

RESEARCH BULLETIN

No. 213

February 1984

GOING TO SCHOOL IN ONTARIO: THE URBAN PRIMARY SCHOOL 1850-1930

Dana Johnson, CIHB

The urban primary school is the building type which exhibited the most change during the 19th and early 20th centuries among the various sorts of structures encompassed by our study of pre-1930 schools in Ontario. To understand the nature of the change, perhaps one could look at the "average" urban primary school at several points along the way. Imagine, for a moment, that you are a student in one of the province's typical urban primary schools in the years 1850, 1880 and 1930. In 1850 you would be in a minority if you were in school at all; there were 94 schools in operation in the province's three cities and 13 towns, but almost 40% of school-age children never attended a school at all, and of those who did, many attended sporadically.¹ One consequence of this disinterest in formal education was a relatively high rate of illiteracy in both town and countryside: the chief superintendent of education reported in 1853 that 20% of the population in urban areas, and 29% in rural areas, were totally unable to read and write.² One reason for this disinterest in education was the low quality of urban school buildings. Roughly two-thirds were rented structures whose general condition did not lend themselves to educational use. The majority possessed basic equipment, in the form of desks and benches or chairs, for student use, but many were unventilated and few had any playground whatsoever. A third were considered totally unsuitable as schools.

Within thirty years, a veritable revolution in the quality of school accommodations had taken place. By 1880 large-scale, professionally designed urban primary schools were the norm, rather than the exception, and children were attending them in ever-increasing numbers. Though truly universal education was still an ideal rather than a reality, the province had made major strides in up-grading the quality both of its educational system and the buildings which housed it. The primary school was, as often as not, a kind of monument to the community's support for formal state-supported education; it vied with such structures as the town hall and the court house as one of the municipality's sources of pride.

By 1930 other major changes had taken place in the urban school. While these buildings continued to maintain their status as important community resources, changes in curriculum and in social attitudes and the press of sheer numbers required substantial modifications away from the standards of the 1880s. Education had become a business, and the school had become a much larger-scale, and even more complex structure. The urban school had become a building in which as many as 2,000 students took a variety of courses previously unheard-of. Advances in medical knowledge, greater technical sophistication, new building techniques, the professionalisation of the teacher, and the needs of an increasingly industrialized society -- all of these factors had an impact on the appearance, range of facilities and internal organization of the urban school. Full-time attendance by all school-age



Parks
Canada

Parcs
Canada

Cette publication est disponible en français.

children had become the norm by the 1920s, and schools responded to the unprecedented demands with ever-larger and more complex structures.

Early Urban Primary Schools and the Rise of "Central Schools"

Because urban education has changed so drastically, and because educational structures were often required to be as "modern" as possible, the province possesses relatively few of its earliest urban school buildings. Toronto's earliest surviving city-built school, for example, Sackville Street School, dates only to 1887 while Ottawa's most senior institution, Glasham School, was constructed only in 1892. There are, however, several notable exceptions to this trend towards demolition and rebuilding. The city of Kingston, for example, possesses at least a dozen pre-1930 primary schools, while Brockville's 1856 central school and Hamilton's 1851 central school still survive. In presenting a portrait of early urban primary schools, then, one must look at a combination of both surviving and demolished examples.

The first primary schools established in the province were set up in urban areas, usually as private schools taught by the clergy. The first of these, at Kingston, was founded by the Reverend John Stuart in 1786; at the same time a Mr. Donovan was appointed to teach at the garrison school there.³ Only a few of these schools appear to have survived for an extended period; somewhat informal in nature, they were financed by the collection of fees, for the provincial government offered no funding for the primary schools until the Common School Act of 1816. In general these schools were operated in the homes of their teachers, or in converted space in any available, cheap location. Even after the passage of the 1816 act, when authorities began establishing publicly supported schools, it was rare to find buildings specially designed and constructed as schools. With only occasional exceptions, no provincial funds were ever granted, before 1930, towards the construction of primary-level schools, for it was the province's policy to require the locality to fund construction. In 1865, for example, the Chief Superintendent, Egerton Ryerson, praised "the local voluntary quality of the school system, which, like the municipal system, is a power and agency given to the people to manage their own affairs in their own way, doing or spending as much or little as they please [to educate their children]...."⁴

As a result, early urban schools at the primary level tended to be housed in rather cramped and unappealing rental quarters, for municipalities did not have the financial resources to erect expensive school buildings, and voters were averse to proposals to raise taxes to do so. Three events modified this trend: the establishment of a central office to direct educational affairs throughout the province, the appointment in 1846 of a dynamic pro-educational propagandist to the post of chief superintendent, and the passage in 1850 of a new and comprehensive Common School Act.⁵

The School Act of 1841 established the offices of superintendent and assistant superintendent for education; for the first time, the provincial government possessed officers whose task it was to establish colony-wide standards of education and provide supervision over the school system. The appointment, in 1846, of a leading Methodist minister and educationist, Egerton Ryerson, placed a vigorous defender of education as the key to social and economic progress at the head of this central bureaucracy. By the time of his retirement in 1876, Ryerson had reworked the educational system of Ontario, and his influence had spread throughout British North America; to some, he was "the founder of the public school system in English Canada."⁶ The provision of improved school buildings was among Ryerson's first priorities, and the transformation from largely rental accommodations in the 1840s to the system of large-scale publicly owned schools of the 1870s is a testament to the success of his efforts. A crucial component in this development was the passage of the School Act of 1850, which permitted municipalities for the first time to finance

the construction and operation of schools through taxation on property assessment, rather than voluntary subscription or fees.

Both Ryerson and his local inspectors agreed that the construction of buildings designed especially for school purposes was an essential prerequisite to the emergence of a high-quality educational system. Noted Kingston's Special Committee of Schools,

our schools can never attain a high character, no matter what the qualifications of the teachers may be, until we are provided with proper buildings where masters can teach and children learn without danger of suffocation, or being frozen to death.⁷

On the basis of limited evidence, either of these fates was entirely possible in the common schools of the day, whether rented or not. Among the best structures was the Upper Canada Central School, built in York (Toronto) in 1818. It was a one-room frame building measuring 28 by 20-1/2 feet, with 8-1/2-foot ceilings, initially housing an average, during its first six years, of 70 pupils in attendance under one teacher. The curriculum included the basic common school subjects, reading, writing and arithmetic, taught on the Lancastrian system, where the older pupils assisted the instructor by teaching those below them. By 1828, however, attendance had risen to 190 pupils, and by 1831, 592 boys and girls were on the rolls, and two further teachers had been hired. The school was, quite obviously, jammed; through conversion of vacant attic space, the building now had two classrooms, designed to hold no more than 50 pupils each, to cater to the educational needs of almost 600. The building itself was "filthy," and lacked either proper ventilation or playground facilities. But little was done until the central school was closed, and its students transferred to Toronto's new common schools, in 1844.⁸

In spite of its incredible overcrowding, the Toronto Central School ranked among the best of the urban primary schools before 1850. Other municipalities could not do as well. Looking back on the system of rented ward schools in Hamilton, Superintendent Ambridge noted that they were "so infamously ill-adapted and filthy, and degrading in their entire character and associations that the very children blushed at being required to enter them." Such facilities resulted in an avoidance of the public school system, for "respectable people -- those who could afford to send their children elsewhere -- hesitated to expose their children to the pernicious influences then incident upon attendance at the Public Schools."⁹ The bulk of the pre-1850 urban primary schools seem to have been of this quality -- small frame rented buildings, dirty and ill-ventilated, badly sited in industrial or commercial areas and without proper playground areas -- buildings which were altogether poorly adapted to the task of educating the city's youth.

With the passage of the 1850 Act, many municipalities began to plan their first publicly owned school buildings. They were guided by standards set by the office of the Superintendent of Education and by planbooks such as Henry Barnard's School Architecture. Initially through their monthly magazine, the Journal of Education for Upper Canada, and later with the publication of John George Hodgins' The School House: Its Architecture, Exterior and Interior Arrangements, the department attempted to influence the design of both urban and rural schools.¹⁰ Though it is difficult to assign a precise degree of influence, it is clear that these early urban school buildings were affected by provincial standards. Even so, there was little uniformity among these early structures. Indeed, two distinctly different approaches to the problem of urban primary education emerged during the 1850s, the central school and the ward school. In short order, municipalities such as London, Brantford, Sarnia and Hamilton commenced the construction of large-scale, professionally designed central schools which were planned to cope with the educational needs of a large part of the city, while places such as Toronto and Kingston funded the construction of a larger number of one- and two-room ward schools.

Urban educational authorities agreed, in the 1850s, that better school buildings were essential to the improvement of the educational system. It was much less clear what approach -- the central school or the ward school -- was more likely to achieve that objective. Supporters of the smaller but more numerous ward schools argued that these compact structures could be built cheaply, using a standard plan if necessary, on lands already owned by the municipality. Like the one-room rural schools with which they are related, the ward schools were praised because they were close to the people they were designed to serve, both physically and in terms of management. Such schools could be controlled by trustees who were likely immediate neighbours; local ministers approved their construction because the ward school enabled them a strong role both in teaching and management. Parents were reassured that their children would receive a satisfactory education with their friends in a location close to home from a teacher who was a local resident. Their disadvantage, to educational authorities, was the same as that of rural schools: because of their small scale, it was impossible to divide the students into grades or to appoint teachers with specialized skills. On the other hand, the large-scale central school, with their multitude of rooms and superior physical facilities, offered several advantages: they provided graded rooms, were cheaper to run, taught large numbers of pupils efficiently, allowed teachers a measure of specialization and offered a wider curriculum. But detractors pointed out that central schools did have their problems too: they mixed middle and lower class students indiscriminately, to the detriment of the former, and they tended to downplay religious studies and lessened the influence of ministers in educational affairs. Because the origin of the idea of a central school was itself American, many people regarded them as republican in nature and therefore antithetical to Anglo-Canadian ideals. The well-to-do, whose property taxes paid for the construction of these elaborate edifices, complained of wasteful ostentation and the very idea of public funds paying for the education of the "lower orders."¹¹

Because they represent the first reformist thrust in urban school design, and because their influence continued to dominate education for an extended period of time, these first central schools are worthy of extended examination, even though only one of the first four built, in Hamilton, continues in use. The first of these was constructed in London, erected between 1849 and 1850 in anticipation of the 1850 Act. Located on a spacious, landscaped five-acre site, the London Central School was judged by outsiders "as regards size and architectural beauty, by far the finest school house in the province." The building was "a large, two-storey edifice, in the Elizabethan style, built of light-coloured brick, having a frontage of 133 feet, composed of a centre of 68 feet, and two ends of 32 feet, 6 inches each; the depth of the centre portion is 30 feet; that of the ends 49 feet each." Total separation of the sexes was the norm in such buildings, with separate entrances, playgrounds and classrooms. In the London school, there were six classrooms, equipped with double desks and seats of superior design. Initially heating was by stoves, but an advanced hot-air furnace was planned. For the first time in an urban school, a system of ventilation was designed into the building. The structure was very well equipped with scientific apparatus, maps and other teaching aids, while the playground included gymnastic apparatus.

