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ABSTRACT

The first in a series of leaflets designed for the dissemination of information on school building, this publication describes and summarizes the broad issues and problems facing those engaged in the provision of school building facilities. It is preceded by a short statement outlining the objectives and activities of the Programme on Educational Building. Innovations that affect school planning under discussion are new forms of schools, integration of school and community facilities, need for flexibility and adaptability, and evolution of educational and building technologies. (Author)

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PROGRAMME ON EDUCATIONAL BUILDING

SCHOOL BUILDING

To-day and To-morrow

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT
PARIS MAY 1973

The Organisation for Economic Co-operation and Development (OECD) was set up under a Convention signed in Paris on 14th December, 1960, which provides that the OECD shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;

- to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development;

- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

The Members of OECD are Australia, Austria, Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

The Programme on Educational Building (PEB) was established by the Council of the Organisation for Economic Co-operation and Development for an initial period of three years as from January 1972.

The main objectives of the Programme are:

- to facilitate the exchange of information and experience on aspects of educational building judged to be important by participating Member countries;

- to promote co-operation between such Member countries regarding the technical bases for improving the quality, speed and cost effectiveness of school construction.

The Programme functions within the Directorate for Scientific Affairs of the Organisation in accordance with the decisions of the Council of the Organisation, under the authority of the Secretary-General. It is directed by a Steering Committee of senior government officials, and financed by participating governments.

P R E F A C E

The collection and dissemination of basic documentation in the field of school building constitutes a continuing activity of the O.E.C.D. Programme on Educational Building (P.E.B.). One form which this activity takes is the preparation of a series of information leaflets on selected innovatory work of special interest. The aim is to provide up-to-date information on interesting recent cases and examples rather than to cover the full range of school building problems.

This is the first of the leaflets and, as such, is exceptional in terms of the generality of its content. Prepared by the Secretariat to the Programme which acknowledges with thanks the assistance of Michael Hacker, a Principal Architect at the Department of Education and Science, London, it is an attempt to describe and summarise the broad issues and problems facing those at present engaged in the provision of school building facilities. It is preceded by a short statement outlining the objectives and activities of the Programme on Educational Building.

PROGRAMME ON EDUCATIONAL BUILDING

BACKGROUND TO PEB AND WHY IT WAS FORMED

Never before have those concerned with educational building been faced with so many varied problems. These involve educational, economic, architectural and technological considerations. Changes are taking place simultaneously in the social demand for education, in the mobility of population, in the structural organisation of secondary education and not least in the development of educational theory and practice.

Growing interest in these problems among a number of Member Governments led to the creation of the O.E.C.D. Programme on Educational Building for an initial period of three years as from 1st January 1972. The objectives of the Programme are to facilitate the exchange of information and experience on aspects of educational building judged to be important by participating countries and to promote international cooperation between them regarding the technical bases for improving the quality, speed and cost effectiveness of school construction.

WHAT PEB DOES AND WILL DO

The Programme has three main themes : building for educational innovation; management of building investment; and technological innovation. Within these, a limited number of topics have been selected for special study during the initial years of the Programme as follows:

Activity 1 : Basic Documentation A continuous supporting activity throughout the duration of the Programme is the collection and dissemination of basic documentation consisting of both the normal Secretariat work of keeping up-to-date relevant information about school building in the participating countries and the production and wide circulation of a number of information leaflets on selected innovatory work of special interest.

Activity 2 : Building Implications of the Multi-option School In order to maximise educational opportunity many countries are adopting policies of generalised secondary education in which each school offers pupils an increasingly wide range of choice in the subjects and courses studied. The corresponding increase in the diversity of physical facilities and teaching expertise required poses new problems in the design of new buildings and in the adaptation and upgrading of existing stock. This activity is concerned with the examination of these problems and of the solutions to them that are being developed.

Activity 3 : Industrialised Building Methods for Educational Purposes Increasingly, countries are looking towards systems of industrialised building as a way of solving their school construction problems. They are thus faced with selecting suitable systems from a wide range of alternatives or, if none proves suitable, with sponsoring one which is. The objective of this activity is to clarify for policy-makers the considerations involved in using prefabricated, industrialised and/or rationalised building methods to best advantage with respect to educational objectives and to national financial and administrative requirements.

Activity 4 : The Matching of Educational and Constructional Innovation (Symposium)
The Symposium to be held in the Autumn of 1973, has as its main purpose to bring together for a first confrontation within the framework of the Programme educationists, architects, engineers and administrators/managers of school building investment in participating countries to exchange information on national experiences, to discuss their implications for international cooperation and more generally examine how best to match their several interests.

Activity 5 : Institutional Arrangements for School Building The effective economic procurement of school buildings is largely dependent on whether the institutional arrangements adopted are of a kind which facilitate : getting value for money; completion of buildings on time; provision of buildings, equipment and furniture which match the needs

of good educational practice and its rapid development in the light of educational, social or technological innovation; and accumulation of experience derived from buildings under construction and in use, and application of lessons learned to new or up-dated schools. The objective of this activity is to assist policy-makers to consider how the formulation or reformulation of their own arrangements might lead to improvements respecting procurement processes and effective use of school building stock.

Activity 6 : Adaptability in School Building In many countries there is growing recognition that schools built to provide for contemporary needs are liable to costly obsolescence unless they are capable of adaptation to meet educational change. Developments have taken place giving practical examples of differing approaches to the provision of building adaptability : either in terms of locating partitions, illumination and services or in some less thorough but less costly manner. The objective of this activity is to bring together this recent international experience in a single comprehensive review and clarify its architectural, educational and financial implications.

Activity 7 : Integration of School and Community Facilities Education can be seen as a continuing process from childhood to old age and, at the same time, the forces in the educational process represented by the home and community environments can be recognised as hardly less powerful than that of the school itself. Many community facilities often duplicate to some extent facilities provided by schools and a number of countries are exploring ways of integrating the two, prompted by educational motives on the one hand and, on the other by the belief that such integration can secure more effective deployment of capital resources and show a total saving of public money when compared with the more usual fragmentation of capital building projects. This activity will look into recent examples in this field and study the policy implications of such joint use developments.

PEB PUBLICATIONS

In addition to the information leaflets produced under the Basic Documentation activity, reports will be published on each of the above topics. The activities are, or will be, undertaken by interdisciplinary teams combining the various appropriate skills of educationist, architect/engineer, cost specialist, administrator etc., and each of the reports will be prepared by one member in each team with the guidance of his or her fellow team members. The reports for Activities 2 and 3 will be available in Summer 1973; those for Activities 5 and 6, Summer 1974; that for Activity 7, Summer 1975; and the publication covering the Activity 4 Symposium in Spring 1974.

