MADE IN ONTARIO: THE INFLUENCE OF PREDECESSOR INSTITUTIONS ON THE SHAPE OF THE COLLEGES OF APPLIED ARTS AND TECHNOLOGY

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April 6, 2021

ONTARIO COLLEGES OF APPLIED ARTS AND TECHNOLOGY: PRECURSORS AND ORIGINS

On May 21, 1965, the Minister of Education, William G. Davis, introduced legislation for the establishment and operation of a system of Colleges of Applied Arts and Technology. In his statement in the legislature, the Minister noted that the legislation provided for the introduction of "a new level and type of education, one which is still in keeping with our traditions and accomplishments" (Davis 1965, 5). The objective of this paper is to examine just how the new college system built on previous accomplishments and continued existing traditions. The paper describes the educational institutions that were the precursors of the new colleges and examines the connection between the new colleges and their predecessor institutions. It argues that previous accomplishments and traditions significantly influenced choices about the shape of the new colleges.

I. Tertiary-level Technical Education in Ontario before the Colleges

Robin Harris observed that one of the most striking features of Canadian higher education as of 1940 was the lack of institutions that provided technical and vocational education (Harris 1976). Of the few vocational institutions that did start before 1940 almost all concentrated on a particular industry such as the several agricultural colleges across the country. Others that opened before 1940 were Halifax Marine School in 1872; Ontario School of Art in 1876; Nova Scotia College of Art in 1887; Haileybury School of Mines in 1912; Québec Forest Ranger School in 1923; and New Brunswick School of Craft and Design in 1938.

The only multi-field technical institute established in Canada before 1940 was the Provincial Institute of Technology and Art (PITA) which opened in Calgary, Alberta in 1916.

According to Baker, PITA was not only Canada's first technical institute but the first publicly supported technical institute in North America (Baker 2011). The establishment of Canada's first institute of technology so much earlier than any of the others was intimately tied to the rivalry between Alberta's two largest cities. As the largest city in the province and being located on the transcontinental railway, Calgary's civic leaders felt that they had a strong case for their city to be the provincial capital (Baker 2011; Smith 1990). When Edmonton was chosen to be the capital city, Calgary leaders believed that it was only fair for it to get the provincial university, and were upset by the decision of the government in 1910 to also locate the University of Alberta in Edmonton.

Still hoping to have an institution of higher education, civic leaders obtained incorporation for what they intended to be a new university level institution which they named Calgary College. Support for the initiative came from private donors, a grant of $150,000 from the city for the first building, and a grant of land from the United Farmers of Alberta. However, after repeated tries, Calgary College failed to obtain degree-granting authority.

To help resolve the impasse, in 1913 the government appointed a Royal Commission to inquire into the issue, which consisted of the presidents of the Universities of Toronto and Saskatchewan, and of Dalhousie University. This panel appeared to be lacking in balance given that the University of Saskatchewan in Saskatoon had an interest in protecting its provincial monopoly on degree-granting from any attempt by the city of Regina to develop a second university, and the other two universities represented on the panel were the pre-eminent ones in their provinces rather than newer ones that might have been able to identify with Calgary College. The three universities represented on the panel shared an interest in protecting existing universities from competition from new ones. Thus, not

surprisingly, the Commission recommended against allowing a second university, citing concerns about funding and the size of the student pool in the province.

However, the Commission offered a consolation prize to Calgary. It suggested that because of the "substantial interest manifested by the citizens of Calgary in the improvement of educational facilities in their city", and because of the demand for more instruction in "technological, social, economic and allied subjects", an institute of technology and art be established (Smith 1990, 295). The struggle to have some kind of postsecondary institution in Calgary still faced the hurdle of obtaining a guarantee of sufficient operating funding from the province, and according to Smith (1990) PITA was able to open in 1916 only because of funding from the federal government for the retraining of wounded war veterans. Until 1920, PITA served mainly veterans and was effectively run jointly by the province and the federal Military Hospitals Commission.

By 1921 PITA was offering courses for civilians in electrical engineering, steam engineering, tractor engineering, motor mechanics, battery and ignition, architectural drafting, mechanical drafting, and railway drafting. In 1960 when the government decided to open a second institute of technology — Northern Alberta Institute of Technology (NAIT) which took in its first students in 1962 — PITA was renamed Southern Alberta Institute of Technology (SAIT). PITA was also the initial home of what is now Alberta University of the Arts.

Canadian Junior Colleges

One other type of postsecondary education institution that emerged in the twentieth century was the junior college. The junior college was an institution whose mission was providing the first two years of university-equivalent courses in the arts and sciences to prepare students for transfer to a university where they could complete a

bachelor of arts or bachelor of science degree. According to Cohen and Brawer (1984) the first junior college in the United States appeared in 1901, and within two decades there were over 200, and within three decades the number had grown to 450. From the beginning, many junior colleges in the United States also offered some vocational programs which were intended to prepare students for entry into the workforce and were referred to as terminal educational programs in contrast to the core programs which were intended to facilitate transfer to a university. For example, early junior colleges in California provided "terminal programs in agriculture, technical studies, manual training and domestic arts" (Cohen and Brawer 1984, 192).

The junior college movement never attained anywhere near the scale in Canada as it did in the United States. Although the precise origin of the junior college in Canada is "obscure" (Campbell 1971, 3), this form of education had come into existence at least as early as 1903 when Victoria College in Victoria, British Columbia offered one year of arts and sciences courses — a few years later extended to two years — in affiliation with McGill University in Montréal. Even somewhat earlier, however, junior college coursework in affiliation with McGill had been offered by a school board in Vancouver under the rubric of "McGill University College of British Columbia". Although legislation to establish the University of British Columbia was passed in 1890, the opening of the university was delayed until 1915 by among other things controversy as to whether it should be located in Vancouver or Victoria. In 1920, Victoria College entered into an affiliation with UBC, and in 1963 it became the University of Victoria.

Campbell (1971) cited the results of a survey undertaken by the University of Western Ontario in 1934 that identified 11 junior colleges in Canada all but three of which were under denominational control. Seven of the institutions were in Saskatchewan

including one public and three denominational colleges in Regina. The others were in Alberta (Mount Royal College in Calgary), British Columbia (Victoria College), Ontario (Alma College in St. Thomas), and Prince Edward Island (Prince of Wales College in Charlottetown). Alma College was a private woman's college that opened in 1881, at one time was affiliated with the University of Western Ontario (Gwynne-Timothy 1978), and, according to Harris (1976), by 1960 had reverted to the status of a secondary school. Both Prince of Wales College and Mount Royal College had evolved from secondary schools. Prince of Wales College obtained degree-granting status in 1964 and merged with St. Dunstan's University in 1969 to form the University of Prince Edward Island (Baker 1997). The only two junior colleges that actually used that term in their names appeared in the 1950s: Xavier Junior College, established in Sydney, Nova Scotia by St. Francis Xavier University in 1951, and Lethbridge Junior College in Alberta in 1957.

Mount Royal had been founded in 1910 as a Methodist preparatory college encompassing both an elementary and a secondary school. In the mid-20s, Baker notes, there was "renewed agitation" for a junior college or a branch of the University of Alberta in Calgary, but the province couldn't afford to establish another postsecondary institution. Mount Royal filled this void and entered into an affiliation with the University of Alberta in 1931 (Baker 2011, 45). The junior college courses provided a much needed new source of funds for the college and enabled Calgary residents who wanted to pursue a university degree to save money by starting on their degree at home.

Unlike junior colleges in the United States, most of which evolved into community colleges, Canada's early junior colleges provided little in the way of technical education and tended to stay within the university orbit, eventually becoming universities or affiliated colleges of universities. Mount Royal Junior College was an exception as it evolved into a

community college with a substantial role in providing vocational education. In 2009 it became Mount Royal University. Although, as described later, one combination technical institute – junior college did appear in Ontario in the late 1940s, the junior college did not make much of a mark in Ontario.

Beginnings of the expansion of technical education in Canada after 1940

The vocational institutions that had been created in Canada by 1940 could best be described as one-offs — like the earlier establishment of PITA in Calgary. Rather than resulting from a comprehensive assessment and plan for meeting provincial or national needs, their founding reflected unique circumstances in a particular locale usually involving the efforts of a civic group or an industry. In the next two decades provincial governments began to play a more active role particularly in creating multi-field institutes of technology, but still the expansion of technical education proceeded slowly in most of the country.

In British Columbia, the opportunities for technical education as of the late 1950s consisted of a forest ranger school that had been established in 1946 (McArthur 1997), and the Vancouver Vocational Institute, which had been established by the school board in 1949, and subsequently evolved into Vancouver Community College (Cowin 2018). There was an expansion of activity in the early '60s, with British Columbia Vocational School starting in 1960, and British Columbia Institute of Technology opening in 1964. The other vocational institutions that were created outside Ontario between 1940 and 1960 were in Manitoba (Manitoba Technical Institute, Winnipeg, 1948); New Brunswick (Maritime Forest Ranger School, Fredericton, 1946, and New Brunswick Technical Institute, Moncton, 1948); Nova Scotia (Nova Scotia Land Survey Institute, Halifax, 1958, and Nova Scotia Institute of Technology, Halifax, 1958); and Saskatchewan (Saskatchewan Technical Institute, Regina,

1958, Moosejaw, 1959). The greatest growth in technical education, and the most movement toward the creation of a provincial system occurred in Ontario.