The Brantford Central School was begun at the same time and may have opened earlier than the London school. Constructed on a landscaped three-acre plot at a cost of £1,000, the Brantford school was a rather different kind of structure. Roman in style, it measured 58 by 48 feet and contained only three rooms on two floors. Boys and girls used separate entrances and cloakrooms. The lower floor housed the boys' school, measuring 50 by 33 feet, and two side "gallery" rooms. The latter measured 10 by 15 and possessed no desks; they consisted simply of tiers of seating and were used for recitation-style lessons. The upper flat was divided into a girls' school and a junior boy's school, each with its own side gallery rooms. Playgrounds

and outdoor privies were also separated by sex; the principal took great pride in the fact that "no mingling of sexes is permitted in the sports of the children." In all rooms, manufactured double desks and seats replaced the earlier hand-hewn benches and tables, while advanced hot-air furnaces and improved ventilation (the latter using flues which exited through the roof-top cupola) provided superior heating and air exchange. The final result was a building which satisfied even the most demanding of educators. The local inspector proudly noted that "children of all grades of society are found here pursuing the same studies in the same classes, and that all of these are drawn, in some instances, from a distance of many miles, attracted by the very superior character of the teachers employed and of the system adopted."¹²

Less documentation has come to hand concerning the third central school, built in Chatham in 1852. It was a four-room, two-storey brick building, designed to educate 400 students. Trustees emphasized the fact that such a large-scale, professionally designed school was both an engine for, as well as an index of, social progress: "when the buildings now erected are compared with those in which the schools were formerly kept, it affords the most gratifying index, that this branch of our social economy has received the earnest attention which its importance demands, and when the fruits hereafter shall be reaped, that this town will be placed high amongst its competitors in the strife of beneficial progress." The design of the Chatham Central School was itself an indicator of this progress: "the lofty ceilings, the well-ventilated and well-regulated rooms, the arrangements of the pupils into classes and the air of comfort induced in every department, seems an ample recompense for the taxation which in the face of these improvements can scarcely be felt as a burthen."¹³

The fourth central school, and the only survivor from this pioneer group, is also the most fully developed example of the drive towards centralization, professionalism and efficiency in early urban schools, the Hamilton Central School (Figs. 1, 2). It was constructed between 1851 and 1853 on a two-and-one-half acre site in the centre of the city, to plans by the prominent Toronto architectural firm of Cumberland and Ridout. It is a two-storey building of cut stone, classical in design, somewhat similar in general effect to the same firm's contemporary Normal and Model School in Toronto. The Central School's 11 classrooms accommodated 1,000 pupils, making it at the time "the largest graded school in the province, and probably in British North America."¹⁴ Today's teachers would be astonished by the assumptions of both the board and the architects: its largest classroom, for example, was the upper-level girls' school, which seated 360 pupils in double desks before an undoubtedly over-worked teacher. (The room was later modified to seat 600 but was used then as an examination room more than as a teaching classroom.) An adjacent tiered gallery room seated 200, while other classrooms were designed for 90, 66 and 60 students. The lower floor was allocated to the male students; each of its two gallery rooms seated 112, and classrooms were organized for 96 and 80 pupils. The separation of the sexes included separate entrances, playgrounds and privies; the main entrance, under the short centre tower, was largely ceremonial. Innovations included a gymnasium, dining hall and a teachers' room. Heating was by hot-air furnaces placed in the basement, ventilation was of the most up-to-date standards of 150 cubic feet per student, and the classrooms "were fitted up with improved school furniture." Teaching aids were used extensively; the inspector noted in 1855 that "the School is supplied with an abundance of maps, charts, diagrams, and other school requisites, and is furnished with as valuable and complete a set of Philosophical and Chemical Apparatus as is to be found in any institution in Canada." Though the structure has been grossly modified -- it has been altered by the addition of Victorian detailing, a more prominent tower and third storey in 1890, the rooms have been reorganized several times over the years, and major interior and exterior changes were made in 1930 and 1953 -- the Hamilton Central School remains a landmark in early attempts to establish new standards in public school design.

These four pioneering buildings shared several elements which were in marked contrast to earlier urban schools: they were professionally designed structures, planned and constructed as schools to standards largely recommended by the province's central bureaucracy. Guided by experience in the United States and Europe, Chief Superintendent Ryerson promoted an upgrading of urban schools in almost every respect -- heating, lighting, siting, external appearance and internal arrangements. These standards were embodied in plans and elevations published both in departmental journals and in books such as Hodgins' The School House. Through these media Ryerson suggested to architects and trustees alike the need for more floor space (a minimum of from nine to 12 square feet per student), better ventilation (100 to 150 cubic feet of interior space with mechanical systems of air exchange), improved sanitation, more attractive sites and more adequate equipment. With their larger populations and superior financial resources, Ryerson expected the cities and towns to be in the forefront of improvements to school architecture. The first central schools met these expectations. In addition, Ryerson and other educational authorities agreed that graded schools where boys and girls were taught separately were essential to the efficient conduct of education, and the central schools made provision for both.

These four pioneer central schools were the forerunners of a number of similarly scaled and organized structures across the province. Without attempting a complete catalogue, some major examples should be cited. Brockville's Victoria Common School (Fig. 3) is a six room building constructed between 1855 and 1856 to plans by a civil engineer, Thomas Hume. The Peterborough Central School (Fig. 4) is a particularly elaborate example; it was designed by the prominent Toronto architect, Joseph Sheard, and erected between 1857 and 1860 at a cost of \$16,000. Among examples constructed in towns, the best surviving building of this type is clearly the former Dundas Central School of 1857 (Fig. 5). In later years, smaller towns and even some villages followed the lead of the cities in constructing large-scale central schools of superior finish, of which several examples should be noted: the public school in Almonte (1868, Fig. 6); the former Aurora Central School, a superb eight room structure designed by the Toronto architect Thomas Kennedy (1886, Fig. 7); the former Smiths Falls Central School (1871, Fig. 8); the unusually fine Northview Public School in Hagersville (1877, Fig. 9) and the former central school in Carleton Place, built as a town hall in 1872 but converted and used for 90 years as a school (Fig. 10). Later buildings of the same type were constructed in northern settlements (see Fig. 11) or as replacement buildings for earlier schools (for example, the St. Mary's Central School of 1914, Watt and Blackwell, architects, Fig. 1).

The construction of a single central school was the solution of many towns and cities to the problem posed by the need to educate increasing number of male and female students in complex and ever-changing curriculum in buildings which conformed to the general standards sought by provincial authorities. But some municipalities felt that such schools were impersonal, too distant from their clientele and too expensive to build. To them, a sensible alternative was the construction of ward schools, which were to be upgraded, publicly owned versions of the former rented ward schools which had been in use before 1850. The leading advocate of this approach during the 1850s, 60s and 70s was the Board of School Trustees of the city of Toronto.

Though Toronto has always been a centre of higher education in Ontario, the early history of primary schools in the city is a tale of mixed successes. Early progress towards a system of publicly supported primary schools in Toronto was slow, in part because of the number of private schools in existence, in part because of the parsimony of the City Council. This latter factor, for example, forced the public schools of the city to close entirely between July of 1848 and July of 1849, when officials refused to levy taxes to finance the operation of the schools. The persistent refusal of the city to build adequate accommodations also led one of Toronto's

leading citizens, the brewer Enoch Turner, to construct the city's first "free" (i.e., without fees) school, the Trinity Street School, now known as the Enoch Turner Schoolhouse. Constructed in 1848, it was a model for Torontonians of what later ward schools were to be -- a small-scale but elegant school serving the immediate area. It was a long, narrow, one-room school, designed to accommodate 240 students though it had only 80 writing desks. It was coeducational, both boys and girls being taught by a single teacher. When the trustees finally agreed to establish a system of tax-supported schools in 1850, Enoch Turner's schoolhouse was given to the city.¹⁶

The Enoch Turner school fit into the Board's plans for Toronto schools; it was to become one of several small ward schools. The Board's policy was to construct a series of similarly designed buildings which would match, within the needs of pedagogy, the form and atmosphere of the home and family. Education had traditionally taken place within the home environment, and though education was henceforth to be state-supported and managed, many parents thought that the student ought to be trained in a place as near to his residence as possible, in surroundings which were as similar to the home as the requirements of education would allow. The Board initiated an architectural competition for a standard school plan; the design of the prominent Toronto firm of Cumberland and Storm was accepted (Fig. 14). The resulting buildings combined ease of construction and simplicity in interior and functional efficiency with a measure of architectural sophistication. None of these buildings survives, but drawings and plans show the general intent of the policy, which remained in force until the 1870s. Later schools conformed generally to this early model. The primary schoolhouse in St. Lawrence Ward (Fig. 14), for example, was designed by William Storm in 1873. It was a church-like one-storey building of brick construction, Gothic Revival in style. In all it could have been designed twenty years before. These buildings were not small in scale because the trustees refused to spend money on schools; indeed, ward schools were often attacked because they were more expensive per capita to run. The St. Lawrence Ward School was suitably picturesque, with its contrasting brickwork, elaborate bargeboard, ironwork and steeple. The Toronto Board was not averse to spending money on its schools; it did not, however, wish to see students travel long distances in order to attend them.

Buildings of similar quality resulted from the policy of the Board of School Trustees in Kingston. Initially education took place in 12 rented locations (five for girls and seven for boys) across the city. By 1853, however, the trustees felt the pressure of Ryersonian policies and called for the construction "of one large airy, well-ventilated school house of brick or stone" -- in other words, a central school. City officials balked at a single large expenditure which threatened to disrupt the sense of neighbourhood intrinsic to the numerous rented ward schools. Gradually the city constructed a series of nine fine stone ward schools between 1853 and 1875. Though a few were larger than others, all were based on the notion that small schools close to the pupils who attended them were preferable to a single large building. A late example was the Depot School (Fig. 15), a two-storey stone building constructed in 1873 at a cost of \$2,375 to plans by the City Architect, John Power. Originally the upper flat was used as a caretaker's apartment, while the lower room housed as many as 120 students taught by a single teacher.¹⁷

Urban Primary Schools 1867-1900

By 1867, then, the urban school had emerged as a definable building type, largely as a result of the prodding of the office of the Superintendent of Education. Though many small urban private schools continued in operation, and while rental structures continued to be used occasionally, the professionally designed building specifically planned for educational purposes had become the standard throughout the

province's cities and towns. But progress was admittedly slow. A survey in 1867 revealed that there were only 60 schools in the province's five cities (25 of brick, 11 of stone and 24 of frame construction) and 116 in its 39 towns (52 of brick, 20 of stone, 43 of frame and one of log). In comparison, there were 92 schools in the province's 55 villages and 4,111 in the rural townships.¹⁸ Numbers, of course, did not tell the whole tale, for the rise of the central school militated against the construction of a large number of school buildings; even so, provincial authorities were discouraged. They lacked the kind of authority which would permit them to enforce the standards which had been developed during the 1850s and 1860s. To the educational bureaucracy, the problem was to develop means of ensuring that these standards would be followed, whether in central or in ward schools. Though departmental standards might be clearly articulated, it was not yet possible for officials to impose these standards upon local boards. Prominent examples, such as the Toronto ward schools and Hamilton's Central School or a new public school in Simcoe were cited as guides for municipalities intending to build an adequate urban school; it was only with the passage of the 1871 School Improvement Act that provincial authorities gained the power to enforce standards on individual schools. The passage of the Act did not induce a revolution in urban school design. Though Ryerson sought greater powers, he was not authoritarian by nature. "The schools are emphatically the schools of the people, in their establishment and support," he once noted; "whatever progress is made in the schools redounds both to the honour and advantage of the people in their several school divisions and municipalities."¹⁹ Whatever the legal situation might be, the role of the Education Department was "to prompt and facilitate their exertions, and [offer] a social help to those who endeavour to help themselves in the great work which lies at the foundation of the country's freedom and progress."²⁰ Towards this end, the department provided plans, guide-books and advice. To assist trustees in acquiring high-quality equipment, the department established the Educational Repository, a central sales office which evaluated, purchased and marketed a wide range of educational goods approved for use in Ontario's schools. Because the department subsidized prices by 50%, industrial pressure resulted in the closure of the Depository in 1879, but the existence of such a body illustrates the cooperative role which the department saw for itself in what was a highly decentralized educational system.²¹

One effect of the legislation of 1871 was the issuance of new regulations reiterating the standards applicable to the construction of new schools, and further pressure was placed on trustees towards the construction of central, rather than ward schools. Provincial pressure was only one of several factors which led cities such as Kingston and Toronto to review their policies. Growth in the numbers of students attending urban schools, the increasing professionalization and specialization of teachers, and expanding curricula combined to force a reevaluation of the philosophy of small ward schools. Contrast, for example, Storm's St. Lawrence Ward School of 1873 with his more elaborate plans for a four-room school in St. John's Ward during the same year (Fig. 16). Similarly, in Kingston, one might compare Power's modest Depot School with his Wellington Street School of 1873 (Fig. 17). In both cases, trustees were moving away from the small-scale ward school towards larger-scale buildings of a type advocated by provincial officials. The period between 1867 and 1900 saw a steady erosion in the place of the small urban school and a consequent growth in the monumentally scaled and architecturally ornate urban school. In the range of facilities offered and in their scale and degree of architectural pretension, the late Victorian urban primary school continued the trend established by the pioneer central schools. Underlying this development was a fundamental reality: education was becoming a type of business, rather than an extension of the home environment, and its activities had to take place within buildings which, to the late Victorian mind, "looked" like, and functioned as, schools.