SCHOOL BUILDING TODAY AND TOMORROW

BACKGROUND TO CHANGE

A climate of questioning, doubt and reappraisal exists in many spheres of educational building. Architects and educators are working together to invent new solutions to unfamiliar problems. In many O.E.C.D. Member countries developments have taken place in which the challenge has been met with new educational techniques and organisations, new plan forms, new materials, new methods of building and new systems of management. These developments spring from particular needs and particular locations and are modified by particular restraints. In detail they may have no application outside the circumstances of their origin. But principles emerge which have broader application.

Few periods in history are free from evolutionary pressures but the situation obtaining at the present time seems particularly marked by the magnitude and speed of the changes they cause. In the field of education and despite national variations, there is a series of common trends which characterise this situation - some perhaps quite generally apparent, others less so - and these in turn result in a series of common problems in terms of their architectural implications. Many of the developments taking place constitute a move towards the democratisation of education. They imply the abolition of selection and the provision of equal opportunity for all regardless of economic, social, geographical or cultural barriers. At the level of secondary education, for example, the multi-option school - whether a Swedish "Grundskola", a French "Collège d'Enseignement secondaire", an English "Comprehensive School" or a German "Gesamtschule" - aims at offering a basic, often common, core of knowledge coupled with a variety of options to meet the interests and capacities of the individual child. The content of education is changing too, in so far as it attempts to be more closely related to the outside world, with a consequent trend away from rigid subject specialisation towards integrated activities. Likewise, there is a move from academic/vocational segregation towards academic/vocational integration - evidenced by the growing importance of practical work, arts and crafts in the general secondary curriculum - and a parallel move from passive to

active learning, from chalk and talk to individual discovery and creativity. All this in turn, implies a trend away from rigid ability grouping - whether in the form of the old tripartite system or streaming - towards either entirely heterogeneous groups or more subtle and short-term settings according to acheivement in specific parts of the curriculum and to the concept of the individualisation of education. It also raises the whole issue of the social role of the school.

Coupled with these trends are developments which contribute to the ever-increasing pressures for expansion of the educational service. There is the widening of the scope of education inevitably leading to longer periods of education for a wider sector of the population and a demand for higher levels of skills, for retraining and mid-career education. All this constitutes an explosion of demand, increasing not in a gentle slope but in an accelerating logarithmic sweep, which gives added urgency to the continuing debate over future forms of educational building. It is an explosion of demand which has to be matched against limited resources that may be already overstretched. In this context, developments in educational building must be judged not only by their ability to provide greater opportunities for a wider sector of the population, but also by the contribution they make to better use of resources.

FORM OF SCHOOLS

The broadening of the educational programme, the changing relationship between teacher and taught, and the application of new pedagogical concepts lead to the development of new approaches to the problems of school building. In the traditional situation, where children are selected by ability and aspiration for particular schools with clearly defined learning objectives the problem is comparatively simple and so too are the plan forms that result. Teaching is class and teacher orientated. Groups of children, generally of between 30 and 40 in number are classified by age, ability and attainment. Teaching proceeds at a measured rate in the class. Learning objectives and the division of knowledge are clearly defined and

reflected in the form of school, the selection of the teaching staff and in the definition of space.

In schools of this form children remain relatively static in their own classroom with occasional periods elsewhere for more specialised instruction. But as curriculum and teaching requirements grow more complex it becomes increasingly necessary for the pupils to move from one specialised teaching situation to another throughout the day. In many schools the problems of circulation, movement, control and supervision thus created have assumed overriding importance and, indeed, the plan forms of many of them seem to be determined not so much by educational need as by logistics.

The development of new teaching techniques, the re-definition of learning objectives, the recognition of individual rather than group need and the establishment of more adult relationships between teacher and taught are leading to new plan forms. These can help overcome many of the educational and social problems associated with new types of school organisation and result in buildings which are both more civilised and more useful as educational tools.

The recognition that different aspects of knowledge are inter-related and interdependent - that it may be undesirable to separate say science and technology from philosophy and the arts - leads to the concept of the blocking of previously separate areas of the curriculum into large related subject areas and the establishment of inter-disciplinary courses in which groups of teachers work together with groups of children around common topics. This method of working points to the need to provide inter-related blocks of accommodation where groups can work together for comparatively long periods.

Just as it is now recognised that not all children need follow the same curriculum, it is equally accepted that different modes of learning are appropriate to different teaching objectives. What is more, the same learning objectives can be attained by using different teaching methods designed to suit the needs of the individual. Less

reliance is now placed on the textbook and teacher-based instruction. Not only has the teacher at his disposal a whole variety of media to replace or to supplement the textbook : tapes, films, television, etc., but also a host of new learning techniques : discussions, seminars, role playing, team teaching, cooperative work, and above all independent, self-paced study. Many of these developments, as well as being a product of the new technology of communication and modern learning theory, stem from a new attitude to teacher/pupil relationships. In part this reflects the extension of compulsory schooling and in part the growing maturity of the pupils. The teacher is coming to be regarded less as a figure of authority and more as an equal, a guide and mentor to help the pupil achieve recognised and desired objectives.

All these changes are reflected in many different ways in some recent school plans. The accommodation no longer consists of uniform classrooms, each equipped with thirty desks, a teacher's dais and a blackboard. Standard classrooms give way to a great variety of space. There are still areas for formal instruction, lectures or demonstrations, but these are replaced in part by: space for work in small groups, for discussions, for seminars; space for independent study and investigation; working space for teams of teachers to discuss common projects and prepare teaching materials; and special areas to accommodate the new teaching/learning resources. In many parts of the curriculum pupils are beginning to discover the excitement and stimulus that can result from discovery more traditionally associated with the teaching of science and craft. The provision of small areas for simple practical work, for exhibition and long-term projects is becoming more frequent.

The common theme of these new forms of teaching space is indetermination. This reflects the need for teachers to be able to seize a learning opportunity and to structure a teaching situation around it. In certain fields, especially that of skills, training courses can be highly structured and programmed. For cognitive and creative learning considerable freedom is required. The provision of a