The Establishment of a System of Technical Institutes in Ontario

In 1945 the Toronto Training and Re-establishment Institute was created to serve the needs of World War II veterans. The Toronto institute was part of a national rehabilitation program for veterans and the largest of nine such institutions in Ontario. It was located in a building bounded by Gerrard, Church, Gould and Victoria Streets that had been erected in the middle of the previous century to house Ontario's first normal school and the provincial department of education. On this site had also been the beginnings of the Royal Ontario Museum, the Ontario Agricultural College, and the Ontario College of Art and Design.

The rehabilitation institute offered a wide range of courses that prepared veterans for work in such fields as the building, mechanical, woodworking and metal trades; restaurants and hotels; baking; electronics; watchmaking; gem setting; tailoring; dressmaking; designing; homemaking; practical nursing; graphic arts; telegraphy; piano tuning; refrigeration; sign painting; and photography (Ryerson Polytechnical Institute 1979). At its peak, the institute had over six thousand students enrolled.

The Training and Re-establishment Institute was headed by Howard H. Kerr who served also as Director of the Rehabilitation Training Program for all of Ontario. Kerr was a graduate of the Faculty of Applied Science and Engineering of the University of Toronto, had obtained a bachelor of pedagogy degree and had worked in industry and as a teacher. He had been director of technical education at Oshawa Collegiate and Vocational School, and in 1940 had been appointed director for Ontario of a federal agency that trained men and

women for work in war industries and provided trades training for armed services personnel (Ontario Department of Education 1966).

By 1948, the Training and Re-establishment Institute had largely accomplished its mission and the need for its services among most of the clientele for whom it had been established had been met. The institution thus found itself in the position of having developed considerable expertise and capacity for technical education but was running out of veterans to educate. It was at that point, according to Fleming (1971) that with "forty teachers and a considerable complement of expensive machinery, Kerr exercised his ingenuity to launch a new type of institute", persuading Premier George Drew to authorize the establishment of Ryerson Institute of Technology (Fleming 1971, 452). Authorization for an institute of technology in Toronto came on August 15, 1948, and Ryerson Institute of Technology had its official opening on September 22nd of that year, with Howard Kerr as its Principal. The 1948 *Report of the Minister of Education* leaves no doubt about the connection between the two institutions as it refers to Ryerson as "formerly" the Training and Re-establishment Institute (Ontario 1948, 27). The Report notes also that the equipment that Ryerson inherited from its predecessor institution which was obtained through cooperation with the federal government was valued at more than $1.5 million.

In no way intending to diminish Kerr's ingenuity or persuasiveness, it should still be noted that the idea of establishing institutes of technology in Ontario had been under consideration within the Department of Education since at least 1943 when C.R. Young, Dean of the Faculty of Applied Science and Engineering at the University of Toronto and president of the Engineering Institute of Canada, sent a letter to the provincial Director of Vocational Education, Frank Rutherford, with a proposal for a system of technical institutes (Ryerson Polytechnical Institute 1979). Young maintained that there was a serious gap in

technical education in Canada between the secondary schools and the university schools of engineering, and he cited studies in the United States that showed that industry needed two or three times as many graduates of technical institutes as graduates of engineering schools.

Young laid out his vision in a 1944 article in *The Engineering Journal* entitled "The Desirability of Establishing Technical Institutes in Canada" (Young 1944). The kinds of programs that Young envisioned would prepare graduates for supervisory roles in industry and also for "technical functions such as drafting, design of details, laboratory testing, inspection, construction in the field, or the technical aspects of sales work" (Young 1944, 150). Young suggested that programs could vary in length from one to four years, with two years being the most common length. He argued also that there should be some provision for graduates of technical institutes to subsequently transfer to a university and complete an engineering degree.

An indication that the government bought into Young's vision is provided in the 1944 *Report of the Minister of Education* (Ontario 1944). After noting that the government was in the process of establishing the province's first institute of technology, it stated that this institution would be the "precursor of similar institutions" for providing training in such fields as "textiles, plastics, electronics, tool-and-die making, radiography, a variety of synthetics, industrial chemistry, printing and lithography, and other scientific and engineering studies which are bound to come into considerable prominence in post-war world trade and commerce" (Ontario 1944, 29). By the time that Ryerson Institute of Technology came into being, three other institutes had already opened or were close to doing so.

The Institutes of Technology

The first such institute was the Provincial Institute of Mining in Haileybury. The Haileybury School of Mines had started in 1912 in the form of part-time classes in mining subjects offered at Haileybury High School during the silver mining boom around the town of Cobalt. As a consequence of the boom, Cobalt's population grew to 10,000, and it had an opera house, an electric street car, and a team aptly named the Cobalt Silver Kings in the National Hockey Association, the predecessor of the NHL (Baldwin 2015). The school of mining was operated under the auspices of an advisory vocational committee of the high school until 1945 when on the recommendation of the Royal Ontario Mining Commission, it was taken over by the province and became the Provincial Institute of Mining (Fleming 1971). In 1967, it became part of Northern College and reverted back to using the name Haileybury School of Mines.

The Provincial Institute of Textiles began offering classes in 1946 in Hamilton in response to pressure from both the textile industry and from a local Citizens' Committee that had been formed by the Board of Education (Braun 1987). Small textile producers had set up shop in the Hamilton area prior to 1850 and the industry experienced considerable growth in the late 19th century. Due to the demand for uniforms, tents and other items needed by the military, the industry grew rapidly during the Second World War by the end of which there were 11 mills in the area and textiles ranked third among all industries in payroll (Filer 1985). With the technological transformation of the industry that was occurring in the post-war period there was a great need for training of technical personnel. Being dependent upon a single industry, the institution was expected to be relatively small, but attaining the projected annual enrollment of 30 to 40 students proved difficult.

In 1949, the Institute of Textiles was offering courses in Knitting, Weaving, the Cotton System, the Woolen and Worsted Systems, and Textile Dyeing and Finishing.

When the textile industry began to decline in the 1950s, the institute tried to diversify its base by adding courses in engineering technology and in 1957 redefined itself as Hamilton Institute of Technology. With the change in focus, a new principal, Donald Craighead, Director of Studies at Ryerson Institute of Technology, was appointed to lead the institution.

In the area around Port Arthur and Fort William there had been an increase in industrial activity after World War II, and a number of local industry and education leaders sought to increase opportunities for technical education. A key role in their efforts to expand technical education in the community was played by C.L. Emery, a teacher at the Port Arthur Technical High School, and a graduate mining engineer (Braun 1987). Emery had read Young's 1944 paper and visited Dean Young. In their conversation, "Dean Young suggested that the Lakehead would be an ideal location for a technical institute offering specialized courses in Forestry and Mining" (Braun 1987, 6). Under the chairmanship of Mr. Emery, community leaders formed a Technical Institute Committee which presented a brief to Premier George Drew (Braun 1987). During an election campaign stop in the area in 1945, the Premier provided assurance that plans were under way to establish a new postsecondary institution in the area.

The establishment of Lakehead Technical Institute in Port Arthur was announced in 1946, and two years later the institution initiated two-year diploma programs in Mining Technology and Forestry Technology. Because it was so far to the nearest university, the institution also started offering first-year university-equivalent courses in Arts and in Applied Sciences, thus performing the function of a junior college. This development at Lakehead Technical Institute was unique among Ontario institutes of technology as none of the others offered specific university transfer courses — though attempts were made at some to facilitate transfer for graduates of technical diploma programs. In 1957 Lakehead

Technical Institute was renamed Lakehead College of Arts, Science and Technology, and in 1965 the College became Lakehead University.

At the time that Ryerson Institute of Technology opened, these four institutions comprised the provincial system of technical institutes. Ryerson was the largest with an enrollment of about 200 during its first year (Thompson 1961); the Institute of Mining had 56 students, Lakehead Technical Institute had 50, and the Institute of Textiles had 26 (Ryerson Polytechnical Institute 1979). The system was run by the provincial Department of Education, with Howard Kerr as the director of the technical institutes section of the Department as well as principal of the Toronto institution. Small as it was the system was partitioned into two categories — Polytechnic and Technical. Ryerson was the polytechnic institute, though not yet in name, and the other three were referred to as technical institutes (Ryerson Institute of Technology 1949). A 1963 Act of the Legislature transferred control of Ryerson from the Department of Education to its own governing board and changed its name to Ryerson Polytechnical Institute.