Several factors affected the scale, number and internal arrangements of urban

schools between 1867 and 1900. Easiest to assess was the increase in the numbers of students attending the urban primary schools on a daily basis. Absolute population growth and the increasing proportion of persons living in urban areas were obvious factors;²² of probably greater importance was the increase in the proportion of children of school age actually in class on any given day. By 1890, 62% of school-aged children were in attendance in an urban school on an average day; the comparable figure for rural areas of the province was only 47%. Though statistics are difficult to compare, both of these rates of attendance were clearly far in advance of what had been the case forty -- or even ten -- years before.²³

Why had this increase in attendance come about? Of fundamental importance was a change in school attendance laws. In 1871 the legislature insisted that children between the ages of 7 and 12 had to attend a school for at least four months of the year. This requirement was not immediately effective, in part because no enforcement procedures were included in the legislation, but over time the law did influence parents to send their children to school more and more often. Increased school attendance figures also reflected a basic economic reality: some degree of formal education was a necessity in an increasingly industrialized society where job opportunities for the illiterate and poorly trained were fast disappearing. Furthermore, laws which forbade previously common forms of child labour were passed during the 1880s and 1890s, forcing some children back into the schools.

All of these factors affected the number of students attending urban schools, and the cumulative impact was to increase the scale of these institutions. Changes in pedagogy, on the other hand, required changes to the interior arrangement of space. The growing practicality of grading students and a declining pupil-teacher ratio resulted in more and smaller classrooms. While no statistical breakdown appears to exist comparing urban and rural schools, the overall pupil-teacher ratio dropped from 72 to 1 in 1877 to 49 pupils per teacher in 1901, and, impressionistically, the drop was greater in the urban graded schools than in the rural ungraded ones.²⁴ During the 1880s the large classroom, seating from 90 to over 300 pupils at different levels of development -- which was advocated by architects and teachers alike in the 1850s -- was superseded by more rooms seating from 40 to 50 pupils of roughly equal ability and achievement. This switch was accompanied by -- and in part caused by -- a change in teaching techniques, away from the memorization and recitations which permitted the teaching of large groups by one teacher, to more individualized, less structured approaches appropriate for smaller groups.

Changes in the nature of the school curriculum also required modifications in the form of the traditional urban school. Beginning in the 1880s the "New Education Movement" introduced a more varied curriculum which included such innovations as kindergartens (first established at Toronto's Niagara Street School in 1883), manual training and domestic science, art, clay modelling and agriculture. Initially these subjects were simply fitted into already existing space, but specially designed accommodations soon became necessary; by 1900 the introduction of these new subjects of study had forced architects and teachers alike to re-think the functional requirements of the schoolroom. Heretofore the classroom was simply a standardized space within which virtually any teaching activity could take place, so long as the requisite equipment and sufficient light and space were provided for the number of pupils taught. But as new subjects were introduced, and gained enthusiastic acceptance, architects were requested to design special space allocated for these activities alone.

Two final factors had an impact on the late-19th-century revolution in urban school design: changes in government policy towards setting standards for school buildings, and the impact of criticism from the medical profession on the quality of school accommodations. On the first of these, the department of education gained, in 1871, the legal power to set standards for all public school structures. Before this, the department was authorized only to suggest standards, recommend improvements

and inspect and report on the condition of Ontario's schools. The School Improvement Act of 1871 required trustees to provide "adequate" school accommodations, and empowered the province, for the first time, to order the upgrading of buildings to meet minimum provincial standards. As was the case with compulsory attendance legislation, the passage of the law did not necessarily ensure compliance, for the province offered no funding to support improvements, and the law made no provision for enforcement. Before 1930, it must be remembered, the province provided annual grants towards the payment of teachers' salaries, but at no point did these grants constitute more than a small portion of the total costs of education. Local residents paid the bulk of these, either through assessments and user fees (before 1850), or through property taxes (which were dominant after 1871, when fees were abolished in the primary schools). At no point before 1930 (with a few minor exceptions) did the province assist with the capital costs of school construction or upkeep. Provincial authorities were therefore in a weak bargaining position with trustees who resisted suggested modifications of their school buildings; they could only withhold the grants towards salaries (which, since they were based on attendance, could be substantial amounts in a city or town board) or take court action against the trustees personally. Neither alternative proved either practical or attractive. In spite of the weaknesses in the law, however, the province did establish standards which immediately became the norm for new school construction; under the first set of regulations, for example, minimum space allocations were set at 9 square feet and 100 cubic feet per pupil, while the maintenance of temperatures between 66 and 70 degrees F was required.²⁵

While the setting of these standards had been one of the department's established interests, the 1871 legislation requiring enforcement pointed up the degree to which trustees had ignored them. The passage of such legislation also underlined the impact of criticism of the schools by the medical profession. Between 1875 and 1900, urban (and to a lesser extent rural) schools came under attack for their unhealthy character. The early recommendary policy was clearly a failure, and as early as 1881 the minister of education, Adam Crooks, admitted that the department should be doing more in "protecting [the pupil] against bad ventilation, lighting and heating, and other defects of the school-house." These defects were the subject of medical research, which focussed on the problems of urban schools for the first time. The upgrading of sanitation, ventilation and lighting became the subject of papers presented before the Ontario Medical Association; in response, architects devoted considerable attention to these subjects in their journals, Canadian Architect and Builder, and later, Construction. Changes in school design inevitably followed.²⁶

In the early buildings, of course, these issues presented little problem because early urban buildings were, with the exception of the central schools, small in scale. Lighting was natural, sanitation was provided by outdoor privies, heating by box stoves (or in the larger buildings by hot-air furnaces), and ventilation by simple venting and open windows. Increasing the scale of the building and the number of students served caused difficulties, which only an improved technology could alleviate. Doctors and educators alike began to question traditional methods; when used, the box stove was judged "a very faulty and unhealthy system" by the late 1880s, while so-called "fresh" air in heavily polluted industrial areas was itself considered a danger. Medical research into the production of carbon monoxide and sulphuric acid by respiration and the effects of air movement in the use of various heating systems suggested that natural ventilation and standard methods of heating produced an unhealthy atmosphere for the pupil. Open windows produced draughts and wide variations in temperature within a room, both of which were judged to contribute to colds and respiratory disease. Lighting from several directions, or from the right alone, was increasingly seen as the cause of eye strain. All of these criticisms resulted in a greater dependence on advanced mechanical systems of heating and ventilation, and on the development of revised standards of lighting. On this last topic, it was accepted practice by 1900 to design classrooms so that light fell on the

student from the left, with a minimum window area of one-fifth of the floorspace of the room.²⁷

By the early years of the 20th century, then, school design had become a topic of concern in public circles and a subject of considerable discussion and specialized interest among architects. As the journal *Construction* noted in 1908, "no class of building construction is engaging the attention of Canadian architects at the present time more than that of schools." Urban school design particularly had become the subject of detailed professional study: "there is no class of structure in which more careful study should be given to plan, construction and materials than in school buildings."²⁸

How far had school architecture come by roughly 1900? In style, these large-scale urban buildings were becoming increasingly plainer in appearance. Noted one journal, the exterior of schools "should be simple and dignified. Its proportions should be intelligently worked out in every detail and every attempt should be made to eliminate useless ornament and meaningless decoration. The exterior colour scheme should be cheerful, bright, attractive and rich, not cold and forbidding nor on the other hand gaudy and vulgar." Brick buildings with modest amounts of cast-iron, pressed-tin or pre-cast "stone" ornamentation had become the standard exterior treatment. Fire-proofed interiors required plain, undecorated wall surfaces of plaster over metal lath, with a minimum of wood trim, while staircases had to be of cast-iron rather than wood construction. Urban primary schools were almost uniformly two storeys in height and of eight rooms or more in size. Increases in both scale and numbers of students required the architect to consider the problems of traffic management, particularly with regard to fire exits. Architects tended to solve this problem by aligning ever-increasing numbers of classrooms along a central corridor, producing relatively long façades. Staircases were then placed at either end of this corridor, with additional exits along the rear of the corridor if necessary. Urban schools therefore tended to include increasingly more floorspace devoted to hallways, stairways and cloakrooms than ever before. Rooms for manual training, domestic science and clay modelling or art had now become standard aspects of the typical urban school, as was a spacious auditorium and often a museum and library. Classrooms were designed to a uniform size, usually 32 by 25 feet, lighted only from the left; mechanical equipment, which now included coal-fired boilers and ventilating fans, were now placed in the basement area, behind specially built fire-proof walls. Indoor playrooms, also usually relegated to the basement, were included to allow junior classes to pass their recesses protected from inclement weather. An increasingly common feature of the urban school was the provision of better sanitary facilities: indoor toilets were standard, and shower rooms, lockers for individual students and dressing rooms were often included. "The cosmopolitan type of children generally attending city schools demands that some such provision be made, for purely sanitary reasons," noted one author.²⁹ The institutional school building, large in scale and unpretentious in exterior appearance, had emerged. In this regard, contrast the elaborate Central School built in Brantford between 1890 and 1891 (Fig. 18) with the much more restrained Goderich Public School of 1907 (Fig. 19). This latter type of building was to be, with few exceptions, the standard for urban primary schools, both public and separate, from 1900 until 1930.

Urban School Architecture 1900-1930

Few changes took place in urban primary-school design between the opening of the 20th century and 1930. Cyril Dyson, the chief architect for Toronto's Board of Education, reviewed the development of school design in Ontario in 1927 and reported that little had changed in terms of regulations and standards on the provincial level, and that architectural responses to the problems of large-scale buildings had varied

little. It was, however, increasingly difficult to obtain suitably large sites for urban schools; architects had solved this problem in one of two ways: if financing was at a premium, then a three- rather than a two-storey building was the answer to the dilemma, but if a variety of suitable locations was available and money less a problem, then the architect recommended that several schools of eight to 12 rooms each might be erected to serve the needs of a district. In terms of interior facilities, revised regulations from the department of education in 1907 raised the space and illumination requirements: a minimum of 18 square feet and 225 cubic feet, and a window provision of one-sixth the floor area were regarded as minimum standards. Since the maximum class size was now 40 students, this resulted in rooms of roughly uniform size, 32 by 23 with ceilings of 12-1/4 feet. Some changes had taken place in interior facilities: nurses' rooms and a dental clinic had been added, in response to continuing demands that hygiene be an intrinsic part of the school experience. Teachers, intent on establishing their professional status, had demanded separate rooms for coat storage and relaxation, while the requirements of educational administration required the addition of a principal's office and often a boardroom. The gradual acceptance of kindergartens led to increasing sophistication in those accommodations, including specially scaled furniture and washrooms, platforms for plays and puppet shows, and drawing boards. Fears from medical authorities that cloakrooms were unsanitary led to the introduction of wooden individual lockers placed along interior corridors. There were, however, some meaningful innovations during this period, notably the development of the one-storey school and of the junior school. Both were a response to a serious difficulty in large-scale urban schools, the impersonal and institutional quality of the resulting educational experience. This element was seen as particularly damaging to the very young, and a few junior schools were constructed, particularly in Toronto, to cater to the special needs of kindergarten and lower primary pupils. In contrast to other urban schools, these tended to be small in scale (the Hillcrest Junior School in Toronto, for example, had five classrooms and a kindergarten), and decidedly domestic in appearance.