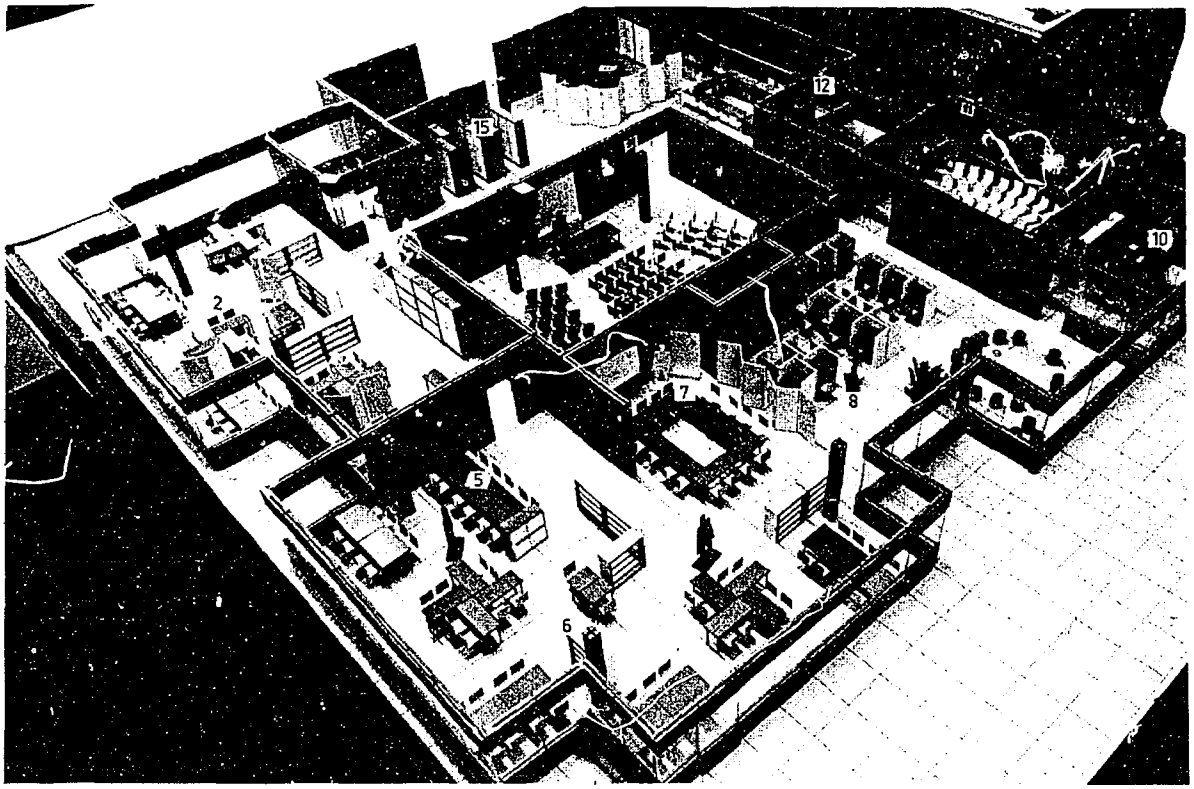


Figure 1 : Variety of space provided to match a variety of activities (model of part of a school)

variety of spaces and the close relationship between different learning resources allow the teacher to choose the most appropriate resource to suit the demand of the moment. Changing relationships between teacher and pupil call for teaching space less institutional in character than is often the case. Carefully chosen furnishings and finishes can help give a more domestic feeling to the spaces; soft upholstery, carpets, curtains and pictures increasingly form part of the vocabulary of school design.

The breakdown of the class-centred structure demands alternative approaches to the problems of administrative and pastoral organisation. Each pupil must have a place with which he can identify: a "home" or "base" in which he can meet his friends, keep personal possessions and where he can find and be found by the member of staff responsible for his welfare and progress in the school. These "homes", if located in the variety of educational activity areas provided

around the school, need in no way demand extra space and can generally be associated with multi-purpose social areas and small interview/informal meeting rooms for senior staff with academic or pastoral responsibilities. Older pupils might be given a choice and more often than not would exercise this in favour of an area of the school in which they have a particular interest. For social use pupils need not be restricted to their "home" only : social life is thus allowed to grow naturally out of common interest, clubs and societies organised across the whole school.

