social Darwinism was reduced to the slogan 'struggle for life'.

Anti-intellectualism was another ideological force. References at the time were often made to the superior ability of the man who forged ahead 'the hard way' compared with the man 'with paper qualifications'. The frontier situation in early Queensland fostered such anti-intellectualism.⁴

Social attitudes

While considerable social mobility existed up to the end of the 1880s, social classes became more rigid during the 1890s. Education, however, provided a means of mobility for the lower classes to improve their status in society, but the high cost of the traditional grammar school and university education proved a serious obstacle. There were no State high schools at that time and secondary and university scholarships were scarce. After 1890 such occupations as architecture and engineering required formal theoretical studies for registration in addition to the traditional, practical, on-the-job training. While skilled tradesmen usually earned more than clerical workers, the latter enjoyed more prestige. Furthermore, it was recorded in 1900 that some people in the traditional school systems were prejudiced against technical colleges, which they believed tainted education.⁵

Apprenticeship system

Young people were apprenticed to a trade or calling by a verbal agreement between the employer and the parent. Sometimes an apprentice entered into an indenture, which imposed obligations upon both the apprentice and the employer. The period of apprenticeship was usually four to five years. In some industries, such as bootmaking and millinery, apprentices were not taught the complete trade, and learnt only part of the processes.

Apprentices, generally, were poorly paid. In some industries, the parents of the apprentices had to pay a premium before the employer would accept the apprenticeship and the apprentices sometimes worked for no pay for up to a year.

The large number of immigrant tradesmen created difficulties for school-leavers seeking apprenticeships. J.C. Beale, the Government Printer, commented on this in 1891: 'I have taken very few apprentices within the last two or three years. I think we have already enough compositors and machinists in the colony without making more'.⁶

During the 1890s, of the boys employed in factories in Brisbane, hardly one in fifty went through a proper apprenticeship. It is not surprising, then, that experts and employers at the time stated how difficult it was to find native-born workers skilled in their trade and with the skills expected of a foreman.⁷

Origins of technical education

Mechanics' institutes in Great Britain

To trace the origins of technical education in Queensland, we need to turn our attention briefly to Glasgow in 1800. It was there and then that George Birkbeck delivered a successful course of lectures on mechanics to workers at the Andersonian Institute. Birkbeck moved to London in 1804, but the Glasgow lectures were continued by others until members of the class formed a separate Mechanics' Institute in 1823, with the wider object of 'instructing artisans in the scientific principles of arts and manufactures'. Shortly after this, in the same year, Birkbeck founded the London Mechanics' Institute, which provided a model for other mechanics' institutes. By 1850 there were 600 such institutes in Great Britain.

The English middle class of the time fostered the establishment of these institutes in the belief that such education would help the working class to become more efficient and more productive within their fixed station in life.⁸

In 1851 a Great Exhibition of arts, crafts and manufacture of the industrial nations of the world was held in London's Hyde Park. The industrial progress made by France and Germany, evidenced by their exhibits, came as a shock to the British, who ascribed this progress to the superior education systems in those countries. The British thereupon set out to improve their own education system, including technical education.⁹

Mechanics' institutes in Queensland

The idea of mechanics' institutes was quickly transplanted to the Australian colonies. The first was opened in Hobart (1827), followed by others in Sydney (1833), Adelaide (1838), Melbourne (1839), Brisbane (1849) and Perth (1851). After the North Brisbane School of Arts and Mechanics' Institute opened in 1849, similar institutes opened in other towns in what later became the colony of Queensland. The original aim of these mechanics' institutes was to provide lectures, classes of instruction and a library for artisans. However, these institutes followed the same pattern established in other Australian colonies. They provided a library and a recreational centre for predominantly middle-class members, and no classes were provided.¹⁰

This trend caused concern at the time. At the fourth annual general meeting of the Dalby School of Arts and Mechanics' Institute in 1867, the Vice-President, F.W. Roche, a merchant and forwarding agent, was one of those who voiced concern. He explained that these institutes were responsible for the diffusion of knowledge among the masses of the people, especially the knowledge of arts and science necessary to a nation's progress. He believed that a mechanics' institute was very much concerned with breaking the monopoly of knowledge held by a particular class. It should therefore provide an education for those whose education had been neglected in childhood, and make 'high class



The original North Brisbane School of Arts (the larger building on the right-hand side). An entry from Queen Street led to a hall and an entry from Creek Street led to the library.

books' accessible to the poor. He claimed that the committee had managed to obtain teachers for classes, but was unable to find anyone prepared to learn. Furthermore, he pointed out that their well-stocked library had few books of scientific, artistic or practical value.

In his attitudes to the audience at that general meeting, Roche made no effort to disguise the moral stance of the middle class of that time. At one point in his speech, he directed patronising remarks to the workmen present. He exhorted them to make use of the institutions set up for them, to spend less money on 'nobbles' (nips of spirits) and more on education. He also directed his attention to those 'in more prosperous circumstances' who had 'a good education'. He urged them to support those institutions designed to break down class barriers. Roche concluded his speech with,

The humble artisan do not despise,
From smallest beginnings noblest structures rise.¹¹

Reports from other schools of arts, and commentaries on the school of arts movement published in *The Queenslander* during the 1860s, confirm that they were basically middle-class recreational centers.¹² By 1872 there were sixteen schools of arts in Queensland, and more insistent claims were being made that technical education was necessary and that it was the role of the schools of arts to provide this.¹³ Influenced by laissezfaire utilitarianism, many people believed that it was up to the individual citizen to provide the necessary financial support. During a speech in 1872 at the North Brisbane School of Arts, the Governor of the colony affirmed, to a chorus of 'hear, hear', that it was a bad habit for people to look to the government to supply their wants.¹⁴

The most consistent advocates of technical education prior to the establishment of Brisbane Technical College in 1882 were Charles Lilley and John Douglas.

Strongly influenced by the utilitarian, John Stuart Mill, Lilley (1827-1897) had a lifelong interest in support for education and the interests of the working class. Born and educated in England, he spent two years at University College, London. Shortly after coming to Brisbane in 1856, he became associated with the North Brisbane School of Arts. Lilley was a radical politician and, while Minister for Education in 1870, was directly responsible for abolishing fees in government schools.¹⁵

John Douglas (1828-1904), born in Scotland, had been educated at Rugby and received a B.A. from the University of Durham. He arrived in Sydney in 1851, and later became part owner of a sheep station on the Darling Downs. As a politician, Douglas became popular with the working class. In 1864 he was the foundation President of the Spring Hill Mechanics' Institute and, from 1872 to 1885, President of the North Brisbane School of Arts.¹⁶

Lilley and Douglas supported the cause of technical education at committee meetings of the School of Arts, in public lectures and in articles published in the press. They claimed that knowledge was important for its own sake and that it was a source of social and moral benefit.

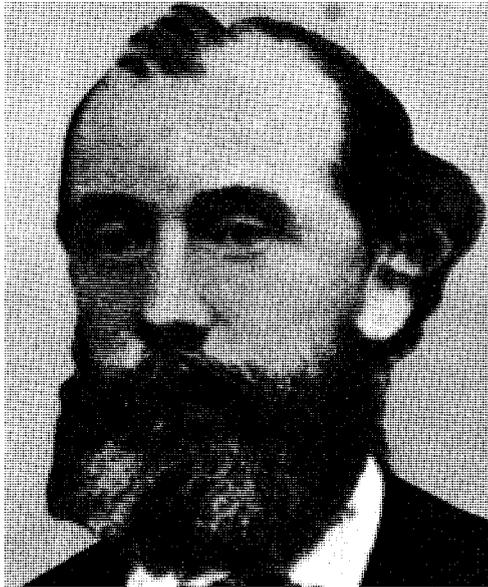


Dalby School of Arts, 1903.