One-storey schools were also occasionally built, though not in significant numbers. One major example was the Ryerson Public School in London (Fig. 20), a significant forerunner of schools constructed in the 1950s and 60s. It was, noted the journal Construction, "the first one-storey school building in Canada embodying the principles of modern construction." In contrast to the more usual two- and three-storey urban primary schools, the Ryerson Public School offered eight classrooms and specialized space for a kindergarten, manual training and domestic science, all grouped around a central core which housed an auditorium and boiler room. The arrangement allowed each room access to the outside in the event of fire, while the auditorium, lit by skylights, functioned as a multi-purpose schoolroom by day and a community centre by night. The expansion of this latter facility placed the Ryerson School in the forefront of the movement in the 1920s to turn schools into a full-time community resource. Its use of steel construction, in contrast to the generally conservative techniques used in most school construction, enabled the board to provide exceptionally complete facilities at a cost much below the norm; at 9-1/2¢ per cubic foot, the building showed "a saving of at least six cents per cubic foot over the ordinary type of school construction."³¹

In general, however, school boards did not have the time to concern themselves with such developments; they were too busy coping with the influx of students into the urban educational system after the First World War. The logical outcome of earlier developments was the construction of the enormous structures erected after the war in the province's largest cities, Toronto and Hamilton. When completed in 1918, the Park School in Toronto was the country's largest, accommodating 1,700 students in a T-shaped three-storey building containing 34 classrooms plus additional specialized-use rooms. The Park School's claim did not survive long; by 1923 the W. H. Ballard Public School in Hamilton was "the largest public school in Canada" and

the first to be erected using a steel frame and reinforced concrete. The use of these building techniques ushered in an era when the hiring of a structural engineer ranked with the employment of an architect in the planning of a new school. The Ballard School contained 43 rooms constructed around an interior courtyard, and its cost was 20% less than the average for such buildings.³² Other municipalities followed suit. Though at an admittedly smaller scale, schools in other cities and large towns matched their larger contemporaries in Toronto and Hamilton in the range of facilities included. By the early 1920s it was agreed that "in addition to the usual classrooms, it is necessary to provide for the kindergarten, music, physics, chemistry, industrial arts, domestic science, physical training and other branches [of education in the modern urban school], all of which demand a structure of a distinctive type."³³ An important example was the York Street School in Ottawa, constructed between 1921 and 1922. With its 19 classrooms and accommodation for roughly 900 students, it was smaller than its Toronto and Hamilton counterparts, but it matched them in the range of facilities offered, which included two kindergarten rooms, a combined gymnasium/assembly hall and specialized-use rooms for manual training, domestic science (including a model apartment for demonstration purposes), art and clay modelling. Teacher's rooms and lunchrooms, extensive administrative office space, locker rooms and basement playrooms were also included. Examples of a similar nature are illustrated in Figures 21 to 24.

Conclusion

From the opening of publicly supported primary-level schools in 1850 until the close of our survey in 1930, the urban school underwent massive changes in what was taught, who taught it and the nature and numbers of students concerned. Many of these changes were reflected in the character of the schools which were built. Early elementary schools were generally small in scale and were similar to the rural one-room schools of the same period. Quickly, however, various factors forced a modification in the nature and scale of these structures, commencing with the emergence of the idea of a central school. By the 1880s the urban school was a recognizable building type, with a typical appearance and a character and a functional aspect uniquely its own. Generally designed by an architect, the urban primary school had become larger in scale, more elaborate in decoration and better equipped, but in terms of function, it consisted merely of a number of standard-sized undifferentiated classrooms. By 1900, however, shifts in curriculum and ever-increasing student numbers forced the adoption of another design strategy; specialized classrooms for subjects hitherto taught outside the school became gradually an intrinsic part of the typical urban primary school, while the rapid increase in student population required a vast increase in both the number and capacity of new buildings. Technological advances in mechanical equipment and concern for the medical well-being of urban youth affected the design of schools as well; standards shifted, so that lighting only from the left, artificial ventilation, improved heating and fireproofing became the norm in urban schools. The 1920s was a decade of enormous growth in the numbers and quality of school buildings, an increase systemically which was not to be seen again until the late 1950s and the 1960s.

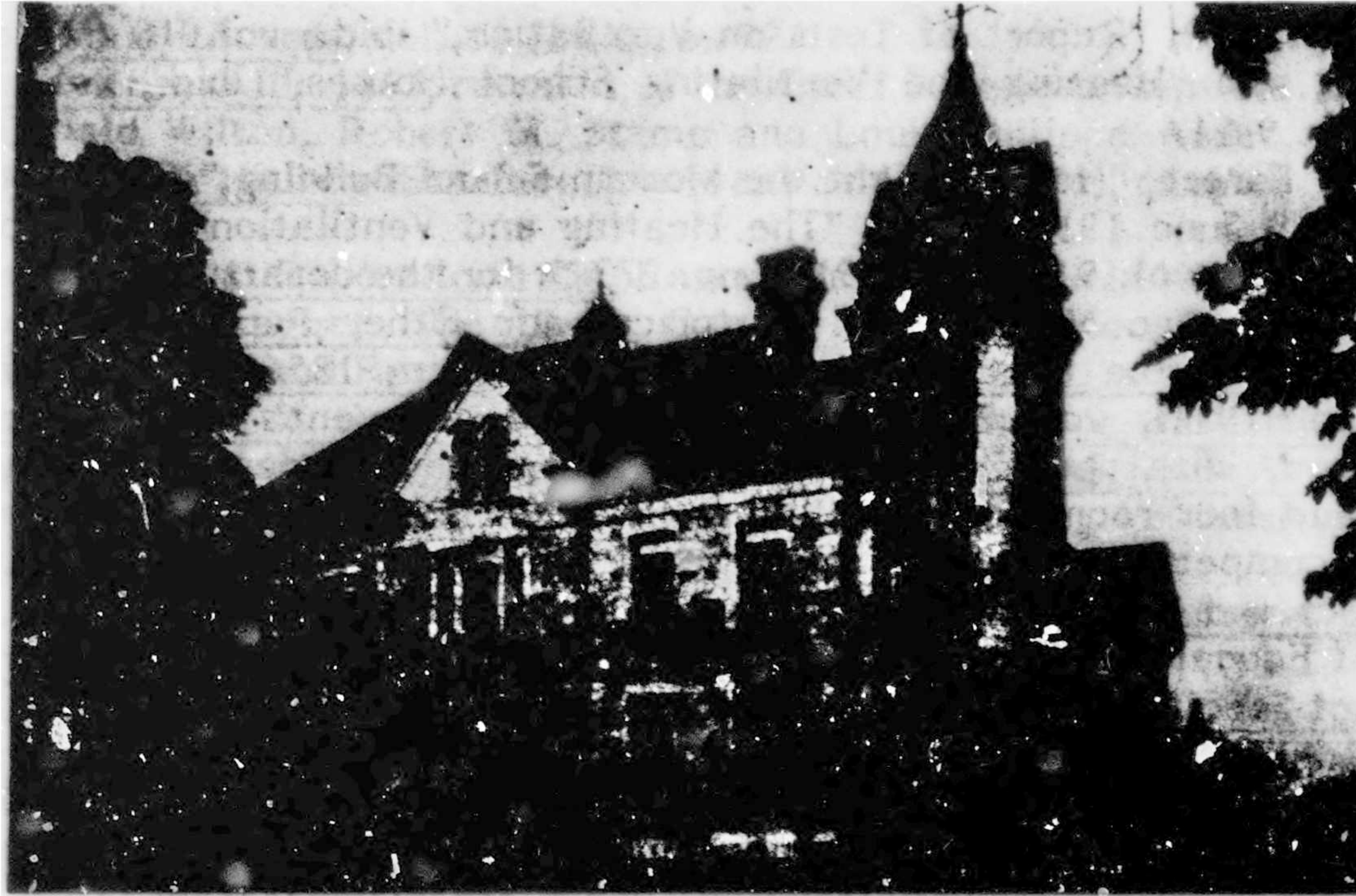
Notes

- 1 Annual Report of the Normal, Model, Grammar and Common Schools in Upper Canada for the Year 1850 (Toronto: Lovell and Gibson, 1851), table E. (Annual reports are hereafter cited as Annual Report by year; until 1867 they are unpaginated.)

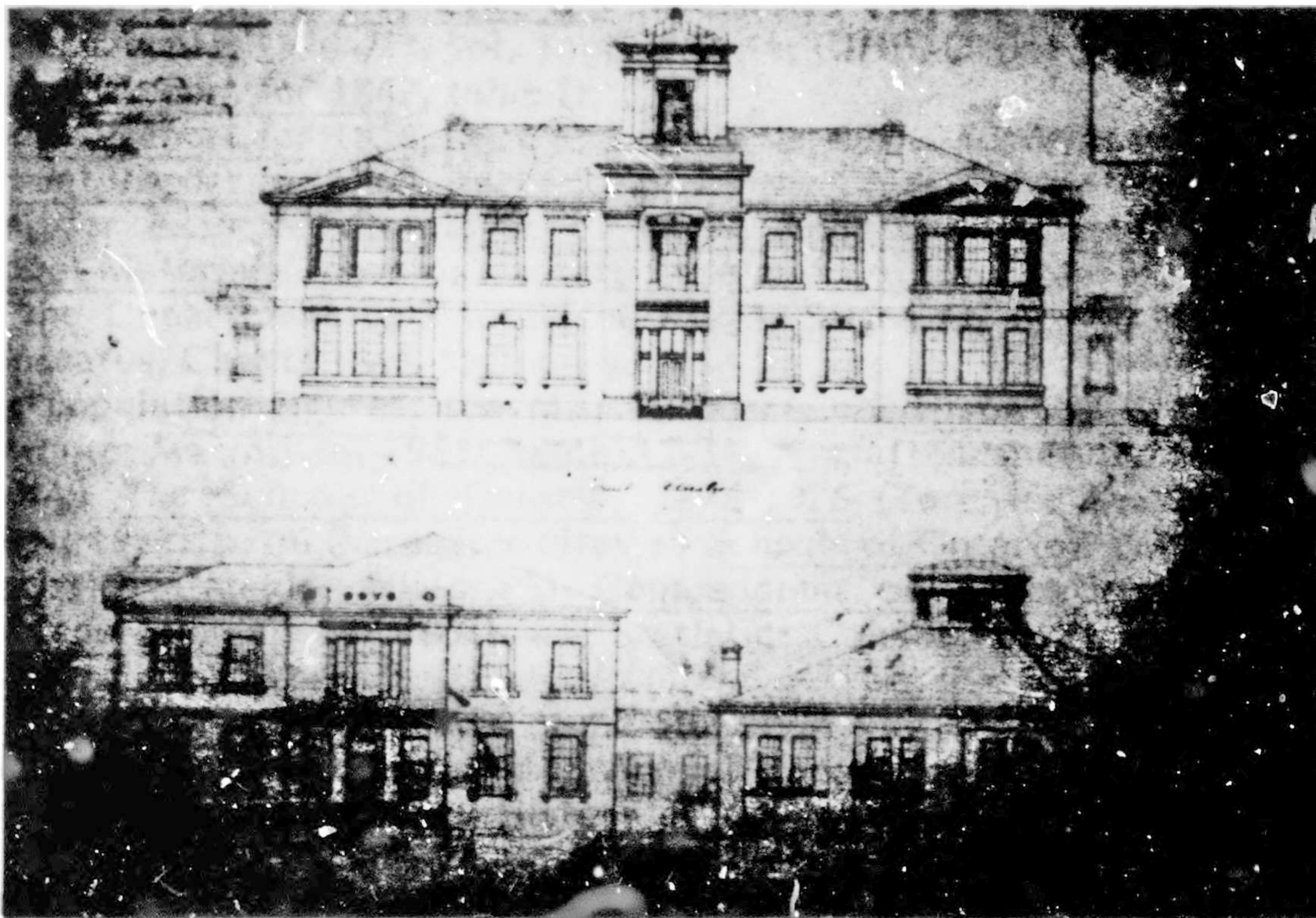
- 2 Annual Report for 1853, table F.
- 3 Frank Eames, "Pioneer Schools of Upper Canada," Ontario Historical Society, Papers and Records, vol. 18 (1920), p. 92.
- 4 Annual Report for 1865, remarks of the Chief Superintendent for Education.
- 5 J. Donald Wilson, Robert M. Stamp and Louis-Philippe Audet, eds. Canadian Education: A History (Scarborough: Prentice-Hall, 1970), chapter 11.
- 6 Ibid., p. 214.
- 7 Cited in Annual Report for 1850, Report on the Schools in Kingston.
- 8 George W. Spragge, "The Upper Canada Central School," Ontario Historical Society, Papers and Records, vol. 32 (1937), pp. 171-91.
- 9 Annual Report of the Superintendent of Education for the City of Hamilton, 1855, cited in Ian E. Davey, School Reform and School Attendance: The Hamilton Central School 1853-1861 (Masters thesis, University of Toronto, 1972), p. 15.
- 10 See John George Hodgins, The School House: Its Architecture, Exterior and Interior Arrangements (Toronto: Lovell and Gibson, 1857).
- 11 The arguments for and against are summarized in Davey, op. cit., chapter 1.
- 12 Annual Report for 1850, reports on the schools in Brantford and London.
- 13 J. George Hodgins, The Establishment of Schools and Colleges in Ontario, 1792-1910 (Toronto: L.K. Cameron, 1910), vol. 1, pp. 185-86; Annual Report for 1855, report of the Board of School Trustees, town of Chatham.
- 14 Davey, op. cit.; "Hamilton Central Public School," Historical Sketches of Ontario 1977 (Toronto: Queen's Printer, 1980), p. 49.
- 15 J.H. Smith, The Central School, Hamilton (Hamilton: Board of Education, 1905); Kelly Crossman and Ann Thomas, "The Central School, 75 Hunter Street, Hamilton, Ontario," manuscript on file, National Historic Parks and Sites Branch, Parks Canada, Ottawa, 1977, pp. 190-200; Annual Report for 1855, report on Hamilton schools.
- 16 CIHB, Enoch Turner Schoolhouse file.
- 17 On Kingston schools, see D.H. Johnson and C.J. Taylor, Reports on Selected Buildings in Kingston, Ontario, Manuscript Report Series No. 261 (Ottawa: Parks Canada, 1976-77), vol. 1, pp. 253-64; CIHB, Depot School file.
- 18 Annual Report for 1867, table D.
- 19 Annual Report for 1856, introduction by the Chief Superintendent of Education.
- 20 Annual Report for 1865, introduction by the Chief Superintendent of Education.
- 21 See, for example, Catalogue of Maps, Apparatus, Charts, Globes and Other School Material (Toronto: Hunter, Rose and Co.,) in Ontario, Archives. Papers of the Department of Education, RG 2, Series Q, Box 1, "Catalogues, Maps, Apparatus, Charts 1846-59."
- 22 For population figures, see M.C. Urquart, ed. Historical Statistics of Canada (Toronto: Macmillan, 1965), table A2-14. For attendance figures, see Robert M. Stamp, The Schools of Ontario, 1876-1976 (Toronto: University of Toronto Press, 1982), p. 36 (hereafter cited as Schools of Ontario).
- 23 Statistics Canada, Historical Compendium of Educational Statistics From Confederation to 1975 (Ottawa: Statistics Canada, 1978), table 9; The Schools of Ontario, pp. 37-9.
- 24 Schools of Ontario, appendix 3, p. 280.
- 25 The regulations are discussed in Annual Report for 1870, reprinted in J. George Hodgins, ed. Documentary History of Education in Upper Canada (Toronto: L. K. Cameron, 1908), vol. 22, pp. 289-92.
- 26 Annual Report for 1880-81, p. 247 cited in Schools of Ontario, p. 66; see also Neil Sutherland, Children in English-Canadian Society: Framing the Twentieth Century Consensus (Toronto: University of Toronto Press, 1976, ch. 3-6. For the reaction of the industry, see, for example, "Sanitation in Schools," Canadian Architect and Builder, vol. 2 (April 1889), p. 46; M.J. Quinn, "A Perfect