The system of institutes of technology was later expanded with the establishment of the Eastern Ontario Institute of Technology in Ottawa in 1957; Western Ontario Institute of Technology in Windsor in 1958; and Northern Ontario Institute of Technology in Kirkland Lake in 1962. The primary purpose of creating new institutes was to extend Ryerson's programs to other parts of the province. In fact, according to a 2013 article in the *Windsor Star*, the Western Ontario Institute of Technology "was created as part of what was then Ryerson Institute" (Windsor Star 2013). The preface to the 1967-68 joint Academic Calendar of Western Ontario Institute of Technology (in its last year) and St. Clair College of Applied Arts and Technology (in its first year) stated:

> After the Second World War it became evident that Canada's economic growth would create a sharply rising demand for people educated at a level beyond that of secondary school but below that of University graduation. Noting the success which the Ryerson Polytechnical Institute has achieved in educating people at this level in Business and Technical courses, a group of leading Windsor citizens successfully petitioned the Ontario Department of Education to have a similar institute started in Windsor to serve Southwestern Ontario. As a result of their work, the Western Ontario Institute of Technology, Windsor, was officially opened in 1958 in the heart of downtown Windsor. (St. Clair College of Applied Arts and Technology and Western Ontario Institute of Technology 1967, 13)

By 1967, Western Ontario Institute of Technology had opened a new campus in south Windsor and its offerings consisted of three-year programs in Business Administration, Chemical Technology, Mechanical Technology and Electronic Technology that were "largely identical" to the corresponding Ryerson programs (Smyth 1996, 50). There was a common first year course for Aeronautical, Chemical, Electrical, Electronic, Instrument, Gas, Mechanical and Metallurgical Technologies at Ryerson and the institutes at Hamilton,

Windsor, and Ottawa, and in many cases it was necessary for students from the other institutes to transfer to Ryerson for second or third year courses (Smyth 1996). Other than Ryerson, the institutes of technology experienced only quite modest growth in enrollment. In 1962-63 Ryerson's enrollment stood at 2,508, while the total enrollment for the other six was 1,521, of which the largest was Eastern Ontario Institute of Technology with 337 students (Committee of Presidents of Provincially Assisted Universities 1963).

Ryerson Institute of Technology

The start-up and early years of Ryerson Institute of Technology merit some attention because of the impact that this institution had on the development of programs in the colleges of applied arts and technology. This section is organized around four aspects of Ryerson's experience: trade school image; development of three-year diploma programs; introduction of the distinction between technician and technologist education; and transfer to universities.

Trade school image

On the day that Ryerson opened, the headline of a story about the new institution in *The Globe and Mail* was "Industry helps Ontario teach young tradesmen" (Sandford 1948, 17). After describing how industry would provide advice on labour market needs and curriculum, the article noted that the institution would be offering "apprenticeship courses in Building Trades, Motor Vehicle Repair Trades, Electronics, Jewelry and Watchmaking, Food Technology, Dressmaking, Graphic Arts, Photography, and Welding" (Sandford 1948, 17). The problem with this list was that it conflated two quite different types of courses. Ryerson was an institute of technology under the jurisdiction of the Department of Education and its mission was to offer technology courses that initially were primarily of two years' duration.

But in addition to the technology courses, in the same building there were also trades courses under the jurisdiction of the Department of Labour. The trades courses encompassed building trades, motor vehicle repair trades, barbering and hairdressing, and tailoring. The Department of Labour set the standards and curriculum for the trades courses and reimbursed Ryerson for offering them. The confusion over Ryerson's identity — which led to the epithet that Ryerson was just a trades school being "hurled with scorn at Ryerson students by other Toronto students over the early years" — stemmed from the sharing of facilities between two different types of education (Ryerson Polytechnical Institute 1979, 114). However, the sheer newness of the type of education that the institutes of technology were offering may have been a sufficient reason for them to be viewed as trade schools. The latter was a concept with which most people were familiar, whereas so few people had yet had any contact with an institute of technology that the distinction among different types of education that took place somewhere other than in a university was probably too erudite for most people to grasp.

Apparently in recognition of the lack of public understanding of what a technical institute was, the Foreword in Ryerson's first academic calendar, for 1949-50, was devoted largely to educating readers about the provincial technical institutes. Citing the Technical Institute Committee of the Engineers' Council for Professional Development in the United States, it was noted that technical institute curricula are "based upon the principles of science, require the use of mathematics beyond high school and rational processes rather than rules of practice" (Ryerson Institute of Technology 1949, 3). The document went on to say:

> A Technical Institute provides instruction in that large group of occupations that lie between the professions on the one hand and the skilled trades on the other but involves some of the skills and knowledge of both. A technician is, therefore a person who while having a working knowledge of the hand skills required, must also possess a sound background of the underlying principles involved in the industrial process at which he is employed. . . . Institute courses do not need to be as long as those for the professions. Normally, two or three years' study is all that is required. (Ryerson Institute of Technology 1949, 3).

There are two noteworthy features of the approach to explaining what a technical institute is that is employed in the 1949 academic calendar. First, it defines the institution in terms of the knowledge and skills of graduates and the tangible, practical things that they can do on the job. Second, it characterizes the graduates collectively as "technicians' and contrasts their knowledge and skills with those of university graduates, particularly in the field of engineering, and with the knowledge and skills of tradespersons. It was possible that repeated assertions of the difference between a technician and a tradesperson might eventually result in public appreciation of the difference between an institute of technology and a school for trades training. On the other hand if the image problem stemmed from

shared facilities, then the best way to enhance Ryerson's image would have been physical separation of the Technical Division from the Trades Division.

As if in reaction to this problem, in 1951 the provincial government established a new institution, the Provincial Institute of Trades (PIT) on Nassau Street in Toronto, with C. L. Emery, who had been instrumental in the establishment of Lakehead Technical Institute, as its Principal. Within a year of its establishment, the trades courses that had been offered at Ryerson were moved to the new institution. Shortly thereafter, at the request of the Canadian Jewelers' Institute, the Jewelry and Horology courses, which had been part of the Technology Division, also were moved (Ryerson Polytechnical Institute 1979). In 1961, two additional institutions were split off from PIT — the Provincial Institute of Automotive and Allied Trades (PIAAT) on Wellesley Street, and the Provincial Institute of Trades and Occupations (PITO) on Dartnell Avenue. One of the staff who made the move from Ryerson to PIT was Clifford Lloyd, a plumbing instructor who later became the principal of the Provincial Institute of Trades and Occupations, and then the first president of George Brown College, and subsequently wrote a doctoral thesis at OISE/University of Toronto on the development of vocational education in Ontario (Lloyd 1985).

According to Lloyd, the Provincial Institute of Trades was split off from Ryerson in 1951 at the instigation of Kerr so that Ryerson could concentrate on "more sophisticated courses" (Ryerson Polytechnical Institute 1979, 183). However, the 1979 history of Ryerson notes also that Kerr disagreed with this interpretation and maintained that the idea for the separation came from the provincial and federal governments (Ryerson Polytechnical Institute 1979). Without weighing in on who was responsible for the separation, it may be noted that Dupré, Cameron, McKechnie and Rotenberg (1973, 66) referred to the

"increasingly strained" relations between Ryerson and the Apprenticeship Branch of the Department of Labour which ran the trades programs on Ryerson premises.

The space that was freed up at Ryerson by the move of trades courses to PIT was used to expand the diploma programs, including the creation of a Business Division, and for a student union, a gym, and a tuck shop (Ryerson Polytechnical Institute 1979). It was hoped that the move would help to combat the image of Ryerson as a trade school and enable it to develop an "unambiguous public image" (Zaharchuk 1971, 30). Zaharchuck suggested also that with the removal of the trades courses, the institution would be able to "develop a more homogeneous student body, characterized by a common academic background" (Zaharchuk 1971, 30). The move would also enable the institution to concentrate on the development of higher level programs. Whatever its benefits for Ryerson's development, the separation may also have been beneficial for the development of trades training in Ontario. It enabled an expansion of trades training in an environment where it could develop its own esprit, free from invidious comparisons and competition for resources with a more prestigious set of programs.

A few years after the opening of PIAAT and PITO, another type of institution, similar to the institutes of trades but with a somewhat broader mandate, was created (Murphy 1983). Ontario Vocational Centres, were opened in Ottawa and London in 1964, and a year later in Sault Ste. Marie, and plans were made to open additional ones in Hamilton and in the Welland area. The mandate of these institutions was to offer courses for apprentices in certified trades; pre-employment courses in non-certified trades that were approved for vocational training under the Federal-Provincial Technical and Vocational Training Agreement; two-year programs for technicians; and postsecondary business and commercial programs.

The Move to Three-Year Diploma Programs

In Ryerson's first year, 14 of the programs offered in its Technology Division were of two years' duration, and 3 were of one year duration (Thompson 1961). In a 1961 interview, Principal Kerr remarked that the technical courses offered in Ryerson's first year were "really disguised trade courses and were a far cry" from the technology courses offered later (Thompson 1961, 2). He noted that in the first year "only a gesture was made towards the teaching of English and the Social Sciences" (Thompson 1961, 2). Subsequently courses in English and Humanities were included in all curricula. The 1979 history of Ryerson told of an English teacher who observed that the "inescapable presence" of subjects such as English Literature and Economics "shocked many students on arrival, for they thought they were escaping English when they came to Ryerson to learn Barbering, Horology or Electronics" (Ryerson Polytechnical Institute 1979, 179).

Zaharchuk, who taught in the Social Sciences Department and interviewed Kerr for his doctoral dissertation, reported that continual upgrading of curriculum was one of the two core principles of Kerr's educational philosophy (Zaharchuk 1971). The other was that courses would be offered only where there was evidence of labour market need, for which program advisory committees would be an important source of information. Program advisory committees appeared to play an important role, and in the early years the names of the members of each advisory committee were listed in Ryerson's academic calendar.

The upgrading of curriculum involved "a reorientation of courses away from emphasis on skills and techniques toward a deeper theoretical and scientific base and more rigorous academic content" (Zaharchuk 1971, 33-34). Looking back over the institution's first ten years, the 1958-59 Academic Calendar noted that "much more stress than formerly is now laid on fundamental principles" (Ryerson Institute of Technology 1958, 7). It was

soon apparent that to accommodate the addition of courses in the Humanities and Social Sciences and the infusion of more academic and theoretical content into the technology courses two years was insufficient. Moreover, it was difficult to justify the claim that a Ryerson graduate could occupy a place in the industrial skill hierarchy that was halfway between the high school graduate and the graduate of a professional school with only one more year of education than someone who had completed Grade 13 (Zaharchuk 1971).