They expounded the liberal faith that education was an essential ingredient of progress. More importantly, they presented the utilitarian viewpoint that technical education provided more efficient and skilled artisans, and was necessary to a society undergoing the initial stages of industrialisation and urbanisation.¹⁷ In the words of Douglas:

... the mechanic *will* certainly be no worse a mechanic, and he will be an infinitely better man and a more useful citizen if he knows something of the laws which govern the universe and which surround him with the most inexhaustible beneficence.¹⁸

Lilley believed that technical education could provide working-class men with a means of upward social mobility. 'Technical knowledge was an advantage ... to a man who wished to raise himself in his art so that he might become a master or foreman.'¹⁹



Charles Lilley, an early advocate of technical education in Queensland.



John Douglas, President of North Brisbane School of Arts (1872-1885), a supporter of the cause of technical education.

Failure of the first technical classes

At the annual general meeting of the North Brisbane School of Arts on 11 April 1872, the retiring President, Lilley, advocated that the School of Arts should provide the foundation of a technological school that would teach young mechanics and tradesmen the elements of the useful arts and sciences. This proposal was accepted and a sub-committee was formed to establish classes. The teachers chosen were of the highest calibre, and included T. Harlin, Head Master of Brisbane Grammar School, D. Cameron, Head Master of Ipswich Grammar School, Dr J. Bancroft, an eminent general practitioner and scientist, and J.A. Clarke, a prominent art teacher. The subjects taught were writing, Latin, algebra, geometry, trigonometry, chemistry and drawing.²⁰

Unfortunately, in October, it was reported that the classes in chemistry and geometry never began because of lack of students and that the other five subjects had a total membership of only thirty students.²¹ These classes had been conducted during the winter months of 1872. At a meeting of the sub-committee on 23 April 1873, it was decided to conduct classes again during the winter months of that year. The sub-committee stipulated that twelve members for each class were required before the classes could begin. When the required number did not appear for any of the subjects, the classes were abandoned.²²

The sub-committee attributed this failure to apathy and lack of public support. Part of this apathy stemmed from the strong prejudice in Queensland against manual work during the 1870s and succeeding decades. This has been well documented. As one commentator in 1872 put it:

The youth of our towns are much inclined to affect the spurious appearance of gentility which may be offered in a government desk, behind the counter of a bank, or in a merchant's office.²³

As a corollary to this, technical education was seen as a study with low status. In 1872 Lilley claimed that 'it was very much the practice to decry in some circles this practical kind of education and to treat it as secondary to literary culture'. He asserted that, in the study of science, some of the highest faculties of the human mind were exercised.²⁴

Another possible contributing cause to the failure of the technical classes was that the classes had been restricted to members of the School of Arts, which many of the working class saw as an alien institution. A comment to this effect was made in the *Telegraph*, 17 April 1879:

It is to be feared that many workingmen who can well afford the moderate annual subscription hold aloof, from a mistaken idea that the School of Arts is not for them.

Probably the main reason for the failure was that the classes were premature in the relatively new colony, which was importing most of its manufactured goods and skilled labour. Three witnesses, giving evidence before the Royal Commission on Education in 1874, differed in their opinions on this issue.

R.R. Smellie, owner of a large engineering establishment in Brisbane, said that the population was still too small for such a venture. F.T.T. Keogh, a master at Brisbane Grammar School and committee member of the School of Arts for ten years, believed that several industries established in Brisbane would probably create a demand in a few years' time.

The third witness was Joseph Augustine Clarke. Born in England and trained at the Department of Science and Art, South Kensington, Clarke as a young man had taught at the Bombay School of Design before coming to the colony of Queensland. In Queensland, he became a leading artist, art critic and art teacher. He taught for various educational institutions, such as the Brisbane Girls' Grammar School, the Board of General Education (the predecessor of the Department of Public Instruction) and, in 1872, the North Brisbane School of Arts.²⁵ Clarke stated that a sufficient number of people were interested in evening classes for artisans and others in the useful branches of science and art. He claimed that he was forced to give up his classes at the School of Arts, not because of a lack of pupils, but because of the lack of a suitably lighted room.

All witnesses agreed, however, that technical classes would serve a very useful purpose. Clarke, for example, believed that boys who left school attended technical classes, not only to improve their minds, but also their position in life. He thus saw technical education as a means of social mobility.²⁶

Series of lectures, which were given concurrently with the technical classes, managed to draw a cultivated middle-class audience but failed to draw many workingclass people.²⁷ Some of the topics presented during 1872-73 were the cultivation of the olive, the steam engine, New Guinea, the mariner's compass and modern views of the solar system.²⁸

Similar experiments in technical education were conducted in other schools of arts in Queensland in the 1870s. Most of these failed within a matter of months. More tenacious were the classes conducted at Gympie School of Mines and Mining Museum. In 1879 it was recorded that classes in mathematics, surveying, and practical chemistry were conducted at this institution, which had opened several years earlier to provide a library and a museum. To these classes were added phonetic shorthand and mechanical engineering. Classes continued until 1881, when they came to a halt, and the institution restricted itself once more to functioning as a library and a museum.²⁹

In an endeavour to provide some formal technical education in Queensland, Lilley, in 1872, included in an educational Bill designed to reorganise primary education the provision of 'Rudimentary Geology, Botany, Chemistry, Mineralogy and Mechanics with some knowledge of their application to Agriculture and the Arts'. This Bill proved unsuccessful in Parliament, but, later, the 1875 Education Act included mechanics as one of the set subjects for primary State schools.

The press, especially *The Queenslander*, kept the issue of technical education alive throughout the 1870s. Through regular editorials and articles, that weekly paper campaigned vigorously for the State to provide

technical education as part of the colonial system of education. It asserted that, hitherto, Queensland had been a big sheep station, but the recent development of railways and of industry related to the production of machinery, rum, sugar, leather, flour, ore smelting and an increasing population now made the introduction of technical education imperative. It pointed out that skilled artisans were necessary for future manufacturing development and the 'rule of the thumb' was no longer adequate. Furthermore, it insisted that it was important not to rely on English skilled labour but to prepare our own native-born youth for such occupations, since not all of them could expect to enter a 'genteel' occupation.³⁰

Establishment of the Brisbane Technical College

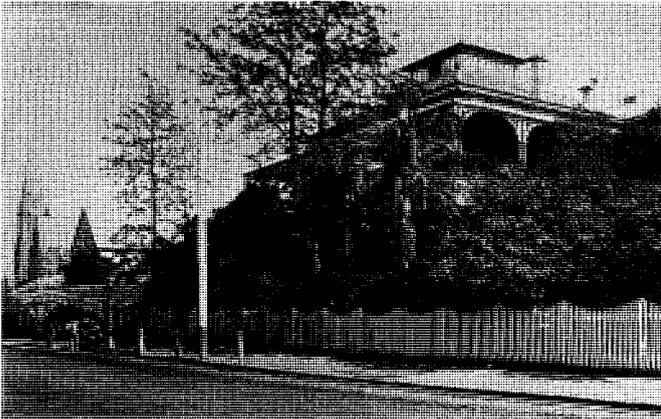
Early in 1881, Joseph Clarke approached the committee of the North Brisbane School of Arts for the use of a room for private night classes in industrial art. The committee agreed on the condition that he paid for the gas used for the lighting. To foster the success of the classes, the committee did not require prospective students to become members of the School of Arts. Thereupon, on 1 April 1881, twenty-two students began these classes held in the garret of the School of Arts building, each student attending two nights a week. Clarke took freehand and artistic drawing, while Christian Waagepetersen took mechanical drawing. The students represented occupations in architecture, carpentry, shipbuilding, engineering, photography, gold and silver work, surveying and decorative painting. Several schoolboys attended as well.³¹

On 26 September 1881, the committee gave Mr Baxendell permission to conduct classes in mathematics and extended to him the same privileges given to Clarke.