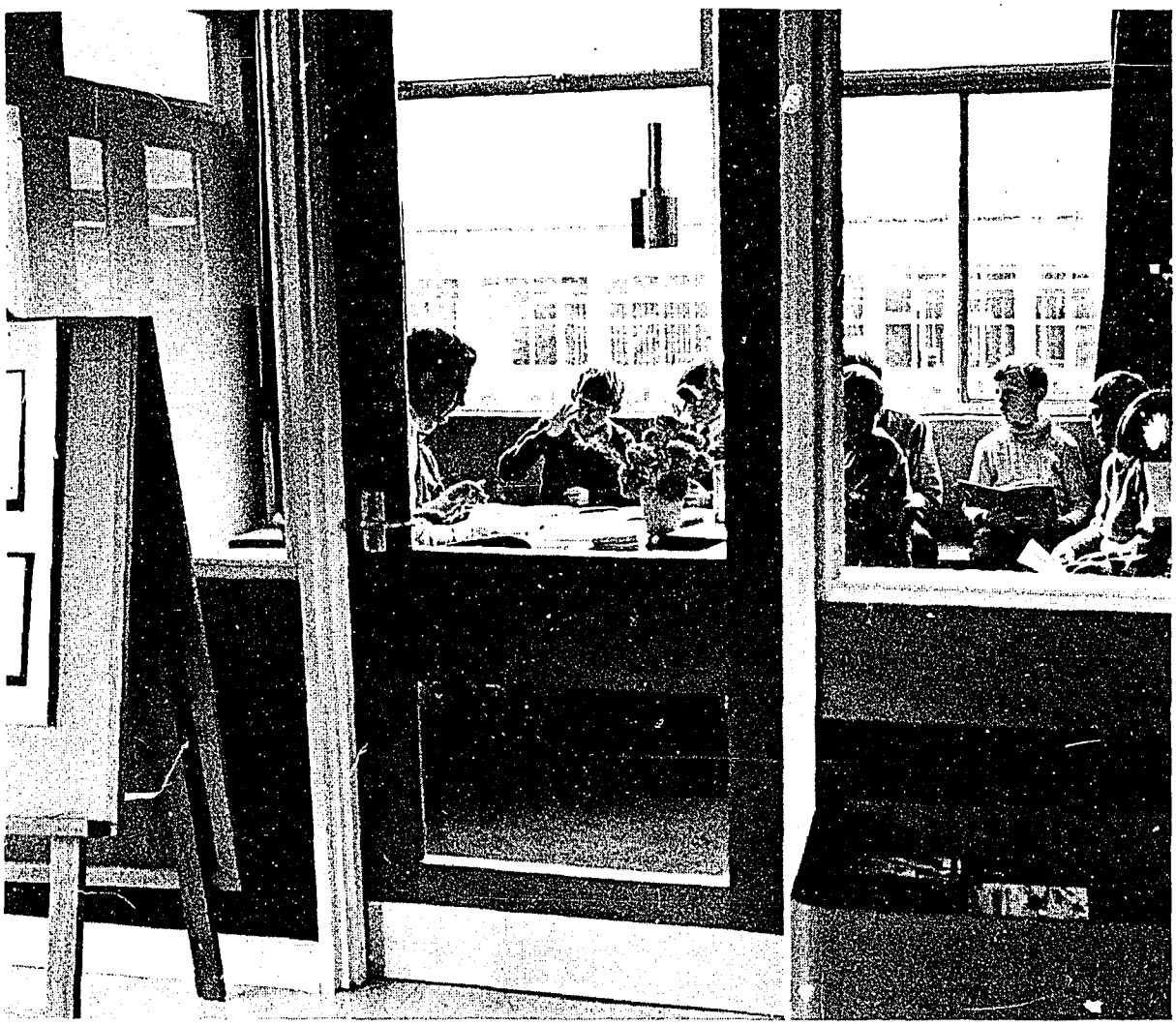


Figure 2 : Small group space of a domestic character

COMMUNITY USE

The sophistication and variety of provision now being made in secondary schools coupled with the growing demand for facilities for continuing adult education and recreation has led to an increasing interest in the wider use of school buildings by the community. This is prompted by both socio-educational and economic considerations. First, there is the realisation not only that the community can contribute to and benefit from the provision of an easily accessible range of educational and cultural facilities but also that the activities of the school can no longer be treated in isolation but stand to gain by being more closely related to the life of the community outside. Second, there is the waste of resources represented by school facilities remaining unused during the evenings, weekends and school holidays.

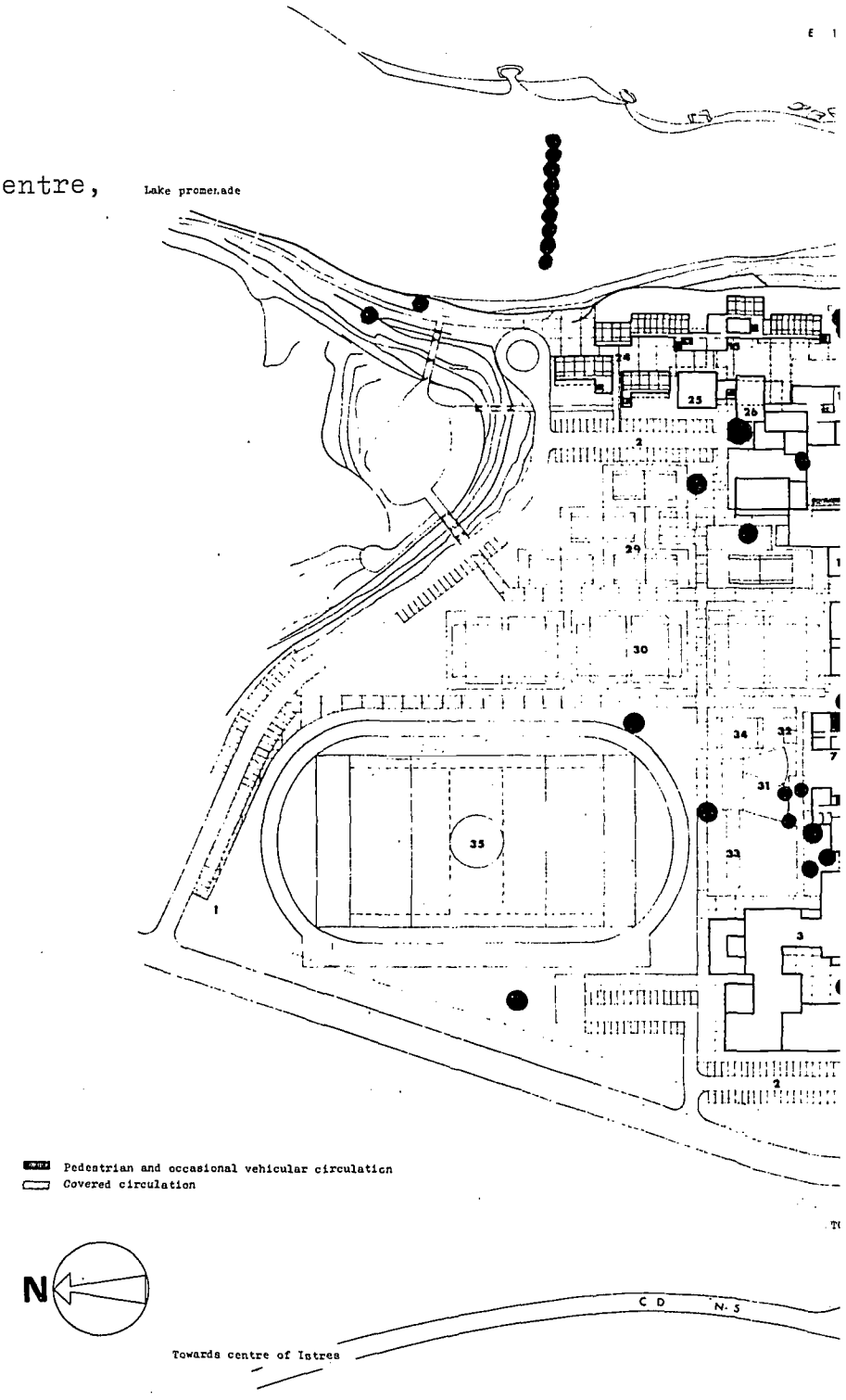
Such community use, however, requires new approaches to the planning and design of accommodation and raises a host of new administrative problems. The range of activities to be catered for, the kind of facilities needed to house them, their quantification and relative location, the siting of the community complex present problems which concern a large number of people, organisations and administrations with varying interests and responsibilities. Added to these are problems of ownership, management, insurance and distribution of capital, running and maintenance costs.

The widening of educational and social opportunity, the possibility of a more intensive utilisation of facilities and of financial saving which the fusion of school buildings with other community facilities - such as sports centres, libraries, theatres, exhibition halls, youth clubs, recreation centres for old people - seems to offer, have recently led a number of countries to explore the concept of joint use provision and to seek solutions to the many problems it entails. This is not a radically new concept. Schools and evening institutes have cohabited for many years. What is new is the scale and degree of overlapping use and the relationship of such community centres to the surrounding urban contexts.