Sewerage System for Rural Homes, Schools and Factories," *ibid.*, vol. 18 (May 1905), pp. 88-9; "Report of Tests on Ventilation," *ibid.*, vol. 10 (March 1897), pp. 54-6; and "Heating and Ventilating School Houses," *ibid.*, vol. 1 (March 1888), pp. 9-11.

- 27 See G.T. Forest, "How to Light the Modern School Building," *Contract Record*, vol. 24 (29 June 1910), p. 45; "The Heating and Ventilation of Schoolhouses," *Construction*, vol. 9 (August 1916), pp. 273-5; for the departmental regulations, see John George Hodgins, ed. *Historical and Other Papers and Documents Illustrative of the Educational System of Ontario, 1856-1872* (Toronto: L.K. Cameron, 1911), vol. 2, pp. 147-52. The department's standard plans are illustrated, with specifications, in "Designs for one room, two room, three room, and four room school buildings, awarded first four position (sic) in the recent competition by the Educational Department of Ontario," *Canadian Architect and Builder*, vol. 13 (June 1900), pp. 110ff., and in Ontario, Department of Education, *Plans for Rural School Buildings With Estimates of Cost and Forms of Specifications and Agreements* (Toronto: L.K. Cameron, 1909).
- 28 "School Building Construction," *Construction*, vol. 1 (July 1908), p. 46.
- 29 "Design for City School Buildings," *ibid.*, vol. 1 (August 1908), pp. 57-60.
- 30 Statistics Canada, *Historical Compendium of Educational Statistics from Confederation to 1975* (Ottawa: Statistics Canada, 1978), pp. 32 and 180.
- 31 "New Type of School Construction," *Construction*, vol. 9 (August 1916), pp. 241-50.
- 32 "The Largest Public School in Canada," *Contract Record*, vol. 32 (20 February 1918), pp. 137-9; "New Park School, Toronto," *Construction*, vol. 11 (July 1918), pp. 211-14; "Big Savings in the Cost of Large School Recently Completed in Hamilton," *Contract Record*, vol. 37 (December 1923), p. 1234, and "The W.H. Ballard School, Hamilton, Ont.," *Construction*, vol. 17 (January 1924), pp. 2-9.
- 33 "The York Street School, Ottawa," *Construction*, vol. 15 (December 1922), p. 375. See also C.E. Cyril Dyson, "Typical Schools of the Province of Ontario," Royal Architectural Institute of Canada, *Journal*, vol. 4 (July 1927), pp. 255-62.



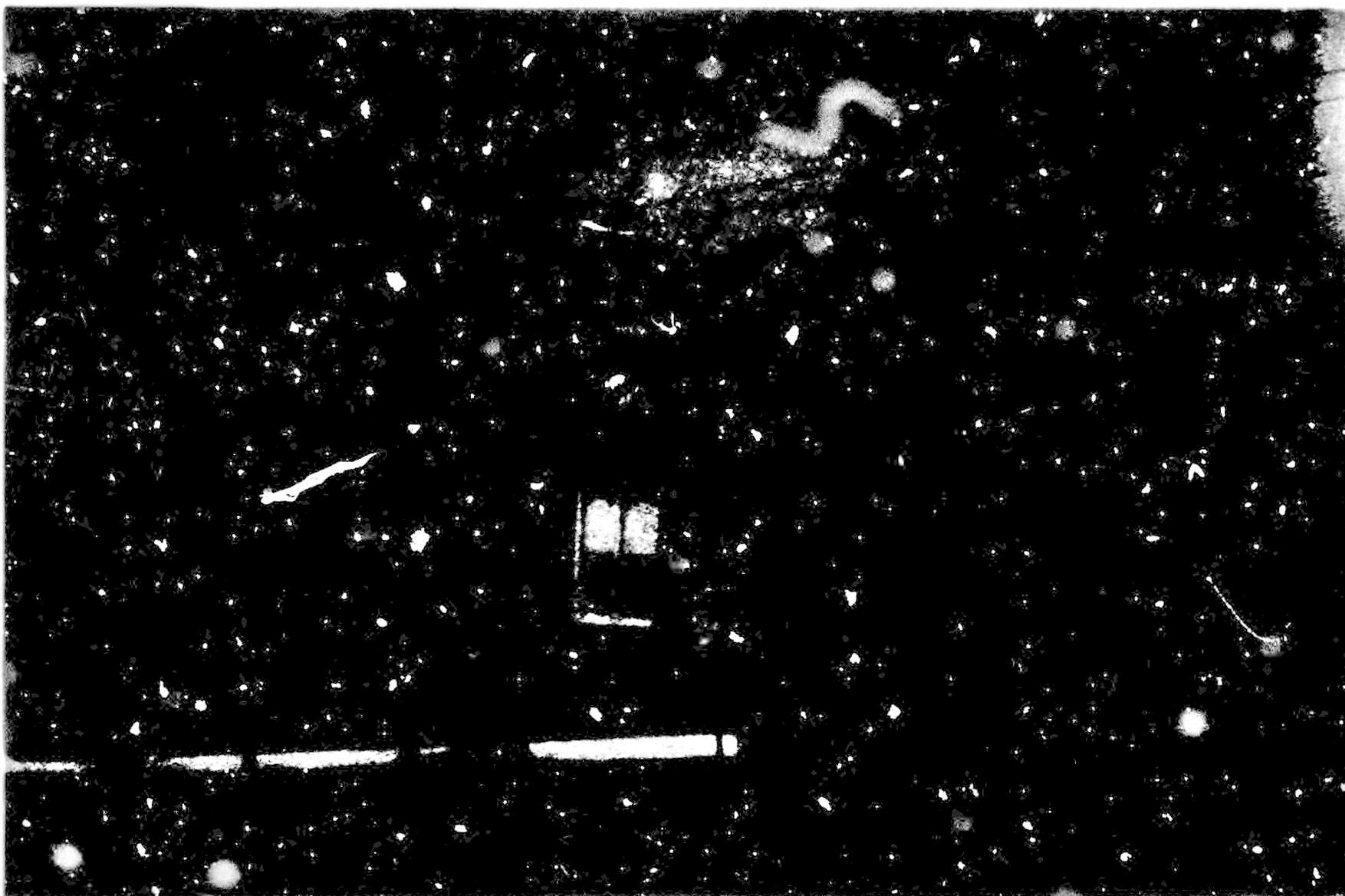
1 Central School, Hamilton, 1851-53. (Ontario Ministry of Education.)



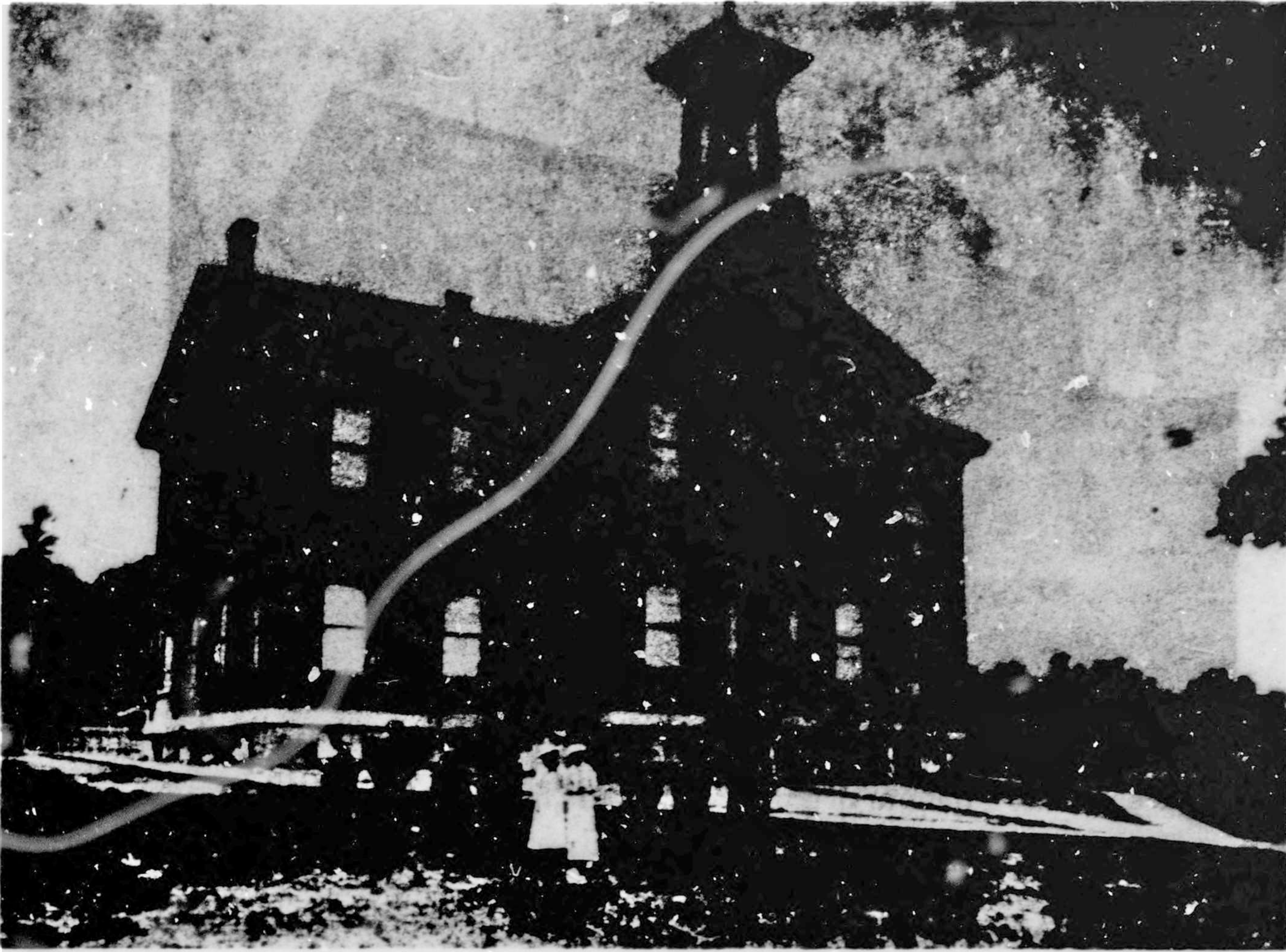
2 Central School, Hamilton, Architects' Elevation. (Archives of Ontario, Horwood Collection.)