The classes were conducted from April through to mid-December and recommenced early in 1882. By June 1882 the number of students attending the classes had averaged about thirty.³²

The Queenslander was pleased to report, on 16 July 1881, that those attending were the people for whom the classes were designed. They were apprentices, lads proposing to enter an apprenticeship and grown men wanting 'to improve themselves in their art'. Unfortunately, *The Queenslander* added, the successful classes of keen students were quickly outgrowing their accommodation.³³

Concerned about this lack of accommodation, a delegation from the committee approached the Government for financial assistance on October 1881 and on 7 February 1882. John Douglas, the chairman of the committee, led another delegation on the 9 March 1882. In support of the claim for government assistance, Douglas stated that the committee wanted to put into operation the same technical education system that operated in the Sydney School of Arts and to provide technical education for those who left State schools so that they could become skilled mechanics or agriculturists. Douglas claimed that, to do this, the



North Brisbane School of Arts in Ann Street, the site of the first successful technical college in Queensland.

School of Arts needed additional premises, and he asked for a subsidy equal to the annual subscription of about £,600. This subsidy was to be separate from the usual annual government subsidy of £,100 given to the School of Arts.³⁴

In May 1882 the Colonial Treasurer, Archibald Archer, informed Douglas that the Government would put £600 on the estimates. On 18 October this annual vote of £600 was passed. In Parliament, supporters of the grant stated that boys would be able to learn a useful trade instead of going into offices where they were often useless, and that the colony would be less dependent on imported tradesmen, which would benefit the whole colony, not just Brisbane. One of the opponents claimed that it would not benefit workingmen but young men with grammar school education who wanted to be engineers.³⁵

Meanwhile, a sub-committee of the School of Arts was formed on 25 July 1882 to foster the establishment of a technical college. This sub-committee approached the Lord Mayor, John Sinclair, to call a public meeting of artisans and others interested in the erection of a technical college building and the formation of a technical school. At a meeting on the 3 August, the sub-committee took an important step. Its members decided that they would not wait for the erection of the building and that they would conduct classes in whatever temporary accommodation could be arranged. They advertised a syllabus for classes to begin in September. Students were to pay fees in advance to the Secretary of the School of Arts, Dudley Eglinton, who would then be responsible for paying the lecturers who would come under the administration of the committee of the School of Arts.³⁶

Clarke expressed his views in the press at the time, claiming that the School of Arts should offer those subjects necessary in most trades or callings - drawing, modelling, geometry, arithmetic and chemistry. However, he believed that they should teach anything for which they could get competent teachers and willing pupils, whether male or female. To Clarke, technical education would help young people in the battle for life.³⁷

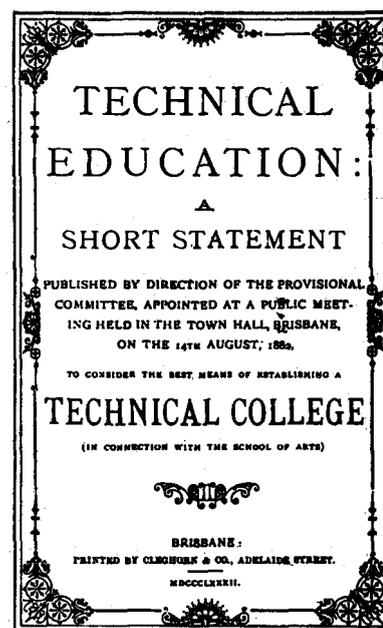
On 14 August, the Lord Mayor called the public meeting which the sub-committee had organised very carefully beforehand, enlisting in the process the support

of the leading citizens of Brisbane. This meeting resolved to assist in the collection of funds to build a technical college, and a provisional committee was appointed to implement this decision. The provisional committee included such eminent members as Sir Charles Lilley, Samuel Walker Griffith, John Douglas and other important leaders in business, the trades, professions and education.³⁸

By 7.30 p.m. on Monday evening, 4 September 1882, about a dozen young men had assembled in the garret of the North Brisbane School of Arts to begin a lesson in mechanical drawing. It was on this Monday evening that the Brisbane Technical College provided its first class. By October the classes comprised freehand and mechanical drawing, geology and mineralogy, book-keeping, French, German, and the history of the British Empire. The total enrolment was sixty-nine students.³⁹



Dudley Eglinton (right) Secretary of the North Brisbane School of Arts, who, in 1881, urged that regular technical education in Brisbane was feasible in spite of an earlier failure.



Dudley Eglinton wrote this pamphlet on technical education to further the establishment of the Brisbane Technical College in 1882.

From Clarke's initial steps in 1881, Eglinton, Secretary of the School of Arts, played an active part in establishing this technical school. He convinced Douglas that a technical college was viable, wrote an influential pamphlet on technical education, conducted a successful publicity campaign in the press, and put all of his organisational ability into ensuring the success of the college.⁴⁰

The persistence of such people as Lilley, Douglas, Clarke and Eglinton had finally been rewarded, aided no doubt by the beginning of the economic boom of the 1880s.

Adaptation to the society, 1882-1900

Differing goals

During this period, those Queensland colonists interested in technical education found difficulties in defining it and determining what it should cover. Discussing this problem in Parliament in 1890, the Minister for Education, William Hodgkinson, referred to the wide range of subjects offered by the Sydney Technical College, and stated that they had to leave the selection of subjects to the good sense of the locals.⁴¹

Some believed that it should be limited to trade training, and opposed such subjects as bookkeeping, dressmaking and subjects offered for the Civil Service Examinations. Such people saw technical education as unconnected to primary, secondary, and university studies. Louis Gouldring, MLA, had an even more limited view. He commented in Parliament in 1890 that technical education was important to the country because it was a means of keeping young men away from dice, cards, and the public house in the evenings.⁴²

A greater number came to accept the technical college as an institution with a more extensive role to play in the education of the State.⁴³ Illustrative of this outlook was an authoritative article that appeared in *The Queenslander* in 1900. This article attacked the prejudice that existed towards technical education. It asserted that the technical college was a connecting link with trade and industry and a means of preparatory advancement in many professional branches. The article then pointed out a wider significance of these aims. It depicted the technical college as an institution that prepared its students to become more useful and valuable citizens of the State. In ideological terms, it explained that their supremacy, if not their existence as a commercial nation, depended on the development of industry, which in turn depended on an education for the highest usefulness and efficiency. That included technical education, both theoretical and practical, as was imparted in Germany and other countries.⁴⁴

Those who pursued such aims were following a trend in Great Britain, where many of the mechanics' institutes had developed into polytechnic colleges. These colleges provided not only trade training but also a wide range of part-time evening courses, from post-primary to university level, for occupations and professions

related to commerce, science and technology. The polytechnic model thus provided an alternative system of secondary and university studies for those working people with the ability and desire to improve their station in life. Such a model was eminently suitable in a colony where there was no university, and where expensive grammar schools provided the only secondary education. By 1900 the larger technical colleges in Queensland resembled the British polytechnic colleges and were sometimes referred to as 'the poor man's university' or 'the working man's university'.

Early pressures for government responsibility

By the 1890s a laissez-faire attitude to the development of technical education had very little support. Influential moulders of public opinion called for greater central control. It was the opinion of David McConnel, Director of Brisbane Technical College from 1889 to 1909, that a Board of Technical Education with the Brisbane Technical College as a central institution should control technical education. This opinion was shared by the majority of the sub-committee of that college.⁴⁵

The matter came under consideration during the Royal Commission on Shops, Factories and Workshops in 1891. The commissioners were concerned about the level of technical skills in the colony, and they considered that skilled workers of the future were in danger of having only a very limited knowledge of their handicrafts. The commissioners believed that one cause of this was the specialisation of labour in modern industry, which limited the apprentices' learning of their trades. Another cause they identified was that journeymen often considered the apprentices as future competition for jobs and so taught them as little as possible.