Figure 3 :

Example of integrated school and community facilities

1. Access
2. Parking (493 places)
3. Medical centre, social services centre, dispensary, etc.
4. Administration, Reception
5. Library
6. Museum of technology
7. Activities centre for all
8. Archaeological workshop
9. Art workshop
10. C.E.S. (Collège d'enseignement secondaire) workshop
11. C.E.S. General education
12. C.E.S. Specialised education
13. Language laboratory
14. Cultural centre
15. General meeting-room
16. Exhibition gallery
17. Covered sports area
18. Training-rooms
19. Restaurant
20. Indoor swimming pool
21. Open air swimming pool
22. Diving pool
23. Open air theatre
24. Holiday village
25. Young workers centre
26. Shops
27. Children's reception
28. Staff accommodation
29. Tennis
30. Organised games
31. High jump
32. Gymnastic beams
33. Long jump
34. Discus-javeling
35. Rugby, football, running track
36. Bike sheds




ETANG DE BERRE
Towards harbour and beach
Towards leisure grounds
cular circulation
TOWARDS NEW URBAN CENTRE
C D N-5
of Intres

FLEXIBILITY AND ADAPTABILITY

Flexibility of use has been the subject of much debate in recent years and has led to many ingenious technical solutions in the field of building adaptability. Rapid changes in educational organisation, teaching method, educational technology and social attitudes all necessitate major changes in school planning and will continue to do so in the future. Faced with this uncertain situation some school designers advocate minimum enclosures equipped with a variety of demountable and relocatable equipment and partitioning.

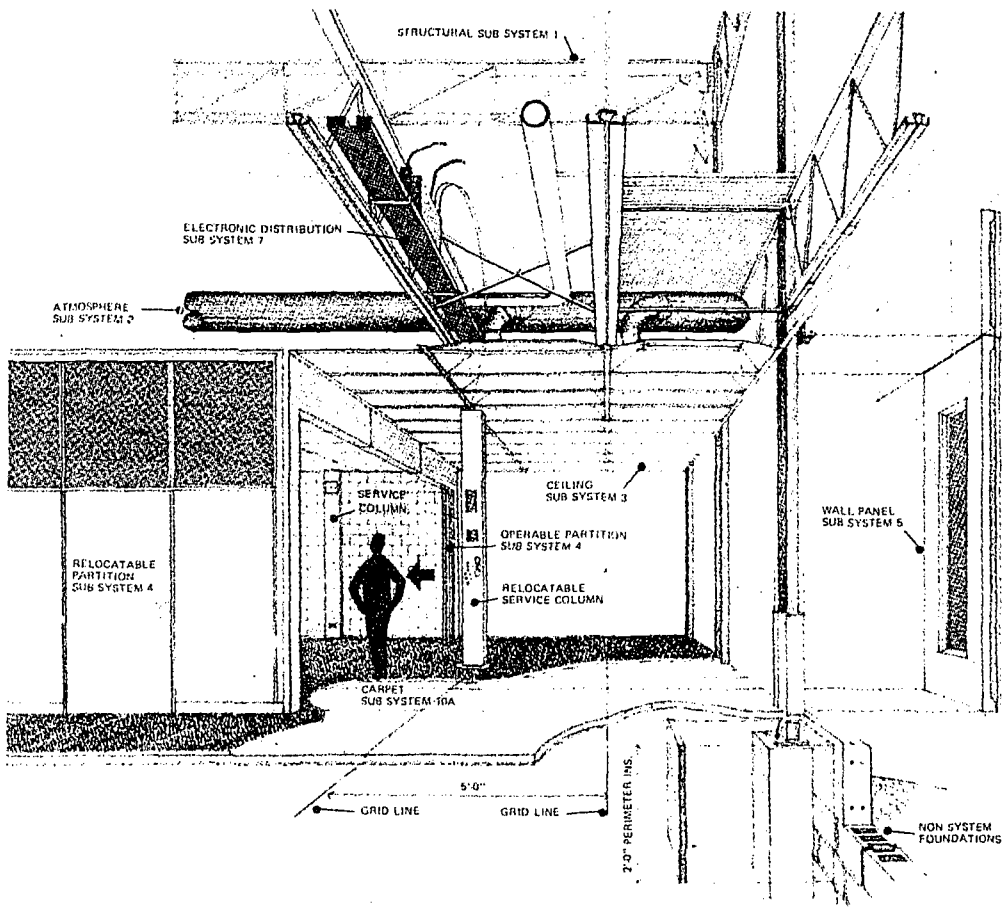


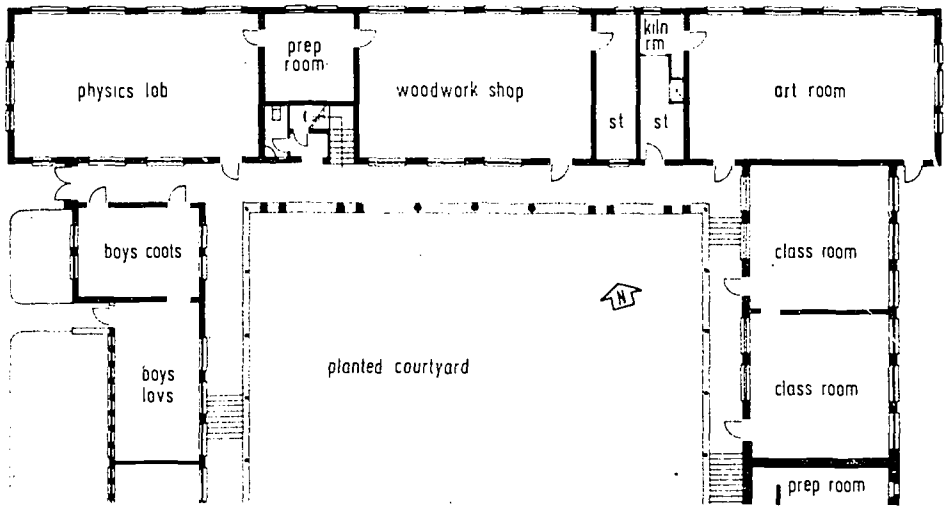
Figure 4 : Provision of adaptability by means of a variety of demountable and relocatable equipment

This appears to be an attractive solution, but does it involve the investment of considerable funds now, to guard against uncertainty in the future? We now have the technical means and expertise to provide almost unlimited building adaptability in terms of relocatable partitions, illumination and services so as to achieve the corresponding and almost unlimited flexibility of use. But the increased cost must be measured not only in capital outlay but also in the loss of real choice. No case exists for solutions which ignore the known needs of today for the sake of unknowable needs in the future. The central problem is to allow for future variation without sacrificing the variety and vitality needed now to match the best in modern learning processes.

