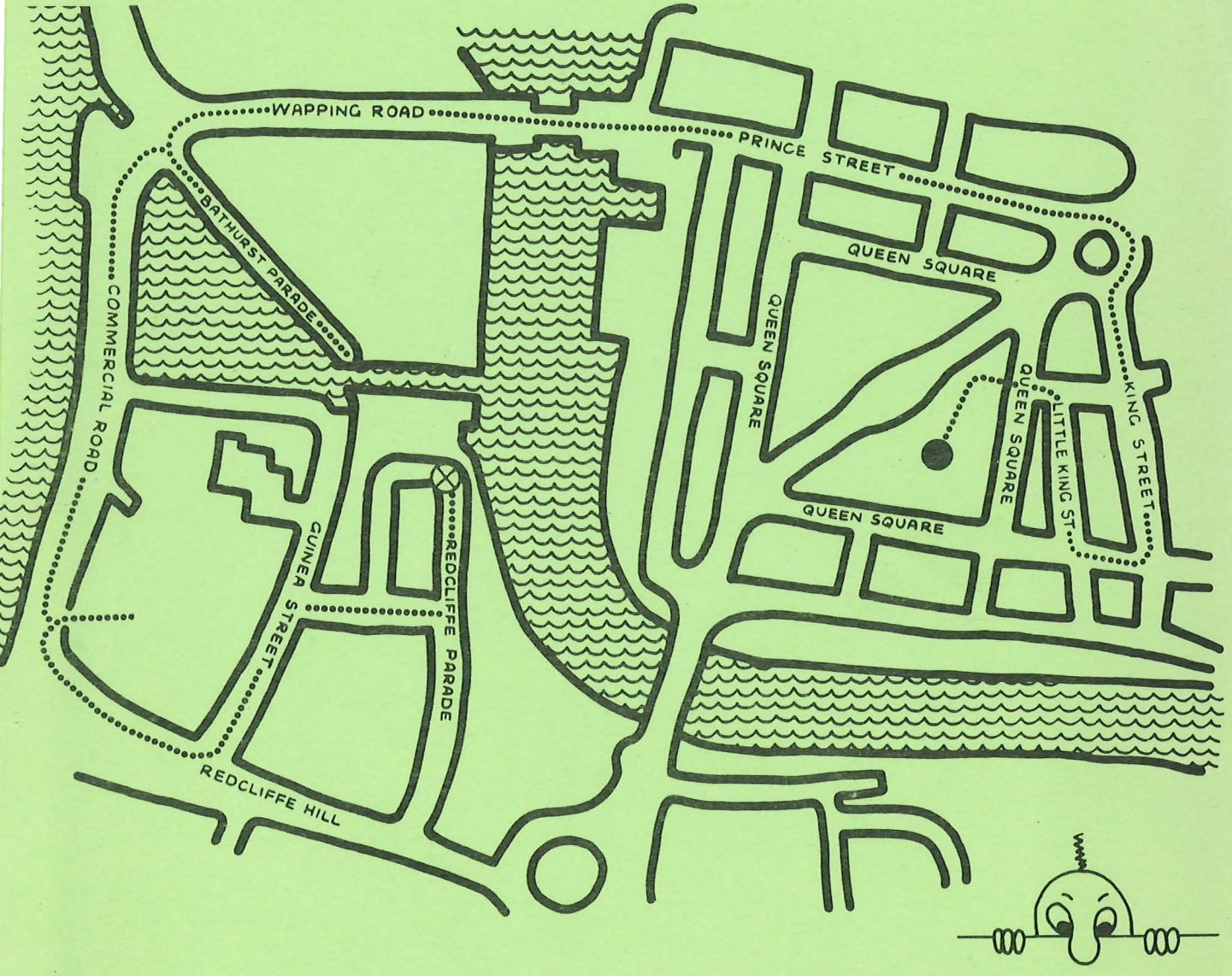
COUNCIL OF EUROPE

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INTERNATIONAL STUDY CONFERENCE ON ENVIRONMENTAL EDUCATION IN A STRICTLY URBAN SETTING

Bristol, United Kingdom, 21-27 August 1977



Report

STRASBOURG
1977

Chr. Maas Geesteranus

EUROPEAN COMMITTEE FOR THE CONSERVATION OF NATURE
AND NATURAL RESOURCES

INTERNATIONAL STUDY CONFERENCE ON ENVIRONMENTAL EDUCATION IN A STRICTLY URBAN SETTING

Bristol,
United Kingdom
21-27 August 1977

REPORT

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INTRODUCTION

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INTRODUCTION

The International Study Conference on Environmental Education in a Strictly Urban Setting, organised by the Council of Europe, was held from 21-27 August 1977 in Bristol, United Kingdom. It is the third in a series of international symposia organised by the Council of Europe in order to promote active educational methods in the field of environmental education and interpretation. The conclusions adopted by the participants from fourteen countries noted that there was an increasing recognition of the potential of the urban setting for education, whilst recognising the interdependency of the city and its wider environment. They also stressed the importance of public participation in environmental planning and education and called for further studies in this field. It is hoped that the Bristol Study Conference may have contributed towards better understanding of the specific educational potential of the urban setting.