3 Victoria Common School, Brockville, 1955-56. (CIHB.)



4 Central Public School, Peterborough, 1857-60. (Lloyd Corbett, Peterborough.)



5 Central School, Dundas, 1857. (Archives of Ontario.)



6 Former Central School, Almonte, 1868. (CIHB.)



7 Former Public School, Aurora, 1886, (W.J. McIntyre, Aurora and District Historical Society.)



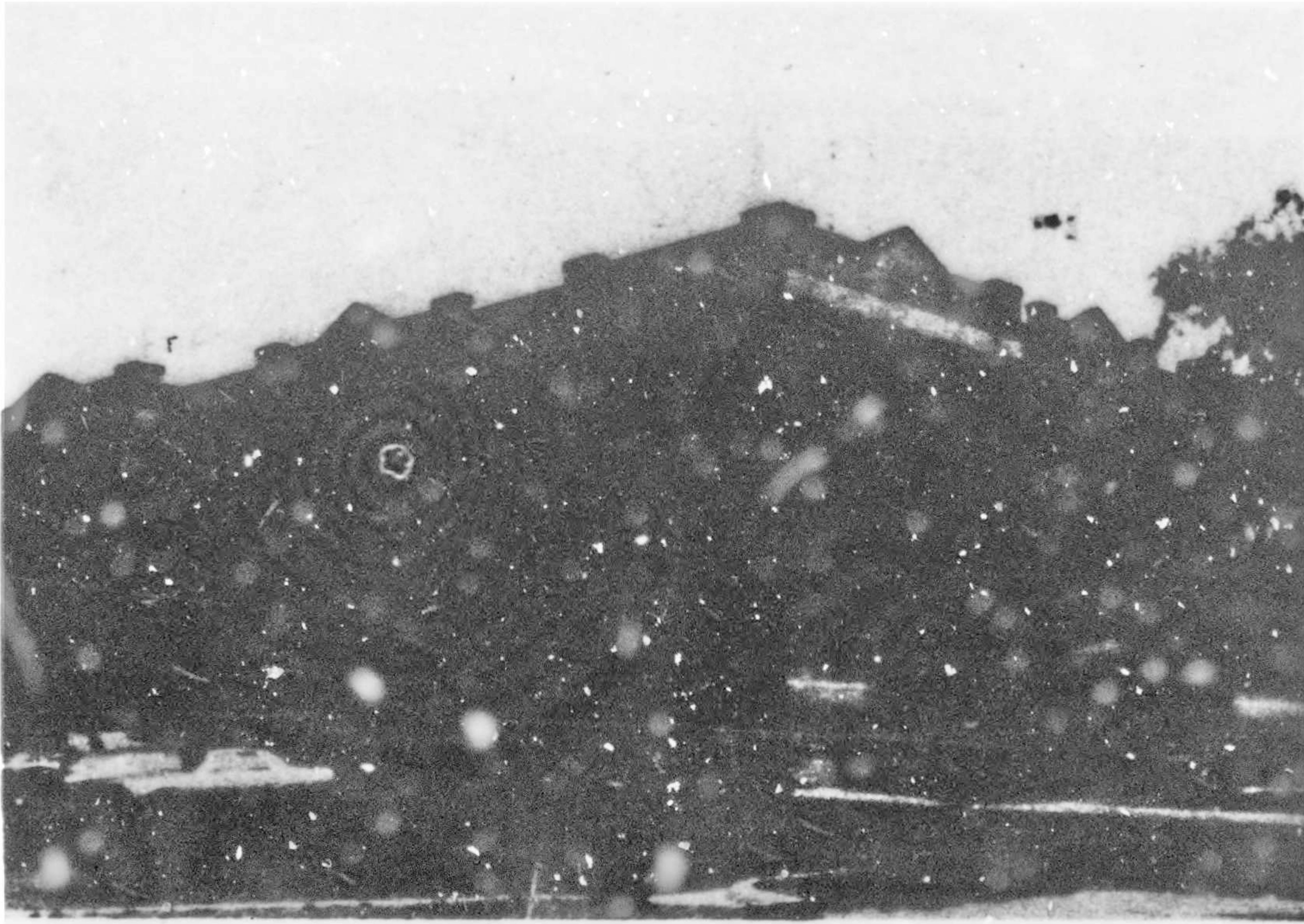
8 Former Public School, Smiths Falls, 1871. (CIHB, D. Johnson.)



9 Northview Public School, Hagersville, 1877. (CIHB.)



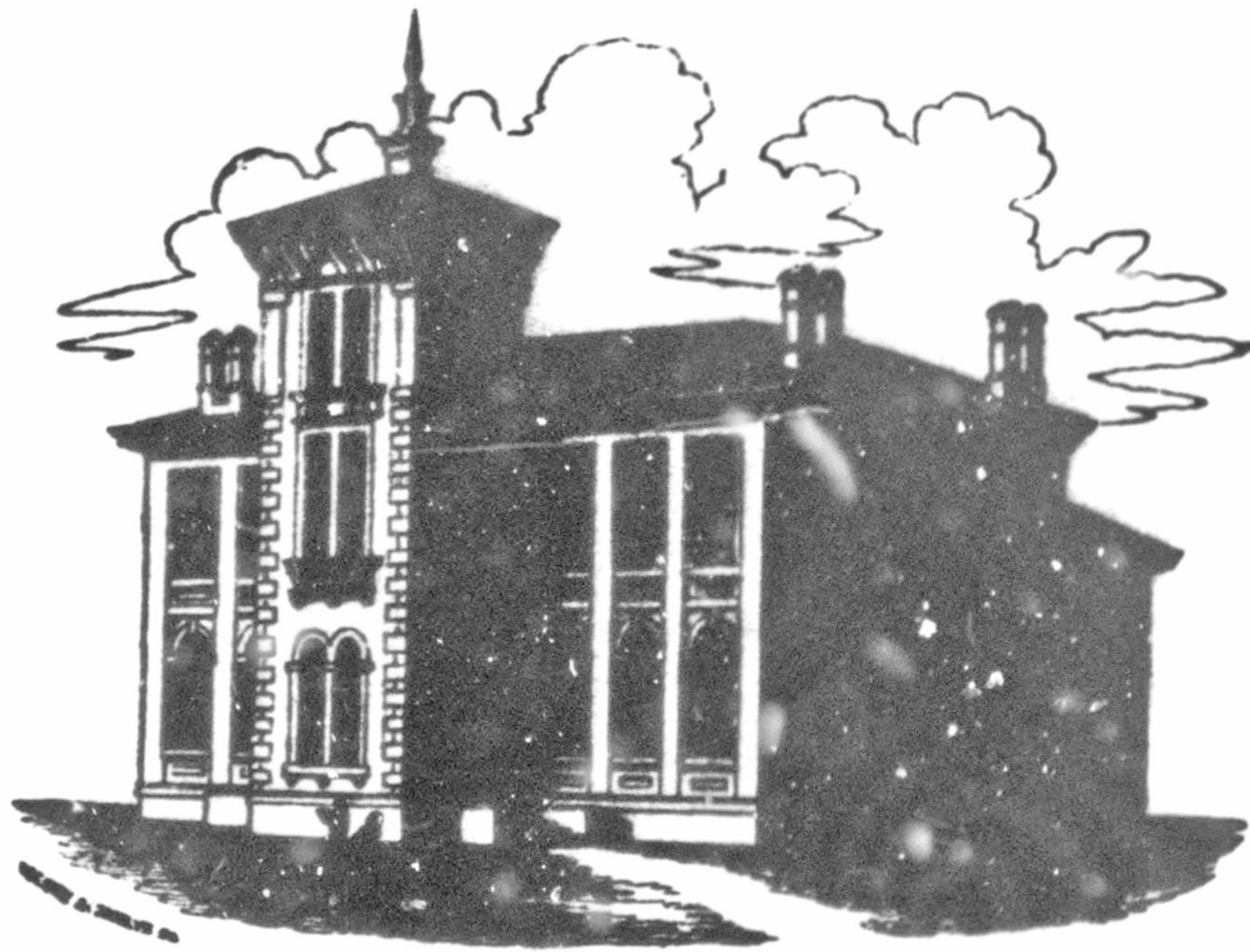
10 Former Public School, Carleton Place, 1872. (CIHB, D. Johnson.)



11 Former Central School, Sault Ste. Marie, 1912. (Board of Education for the City of Sault Ste. Marie.)

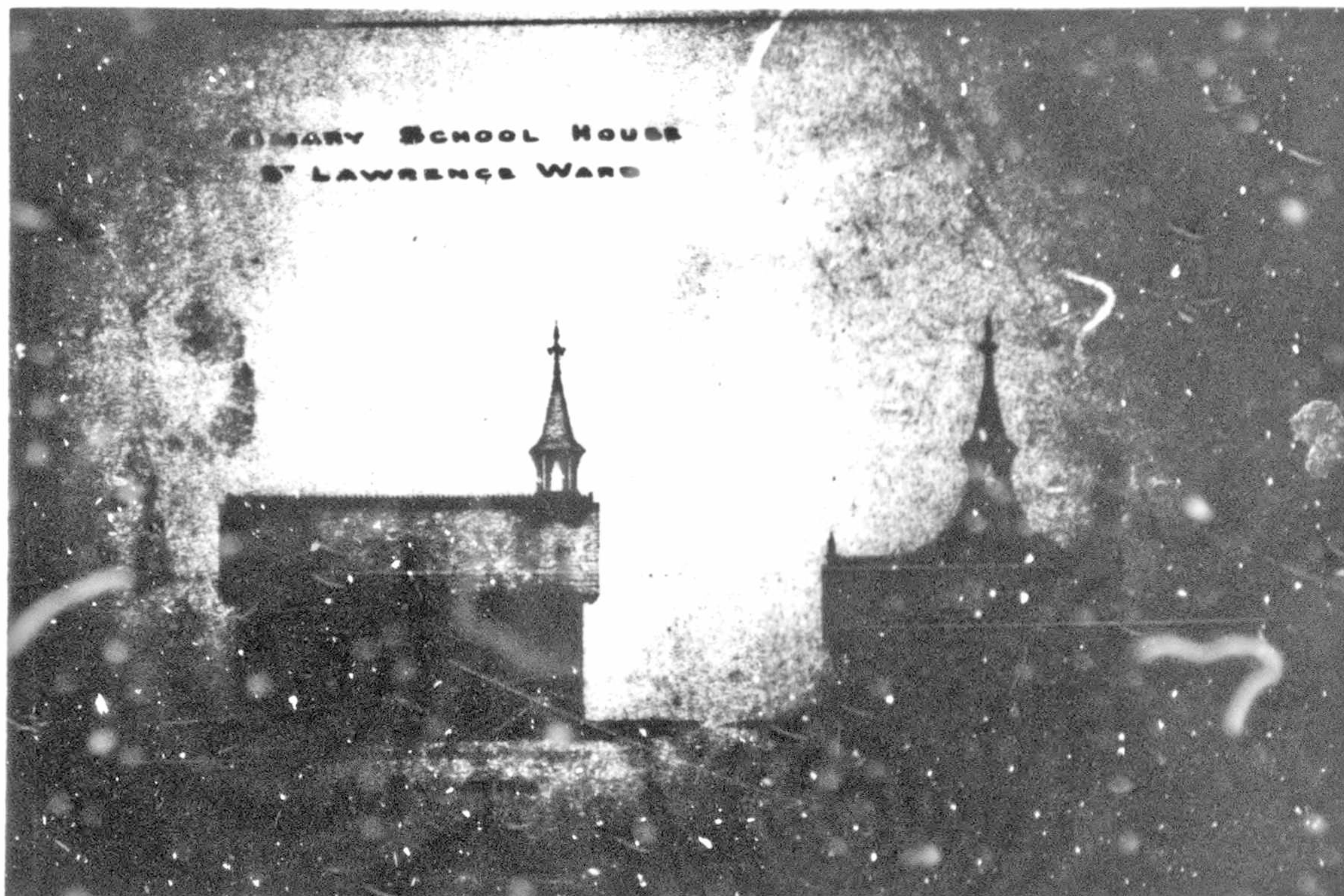


12 Central School, St. Mary's, 1912. (Mrs. McGlover, St. Mary's.)



PLAN NO. VI. PERSPECTIVE VIEW OF ONE OF THE TORONTO CITY WARD SCHOOLS.