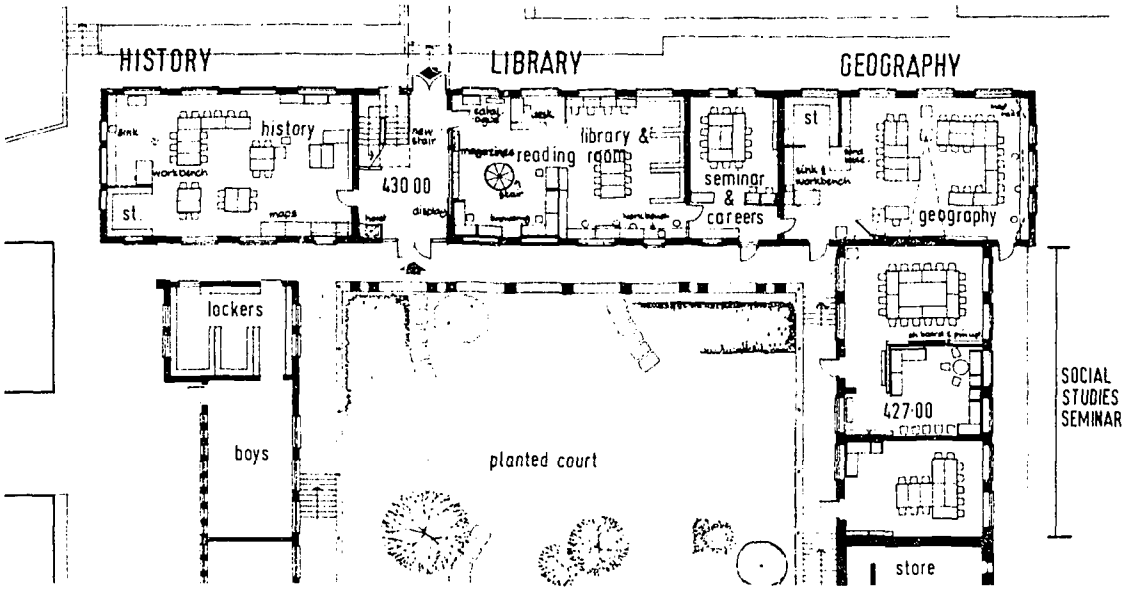
Inevitably such debate tends to focus on new provision, yet solutions must be related to the current situation. All participating countries have long-established educational systems with, in most cases, a body of skilled and highly trained teachers working within existing buildings. The investment represented by these systems, in both human and material terms cannot be disregarded. Change must take place within this existing framework and the rate and direction of change will be influenced by the ability of the existing systems to accommodate it. The need for flexibility and adaptability applies equally to old buildings as to new. The rate of change has outpaced the economic life of school buildings and the remodelling of outdated buildings is becoming increasingly necessary. Not only do these buildings require internal alteration to meet current and unforeseeable future teaching practice, but also extensive alteration and additions to bring them up to acceptable standards both in terms of accommodation and internal environment.

EDUCATIONAL TECHNOLOGY

Educational technology has affected school building design in only a very limited way, for example with the provision of blackout facilities, additional storage or extra cabling. Many of the developments have in fact been concerned only with augmenting existing activities. The television programme or the film can in many instances be seen as a



Before



After

Figure 5 : Part plans of a school before and after extensive alteration

recorded lesson in which the educational form and process is very similar to the traditional one. The development of educational technology may however lead to a widening in the variety of teaching/learning methods and possibly a more intensive use of the built facilities. Already there is growing interest in the use of programmes and equipment in association with individual and other forms of self-paced work.

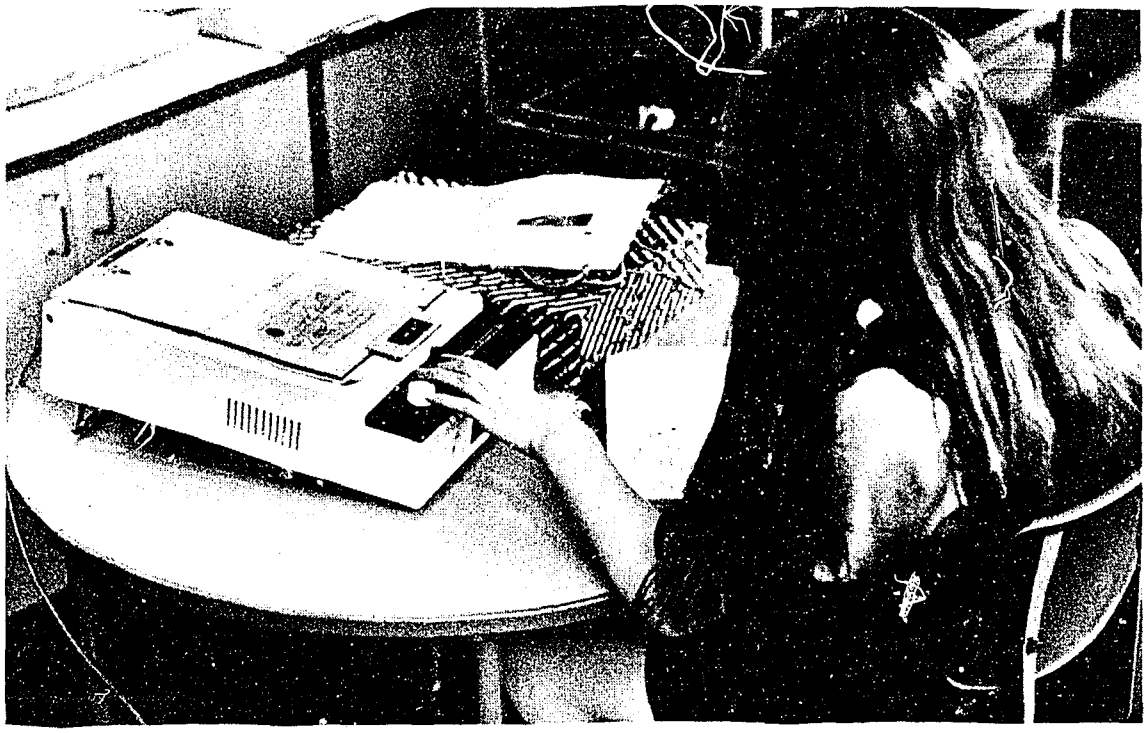


Figure 6 : Use of equipment for individual work

In the field of higher education there have been examples of the successful use of open broadcast radio and television as part of a carefully prepared learning package including occasional live seminars and residential courses. This allows the individual to follow a sophisticated course of instruction without the same dependence on regular attendance in any one building. In the long run these techniques suitably modified might be applied to upper secondary education and thus enable relatively small educational institutions to provide a very much greater range of courses at this level.

Perhaps the most significant effect in applying educational technology as an aid to individual progress may be seen in library planning. In some recent school buildings both the area and the function of the traditional school library have been greatly extended. In addition to books, the modern resource centre or médiathèque often houses a wide range of learning aids : slides, film-strips, programmed material etc., which in conjunction with extra space provision allows both interdisciplinary group work and individual study to take place. The advent of cheap, reliable cassette and disc video players may further extend the scope and flexibility of provision. Following from these developments there may be an increasing demand for space for the previewing, editing and preparation of material by teachers involving reprographic equipment and studio facilities.

As with so many specialist provisions, such facilities may well require the support of a relatively large number of students to justify in economic terms their scale and sophistication. In order that the service can be widely spread and used these library/resource centres may have to be seen as distribution as well as work centres, serving a number of otherwise detached and separate institutions. They might be combined with public library and information centres and could share national or even international systems of information storage and retrieval.