Furthermore, the commissioners believed that employers seldom came into contact with apprentices and could not teach them much of the trade, as was the practice in former days. The commissioners recommended that the solution was for the State to undertake the responsibility of maintaining technical colleges where the apprentices would learn the whole of their trade. Another more radical recommendation they made was that apprentices' indentures should cover the right of the apprentices to attend certain technical classes during working hours.⁴⁶

In Parliament in the same year, 1891, a manufacturer, George Agnew, MLA, made clear one of the major concerns of manufacturers in Queensland. He stated that, if they were to compete with other colonies when federation came about, they needed a system of technical education to create good practical workmen.⁴⁷

Also in the same year, a deputation approached the Minister for Education, W.O. Hodgkinson, for greater assistance to technical education. This deputation represented a wide range of community groups with growing vested interests in technical education - the Institute of Mechanical Engineers, the Institute of Architects, the Building and Contractors Association, the Chamber of Commerce, and the following unions - Carpenters and Joiners, Bricklayers, Plumbers,

The college was administered by a sub-committee of the School of Arts Committee, and the Secretary of the School of Arts Committee, Dudley Eglinton, took the major responsibility for the day-to-day administration of the college.⁵⁴ The college sub-committee and the teachers attended special joint meetings. All of those attending had a wide range of experience to draw upon. At one of these meetings, Clarke pointed out that there was a need to coordinate classes. He had found that he and two other teachers were duplicating lessons in perspective. He also insisted that the different teachers of drawing should use the same textbooks so that the same terminology would be used in examinations of that subject. In 1889 the status of the college was improved through affiliation with the prestigious Department of Science and Arts, South Kensington, England.⁵⁵

In 1889 the following subjects were provided: geometrical drawing, architectural drawing, mechanical drawing, painting, architecture, building construction, mensuration, calculation of quantities and estimates, mathematics, practical biology, chemistry, mineralogy, carpentry, French, German, shorthand, arithmetic, writing and grammar.

Other subjects were offered at various times but were discontinued when enrolments became too low. These included Latin, bookkeeping, geology and cookery. The college sub-committee believed that certain subjects, such as mathematics and chemistry, were an essential part of a technical college curriculum and kept these in operation even when their enrolments dropped to as low as one or two. The low enrolment in chemistry was caused by the Pharmaceutical Society conducting its own courses in this subject. At that time, young men wishing to qualify as chemists or druggists constituted almost the only demand for chemistry classes. Manufacturing industries in Brisbane had little need for chemical processes.

The most popular subjects were freehand drawing and mechanical drawing (not provided in State primary schools), the elementary education subjects of arithmetic and writing, and one of the commercial subjects - shorthand. Courses in drawing followed closely those conducted at South Kensington. Throughout the period 1882-1889, separate 'classes for ladies' were provided in drawing, and sometimes in painting and modelling.

The only practical trade subject taught was carpentry, introduced in 1885. A special effort was made to begin an applied mechanics class, but circulars to all leading workshops failed to yield one applicant for this course. The college sub-committee believed that the infancy of the manufacturing industries limited, to some extent, the demand for instruction in technology.⁵⁶ In Parliament, John Isambert asserted that some industrial establishments were not teaching their apprentices their trades. He continued that such establishments should be charged - a licence fee to provide compulsory technical education for such apprentices, who should learn reading, writing, arithmetic and every branch of their trade. Isambert's suggestion was not received with much enthusiasm.⁵⁷



Brisbane Technical College Certificate of Merit issued in 1887

Unfortunately, many students would not persevere with their studies beyond one or two terms. To encourage such students to complete a full year of study, the college sub-committee introduced prizes and examinations in 1885.

In 1883 John Douglas referred to the teachers as volunteers because of the nominal salary they received. They were praised for their perseverance in the face of insufficient accommodation, want of appliances and, in some cases, low attendance. Since the lecturers' fees were related to the number of students enrolled in their classes, it is not surprising that there was a turnover in staff as the number of enrolments rose and fell. By 1886 their salaries were almost paid for by the fees collected.⁵⁸

While the number of classes varied only from twelve in 1884 to seventeen in 1887, the number of students enrolled increased from 101 in 1883 to 341 in 1886, dropping off slightly to 320 in 1889. The average attendance each quarter was 135. The age range of the students was, generally, from 15 to 25. The occupations of the students were mainly tradesmen, apprentices, clerks, shop assistants and office boys. According to the teacher of French, German and mathematics (grammar school subjects), no working-class students attended his classes.⁵⁹

Emergence of 'the poor man's university', Brisbane Technical College, 1889-1900

Aims. The stated aims of the college during the 1890s were quite broad:

... to provide education in art, science and industries. Its instruction is intended chiefly to afford practical help to young men and women who earn their living by arts, handicrafts, or commercial and agricultural pursuits. The plan of organisation includes, as circumstances and means may allow, the opening up of better and wider avenues of industrial employment, and the providing of liberal culture by lectures, library, and museum.⁶⁰

The *Brisbane Technical College Incorporation Act 1898* expressed the aims of the college in similar terms:

... to teach theoretically and practically the principles of science and art and their application to industries, trade, commerce and domestic economy, and to aid in the enlightenment and elevation of its students.

Thus the Act accepted that a liberal as well as a technical education was a legitimate concern of the college.

Administration. On 1 October 1889, the college sub-committee appointed David McConnel as Secretary of the college, and the accounts of the college were separated from those of the School of Arts. McConnel's title of Secretary was later changed to Director. McConnel, who was about 33 years of age when he was appointed, became responsible for timetabling, choice of textbooks, supervision of teachers, methods of examination, receipt of fees, supervision of all records and for the general internal organisation, management and discipline. McConnel had an extremely wide education - one which not many in Queensland would have been able to match at that time. He had received an M.A. from Edinburgh in classics, mathematics, natural philosophy (natural sciences), metaphysics, moral philosophy and English literature, had studied art at the Royal Academy of Scotland and had studied science for two years at Berlin University. He had completed the first three years of the medical course at Edinburgh University, at which point, in 1885, his father died, and he returned home to Queensland. During his time overseas, he had also managed to spend some time teaching in a prominent secondary school in Glasgow so that he could gain teaching experience.⁶¹

By 1896 the enrolment at the college had risen to 845 and the School of Arts Committee believed that the responsibility of the technical college had become too great for them. They therefore approached the Government to introduce legislation which would establish an independent body to administer the college. A sub-committee of the School of Arts drew up a draft bill, based on The School of Mines Act of 1894. The Government used this as the basis of a Bill that resulted in the *Brisbane Technical College Incorporation Act 1898*, which was to come into operation on 1 January 1899.⁶² Parochial interests had opposed it in Parliament without success. This opposition was caused by the fear that the Bill gave too much power to the Brisbane college to extend its influence throughout the colony.⁶³

The Act gave complete control of the affairs of the college to a council of twelve - six appointed by the Governor, three elected by those who donated a set amount of money to the college, and three elected by associates (diploma holders) and certificated students of the college. It also sanctioned the right of the college to govern branch colleges or schools, to affiliate with kindred colleges, and to conduct examinations outside Brisbane as well as in Brisbane.

Of the twelve members of the first council, which came into existence in 1899, three were women. Women had also been represented previously on the college subcommittee, which the council replaced.⁶⁴

Both the college sub-committee and the college council

had difficulties in obtaining qualified teachers because of the 'mere pittance paid' for their services. Nevertheless, a perusal of the lists of teachers employed during the 1890s reveals that most of them were highly qualified and experienced practitioners in their fields. An analysis of their biographies shows that many of them participated in other social and cultural organisations, which, coupled to the fact that they received a 'mere pittance' for teaching, suggests they were motivated by idealism to act as technical teachers.⁶⁵

Finance. Encouraged by supportive government attitudes towards technical education during the early part of 1890, McConnel asked the Government for a sum of £2000 to finance an expansion and rationalisation of the college courses. The Government increased the grant from £600 to £750, but, after the beginning of the financial year 1890-1891, this was made available only on the basis of £1 government subsidy to each £1 raised by the college, with a ceiling not to exceed a sum voted each year by Parliament.⁶⁶ In the college report for 1895, the college sub-committee pointed out the discrepancies between the money provided by the Government for primary, secondary and technical education, and revealed that the Government did not provide any scholarships or bursaries for technical education.⁶⁷ In 1896, the college sub-committee began a building fund which attracted shortly after a government subsidy of £2 for each £1 raised.