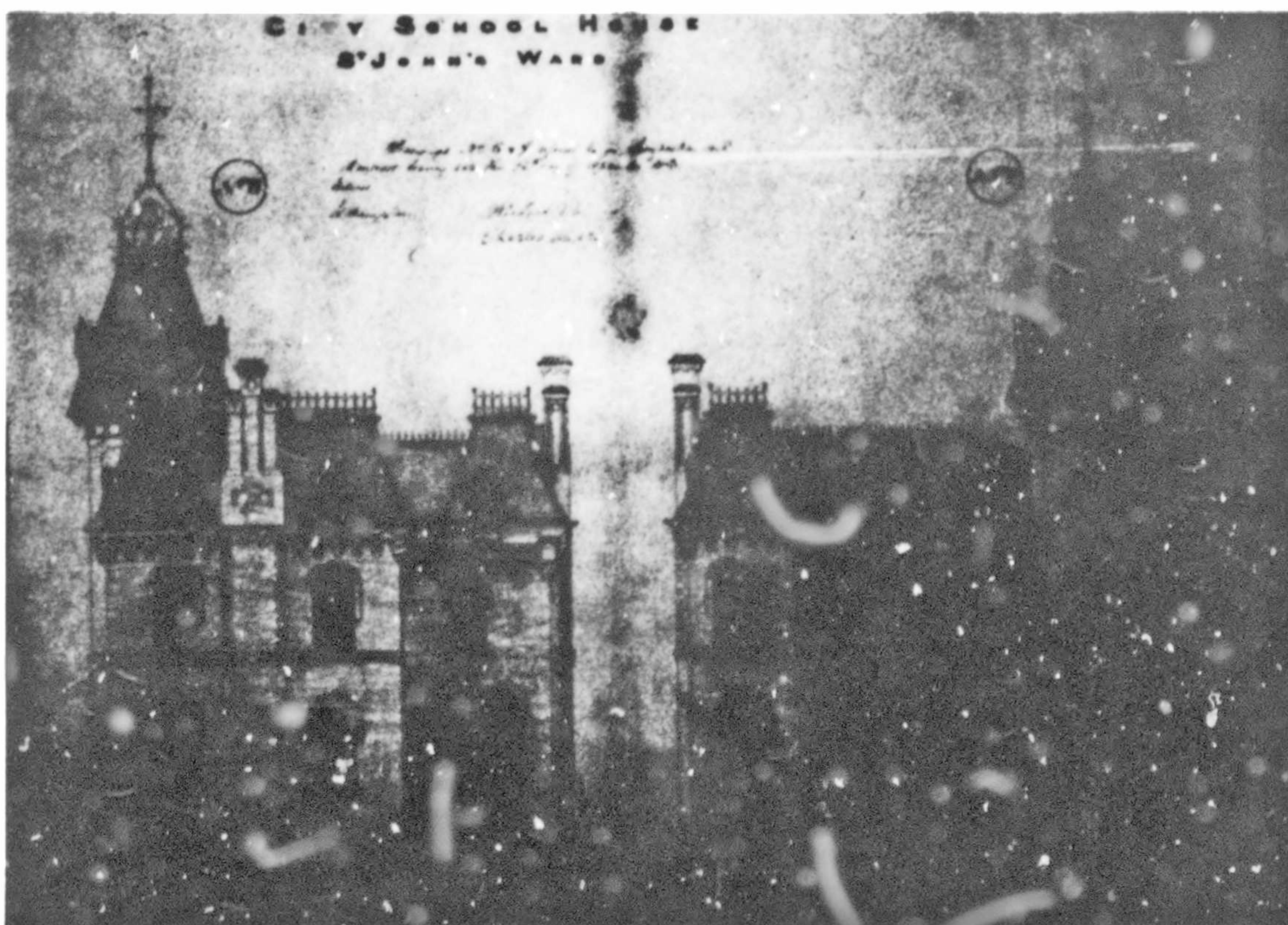
- 13 Ward School, Toronto, 1853. (Journal of Education for Upper Canada, Vol. 10, [March 1857], p. 33.)



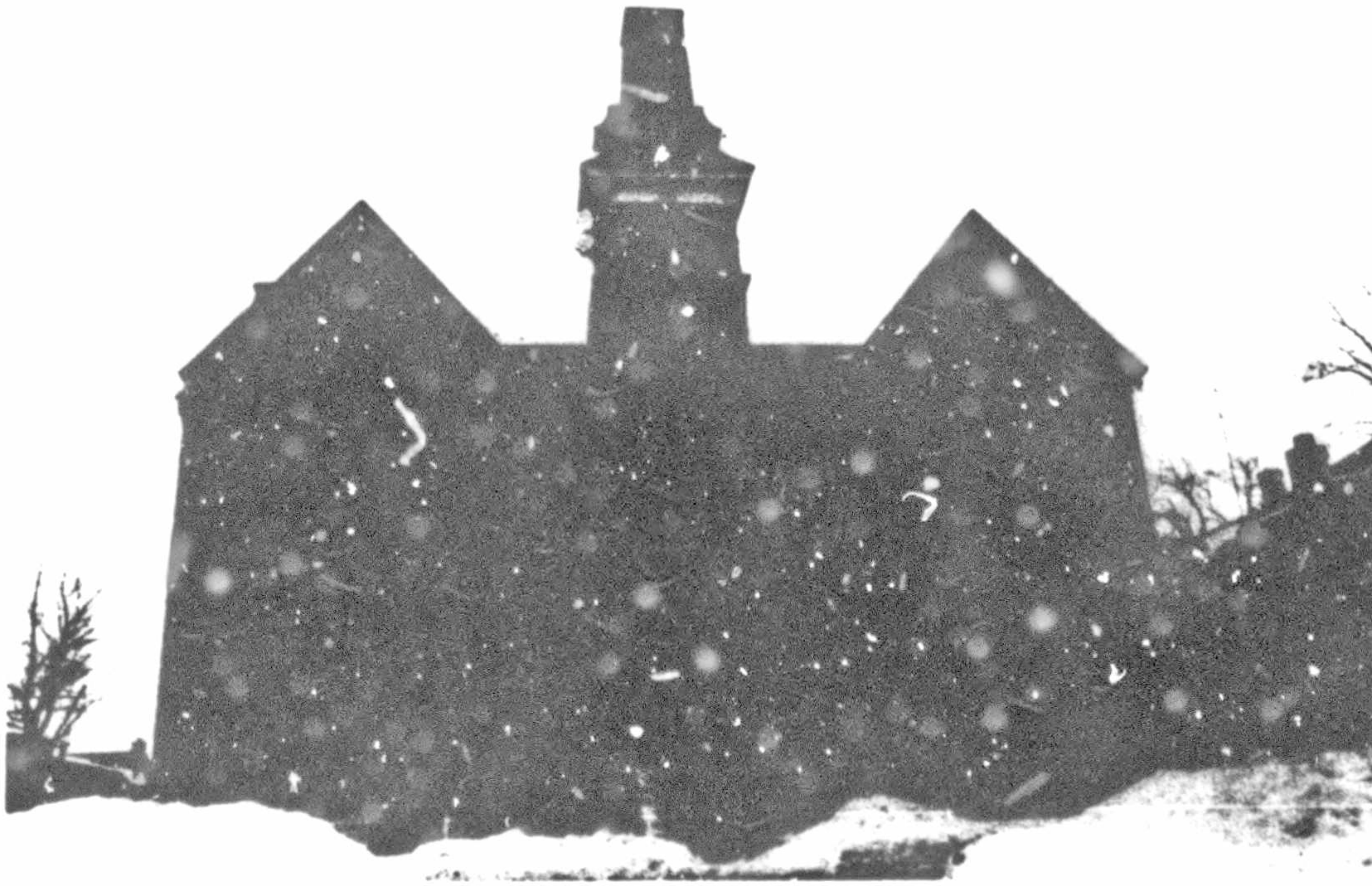
- 14 St. Lawrence Ward School, Toronto, 1873. (Archives of Ontario, Horwood Collection.)



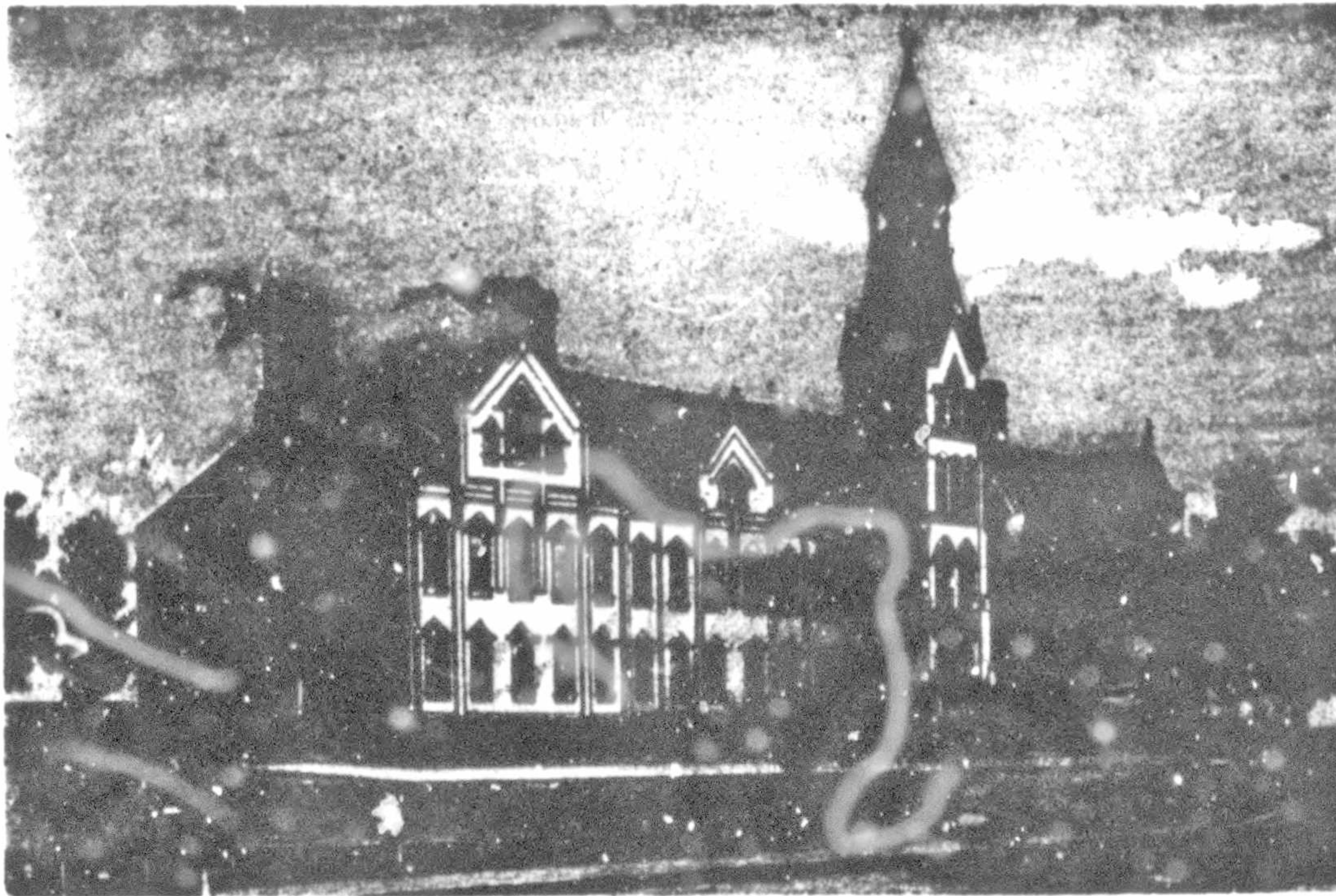
15 Former Depot School, Kingston, 1873. (CIHB, D. Johnson.)