By way of illustration, Zaharchuk contrasted the early program in Furniture Crafts with the later program in Furniture and Interior Design. Whereas the earlier program included courses in Wood Turning, Upholstering, Wood Finishing, Wood Carving, and Cabinet Making, the later program was intended to equip graduates with problem solving skills and prepare them for "continuous exercise in aesthetic development" (Zaharchuk 1971, 34).

Perusal of academic calendars shows that in 1950 Electronics, Photographic Arts, Journalism and Costume Design (subsequently renamed Fashion) became three-year programs. The following year Hotel, Resort and Restaurant Administration became a three-year program, as did Industrial Chemistry, Furniture Design, Electrical Technology, and Graphic Design Management. Through a process of program consolidation, program elimination, and program re-design, by 1955 Ryerson was offering only three-year programs (Fleming 1971).

It is not clear whether Ryerson was actually the first of the early institutes of technology to offer three-year programs. While examination of Ryerson's academic calendars indicates that its first three-year programs were offered in 1950, the 1949 Report of the Minister of Education refers to three-year programs at the Institute of Mining, the Institute of Textiles, and Ryerson. However, three-year programs were not likely of the

same level at the Institute of Mining as at Ryerson. While completion of Grade 12 was required for admission to Ryerson's programs, it is not clear that this was the case at the mining school. When the Institute of Mining opened in 1945, it offered a one-year program for those who had completed Grade 12, and a two-year program for those who had gone only as far as Grade 10 (Ontario 1945). It is possible that when the institution shifted from programs of one and two years' duration to programs of two and three years' duration, the longer program was a compensatory version of the shorter one rather than a more advanced program. At the Institute of Textiles, it appears that the students could do an optional third year devoted to research on particular problems of the industry. In any case, it was Ryerson that articulated the rationale for three-year programs, and its three-year programs became the model for the other institutes of technology.

The expansion of three-year programs at Ryerson "alarmed some sectors of the educational world in Ontario," and the Premier of the Province asked the Department of Education to ensure that no programs of more than two years' duration were offered by Ryerson (Wilkinson 1980, 29-30). Principal Kerr speculated that the Premier had been alerted by his brother who was a professor at Queen's University, and the Premier was reflecting the universities' concern that Ryerson might be seeking to become a degree-granting institution that would take students away from the existing universities (Ryerson Polytechnical Institute 1979). The case was made to the Premier that as Ryerson's admission requirement was Grade 12 while Grade 13 was the requirement for the universities, Ryerson would not be taking students away from the universities (Wilkinson 1980). Apparently this argument was successful — even though Ryerson did require Grade 13 for some programs such as Journalism. Ryerson was allowed to continue offering three-

year diploma programs — although issues concerning the institution's place in the educational system would persist until it became a university.

Technicians and Technologists

The shift from two-year to three-year programs was intimately connected with Ryerson's introduction of the concept of technologist and the differentiation between technologists and technicians. As noted earlier, the 1949-50 Academic Calendar defined a technician as:

> . . . a person who, while having a working knowledge of the hand skills required, must also possess a sound background of the underlying principles involved in the industrial process at which he is employed.

However, within just a few years, a new name for graduates, technologist, was "prominently displayed in all of the Institute's documents" (Zaharchuk 1971, 30). The description of the training needed for a technologist was much broader than what had been suggested earlier for a technician (Zaharchuk 1971, 30):

> The young graduate must be thoroughly grounded in more than occupational technology. He must be versed in the rich heritage of our language, be able to speak and write clearly, concisely and effectively. He must be familiar with those economic principles that are so interwoven with

> the fabric of our society that they help shape our destiny.

Following a national conference in 1956 on engineering, scientific and technical manpower in St. Andrews, New Brunswick, the Association of Professional Engineers of Ontario (APEO) appointed a committee to examine possible certification of engineering technologists and technicians (Smyth 1970). The committee, of which Howard Kerr was one of the three members, proposed a system of certification in which there would be three categories: technologist, senior technician, and technician. The proposed educational requirements beyond completion of high school were three years for a technologist, two years for a senior technician, and one year for a technician. The committee's proposals were accepted, and by June, 1957 APEO had developed a process for the certification of engineering technologists and technicians. Subsequently, the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) was formed and took over the certification of engineering technicians and technologists. The distinction between technologist and technician which, to this day is inherent in both the OACETT certification framework and the programs of the Ontario colleges of applied arts and technology would appear to have had its origins at Ryerson Institute of Technology in the early 1950s.

With its shift to offering only three-year programs by the mid-50s, Ryerson was training only technologists. Thus, it appears that there were no two-year technician training programs in Toronto perhaps for a decade or more, nor were such programs offered in the institutes of technology elsewhere in the province that followed Ryerson's lead in offering only three-year technologist training programs, for example Western Ontario Institute of Technology. An examination of the annual academic calendars of the Provincial Institute of

Trades showed that it added technician training to its repertoire in 1965-66, offering Civil Engineering, Construction, Drafting, Electrical and Electronic Technician Programs. The following year the Provincial Institute of Trades and Occupations added a two-year Toolmaking Technician Program, and in the next year, which was its last before becoming part of George Brown College, it added a Tool and Die Design Technician and a Plastics Technician Program.

Transfer to University

Applications from Ryerson graduates to an Ontario university were handled on a case-by-basis and there were considerable inconsistencies in the awarding of transfer credit. Graduates of a three-year diploma program were commonly admitted to the second year of a three-year bachelor degree program if their standing was sufficiently high in their previous diploma course, but in some cases were given no credit at all (Fleming 1971). Zaharchuk (1971) reported that universities in the United States accorded Ryerson graduates "more respect" (p. 41) than did Ontario universities, and he gave the example of Akron University as one where a graduate of three-year diploma in Business Administration could complete a four-year bachelor degree in one year of study. Wilkinson noted that in the mid-60s Ryerson Business graduates were being accepted for graduate studies at Cornell University while at the same time "they were being offered very little credit towards undergraduate studies at Ontario universities" (Wilkinson 1980, 34). He attributed the difference to American universities having a better grasp than their Ontario counterparts of what applied higher education was.

Apparently the situation that Wilkinson described was not confined to Ontario. During the 1950s, Mount Royal College in Calgary found the University of Oklahoma to be

more accommodating to graduates of its Petroleum Engineering Technology Program than the University of Alberta (Baker 2011). However, graduates of both Mount Royal and Ryerson who went to an American university to earn a bachelor degree in Engineering ran a risk in regard to obtaining professional registration as engineers upon their return to their respective provinces. According to Zaharchuk (1971), the Association of Professional Engineers of Ontario refused certification to Ryerson graduates who earned an engineering degree from one university in Michigan alleging that the university was too generous in awarding transfer credit. A similar, but more bizarre, situation existed in Alberta (Baker 2011). A Mount Royal graduate who upon high school graduation had not met the requirements for admission to Engineering at the University of Alberta but subsequently earned a degree in Engineering from the University of Oklahoma was not admissible to the Association of Professional Engineers of Alberta. However an Alberta resident who went directly to the University of Oklahoma and completed a degree in Engineering there would be admissible even though the admission requirements were different at the two universities.

The State of Technical Education in Ontario Just Prior to the CAATs

On the eve of the establishment of a new college system, Ontario had a career and technical education sector that consisted of 13 institutions — plus two more in the process of being developed. These 15 institutions included 7 institutes of technology of which Ryerson was the flagship institution; 3 provincial institutes for trades training two of which also offered some two-year technician training programs; and 3 vocational centres in operation and two at the planning stage. To put that number of institutions into context, the initial plan for the new system was for 18 colleges though that number was soon increased to 22.

While the number of institutions in the technical education sector might have been considerable for the time especially in comparison with other provinces, the system was relatively small in total enrollment and had some significant gaps and limitations. In 1966-67 full-time enrollment in the institutes of technology was 7,884 (Smyth 1971), compared to an undergraduate enrollment of 60,862 in Ontario universities (Holland, Quazi, Siddiqui and Skolnik 1971). About 56% of enrollment in technology programs was in Toronto. Many cities and most rural areas outside Toronto lacked technology or trades training facilities or both, and in those that did have such facilities the range of programs offered was quite limited compared to what was available in Toronto. A curious feature of the distribution of the more advanced programs is that it consisted primarily of three-year programs. In terms of occupational fields, the mix of programs was heavily weighted towards Engineering and the Physical Sciences. The next largest field covered was Business, but relatively few specializations were offered within that field. Occupational programs related to the Humanities and Social Sciences were few, just Journalism and Radio and Television which were in part Business and part Technology related, and a newcomer at Ryerson, Social Services. Although Ryerson had made considerable strides in incorporating English, Humanities and Social Sciences courses into its career preparation programs, general education was not a prominent feature of the technical education sector. For example, for students in the technology programs at the Western Ontario Institute of Technology general education consisted of two years of English and one year of Economics.

Finally, although the extension of trades training to other cities than Toronto suggested that the government was beginning to take a more comprehensive view of provincial needs for technical education, the sector as it existed in the mid-60s could hardly be said to be the product of systemic planning. That was about to change.