Buildings. By 1897 increased enrolments had caused classes to spill over from the School of Arts buildings, and thirty-eight classes had to be conducted in seven hired rooms in almost as many buildings around town. In the following year a new building was leased opposite the School of Arts.⁶⁸

Courses. In 1890, six groups of subjects were created - art, technical drawing, scientific, commercial, literary and practical. In addition, a night school for elementary arithmetic, writing and grammar was maintained, and ambulance classes were continued. In 1895 it was recorded that the most popular subjects were art, technical drawing, commercial and the night school subjects. David McConnel maintained that the college had to teach elementary subjects because of deficiencies in primary education. Subjects were graded, and students were required to progress from elementary to advanced levels to overcome the problem of insufficient preparation for some levels. Specialists were placed in charge of teaching specific subjects, and students were given guidance in the selection of a course of study.⁶⁹

In the same year a committee composed of the college sub-committee, examiners and teachers drew up a scheme to reorganise the subjects into departments and in systematic yearly progression. The departments provided for both professional and trade training. The overall scheme required a government grant of £2000. When the Government provided only £750 in 1891, and in the following year implemented a pound for pound subsidy based on fees per subject, the college subcommittee was unable to implement the complete scheme.⁷⁰ By 1900 the council had rearranged its courses

Technical College, BRISBANE SCHOOL OF ARTS.

Term of 12 Weeks begins January 30th, April 14th, July 7th, September 29th.

NIGHT CLASSES.

ART SUBJECTS.

ELEMENTARY DRAWING—Mr. T. E. Jackson.
Bookwork from the 4th, Tuesday and Friday, 7:30 p.m. 25
Theory, Perspective, and Lettering, Wednesday, 7:30 p.m. 25
Classical 75

For A and GRADE DRAWING (from the 4th)—Mr. J. A. Clarke.
Bookwork (Figure & Ornament), Modelling and Design, Tuesday and Thursday, 7:30 p.m. 100

SCIENCE SUBJECTS.

PHYSICS (Sound, Heat, Light, Electricity)—Mr. E. C. Dawson, Monday, 8 p.m. 100
CHEMISTRY (Inorganic)—Mr. E. R. Lucas, A.R.S.M., Wednesday, 8 p.m. 100
MINERALOGY—Mr. E. R. Lucas, Monday, 8 p.m. 100
MATHEMATICS (Algebra, Euclid, Trigonometry)—Mr. E. F. Pearson, M.A., Monday and Thursday, 7:30 p.m. 100
MACHINE CONSTRUCTION AND DRAWING—Tuesday and Friday, 7 p.m. 100
MILLING CONSTRUCTION AND DRAWING—Mr. J. J. Lewis, Queensland River Machinery, L.L.C., Brisbane, Queensland, Q.L.D., Gold Medalist, South Kensington, &c., Monday and Thursday, 7 p.m. 100
MEN-URATION—Mr. J. J. Lewis, Wednesday, 7:30 p.m. 100
JURISPRUDENCE; THE PHILOSOPHY OF LAW—Mr. H. W. Ross Maclean, LL.B., Tuesday, February 28th, 8 p.m. 100

COMMERCIAL SUBJECTS.

FRENCH AND GERMAN—Mr. H. Keane, Monday; Advanced, Thursday; 7 and 8 p.m. Each subject 100
SHORTHAND—Mr. T. G. O'Shea, Monday; Advanced, Friday; 7:30 p.m. 100
ARITHMETIC AND WRITING—Mr. Gosnell, Tuesday and Friday, 7:30 p.m. Each 50
GRAMMAR AND READING—Mr. Gosnell, Thursday, 7:30 p.m. 50
BOOK-KEEPING—Mr. Gosnell, Wednesday, 7:30 p.m. 100
CARPENTRY—Mr. C. Chamberlain, Tuesday and Friday, 7:30 p.m., 2 hours weekly 21 10
COOKERY—Miss Buchanan, Thursday, 7:30 p.m., 10 Single Lessons, 10
DRESSMAKING AND FITTING—Miss Dixon, Monday, 7 p.m., 10
AMBULANCE LECTURES (by Advertisement) 50

Annual Examination in December. Pass and Credit Certificates granted, and Prizes awarded in Books or Instruments to the value of 10s. and 20s. and 30s.

DAY CLASSES.

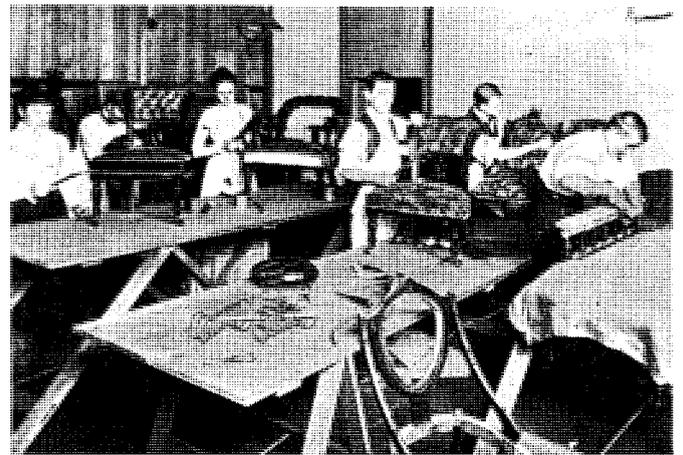
DRAWING AND PAINTING (Decorative, Watercolor and Oil)—Mr. J. A. Clarke, Monday and Friday, 9 a.m. 22 2s.
PAINTING—Mr. W. Jarvis, Monday and Friday, 9:30 a.m. 42 2s.
DRAWING (Crayon)—Mr. W. Jarvis—Monday, 10:30 a.m. 42 2s.
FRENCH AND GERMAN—Mr. H. Keane, Friday, 11 a.m. 42 2s.
ARTISTIC WRITING, GRAMMAR, AND DRAWING—Mr. Gosnell, 5 days, 9 to 12 a.m., each subject, 150 45 2s.
BOOK-KEEPING—Mr. Gosnell, 1 day 42 2s.
CARPENTRY—Mr. C. Chamberlain (Every week day) Two hours weekly 41 1s.
COOKERY (Practical Lessons)—Miss Buchanan, Friday, 4 p.m., 10 Single Lessons, 10
DRESSMAKING AND FITTING—Miss Dixon, Monday, 9 p.m. 42 2s.

*Residence provided by the Secretary, all Fees payable in advance. Classes open to both Sexes.
By order of the Committee.
D. R. McCONNEL, M.A.,
SECRETARY.*

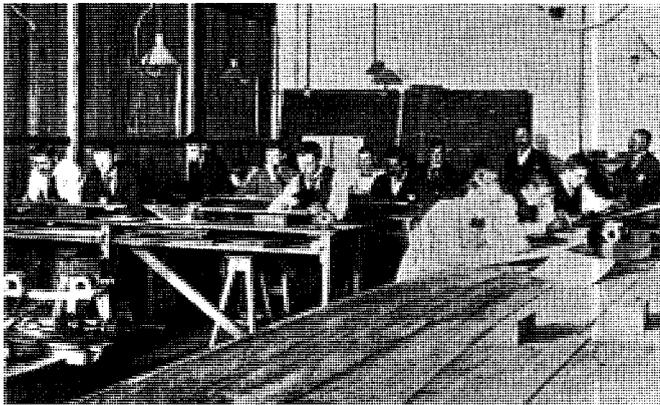
Subjects available at Brisbane Technical College in 1890.



Wool classing Brisbane Technical College, 1900.



