

*Bright high school children today ask, "Is there any single thing in the present educational system worth keeping?"*

*I reply, "What about some of the buildings?"*

— Margaret Mead

## Urbanization and Education An Architect's View

*John Bland*

Urbanization is the process of town formation as a result of a gradual shift in the distribution of people from rural areas toward urban concentrations. Everywhere in America big cities have been getting bigger for a long time and the surplus population of country areas has drifted toward them. Canada is not an exception. While our small towns are still growing, they are doing so at a slower rate than the great cities and it is now feared the process of urbanization may bring about a depletion of the population not only on the land but in the small towns and villages in favour of a few great cities. At the moment the problem has been accentuated by an actual decline in our scattered rural population.

In the five year period between 1961 and 1966 (according to the Census of Canada 1966 *Bulletin A4*), the total increase in population was 1,776,633. But the increase in the urban areas, the places

having a population of 1,000 or more, was 2,026,369. In the same period the decrease in the rural areas, the scattered population and the places having less than 1,000 was 249,736. A decrease of more than 4% in non-urban areas in five years is a fairly astonishing figure in a country which still rather romantically thinks itself rural.

Most of the increase in population (1,265,787) over the past five years occurred in the great cities, the places with a population of 500,000 and more; while all the cities in the range of 100,000 to 499,999 had only a total increase of 279,520. When one considers the number of cities represented in these categories, it is obvious that urbanization in Canada means the continued growth of the large cities at rates from about 4% per annum downward roughly in proportion to their present size. Perhaps eventually a new balance will be found and a new condition will be accepted as normal. In the meantime what seems to be important is the varying opportunity and attitude engendered by expansion in some cases and stability or stagnation in others.

### *Opportunities for Educational Growth*

From the standpoint of one who attempts to see activities in terms of space or appropriate physical arrangements, urbanization on the scale we are experiencing suggests broader rather than narrower opportunities for education. A widely distributed population growth would likely produce many burdensome problems of overcrowding; but, the concentrated growth we have implies the possibility of a complimentary increase in the number and perhaps variety of schools. So in large centres at least, we can look for a broader scope of facilities meeting more individual requirements and thereby providing more of those satisfactions long associated with the word urbanity.

Rapid and concentrated growth of sufficient dimension to require the building of new schools will provide the chance of making

improvements in facilities through repetition and observation. The all important "feed back" is often haphazard but need not be so in cities. Also in the buoyant and optimistic activity in growing cities, important advances in design can be expected because creative talent is attracted to them by the opportunities for work and the rewards they offer. This is an important factor in the improvement of all the products of lively cities in which schools share. Although new urban solutions to the physical facilities of schools set new standards, unfortunately they are seldom met, neither in the older parts of the cities where they were evolved nor in other towns or country areas, except where new schools are underway or contemplated. New developments in the area of permanent things like school facilities produce a curiously modern problem; this is the required continued use of comparatively obsolete products, out of date long before physical dilapidation makes them expendable. The durability assumed to be required in school buildings means they are sure to become comparatively obsolete, as many dismal schools in London, New York and Montreal can testify. Problems of this nature are exceedingly complex and solutions must often appear to be incomplete or contradictory. They are related to our economic standards and our social values which are often inconsistent. A textbook made obsolete by some discovery is discarded but not an obsolete school building. This seems to be a mixture of dollars and insensibility.

Whatever the reasons, contrasts in provisions of facilities like schools in urban areas can become matters for anxiety.

### *Building Techniques and Transportation Systems*

Problems of the appearance and siting of school buildings lead to a consideration of two aspects of modern technology, indispensable to the process of urbanization for schools. They are industrialized building techniques and efficient transportation systems. School buildings, more than any others, need to be exemplary pieces of rational construction, and schools, unlike other buildings, are specially related by a web of multiple daily journeys to the dwellings they

serve. The school building itself can be a lesson in human values and behaviour, and transportation is a part of the nature of schools.

That schools should be made to resemble Hampton Court Palace or be Colonial or Tudor, is mercifully no longer desired, but that they should have dressy and contrived facades showing a modest amount of appropriately costly and revered building materials and other fancy features, seems to be. Even though it is probably well known that nothing becomes more rapidly out of date than arbitrary stylish forms superficially applied, schools continue to show such features. In the case of millinery this behaviour is justifiable: hats are made to look new and striking and they can be passed on or discarded when they cease to have the desired appeal. Not so with schools. When school facades are made to grimace in currently popular ways, their designers should think of the long dowdy life ahead which perhaps coupled with comparative obsolescence will produce a sad facility for the purposes of education. Rationally, a school building should not be expected to appear more than a tidy assemblage of factory built components, well made to act efficiently, to be easily transported, assembled and possibly demountable to be reassembled in whatever might later become a more appropriate way. This is the notion of "system building" which evolved in Britain from a rational approach to the design of a great many new school buildings desperately needed after the war.