II. The Establishment of Ontario's Colleges of Applied Arts and Technology

Movement to establish provincial systems of colleges in Canada began in the early 1960s with initiatives in Quebéc and British Columbia. The prime movers for designing these two systems could not have been more different; in one case it was a provincial royal commission on education, in the other it was the president of the province's only university. The Royal Commission of Inquiry on Education in the Province of Quebéc was established by the government in 1961 to investigate the entire educational system of the province (Donald 1997). It was headed by Alphonse-Marie Parent who had been rector of Laval University. One of its major recommendations in the area of higher education was for a new sector of colleges that would offer both pre-university general education (the equivalent of Ontario's Grades 12 and 13) and technical programs (Parent 1963).

When John B. Macdonald became president of the University of British Columbia it was the only university in a province that was on the cusp of rapid growth in population and economic expansion. With neither encouragement nor overt support of government, he initiated a study of the future needs of postsecondary education in the province (Dennison 1997). Key recommendations of the Macdonald Report were for two new four-year colleges and six California-style community colleges that would offer both university-equivalent courses in Arts & Sciences and postsecondary vocational courses (Macdonald 1962). While perhaps a first in Canada, the idea of a president of a large public university advocating for the establishment of community colleges that would provide the first two years of university-equivalent courses in the Arts & Sciences was common in the United States (Dougherty 1994). University presidents such as Clark Kerr of the University of California were of the view that community colleges could protect the university from being

overwhelmed by large numbers of first-year students with lower academic attainment (Kerr 1978).

The extensive and wide-ranging public dialogue about the future development of the postsecondary education system that took place in Ontario in the 1960s did not have as clear a focal point as in British Columbia and Québec. It is even difficult to identify the bookends for the dialogue, as some observers took it back as far as the 1950 Royal Commission on Education, and the public debate about the type of institution that was needed continued even after the new colleges started admitting students.

The tenor and main themes of this public dialogue have been discussed in published works by Fleming (1971), Campbell (1971), Dennison and Gallagher (1986), and Skolnik (2010), and in greater detail in several master's and doctoral theses (Smyth 1970; Bartram 1980; Patrick 1982; Murphy 1983; and Stoll 1993), and therefore need be summarized only briefly here. Although some newspaper accounts of the debate concentrated on points of disagreement, there was wide support for most aspects of the government's plan for the new colleges (Fleming 1971). Campbell observed that the overriding issue in the development of colleges in Canada was whether they should concentrate on preparation for employment or also provide the first two years university-equivalent courses in Arts & Sciences which would enable students to transfer to university to complete a bachelor's degree (Campbell 1971). This characterization certainly applied to Ontario where there was considerable controversy about whether the colleges should perform a junior college function in addition to their technical institute function.

The Government's Decision about a Transfer Role for the Colleges

By the early 1960s there was a consensus that the Province's educational system needed to be expanded in a way that would provide the opportunity for more young people to have

more education. The chief reason why more education was needed was the growing complexity of the economy. The prevailing view was that those who did not acquire the knowledge and skills required by new technology faced the prospect of economic obsolescence, and the shortage of individuals with such knowledge and skills threatened to retard the economic advance of the Province. An important vehicle for enhancing the economic security of individuals and for realizing the economic potential of the province would be an expanded and broadened system of technical education. In pursuing this goal the province would be building upon the accomplishments of the past two decades in creating a solid base of technical education.

In addition, some felt that it was important to build a new path to university besides the existing Grade 13. At the time this debate was occurring, Ontario secondary schools offered both a four-year and a five-year program. The five-year program, which concluded with Grade 13, led to university, where most students did a three-year bachelor degree, though some did a four-year honours bachelor degree. Harris (1976) estimated that in 1960 about half the undergraduate Arts & Sciences students at the University of Toronto did the four-year Honours Program, but that at other Ontario universities only about 5 to 20 percent did so. The four-year program led directly to the workforce, or to one of the non-university venues for further study such as an institute of technology.

Providing this type of new path to university would not be in keeping with Ontario traditions but would instead involve importing an American institution, the junior college. After much deliberation on the issue, the government decided not to give the colleges the role of offering of university-equivalent courses in the Arts & Sciences that would enable students to obtain advanced standing at a university. No other aspect of the design of the CAATs - and possibly no other decision about the shape of postsecondary education in

Ontario in the twentieth century – engendered so much debate and second guessing as the decision that the CAATs would not be transfer institutions. Fleming (1971, 514) suggested a political motivation for preoccupation with the transfer issue:

> It was hardly to be expected that there would be any fundamental opposition to the establishment of the colleges. The political opposition was for the most part laudatory but, in the nature of oppositions, could hardly be satisfied with expressions of satisfaction and praise. The most promising line of criticism seemed to involve the issue of transfer to the universities. In the Legislature discussions centered on this point from time to time for the next several years.

However, criticism of this design decision was not confined to opposition politicians. Several prominent educators spoke out strongly in favour of transfer for the CAATs, and the largest newspapers in the Province were critical of the Government's decision. An editorial in the *Toronto Daily Star* suggested that without a transfer function the new colleges would be "little more than glorified trade schools" (The Toronto Daily Star, 1965). This view of the government's plan for the colleges, which was common among critics of the plan, revealed a lack of awareness of the distinction between the types of programs that were currently being offered by the institutes of trades and the institutes of technology. Apparently Kerr's

attempts to explain to the public the difference between trades education and advanced technological education had not been successful.

While the Committee of Presidents of the Provincially Assisted Universities of Ontario formally opposed the transfer function, one of the university presidents, Murray Ross of York University, was the most persistent and prominent advocate for it. The most visible and vocal opponent of the transfer function among the Committee of the Presidents was the President of the University of Toronto, Claude Bissell. That these two university presidents took the positions that they did belied the commonly heard allegation about the self-serving nature of the Committee of Presidents opposition to transfer. As a relatively new university with a strong emphasis on undergraduate Arts & Sciences, York University would have been far more vulnerable to competition from new junior colleges than the older, well established, and more programmatically diversified University of Toronto. Indeed, the existence of a system of junior colleges might have been beneficial for the University of Toronto in the same way that it was for flagship state universities in the United States.

Though the junior college function would not be part of the mandate of the colleges, the Minister noted two ways in which the colleges could help to facilitate the attainment of university degrees (Davis 1965). One was a provision in the legislation by which a college could enter into an agreement with a university for the university to offer its courses on the college campus. This was a quite common practice in the United States where many community colleges developed university centres on their campuses through which several universities offer their courses.

In a 1966 address at a national conference on community colleges, the Minister expressed concerns about the difficulties that many students in the United States

experienced in attempting to transfer from a college to a university (Davis 1966). Research in the United States showed that in the 1960s only about 20 per cent of students who started postsecondary education in a community college completed a bachelor degree, while the corresponding figure was about three times as great for those who started in a university (Karabel 1972). The Research Committee of the Committee of Presidents of Ontario Universities found that the rates of acceptance of transfer applicants in New England states varied from 30 to 40 per cent to as low as 13 per cent (Committee of Presidents 1965). On the basis of such evidence, the Minister suggested that enabling universities to offer their courses on college campuses would provide a more effective route to the baccalaureate than college-to-university transfer.

In the Minister's May 21, 1965 speech in the Legislature, he had also put forward the idea of establishing a provincial committee consisting of representatives of the Department of Education and the universities to determine "the conditions and procedures under which universities may grant admission to outstanding students who have completed successfully an appropriate program at one of our Colleges of Applied Arts and Technology and who have demonstrated that they are prepared to undertake university work" (Davis 1965, 14). However, this type of committee never was established, though similar types of committees appear to have been effective in facilitating transfer in Alberta, British Columbia, and Québec (Skolnik and Jones 1993; Jones, Skolnik, and Soren 1998).

Besides the Minister's concerns about its effectiveness, there were three other reasons why the junior college function was not built into the mandate of the new colleges. The first was a concern that if the colleges had both a liberal arts transfer function and a technical education function, the technical education function would receive insufficient attention and resources. The Minister did not make this point in his 1965 Statement in the

Legislature, but in Stoll's archival research (1993) she found frequent mention of this concern in the papers of the Minister and his chief advisors pertaining to the establishment of the college system. In contrast she found little mention in these papers of the universities' opposition to the establishment of junior colleges leading her to question whether that opposition was a major factor in the government's decision.

The concern about possible neglect of technical education in a dual purpose college had also arisen on the trip that the Minister and his advisors had taken to study community colleges in California. Although most of what the Ontario visitors saw suggested that the two functions were able to coexist fairly well, one of the California hosts warned that if too much attention were given to the transfer function technical education could suffer neglect (Jackson 1964). Apparently this warning made quite an impression on at least one of the Minister's advisors, Norman Sisco, who served as Director of the Applied Arts and Technology Division in the Department of Education and later chaired the Council of Regents for the Colleges of Applied Arts and Technology . At a national conference on community colleges in 1966, Sisco related a warning that he had received from an unnamed American education official (Canadian Association for Adult Education 1966, 41):

> 'I envy you. You are in for five exciting years. You have got this new concept and everybody is obviously enthusiastic. But I tell you what will happen. In five years the staff will come to a meeting and they will pass a resolution that from here on they must be referred to as the faculty. A year after that they will all want to wear gowns. Two years after that they will be talking about increasing their

> image in the eyes of the public by raising their entrance requirements and raising their requirements as far as faculty is concerned. Then, in about a ten-year cycle you will have a fourth-rate liberal arts college with a few long-haired pedants strutting around with a handful of students.' Now we have admittedly stacked the cards everywhere we possibly could to prevent that from happening.