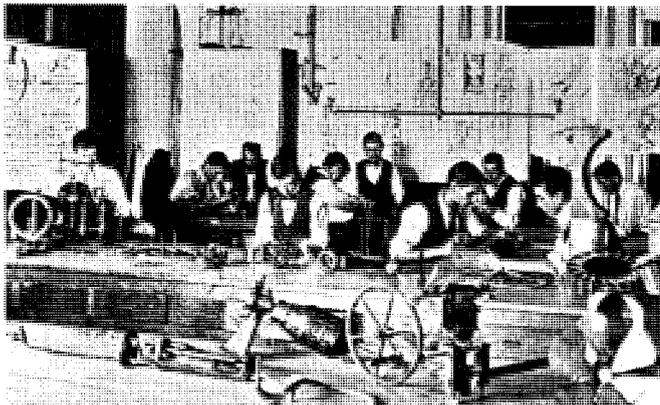
Upholstery class, Brisbane Technical College, 1900.



Engineering drafting room, Brisbane Technical College, 1900.



Veterinary science class, Brisbane Technical College, 1900.



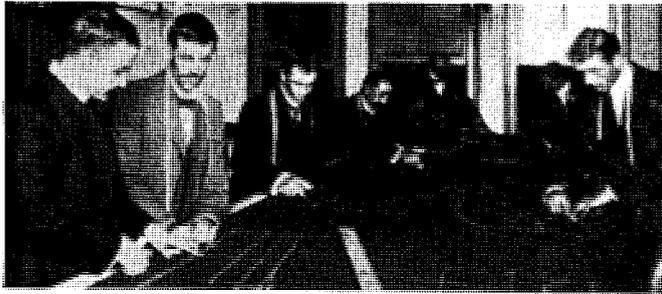
Practical physics class, Brisbane Technical College, 1900.



Assay class, Brisbane Technical College, 1900.



Boot pattern cutting, Brisbane Technical College, 1900.



Tailors' cutting class, Brisbane Technical College, 1900.

into the Department of Science, Engineering and Trades, the Department of Art and Design, the Department of Business, the Department of Domestic Science and Arts, and the Department of Manual Training.

In the Department of Science, Engineering and Trades, resided chemistry and botany. Several years earlier, the College of Pharmacy had duplicated these subjects, with the result that the technical college had to discontinue them. After this, joint classes of both colleges were conducted at the College of Pharmacy, which allowed the continuation of chemistry and botany within the courses of the technical college. This scheme was extended to assaying and practical mineralogy. A new science subject, electricity, proved very popular. Within the Department of Science, Engineering and Trades, the Director had difficulty in ensuring that the students did necessary preliminary, elementary studies before embarking upon advanced work.⁷¹

The technical college council believed that the college should produce experts highly qualified in science and technology because it was such experts who developed the technology and industries of a country. The council claimed that a flat subsidy in proportion to expansion was more conducive to the education of such experts. The subsidy system in operation, however, encouraged the development of popular subjects to the detriment of scientific subjects involved in mining, agriculture, engineering and manufactures, and resulted in a lack of continuity of teachers and students.⁷² The council was convinced that the college had a role in the field of higher education, and that developments in that direction were hampered by lack of finance.

The council in 1900 was still disappointed with the numbers enrolled in trade courses and with the limited number of trade training courses offered, because it regarded such training as a very important component of technical education. This situation had constantly attracted criticism from the outside for the same reason.

Therefore, the council felt constantly obliged to explain

the causes. It claimed the most important reason was the lack of finance. Another reason put forward was that cheap, hasty work and contract jobs discouraged the learning of good methods. In addition, the attendance of potential students was often hindered by their having to work excessive amounts of overtime. Furthermore, there was a lack of cooperation between many employers and the college. The council was also aware that the infant state of the secondary industries and the immigration of tradesmen from Great Britain lessened the need for the training of apprentices.⁷³ They also pointed out the low status of the trades:

There is nothing to indicate to the lad that he may honourably excel in the use of his hands. Presumably, therefore, he takes up a trade under the depressing and frequently mistaken idea that he has not brains enough to succeed in an office.⁷⁴

The lack of finance resulted in the imposition of fees which would have been a deterrent to those in the lower income bracket. Most fees fell into the range of 18s to £2 14s per subject per annum. Translating these amounts into today's monetary value, this would be the equivalent to a tradesman receiving an annual wage of \$25 000 paying from \$150 to \$450 per subject per annum.⁷⁵ Some evening students took three subjects each year. Since some apprentices did not receive any wages during their first year, such fees would have become the responsibility of their parents - for some an impossible one. To what extent this affected the provision of and attendance at trade courses, taking into consideration the immigration of trained tradesmen which reduced the call for such training, is difficult to assess.

RIGG'S TECHNICAL EDUCATION APPLIANCES
 JAMES RIGG,
 20, BUCKLESBURY, QUEEN VICTORIA STREET,
 LONDON, E.C.

Models for Class Instruction in Building Construction,
 INCLUDING ROOFS, CARPENTRY, GIRDERS, BRIDGES, &c.
(For other Models in this subject see Catalogue, Part 1.)

No. 101 Lattice Girder Bridge. (Length 23 inches)

No. 100 Plate Girder Bridge. (Length 23 inches)

No. 102 Road Suspension Bridge. (Length 62 inches)

No. 103 Lattice Bowstring Girder Bridge. (Length 14 inches)

No. 09 Websails of an Arch. Each Websail is made of steel wire with riveted joints of steel and has lattice panels through which bolts of wood are passed in order to show the mode of erection. The models are carried upon a wooden base with retractable supports.

No. 08 Truss and Domes. No. 08a Truss and Domes. (Length 14 inches) No. 08b Truss and Domes. (Length 14 inches) No. 08c Truss and Domes. (Length 14 inches) No. 08d Truss and Domes. (Length 14 inches)

No. 06 Parts of an Iron Roof Principal, full size, and suited to a span of 30 ft. £3 10 s.

No. 05 Truss and Domes. (Length 14 inches) No. 05a Truss and Domes. (Length 14 inches) No. 05b Truss and Domes. (Length 14 inches) No. 05c Truss and Domes. (Length 14 inches)

For further information, see Catalogue, Parts 1 and 2, price 5s each.

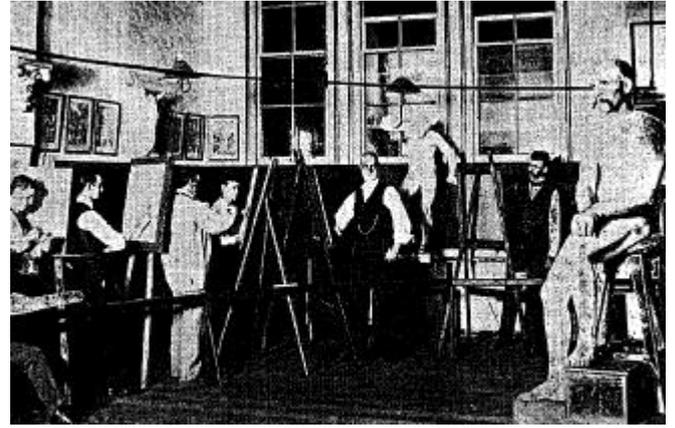
Also Sheets B. Machine Construction. D.—Theoretical Mechanics. F. Applied Mechanics.

Also the new Apparatus, Models and Examples in Mechanics, Mining, &c., to meet the additional requirements of the Science Libraries, 1895.

Advertisement for teaching aids for technical classes, 1890s.



Women's art class, Brisbane Technical College, 1900.



Men's art class, Brisbane Technical College, 1900.



Modelling class, Brisbane Technical College, 1900.



Bookkeeping class, Brisbane Technical College, 1900.



Typing class, Brisbane Technical College, 1900.



Ironing class, Brisbane Technical College, 1900.



Millinery class, Brisbane Technical College, 1900.