BUILDING TECHNOLOGY

The successful use of prefabricated or industrialised building systems in some countries leaves little doubt that they have important advantages to offer. An increasing number of countries is therefore seeking in such systems solutions to problems of cost, erection time and scarcity of professional and constructional manpower. By identifying for manufacturers and builders areas of common need in educational building and indicating to them the likely levels of demand it has been possible to induce the development of building systems that go some way towards answering the new requirements. In the main they are based on steel or concrete frames with light, infill units for external walls and internal partitions. They can allow a great deal

of off-site prefabrication and the application of advanced managerial and design techniques. Some also provide a degree of inbuilt flexibility and hence a range of choice to the designer of the individual school.

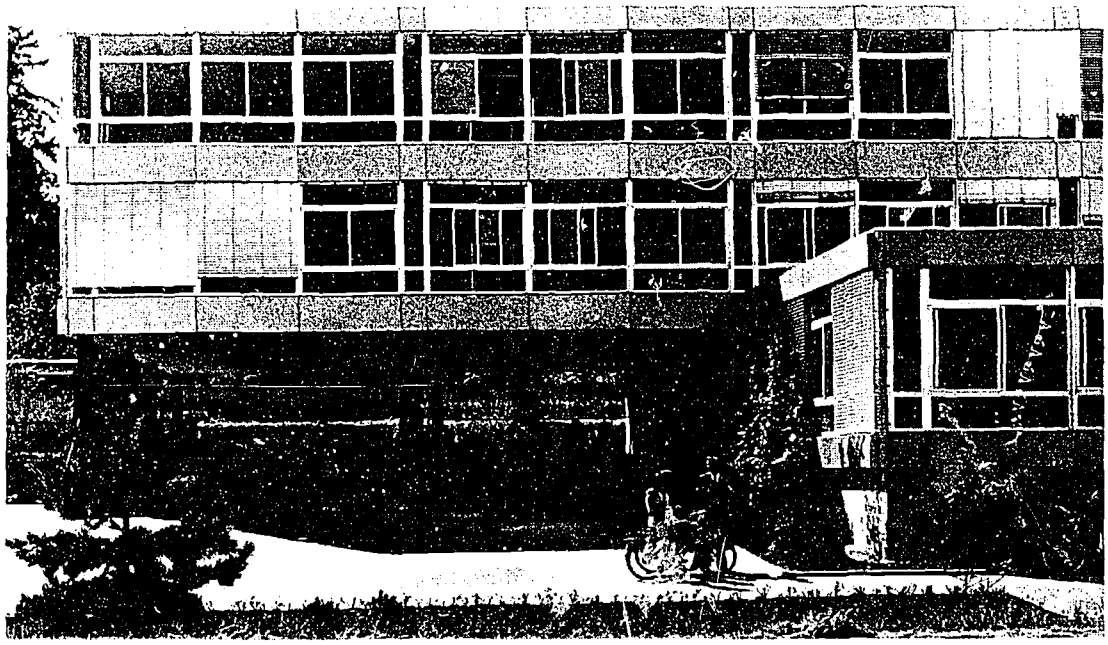


Figure 7 : School built using light-weight industrialised system

New plan forms, building techniques and standards have given rise to developments in environmental control. The need to closely interrelate comparatively large areas of accommodation tends to lead to buildings with much deeper and less cellular plans than traditional schools of classrooms and corridors. A conventional double-loaded corridor and classroom block would rarely be wider than 16 or 17m. It is now common to find buildings with a minimum depth of 25-30m partly comprising accommodation in the form of a number of large contiguous open spaces. This creates problems of lighting, ventilation and cooling, acoustics and noise control hitherto unfamiliar in school building. Increasing reliance on artificial lighting may well be required to supplement the daylight and to illuminate areas remote from the external walls. In some countries the accepted standards have risen rapidly in recent years; in North America, for instance, 600-700 lux is now commonly provided. This increased lighting load