Of course the founders could not be certain of this prediction — which, according to Fleming (1971), Sisco was fond of repeating — but the possibility that it might be accurate had to be weighed against the importance of expanding and improving technical education in the province. In the Minister's Statement in the Legislature he had noted Ontario's long-standing deficiency in "the training of technical personnel beyond the high school but short of the university level", and the importance of implementing the recommendations of the Select Committee on Manpower Training for the expansion of technical education (Davis 1965, 5–6).

Perhaps the Government might have been more willing to gamble on the feasibility of combining academic and vocational education in the same institution were it not for two other factors that in its view lessened the need for junior colleges. These were the existence of Grade 13 and the recent expansion of the university system. Grade 13 served both as the first year of university level study and as a gateway to the subsequent years. In February 1964, the Minister of Education appointed the Grade 13 Study Committee to look into the nature and functioning of Grade 13, particularly with respect to curriculum, examinations,

and workload, areas in which it was thought that problems had been occurring. The Committee observed that as Grade 13 had been in existence for so long and was such a fixture in Ontario, it should be regarded as an Ontario tradition. The Committee took the position that while there was nothing sacred about a tradition, so long as it was still serving a valid purpose and had not become harmful, Grade 13 should be reformed rather than discarded (Ontario Department of Education 1964). The Committee concluded that most of the problems of Grade 13 arose because of the lack of alternative forms of postsecondary education. As a result, many students were enrolling in Grade 13 whose educational needs would be better met by other types of educational providers than the university. It noted in particular the inadequacy of facilities for training technicians and technologists and for trades training and suggested that remedying that deficiency would enable Grade 13 to function more effectively. The Grade 13 Study Committee was thus an additional voice calling for an expansion of technical education facilities.

Grade 13 was regarded as an integral part of the secondary school which performed an important function and also enhanced the academic strength and character of the school, and there was little if any support for getting rid of it. While Grade 13 could meet the needs of the majority of university-bound students, supplementing it with a set of junior colleges could have increased accessibility to university for late-bloomers and students for whom the secondary school setting did not bring out their best. Apparently the Government did not feel that this group was large enough to warrant the creation of an alternative pathway to university. Also, the government expected that an expansion of opportunities for technical training would reduce the demand for places in Grade 13. It would seem odd to add a new system of institutions to perform the function of Grade 13 at a time when the demand for Grade 13 was decreasing.

In addition, the recent expansion that had been made in the university sector made the Government less inclined to create an alternative system of university-equivalent courses in the Arts & Sciences. By 1965 there were 15 universities in Ontario, and the Government projected that soon 75 per cent of young people would be within twenty-five miles of a university (Fleming 1971). Fleming quoted a statement of the Minister in the Legislature in 1967 that no "argument of common sense or sane economics" could justify " the building of duplicating facilities in colleges of applied arts and technology, to handle one or two years of university study" (Davis, quoted in Fleming 1971, 514).

One of the main criticisms of the Government's plan for the new colleges was that without a junior college function they would be perceived as an inferior type of postsecondary institution, little more than trade schools. The implication was that the institutions needed to offer higher status liberal arts courses in order to have a more positive public image. Ironically, this criticism supported the Government's concern about the fate of technical education in an institution that offered both technical education and university level liberal arts education. If the university transfer courses were of higher status than the technical courses, then it would be natural for the institution to give greater attention to the liberal arts courses. Another problem with this criticism was that community colleges in the United States had a relatively low status even though the majority of their enrolment was in the Arts & Science transfer stream. If the colleges were to be of lower status than the universities whatever they did, then they may as well offer the programs that would be the most economically and socially beneficial. In the view of the Government of the day, these were the technical courses that prepared graduates for such positions as technician and technologist and equivalent positions in fields other than engineering and science.

The Influence of Other Jurisdictions on the Design of the CAATs

In both his 1965 speech in the Ontario Legislature when he introduced the legislation for the colleges and in his 1966 speech at a national conference on community colleges in Canada, the Minister mentioned efforts to learn from other jurisdictions. On both occasions, he referred to community colleges in the United States and in other provinces, specifically British Columbia and Alberta, and in the second speech he mentioned Western Europe. However, except for this brief mention of Western Europe, postsecondary institutions there did not figure into the body of policy literature concerning the possible shape of new colleges in Ontario. Nor was there any substantive input pertaining to the community colleges then being developed in British Columbia and Alberta. As far as other jurisdictions were concerned, the focus appeared to be exclusively on the United States, particularly California. It seems ironic that the only postsecondary model from another jurisdiction that was given serious consideration was one that was rejected. This is not to say that there was not some policy borrowing from community colleges in the United States, for example with respect to student services, remedial education, and faculty development; but the most distinctive feature of the American community college, the junior college function, was explicitly rejected for the new Ontario college system.

A model from another jurisdiction that would have been particularly interesting to consider was that of the polytechnics in England and Wales. Less than a month before Mr. Davis's May 21, 1965 speech in the Legislature, the United Kingdom Secretary of State for Education and Science, Anthony Crosland, announced a reorganization of postsecondary technical education in England and Wales (Pratt 1997). This reorganization involved the

amalgamation of over 50 technical colleges into a system of polytechnics that in addition to sub-baccalaureate vocational programs would also offer vocationally-oriented programs at the bachelor and postgraduate degree levels. Like Ontario's Colleges of Applied Arts and Technology, the polytechnics in England and Wales would provide an alternative to the universities, but unlike the CAATS the polytechnics were intended to offer programs at the same level as the universities. There is no indication that the possible applicability of the English and Welsh polytechnic model to Ontario's colleges was the subject of policy consideration before the Vision 2000 review of the mandate of the colleges in 1989-1990 (Ontario Ministry of Colleges and Universities 1990; Skolnik 1989).

The Influence of Ryerson Polytechnical Institute

According to Fleming, "Ryerson Polytechnical Institute came the closest to the model [for the colleges] that was eventually adopted" (Fleming 1971, 490). For that reason, Fleming suggests, it is appropriate to regard Ryerson as the "parent" of the colleges and Ontario's solution to the problem of how to expand postsecondary education as "home-grown" (Fleming 1971, 490). Ryerson's influence was transmitted to the colleges through migration of administrators and teaching staff to the colleges; through imitation of its curriculum; and through the other institutes of technology which had modelled their curriculum on Ryerson's and provided the initial core of five of the new colleges.

Staff who moved from Ryerson to the colleges ranged in position from President Kerr who upon retirement from Ryerson became the first Chair of the Council of Regents which was the oversight body for the colleges, to the many other administrators and faculty whom the colleges recruited from Ryerson. Seven of the early college presidents had previously worked at Ryerson. In an unpublished paper prepared for George Brown College's 50th

anniversary, former Senior Vice-President Jim Turner quoted the remark made by one of these presidents that the colleges "stripped Ryerson of its staff" (Turner, n.d., 8).

According to both Zaharchuk (1971) and the 1979 history of Ryerson, initially many college programs were copies of Ryerson programs. They both give the example of Centennial College's Welfare Services Program which they say was advertised as a copy of Ryerson's program. This should not have been surprising given that the institutes of technology were established in large part to offer the same programs as Ryerson. Indeed, the first Chair of Centennial College's Board of Governors, R. G. Stackhouse, acknowledged that two of the college's first programs paralleled Ryerson programs. He explained that these programs were oversubscribed at Ryerson and that Centennial was doing a valuable service in making them available to students who wanted to take the programs but couldn't get into Ryerson (Stackhouse 1966).

Although there were clearly similarities in programming between Ryerson and the colleges, there were also two important differences, one pertaining to the inclusion of trades training and other programs that did not require a Grade 12 diploma for admission, the other to a shift away from concentration on three-year diploma programs.

Following the movement of trades programs from Ryerson to the Provincial Institute of Trades in 1951, Ontario had two distinct systems of technical education, one consisting of the institutes of technology, the other of the institutes of trades and the vocational centres. The Select Committee on Manpower Training (Ontario Legislative Assembly 1963) recommended continuing this separation of functions, but it did not provide an analysis of the pros and cons of doing so. The Committee of Presidents of the Universities recommended that the institutes of technology but not the vocational centres should be incorporated into the new colleges, arguing that the two types of institutions provided

different types of education and therefore that the institutions that provided them should be separate (Committee of Presidents 1965).

The training of tradespersons and technicians may be different, but the two had already been combined within PIT and within PITO, probably in (delayed) reaction to the void created in Toronto when Ryerson ceased offering two-year programs. Apparently, the Minister did not see a problem in combining the different forms of technical education, as the list of programs that he envisaged the colleges offering included both technology programs of two and three years' duration and "trades, skills, pre-apprenticeship, and apprenticeship training" (Davis 1965, 13). Also, in 1968 the provincial government began transferring academic upgrading and skill training programs from school boards to the colleges thus firmly establishing the colleges as the main providers of adult and vocational education in the province. There never was an analysis of the pros and cons of combining different levels of technical education within the same institution in Ontario, and it is noteworthy that Alberta followed a different approach in maintaining separate vocational centres after establishing community colleges in Calgary and Edmonton.