Within the Department of Art and Design, criticism was directed at 'the immobility' of South Kensington standards, which had checked the spontaneous growth of design. Consequently certain American and continental methods were adopted. Within the Department of Art and Design, one of the largest groups of students was composed of schoolteachers who were instructed in art - a subject added to the primary school curriculum in 1890.⁷⁶

The Department of Business was quite successful and the attendance figures were relatively high. In 1900 the Governor, Lord Lamington, claimed at the college prize giving that the young man who had studied a language, shorthand and writing, in addition to English and

book-keeping, earned a higher salary than one who knew English and bookkeeping only.⁷⁷

The Department of Domestic Science and Arts catered for professional cooks as well as housewives, dressmakers, milliners and domestic servants. Consequently, some men were enrolled for certificates in cookery.⁷⁸ In 1900 the Department of Public Instruction began paying for instruction in cookery for twenty-six girls from State schools.⁷⁹

The Department of Manual Training provided courses in drawing, modelling, woodcarving, chip carving, woodwork and carpentry. The college council was dismayed at the lack of elementary knowledge exhibited by the schoolboys attending carpentry courses. For example, at the beginning of classes, less than one out of ten was able to read or use a foot rule.

By 1898 the day class timetable resembled that of a secondary school, with special emphasis on commercial subjects. Provision was also made for the revision of elementary subjects in the day school as well as at night.⁸⁰

In most subjects, an emphasis was placed on the combination of theory and practice. In their choice of subjects, the council made it clear that it was guided not only by the experience of technical schools in older countries but also by local conditions and needs.⁸¹

McConnel fostered extracurricular activities. During the 1890s, a debating society and a lawn tennis club functioned. The formation of scientific, literary and artistic societies and athletic clubs was encouraged. Social gatherings and annual outings were held to cement good fellowship between teachers and students and to strengthen a spirit of comradeship in the college.⁸²



Literary and Debating Society, Brisbane Technical College, 1900.



The students' annual sports outing, Brisbane Technical College, 1900.



In-service course in mathematics for female schoolteachers, Brisbane Technical College, 1900.

By 1900 then, the council of the college was firmly committed to functioning as a polytechnic institution. The college provided about sixty subjects for 160 classes, in courses from elementary primary school to university level. It had proved itself flexible in providing courses needed by the colonists. Those who were interested were able to learn a hobby, study music, do a trade course, study for entry into office jobs or the public service, or study professional courses, which provided entry into such professions as accountancy, architecture and engineering. Furthermore, the college provided inservice education for teachers who wished to upgrade their qualifications or learn the basics of new subjects introduced into the school curriculum, such as drawing, mathematics, science and kindergarten. The college provided a ladder to professional status for those with ability who could not afford to go to a grammar school and a university, and who had to go to work for a living at the end of compulsory education. In 1891, 25 per cent of the students enrolled were in that category.⁸³

In 1895 the Minister for Education, Robert Philp, said that the Brisbane Technical College was the only one in Queensland that could be called a technical college in the broadest sense of the word.⁸⁴ In the eyes of many contemporaries, the college functioned as 'the poor man's university' or 'the working man's university'.

Examinations. David McConnel implemented a system of qualifications for successful students. A pass in a subject was rewarded by a class certificate. Certificates in the internal stage and diplomas at the conclusion of a course of study in a department were also issued. Other certificates awarded following examinations were a teachers' drawing certificate, trade certificates and certificates in art (South Kensington), music (Trinity College, London) and shorthand (Isaac Pitman). McConnel improved the status of the examinations by obtaining the agreement of such professional bodies as the Queensland Institute of Architects and the Queensland Institute of Mechanical Engineers to be the examiners of subjects relevant to their disciplines. He also obtained government acceptance of college certificates and diplomas.⁸⁵

In 1897 the college held examinations for four other technical colleges in Queensland with a view to maintaining common standards and to accustom students to

central examinations. Almost all of these examinations were in commercial subjects.⁸⁶

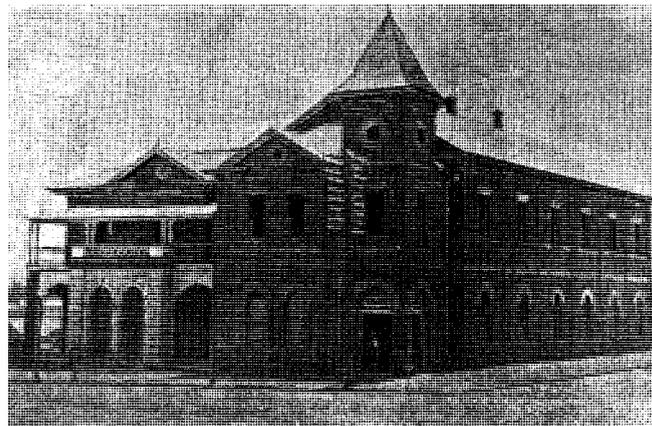
Students. The student enrolment rose from 320 in 1889 to 540 in 1890, but then fell to 371 the following year. This decline was attributed at the time to the influence of the depression. Enrolments picked up again in 1894 to 667 and then increased each year to reach 1588 in 1900. In 1890 a high drop-out rate existed. Only 8.5 per cent of the students attended their subjects through to the end of the year. This situation improved so that by 1901, 41.7 per cent of the students maintained their attendance throughout the year. In 1890 the average age of males was 18.3 years and that of females, 22.9.⁸⁷

Women formed an important part of the student population. By 1900 they were allowed to attend all subjects except tailors' cutting. In 1896 women formed a majority of the individual enrolments and patronised all kinds of classes. Apart from domestic science (available only to women), of thirty-six classes open to them, women attended all but seven and in some cases they formed a majority. They even patronised carpentry. The annual reports of the Brisbane Technical College often referred to the superior results obtained by the women compared with the men. For example, in 1893, 125 of the 386 students were women. Forty-three per cent of the women compared with 23 per cent of the men obtained certificates, and 16 per cent of the women compared with 8 per cent of the men obtained honours certificates. In 1895, of the six certificates issued for those with over 90 per cent, three went to women. In classes open to both sexes, nine women came first, a proportion far in excess of their numerical attendance.⁸⁸

Commercial courses, especially in the new skills of shorthand and typing, were important to women because these courses led to alternative employment to sweatshops.⁸⁹ However, in his speech at the prize giving for 1899, the Governor, Lord Lamington chose to dwell on traditionally important subjects for women. He extolled the virtues of plain cooking, and stated, 'Besides, if their dinners were more palatable, the husbands might not be so ready to run away to seek for comfort elsewhere'. The statement was followed by a chorus of 'hear, hear' from some of the audience. With regard to dressmaking, the Governor claimed that, besides its usefulness to women, it was an amusement for them. The Minister for Education, Charles Powers, in the same vein, said that a young lady with certificates in cookery and dressmaking had 'a powerful inducement for any man seeking a partner for life'. This drew laughter from sections of the audience.⁹⁰

Other technical colleges, 1882-1900

Brisbane colleges. By 1900, five other technical colleges had been established in Brisbane. The most important of these was South Brisbane Technical College, which first received a government grant for its classes in 1894.⁹¹ By 1900, 268 students were attending this college. Technical classes began at the West End Technical College on 1 April 1889, and in the same year examinations were held and certificates issued. A request for a government grant on 13 August 1890 was refused because of a



South Brisbane School of Arts and Technical College.

TECHNICAL COLLEGE

West End School of Arts.

To Intending Students,

The Committee of the West End School of Arts have arranged with Mr. R. J. Kelly, head master of St. Hilian's Boys' School, to organise and conduct a course of evening classes to commence on Monday, 1st April, in accordance with the following schedule:—

SUBJECT.	HOURS.	FEE PER QUARTER.
1. ELEMENTARY ARITHMETIC, READING, WRITING, &c.	MONDAYS, 7.30 to 9.30 p.m.	7s. 6d. for each subject.
2. ADVANCED ARITHMETIC, ENGLISH LITERATURE, MENSURATION, MECHANICS, EUCLID, ALGEBRA.	WEDNESDAYS, 7.30 to 9.30 p.m.	17s. 6d. for any single subject; 15s. each for 2 or more subjects.
3. PITMAN'S SHORTHAND, FRENCH, LATIN	FRIDAYS, 7.30 to 9.30 p.m.	Shorthand, 25s.; French and Latin, 17s. 6d. each.