In "system building" the idea is to employ industrial methods in the production of parts to be fitted together in a variety of ways to form whatever delightful and efficient settings are needed for any uses. The most obvious parts are posts, beams and various panels for floors, stairs, walls, windows, ceilings and so on. All are carefully made to fit, to be structurally sound and to be handsome in appearance. When it is an advantage to do so, the panels can be fitted with piping, wiring ventilation ducts and lighting fixtures. The objective is to obtain an integrated series of building components that can be put together very simply with a minimum of labour on the site where working conditions are always far inferior to the conditions in a factory. While what is suited to the sophisticated industry and concentrated needs of Britain may not be applicable here, the attitude of rational design and the use of industrialized building techniques are part of the potential of urbaniza-

tion in Canada particularly in those centres where the growth rate is the highest. The first step toward such rational design in building depends upon dropping the notion that buildings of any significance have to appear to be more than what they are, to be "dolled up" and unnatural looking, an attitude long considered to be important for schools in this area.

In considering the school and transportation, one must start with the idea that the path of travel from home to school is part of the school as a whole physical thing. A school building is a little like a plant with rootlets attached to its nourishing particles, whose number will determine its size. Pedestrian paths suggest a simple root system but, where mass transportation is involved, it becomes a complex system having trunk roots as well as rootlets. Schools having more than a neighborhood function always depend upon such complex systems.

In the process of urbanization, transportation has a decisive role in determining urban form, convenience, land use and value. The analogy between urban transportation lines and the arteries of a living organism well describes the importance of the facilities for movement in the life of cities. Whether schools provide their own transportation or are related to public provisions, transportation has a profound effect upon their usefulness. Public transportation systems by their nature tend to concentrate activities at points of convergence of transportation lines, although they also draw out activities along their routes, particularly those activities which need to be relatively convenient but not absolutely central. Giant department stores, in their competition for sales need to be established at the point of maximum accessibility to the greatest number of dwellings and/or housewives, are found at the convergence of the most important public transit lines in a city. However, a school serving the same area could conceivably be more distant. Nevertheless, all school sites, whether central or peripheral, should be functionally related to the public transportation routes that can best serve them.

The shopping centre, as a phenomenon of transportation by private car and the consequent need for vast parking spaces, has little importance as a key to school location. But if the shopping centre also happens to be a focus for district public transportation, there

may be advantages in having the regional school near by. There is the possibility that, due to the investment in and popularity of certain mammoth new shopping centres, they will become centres of community life and will have public transportation provided. If this happens, appropriate school sites might well be found in their vicinities.

Planning or forecasting the use of land, the arrangement of transportation lines and other processes of urbanization has become the specialized activity of town planners. So town planners should be closely concerned with the problems of finding convenient sites for schools in order that they be as well integrated as possible with economic and social conditions and particularly public transportation.

#### *Jumbo Schools and Yellow Buses*

The siting of jumbo schools is specially important in this respect as their transportation requirements may have to be partly met by the use of existing public systems. The efficiency of a transportation system depends upon its even use and the number of its patrons. The private school bus, like the private car, has many advantages, but from a social standpoint it is selfish, costly and inefficient. It is rationally quite insupportable in comparison to a well integrated and well used public transit system. In underpopulated rural or suburban areas, the yellow bus may well be the only means of getting to and from awkwardly sited schools but, each time one sees such a bus, one cannot help feeling that some mistake has been made and one cannot help wondering how many times around the world is represented by its dreary travel. Yellow school bus statistics would be worth examining and could well be a measure of the problems of siting modern schools.

It is possible that jumbo schools, the chief reason for yellow buses, may be a passing phenomenon as electronic developments can make more individual routine teaching by video tape superior to most forms of instruction in crowded classrooms. With the development of educational telestars, which apparently are not far off, expert video tape teaching is likely to have very wide application. And

in the meantime there is continual improvement in production and in the scope of experiments that can be presented by tape.

Students nowadays feel a restlessness with bigness and it seems possible that, with routine instruction accomplished in classrooms similar to the language laboratories, teachers of the future could travel about and engage in Socratic encounters with small groups of students. This is one of the possible ways of eliminating impersonal mass instruction in the big city schools. It seems clear to me that such techniques would have considerable validity in small urban areas where schools are not naturally big.

Where schools have been made big to accommodate and support a multiplicity of technical subjects which need a big enrolment to be fully used and where video tape instruction may have little or no significance, the notion of school specialization might be explored. Students interested in participating in a subject not available at their own school could travel to the nearest school with the required facilities and spend an afternoon or day there. Daily travel could thus be reduced in favour of occasional trips and the educational advantages of many choices would not be lost.

While the accelerated trend toward urbanization has stirred up much excitement and the expectation of more to come all across Canada, in Quebec the Quiet Revolution has spawned a new outlook on secondary education. This involves the release of unprecedented public funds for the adaptation of classical colleges and the construction of new schools. Schools the size of 19th century Canadian universities are beginning to appear and concentrations of such schools into "Cities of Youth" promise to equal in enrolment and appearance many of our 20th century universities. Whether or not all this is attributable to urbanization may be argued, but everywhere it seems similar factors are at work in providing the kind of advantages which stem from bigness. The need to build well at this scale is a grave responsibility, as is the need to question the validity of the experiments that have been made already.

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