There were differences among individual colleges in the extent to which they took on trades and skills training. As a consequence of taking over PIT and PITO, George Brown College quickly became the unquestioned leader among the colleges in adult occupational training. Though not quite on the scale of George Brown, Humber College also established adult training programs on a substantial scale, perhaps because its first president, Gordon Wragg, had been Principal of the Provincial Institute of Trades before joining Humber College. At the other end of the continuum was a college where the president "had no use whatsoever for manpower training" until provincial officials raised the possibility of his dismissal, and another where the governing board initially was of the opinion that the

college was no place “to teach people how to lay carpets” (Dupré et al. 1973, 147). Though at difference paces, all colleges moved to diversity their programming until the colleges became the principal public provider of almost all forms of vocational and adult education in the province in sharp contrast to the far narrower mandate of their parent institution.

It was noted earlier that by the mid-1950s Ryerson offered only three-year programs for preparing technologists and equivalent programs in other career fields. The colleges offered the same or similar three-year programs, but from early on gave more emphasis to two-year programs. In 1966, the Minister said that the most rapidly growing area of demand in postsecondary education was for two-year, technician training programs, and that the colleges would be providing an increasing number of such programs (Davis 1966). Of the first seven programs developed at Ontario’s first college, Centennial College, six were of two years’ duration and one was a three-year program. The prioritizing of two-year programs in the colleges was noteworthy in view of Ryerson’s stated reason for having concentrated on three-year programs, which was to have the time to incorporate an adequate amount of general education into the program. The CAATs had a similar goal for the inclusion of general education into their curriculum, but from early years there were perennial allegations of insufficient attention to general education in college programs (Murphy 1983; Ontario Ministry of Colleges and Universities 1990; Smyth 1970).

While Ryerson clearly had an impact on the colleges, the reverse was also true, as the creation of the colleges created uncertainties and possible problems for Ryerson. In the original partitioning of the province into the areas in which colleges would be established, the city of Toronto was conspicuously absent from the list. The omission of Toronto from the list of sites for new colleges was viewed “ominously” at Ryerson (Ryerson Polytechnical Institute 1979, 432). The concern that Ryerson might be designated as the college of applied

arts and technology for Toronto was alleviated sometime later with the announcement that the Provincial Institute of Trades and the Provincial Institute of Trades and Occupations would form the nucleus of a new institution in the city of Toronto, George Brown College.

Having avoided becoming one of many colleges of applied arts and technology, Ryerson was still not of the woods, because it now faced potential competition for students from new colleges within the same geographical area which could offer some of the same programs. Wilkinson, who served as Acting President of Ryerson Polytechnical Institute, said that the opening of the colleges created "a serious challenge" for Ryerson (Wilkinson 1980, 34). Within just two years of the opening of the first CAAT Ryerson sought degree-granting status, and in 1971 got approval to offer the Bachelor of Technology and the Bachelor of Applied Arts. This limited degree-granting authority did much to differentiate Ryerson from the colleges which would have to wait three decades for the opportunity to award degrees.

III. Legacy of the predecessor institutions

Nearly all the literature on the origin of Ontario's colleges focuses on one aspect of the new colleges, their relationship with the universities, and treats that decision as a product of the 1960s. For example, Harmsen and Tupper (2017) state that "Ontario's [postsecondary] system rested from the 1960s onward on a rigid division between degree-granting universities and technical colleges" (Harmsen and Tupper 2017, 351). This decision is thought to have had major implications for the future development of postsecondary education in Ontario. Harmsen and Tupper (2017) maintain that the decision made in the 1960s to make the colleges almost totally separate from the universities set in motion self-reinforcing processes which made it nearly impossible to achieve effective coordination between the colleges and universities years later when the government wished to do so. For

example, the insufficiency and inconsistency of transfer credit awarded to graduates of the institutes of technology by Ontario universities noted earlier have continued to be a problem for graduates of the colleges. Ontario's college-to-university transfer rate is low compared not only to British Columbia and the United States, but also compared to the United Kingdom (Skolnik 2020b), and the transfer rate declined between the first and second decades of this century (McCloy, Steffler, and Decock 2017). As of 2013, almost two-thirds of graduates of two-year diploma programs in Ontario colleges who transferred to a university received one year or less transfer credit (Decock and McCloy 2015).

This paper seeks to add to the literature on the origin of Ontario's colleges by drawing attention to decisions and events prior to the 1960s and to other aspects of the new colleges besides their relationship with the universities. As to the first of these factors, it is important to note that the rigid separation between degree-granting education and technical education had been an inherent element of the system over the two decades prior to the establishment of the colleges. Thus, one can concur with the view of Harmsen and Tupper about the long-term effects of the separation between colleges and universities, but at the same time note that this separation was already baked into the postsecondary cake well before the 1960s. The plan for the new colleges announced by the Minister of Education in 1965 continued rather than introduced the separation of technical institutions from universities.

Although the colleges of applied arts and technology are generally portrayed as a new type of educational institution in Ontario that began operating in 1967, the college system was built on a substantial foundation of pre-existing institutions — the institutes of technology and the institutes of trades. The colleges inherited facilities, equipment, administration, faculty and curriculum from their predecessor institutions, in addition to

traditions, policies, and ways of doing things. Thus, it was perhaps an understatement to say, as the Minister noted in his 1965 speech in the legislative, that the new institutions were “in keeping” with previous accomplishments (Davis 1965, 5).

So far as being in keeping with then existing traditions, some of the things that to this day make Ontario colleges different from colleges in many other jurisdictions came from the system of technical education that preceded the colleges. The characteristic of the new colleges that dominated public discussion during the founding period, and even after, was that they would concentrate on preparation for employment and would not offer first and second year university-equivalent courses in arts and sciences. In this respect, Ontario’s colleges would differ from most of the colleges being developed in British Columbia, Alberta, and Québec, and from the colleges in most of the United States.

This decision about the mission of the new colleges was not pulled out of thin air; rather it was shaped by experience and rooted in existing institutions. Given the influence of those factors, it is difficult to see how a different decision could have made regarding the role of the colleges. The province had a vibrant system of institutions that provided career and technical education for students who did not go on to university. The system was perceived to be successful in terms of employer demand for its graduates and the desire of communities that did not have such institutions to acquire them. By contrast, the province had almost no experience with junior colleges. The only public tertiary institution that had combined the role of an institute of technology with that of a junior college, Lakehead Technical Institute, had just become a university — hardly a propitious example for those concerned about ensuring the provision of technical education opportunities in an institution whose mandate was to offer both technical and liberal education.

Starting from those days of fledgling institutions in the 1940s, much had been learned about operating a complex system of career and technical education and many individuals had developed the expertise to manage such institutions. Extending the existing system of career and technical education to other communities and increasing the number of occupational areas for which education would be provided held the promise of increasing the social and economic returns on investment in this type of education; whereas the implications of trying to graft a junior college role onto that system were at best uncertain and at worst dysfunctional.

Another institution whose existence constrained choices about the shape of the new colleges was Grade 13. None of the advocates for giving the new colleges a junior college function explained how junior colleges could be coordinated or reconciled with Grade 13. Though Grade 13 was eventually abolished — not completely until 2003 — it was a tradition that still enjoyed great support from the main stakeholders, the schools and the universities. Having both junior colleges and Grade 13 would have created serious problems of duplication, competition, and coordination that other jurisdictions that established junior colleges did not have to face. For example, in contrast to Ontario, which had both Grade 13 and a system of institutes of technology, at the time of Macdonald Report, British Columbia had neither.

While the plan for the new colleges perpetuated the existing separation of technical education and degree education, it made two important changes in the provision of technical education. One was a dramatic expansion of two-year diploma programs which soon became the signature program of Ontario colleges. The other was combining advanced technology education in the same institution with trades training, skill development, and short-term occupational training.

As noted earlier, following the Ryerson model, the institutes of technology offered only three-year diploma programs. From the mid-50s until the Provincial Institute of Trades started offering a few two-year technician programs just prior to when the colleges were established, two-year diploma programs had been a rarity in Ontario and were non-existent in Toronto. While the colleges continued to offer three-year diploma programs, their number was on the way to being greatly surpassed by the number of two-year programs. As to the other change in the provision in technical education associated with the establishment of the colleges, bringing all forms of technical and vocational education together in a single institution was a major departure from existing arrangements. As noted earlier, both the Select Committee on Manpower Training and the Committee of Presidents of the universities had recommended maintaining the separation.

The combination of these two changes had significant implications for the future development of the colleges. Had the college system become an expanded version of the system of institutes of technology which preceded it — just with more programs and more institutions — it likely would have followed a different path than it did in regard to the provision of degree programs. It is important to recall that divesting itself of responsibility for trades training early on was an important if not indispensable step in Ryerson's evolution to becoming a degree-granting polytechnic institute. Had the merger of advanced technical education with trades training not occurred, and had they not made the two-year diploma program their predominant program, the colleges would have been specializing in the provision of three-year diploma programs — like Ryerson was at the time the colleges were established. The most likely next step in their development would have been to shift toward offering degree programs and become predominantly degree-granting technical colleges.