The Committee have also arranged with Mr. A. Hays to open a Comic Solfa class on Monday, April 1st, at 8 p.m. Fee 5s per Quarter. A debating class will also start on Monday, 1st April at 8 p.m.

Other subjects, such as Drawing, Greek, German &c., will be added if classes can be formed; and special day classes will be held if desired. All intending pupils are requested to at once enrol themselves by communicating with the Secretary, to whom all fees must be paid in advance.

By order of the Committee,
A. E. SUTER, Secretary.

The Library and Reading Room will be open to subscribers on and after Monday, 1st April from 8.30 to 10.30 a.m., and from 4 to 9 p.m. The Subscription is £1 per annum or 5s. per quarter. Popular Entertainments are held every Saturday evening at 8 p.m. Ladies and gentlemen willing to assist the Committee with musical items or recitations are invited to communicate with the Secretary.

Subjects available at West End School of Arts technical classes, 1889.

lack of funds. A government grant was not provided until 1899. Two other technical colleges were established, a short-lived one at Zillmere (1896) and a small but longer lasting one at Sandgate (1898-1939). The College of Pharmacy was established to provide classes for students who wished to be pharmacists and it first received a government grant in 1896.⁹²

Country colleges. Throughout the frontier colony of Queensland, schools of arts were established. By 1894 there were forty-six schools of arts.⁹³ Some came into being to provide shearers with reading material, while others were established as bastions of culture, providing not only libraries, but also venues for educational lectures. The Charters Towers School of Arts, for example, provided in 1894 a library, two museums, a lecture hall, committee rooms, a smoking room and a

card room. Many of these schools of arts played the same role as the Brisbane School of Arts in establishing technical colleges, usually administered by a subcommittee of the school of arts committee.

In 1900 technical colleges or technical classes were operating at eighteen centres throughout Queensland, ranging from big centres, like Charters Towers and Townsville, to small centres, like Howard and Normanton (see Appendix 2).

Government financial assistance to these colleges followed the same pattern as that applied to the North Brisbane College. Government supervision was limited to auditing accounts related to technical classes.

The smaller centres were usually limited to several subjects, particularly useful subjects like cooking, dressmaking, carpentry, a hobby like drawing, and quite often the vocational commercial subjects of shorthand and bookkeeping. Hughenden, for example, began with classes in freehand drawing, French, mathematics and bookkeeping. Larger centres were, of course, able to provide a wider range of subjects, but they offered few trade courses.⁹⁴

Maryborough Technical College was one of the larger colleges. In 1900 it provided the following classes: drawing for teachers, mechanical drawing, drawing and painting, bookkeeping, shorthand, typewriting, English, arithmetic, mensuration, German, preparation for the Civil Service Examination, dressmaking and music (vocal, instrumental and orchestral).⁹⁵

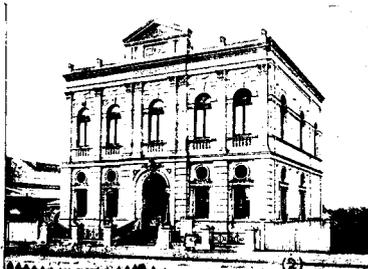
In almost all of the colleges, commercial subjects, especially shorthand, were the first to be established and appeared to be the most important. In Rockhampton, for instance, where there were three shorthand writers in 1885, by the end of 1900 there were 300, 95 per cent of whom had been taught at the Rockhampton Technical College. At that college in 1900, between eighty to ninety of both sexes attended shorthand classes, which were conducted five nights and three afternoons a week.⁹⁶

Because of the importance of mining to the economy of the colony, the Government in 1884 appointed a Mr Clarke as visiting lecturer in mineralogy. He had the responsibility of visiting country areas and giving lectures to miners and any others interested in the subject. It is reported that even bankers attended these lectures.⁹⁷ Several years later, in 1887, approaches were made to the Government to provide money to establish a mining school at Charters Towers, an important gold mining centre.⁹⁸ In 1894 Parliament passed the *Schools of Mines Act 1894*, which was modelled on the *Grammar Schools Act 1860*. The Schools of Mines Act had the general acceptance of all the parliamentarians who spoke during the reading of the Bill.⁹⁹

SCHOOL OF ARTS TECHNICAL COLLEGE,

MARYBOROUGH.

SESSION: MARCH—NOVEMBER, 1896.



CLASSES
in the undermentioned Subjects now being formed, and commence on Monday, March 2nd. Early enrolment of pupils desirable.

All Classes commence first week in March, except Carpentry, which will open in April.

Families or Individual Students taking more than two tickets will be allowed a discount of 15% off fees.

Classes in other Subjects will be formed from time to time, should a sufficient number of pupils exist to justify their being opened.

Courses of Lectures on various subjects will be delivered during the Session, of which due notice will be given.

SUBJECTS:

SUBJECT	For PER Ct.	DAY OF STARTING	HOURS	TEACHER
ENGLISH, BOOK KEEPING, and ARITHMETIC (including Tables, Fractions, Mensuration, & M-Glossary)	10s.	Tuesday and Thursday	7-90 p.m.	JOS. WILSON
SHORTHAND (Elementary)	5s.	Saturday	10 a.m.	E. W. BULLOCK
MECHANICAL DRAWING	15s.	Monday and Wednesday	7-30 p.m.	
ART PAINTING (Ladies only)	21s.	Friday	10 a.m.	E. MOLLER
ELUCATION (Elementary)	5s.	Saturday	2 p.m.	MISS CHAPMAN
CARPENTRY (for Jacobites)	10s.	Friday	7-30 p.m.	
VIOLIN	15s.	Tuesday	7-30 p.m.	
SHORTHAND	10s.	Monday	7-30 p.m.	G. W. BEEBE
PHOTOGRAPHY	10s.	Monday	7-30 p.m.	I. WADDFELL
VOCAL MUSIC	10s.	Friday	4-50 p.m.	
DRAWING (Teachers)	10s.			
DRAWING (Teachers)	5s.	Saturday	12-20 to 2 p.m.	E. MOLLER
FRENCH	10s.			
GERMAN	10s.	Tuesday	7-30 p.m.	C. H. BARTON
LATIN	10s.			
ART NEEDLEWORK	21s.	Saturday	3 p.m.	MISS PUTSHER
DRAWING	20s.			
PAINTING	10s.	Saturday	10 a.m.	E. MOLLER
TYPE WRITING	10s.	Tuesday	7-20 p.m.	D. GARDNER
PHYSICS (Light, Heat, and Sound)	10s.	Thursday	7-20 p.m.	I. WADDFELL
ELECTRICITY	10s.	Wednesday	7-20 p.m.	I. WADDFELL
BOTANY	10s.	Thursday	7-20 p.m.	C. H. BARTON
FREEHAND DRAWING	10s.	Wednesday	7-20 p.m.	E. MOLLER
PAINTING AND DRAWING	10s.	Friday	3 p.m.	E. MOLLER
CIVIL SERVICE PREPARATION	12s.	As arranged		E. W. BULLOCK
LINEAR PERSPECTIVE	10s.	Friday	7-20 p.m.	E. MOLLER
DRESSMAKING	10s.	Friday	3 p.m.	MISS WALSH

Further particulars may be obtained from the undersigned.
D. GARDNER, SECRETARY.

ALL FEES PAYABLE IN ADVANCE.

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Subjects available at Maryborough Technical College, 1896.

This Act provided a government subsidy of £2 for each £1 raised locally to establish a mining school, such schools to be restricted to one for each of three regions - northern, central and southern. A subsidy of the same scale on the basis of fees collected was also provided to maintain such schools. Also, a certain amount was reserved for the provision of scholarships to a university for students of any mining school established. As a result of this Act, the Charters Towers School of Mines was built and opened in 1901, with 100 students under the supervision of the Department of Mines.

The country colleges suffered from similar problems experienced by the Brisbane Technical College. One such problem was the lack of continuity for classes. At Maryborough, for instance, such subjects as carpentry, horticulture and cookery appeared and then were dropped. Also, considerable difficulty was experienced in promoting trade training courses.¹⁰⁰