16 St. John's Ward School, Toronto, 1873. (Archives of Ontario, Horwood Collection.)



17 Former Wellington Street School, Kingston, 1873. (CIHB.)



18 Central School, Brantford 1890-91. (Ontario Ministry of Education.)



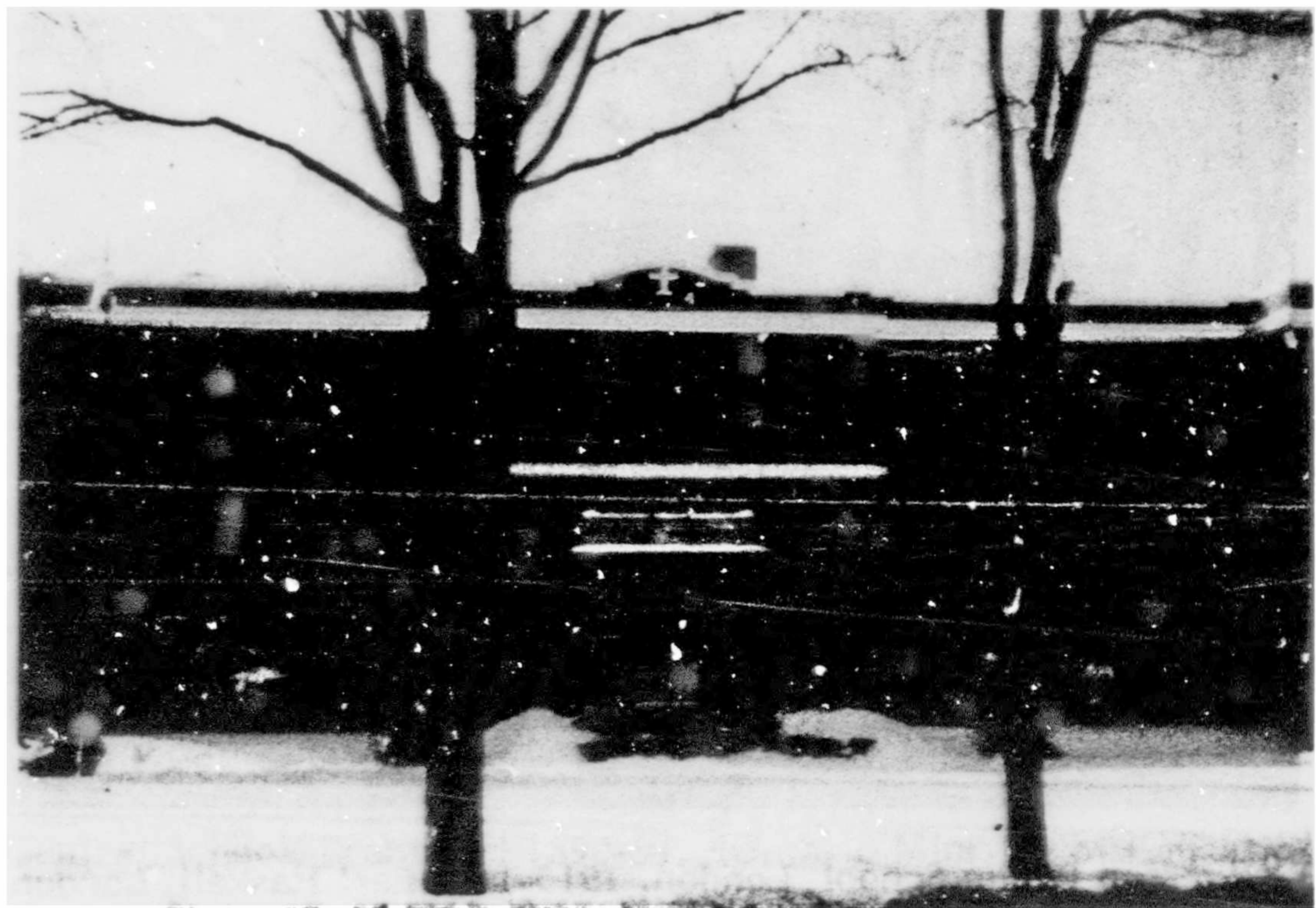
19 Public School, Goderich, 1909. (Ontario Ministry of Education.)



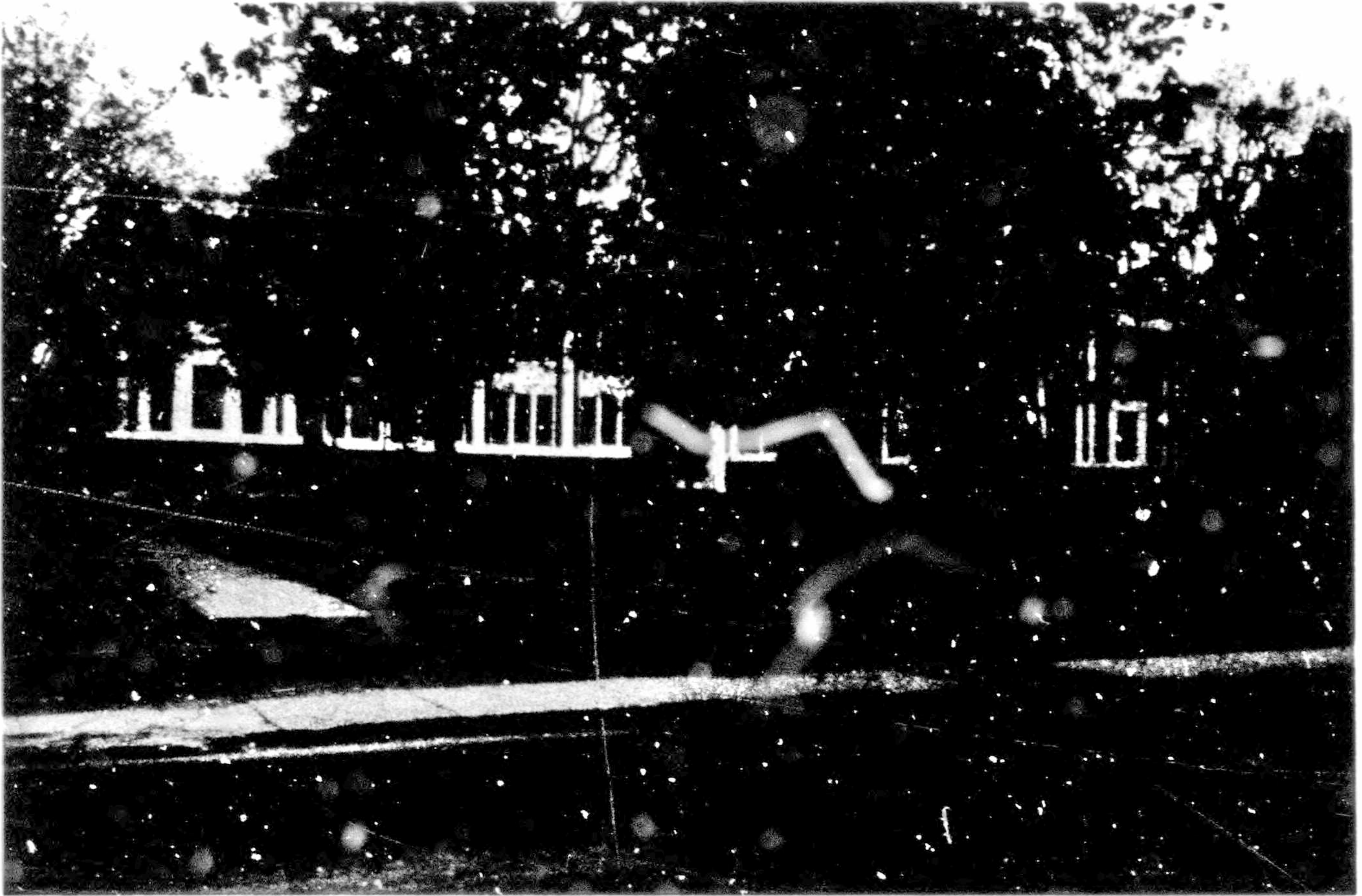
20 Ryerson Public School, London, 1915-16. (Earl Haskell, London.)



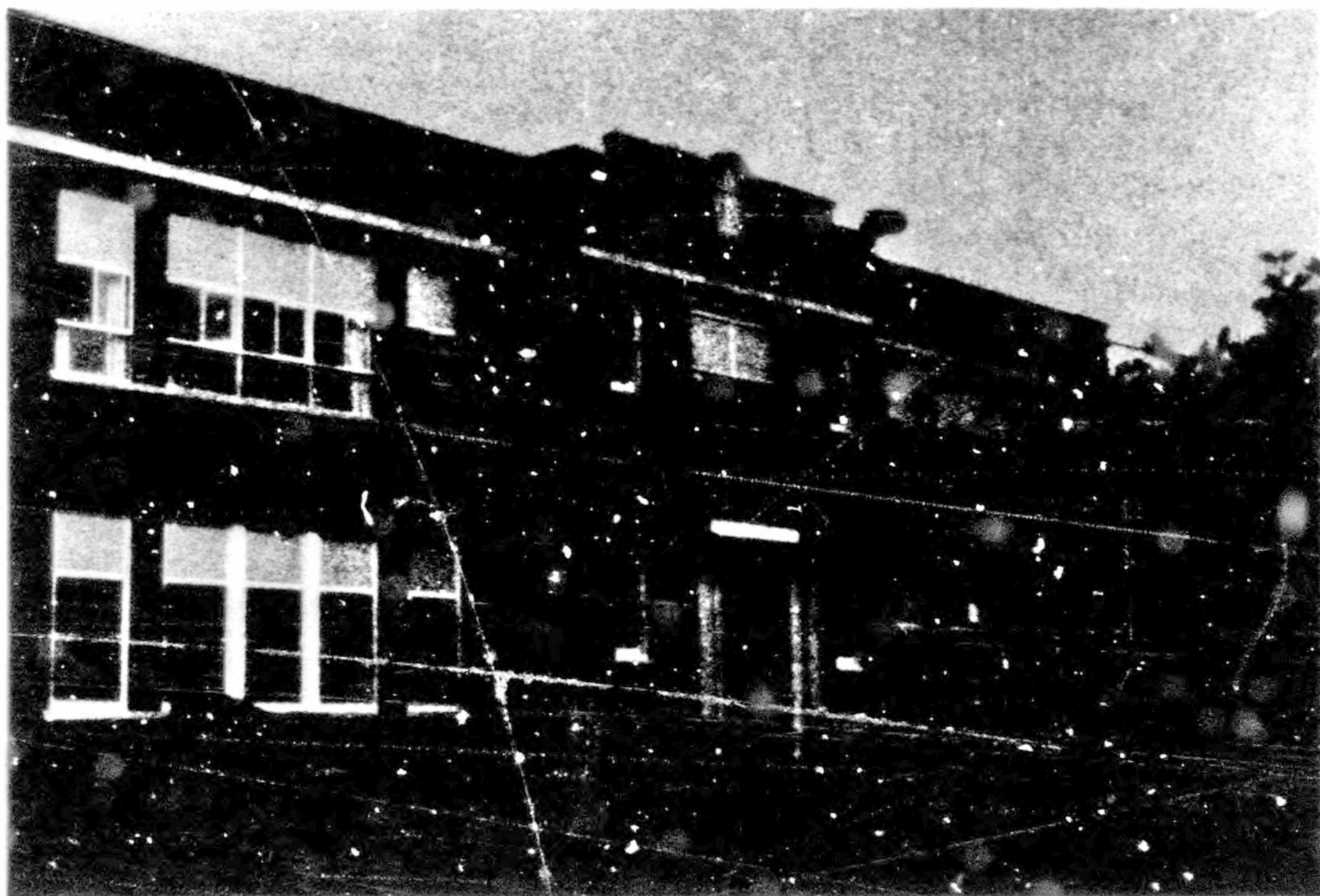
21 Givens Street Public School, Toronto, 1906. (Metropolitan Toronto Library Board.)



22 Victory Memorial School, Ingersoll, 1921. (Stuart Little, Ingersoll.)



23 Suddaby Public School, Kitchener, front 1922. (Terry Yuzwah, Kitchener.)



24 Ross School, Welland, 1926. (Joseph L. Moscan, Welland.)