That is exactly the path that peer technical institutes in several European countries — whose program profile was not as concentrated on the highest level non-degree programs as was that of Ontario's institutes of technology in 1965 — followed, ultimately becoming Universities of Applied Sciences. As late as 1973 an OECD review of the development of non-university postsecondary institutions in different countries anticipated that Ontario's colleges would be the next such institutions to become substantial providers of degree programs similarly to the (then) polytechnics in England and Wales (OECD 1973). As it turned out, however, technical institutes in many other countries such as Germany, the Netherlands, Ireland and Finland, were next to follow this path, and Ontario's colleges had to wait until 2000 to get even very limited authority to award bachelor's degrees.

In most cases where former technical colleges and polytechnics in Europe evolved into universities of applied sciences whose primary mission is offering degree programs in applied fields of study, there were other institutions that had or could take on the responsibility for shorter duration vocational education and training. However, in Ontario the concentration of all forms of vocational training and skill development in the colleges militated against the introduction of degree-granting for the colleges, let alone enabling the colleges to become predominantly degree-granting institutions. The colleges' diploma programs and other initiatives in human resource development earned them much political and community support. Whenever the subject of degree-granting for the colleges came up concerns were expressed about the negative effect that this might have on their other activities. Even when colleges were given the authority to award bachelor's degrees, strict limits were imposed on scale of their degree programming.

Ironically, the main party to the public debate about the shape of the colleges that had been an advocate for continuing the separation between the functions of the former

institutes of technology and the former institutes of trades was the Committee of Presidents of the Universities. This was ironic insofar as that very separation prevented the colleges from evolving in a way that would have made them more of a competitive threat to the universities.

While the three-year diploma does not hold the same position in the colleges as it did in their predecessor institutes of technology it has continued to be a prominent credential. In 2017-18, three-year diploma programs accounted for 26.6% of enrolment (Higher Education Quality Council of Ontario 2021). The three-year diploma is now called an Advanced Diploma to distinguish it from the (two-year) Diploma which accounted for 48.7% of enrolment. Three-year diploma programs are rare in all other provinces except Newfoundland & Labrador where they appear to have modelled on the Ontario programs but without using the term Advanced Diploma (Skolnik 2020). There is no comparable program in community colleges in the United States, and in European colleges students who complete a three-year program are awarded a bachelor's degree. While three-year diploma programs are offered in some Asian countries and in South Africa (Skolnik 2020), a 2020 study commissioned by Colleges Ontario noted that "in most parts of the world students who take a three-year program earn a degree" (Strategy Corp Institute of Public Policy and Economy 2020, 39).

The contemporary Advanced Diploma in Ontario colleges seems consistent with Kerr's vision when he introduced the three-year diploma program at Ryerson in the early 1950s. According to the Ontario Qualifications Framework, the Advanced Diploma requires ". . . breadth beyond the vocational field, with exposure to at least one discipline outside the main field of study . . . to increase awareness of the society and culture in which they [graduates] live and work" (Ontario Ministry of Colleges and Universities 2020). Examples of

themes for study outside the vocational field are: arts in society; civic life; social and cultural understanding; personal understanding; and science and technology.

The persistence of the three-year diploma in Ontario colleges when a comparable credential is not offered by peer colleges in other North American jurisdictions except Newfoundland & Labrador is somewhat surprising. In the early 1970s, a major commission on postsecondary education in Ontario recommended that the colleges award a bachelor's degree instead of a diploma for their three-year programs (Commission on Postsecondary Education in Ontario 1972). The government took no action on the recommendation, and it was not until four decades later that the colleges returned to this issue. The conclusion of research by curriculum experts under the auspices of Colleges Ontario was that many of the sector's advanced diploma programs either met the provincial standard for the three-year bachelor's degree or with minor adjustments could meet that standard (Colleges Ontario 2012). Colleges Ontario noted further that because the credential was so rare in Canada and the United States that it was difficult for graduates to get the recognition that they deserved for the effort they put into earning the Advanced Diploma. Accordingly, it recommended that the colleges be allowed to convert Advanced Diplomas into three-year bachelor's degrees on a case-by-case basis.

The recommendation that colleges be allowed to award three-year bachelor's degrees appeared again in a 2020 report commissioned by Colleges Ontario (Strategy Corp Institute of Public Policy and Economy 2020). This report noted the anomaly that universities are allowed to award three-year bachelor's degrees but colleges are not, and it expressed concern that many job postings for which graduates of three-year diploma programs are qualified are restricted to those who hold a degree. In spite of this kind of discrimination, student demand for entry into Advanced Diploma programs still appears

strong, and employers still appear to value the credential. Data on graduate outcomes for 2015-16 showed that graduates of Advanced Diploma programs earned 15.3% more than graduates of Diploma programs but only 1.6% less than graduates of college Bachelor's Degree programs (Wheelahan et al. 2017). Apparently the idea of a three-year diploma program developed by Howard Kerr in the early 1950s is still valid today and is an important legacy of the system of technical education in Ontario that preceded the colleges. Moreover, the continuation of the three-year diploma has enabled Ontario to sustain a systematic distinction between technicians and technologists, another tradition that dates back to Kerr's tenure at Ryerson.

A note on sources, acknowledgements, and limitations

Among published works, Fleming's (1971) book on the development of postsecondary and adult education in Ontario continues to be the dominant source of information on the origins of Ontario's colleges. It almost unfathomable how Fleming brought the same thoroughness, detailed documentation and insightful commentary to all other aspects of Ontario education in his 7-volume work as he did in the chapters of Volume IV that are devoted to Ontario's colleges. Next closest in detail is the section of Dennison's and Gallagher's *Canada's Community Colleges* (1986) that relates the origins of colleges in all the provinces. Valuable information is found in some other books in which the origins of Ontario's colleges is of secondary interest, such as the elegant policy analysis of the implementation of the Adult Occupational Training Act of 1967 in Ontario by Dupré et al. (1973), Braun's (1987) history of Lakehead University, and Harris's history of higher education Canada (1976). In contrast to books, only two articles in academic journals are cited in this paper, one of them the author's examination of the decision on transfer in the

government's original plan for the colleges (Skolnik 2010); the other Dean Young's (1944) vision of technical institutes in Canada which the author is indebted to the Office of the Dean of the Faculty of Applied Science and Engineering at the University of Toronto for locating.

Preeminent among unpublished sources is the text of the speech that the Minister of Education gave in the legislature on May 21, 1965 when he introduced the legislation to establish the colleges (Davis 1965). A document that was both visionary and practical, it inspired generations of faculty and administrators in the college system. Perhaps the most remarkable document discovered in the research for this paper is a detailed history of Ryerson Polytechnical Institute that can be accessed on Ryerson University's web site (Ryerson Polytechnical Institute 1979). It was difficult to decide how to cite the work, as the preface notes that it was the product of a manuscript written by a Ryerson Journalism graduate, John Downing, edited by a committee of the Board of Governors. Because of the journalistic flair of the manuscript which made reading it so pleasurable, and because of the obvious amount of work that he did it was tempting to treat Downing as the author in the listing of references. However, the wording of the title still gives credit to Downing while pointing to an institutional authorship. This document turned out to be an extremely valuable source of information. However, because of its lack of documentation, its information was cross-checked with other sources wherever possible — although that was not always possible.

Overall, the largest source of research on most aspects of Ontario colleges is the body of master's and doctoral theses that have been done by university graduate students, particularly but not only, in the Ontario Institute for Studies in Education of the University of Toronto. Four such theses were especially helpful in the research for this paper. In the

course of examining general education in the curriculum of Ontario colleges, Murphy (1983) provides what is probably the most detailed examination of the origins of Ontario colleges that is in print. The dissertation provides thoughtful and insightful analysis of most of the important documents pertaining to the founding of the colleges that are in the public domain and many of those that aren't. The word "Some" in the title of Smyth's M. Phil. Thesis (*Some Aspects of the Development of Ontario's Colleges of Applied Arts and Technology*, 1970) could easily be replaced by "Many" or "Most". The thesis is informed by Smyth's experience as Vice-chair of the Council of Regents during the formative years of the colleges. Stoll's master's thesis (1993) was based on archival research on documents in the Minister's Office relating to core features in the design of the college system. Zaharchuk, who was a teacher at Ryerson — and on whose thesis committee the author served — provided a valuable account of the institution's early years and of the educational philosophy of its founding president, H.H. Kerr.

In addition to the sources noted above, the author had the benefit of access to the Ryerson University Archives for institutional documents and curriculum materials; St. Clair College's collection of its academic calendars and those of its predecessor, Western Ontario Institute of Technology; and the online collection of academic calendars of George Brown College and its predecessor institutions in the George Brown College Archive.

However, the author's plan to visit other libraries, such as the provincial archives, and relevant historical sites had to be shelved due to the outbreak of the Covic-19 pandemic. For the past year, continuation of research on this project has been limited to what had been collected earlier or what could be found online. It was not even possible to get back to venues that had been visited earlier to probe further into important questions. One of the questions which the author would like to have pursued but was unable to with

the sources available was about the gender and socio-demographic characteristics of students in the colleges' predecessor institutions. For example, the sources of data on student numbers cited in this document did not give a breakdown by gender. The author's impression is that enrolment in the institutes of technology and the institutes of trades was overwhelmingly male. If so, this particular legacy of the predecessor institutions was altered by the colleges both through establishing programs in newer fields, particularly in applied arts and health, and through bringing more females into fields that had previously been exclusively male. Also, all the educators noted in this document as having an influence on the development of the colleges were male. A more complete picture of the legacy of the predecessor institutions would include an analysis of how the characteristics of staff and students changed as the colleges took over and evolved from their predecessor institutions.

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