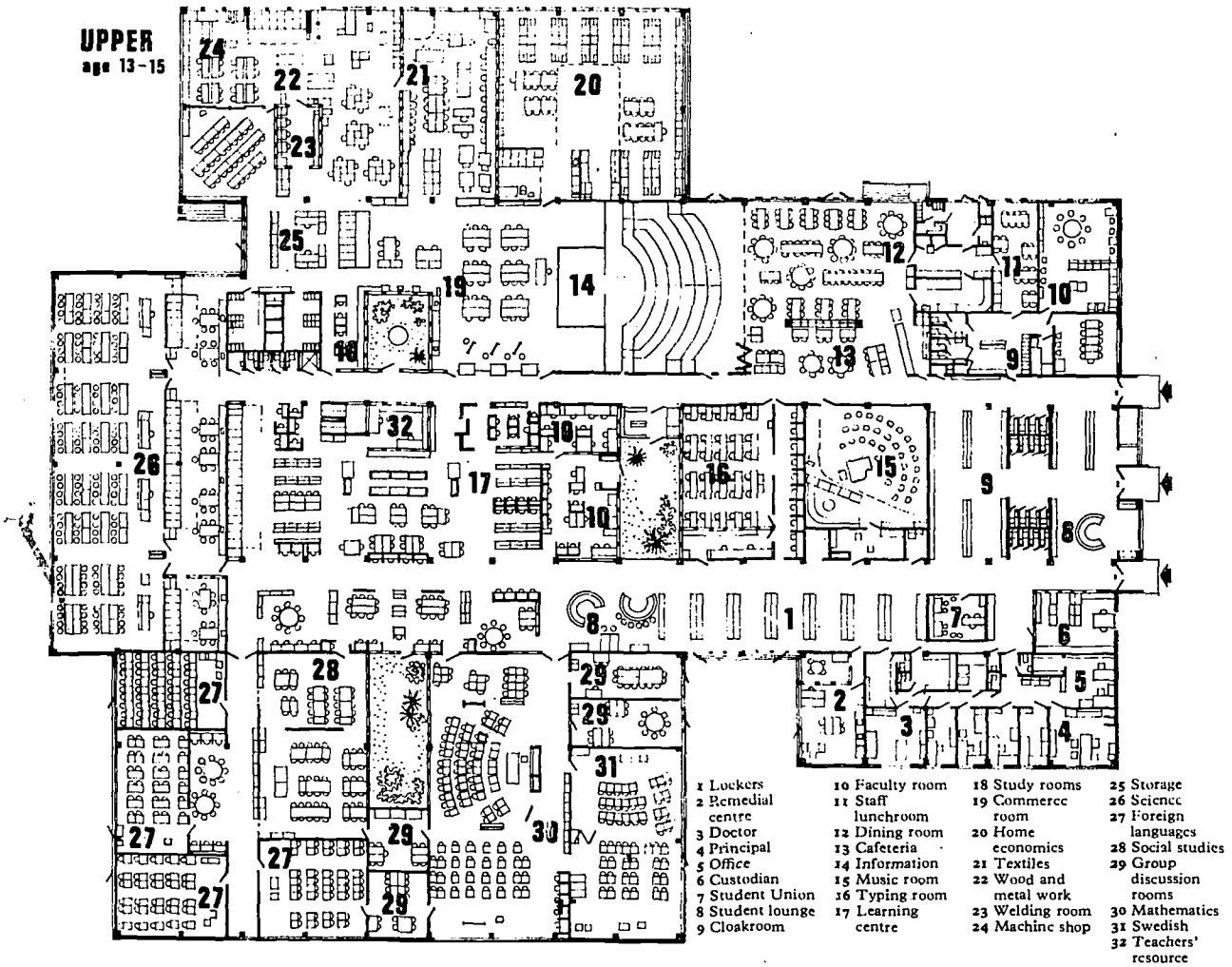


Figure 8 : Example of a recent "deep" plan

contributes to problems of ventilation and heat gain. In these circumstances it is not surprising to find a growing interest in mechanical ventilation and cooling. The danger is that whilst the need for deep plans springs from educational requirements, the cost of mechanical ventilation may induce increasingly deep plans to reduce the cost of the built shell with a consequent reduction of window area to an unacceptable level, perhaps to a point when all contact with the outside world - with the sun, the wind and the elements - is lost to the detriment of the quality of the internal space, both as a teaching resource and a humane environment.

INSTITUTIONAL ARRANGEMENTS

Developments in school building are largely dependent on the institutional arrangements which generate and support the schools. These arrangements vary widely from one country to another and reflect powerful cultural, political and historical influences. They are basically concerned, however, with the same fundamental issues: the provision of the right facilities, at the right time, in the right place and in the most economical way compatible with educational objectives.

All the developments outlined previously - the new forms of schools, the tendency towards integration of school and community facilities, the need for flexibility and adaptability and the evolution of educational and building technologies - are innovations characteristic of the present state of continual change. In such a situation existing institutional arrangements for school building, conceived - as they invariably were - at a time when education was a known and static entity, are often inappropriate, inadequate and wasteful. They can, in fact, inhibit rather than encourage and stimulate developments. The need to take a fresh look at existing mechanisms and procedures and go beyond mere modifications of detail is, in consequence, becoming increasingly acknowledged.

The framing of new institutional arrangements, however, is much more difficult in the present state of flux than was the case in the traditional situation. The role of the educationist in defining educational objectives and activities is infinitely more complex than in the past and so is the translation of the educational programme into the architectural brief. Likewise, the architect, who can no longer rely on personal experience gained from his own school days as a guide, often has difficulties in fully understanding the new educational objectives and the means by which they can be achieved. The former clear-cut and well-understood split in responsibilities that existed between the educationist and the architect no longer appears applicable and it has become increasingly necessary to redefine their respective roles.

In the uncertainty following from the changed and changing situation which now obtains, it is becoming increasingly obvious that there is no longer only one solution to the problem of facility provision at a given level of education. This being so, there are clearly many consequences for the way in which norms and standards, cost limits, environmental requirements, security regulations etc., are formulated. The search for new answers to the new problems necessitates a certain freedom of choice for designers and a consequent plurality of solutions. It can only be successful if backed by strong research and development work and the continuous analysis of educational and technological developments, by the testing of the results of these investigations in individual projects and by the methodical evaluation of such projects in use and feedback of experience gained. This requires wide participation and consultation in decision-making by public representatives, officials, parents, teachers, etc., and new forms of collaboration between educationists, administrators and architects. All this takes considerably more effort and time than in the past and points to the absolute necessity for long-term planning and programming of school building investment so that sufficient time can be given to the consultation, briefing and design stages at the level of the individual school. The economic procurement of school buildings and the effective matching of facility provision to new educational requirements will thus, in the final analysis, be determined by the ability of the institutional arrangements to adapt to the changed and changing conditions.

ACKNOWLEDGEMENTS

Figure 1 - Project : Comprehensive school, Den Helder, Netherlands.
Architects : Hendriks, Campman en Tennekes, Rotterdam.
Photograph : I.C.S., Rotterdam.

Figure 2 - Project : Delf Hill Middle School, Bradford, England.
Architects : Bradford Architects Department in association with the Department of Education and Science, (D.E.S.) Architects and Building Branch, London.
Photograph : H.M.S.O., London.

Figure 3 - Project :"Centre éducatif et culturel", Istres, France.
Architects : H. Faure-Ladreyt in association with P. Riboulet, G. Thurnauer and J.L. Veret.
Drawing : Courtesy of "Commission Interministérielle pour les Equipements Integrés", Paris.

Figure 4 - Project : Study of Educational Facilities (S.E.F.), Toronto, Canada.
Drawing : Courtesy of Metropolitan Toronto School Board.

Figure 5 - Project : Henry Fanshawe School, Derbyshire, England.
Architects : Derbyshire County Architects in association with the D.E.S., A + B branch, London.
Drawings : H.M.S.O., London.

Figure 6 - Depicted : Girl using an audio page in school in Nottinghamshire, England.
Photograph : H.M.S.O. London.

Figure 7 - Project : "Collège secondaire de Beausobre" near Lausanne, Switzerland.
Architects : Réalisations scolaires et sportives, architectes et ingénieurs conseils, Lausanne.
Photograph : Theurillat, Lausanne.

Figure 8 - Project : School at Vannhög, Sweden; a SAMSKAP project.
Architect : Thornberg, Malmö.
Drawing : Courtesy of Architects Journal, London.

P.E.B. INFORMATION LEAFLETS

Issued by the O.E.C.D. Programme on Educational Building (P.E.B.), the leaflets are an attempt to circulate up-to-date information on interesting examples of innovatory school building activity. It is hoped they will serve to stimulate those engaged in the provision of school building facilities in their search for new solutions to new problems. Leaflets available to date (English and French versions) are:

1. School Building Today and Tomorrow
2. Maiden Erlegh : an English Secondary School Development Project
3. C.R.O.C.S. : a Swiss Industrialised School Building System
4. f.f.5. : a Canadian "casework", or furniture and equipment system for schools.

To ensure that future leaflets are related as closely as possible to the interests and preoccupations of the readers, the Secretariat would welcome comments and suggestions for further topics. These, and also requests for additional copies of available leaflets, should be addressed directly to the P.E.B. Secretariat, or alternatively, if from a participating country, to the national representative or correspondent to the Programme.

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