PROGRAMME

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PROGRAMME

Sunday - 21 August

Afternoon

14.00 to 18.00	Arrival and registration of delegates
18.00	Sherry reception and welcome
19.00	Conference dinner
21.00	Official welcome by G F Crump, Director of Education for Avon

Monday - 22 August

Theme: INTRODUCTION TO BRISTOL AND THE CONFERENCE

Chairman: Harry WALS

9.15	Introduction to Bristol - coach tour with guides
10.40	Coffee: St. Nicholas's Church Museum
11.00	Guided tour of Bristol, on foot
12.00	Coach return to Blagdon, with guides
13.00	Lunch
14.00	Introduction to the Study Conference - George EPLER
14.30	Introduction to handbook - Graham CARTER
14.45	Other European presentation
16.15	Tea
16.45	Discussion groups
19.00	Dinner
20.00	Lecture: Environmental education in an urban setting- Rev. Lord SANDFORD, DSC (President - Council of Environmental Education)

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Tuesday - 23 August

Theme: THE GENERAL URBAN ENVIRONMENT

Chairman: Roland WIEDERKEHR

9.00	Lecture: Town trails - Sue JONES
9.30	Coach to Bristol
10.40	Dragonara Coffee Shop
11.00	Follow Redcliffe town trail in guided groups
12.30	Cruise aboard "Bristol Packet", packed lunch
14.00	Practical work, residential and dockland area
15.30	To Coombe Lodge
16.15	Tea
16.45	Lecture: Children, planning and survey work - Jeffrey BISHOP
18.00	Discussion
19.00	Dinner
20.00	Free evening (discussion optional)

Wednesday - 24 August

Theme: SPECIAL FACILITIES FOR URBAN ENVIRONMENTAL EDUCATION

Chairman: J B de VILMORIN

Morning

9.00	To Bristol: visit Urban Study Centre
10.30	Coffee
11.00	Visit Bristol Museum's Education Service
12.30	Lunch and discussion

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Wednesday - 24 August (continued)

Afternoon

13.30	Free time
16.00	To Blagdon
17.30	Discussion
19.00	Dinner
20.00	Lecture: Urban studies and curriculum development in the United Kingdom - Rex BEDDIS

Thursday - 25 August

Theme: TEACHING GENERAL ENVIRONMENTAL PRINCIPLES IN AN URBAN SETTING

Chairman: Sten Krog CLAUSEN

9.00	Practical biology - Group A: Stratford Hil Group B: Botanic Garde
12.00	Packed lunch, Hannah Moore Teachers' Centr
13.00	Lecture: Teachers' centres - Grace PRICE
13.30	Classroom work (Resources for Learning Development Unit) Primary - Sheila PARKER Secondary - Don FOSTER
15.30	To Blagdon
16.15	Tea
16.45	Lecture: Urban schools and general environ mental concepts - Graham CARTER
19.00	Dinner
20.00	Lecture: The wider implications of urban and rural environmental education - Don ALDRIDGE

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Friday - 26 August

	Theme: WIDER IMPLICATIONS OF URBAN ENVIRONMENTAL EDUCATION
	Chairman: Don ALDRIDGE
9.00	Lecture: Political, economic and social implications of urban change - Professor Roy WORSKETT
10.30	Games and simulations and study time - Rex WALFORD (coffee at 11.00)
13.00	Lunch
14.00	Lecture: Recent experiences in regional ethnology with special reference to urban environmental education - Hans-Ole HANSEN
15.15	Free time and tea
18.00	Lecture: The role of urban amenity groups - Richard LEE
19.00	Conference party

Saturday - 27 August

	Theme: SUMMARY AND RECOMMENDATIONS
	Chairman: George EPLER
9.00	Summary
10.45	General discussion (structured)
11.30	Adoption of recommendations
12.30	Close
13.00	Lunch
14.00	Conference disperses

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SUNDAY 21 AUGUST

Opening welcome
by G F Crump
Director of Education for Avon

In welcoming those attending the course to Avon, Mr Crump said that he was delighted that the initiatives taken in the field of environmental education in Avon had attracted so much attention nationally and internationally. Large numbers of schools at all levels within the education service in Avon were participating actively in the pioneering work sponsored by the authority. In developing these commendable initiatives, the authority was very much aware of the debt which it owed to a number of national bodies active in the field of environmental education. It was a particular pleasure to all those involved in the development of environmental education in Avon that a major exhibition of work in this field, jointly sponsored by the authority and the Heritage Education Trust in July of this year, had been re-assembled for the benefit of course members. This exhibition illustrated the strength of the work in this field in Avon and demonstrated very effectively that it extended over the whole spectrum of education from infant to sixth form level.

In a brief historical retrospect, Mr Crump pointed to three stages in the development of environmental education. In the first stage, children were educated largely independently of their environment and generally knew more about other days and other places than they did about their immediate environment and its history. In the next stage, work on the environment was introduced into education, but the introduction was based upon the fallacious belief that all children in England enjoyed a rural environment, when, in fact, the reverse was the case. Latterly, a new age has dawned in which work on the environment is based firmly on reality and recognises that the environment of the great majority of children in England is an urban one, alive with interest and excitement for all those involved.

Work based on the urban environment had a relevance and immediacy which drew a strong response from children arising out of their recognition of its relevancy and immediacy. Course members were to have the opportunity of testing for themselves these assertions about environmental education in the practical work provided during the course and centred upon work undertaken by pupils within the authority's area.

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Environmental education was composed of many valuable additions. It encouraged teachers and children to pursue their work beyond the four walls of the classroom and to pursue their interests in the real world beyond the school. The methodology of environmental education strongly encouraged enquiring attitudes on the part of young people and demonstrated the values of cultivating the enquiring mind in practical research situations. Environmental education was not an exclusive field: it could be pursued successfully and dynamically by children and young people of all ages, as would be demonstrated during the course. It was not confined in its appeal to young people of high intelligence: it had particular relevance for children of more limited abilities.

In conclusion, Mr Crump, stressed that, in his view, it was wrong to think of environmental education as a subject area. Environmental education was a reflection of an attitude of mind which significantly orientated and influenced the approach of a teacher to a whole series of subject areas in the curriculum which lent themselves to this particular approach. By a recognition of the significance of the child's environment, a teacher could add relevance and impact to many aspects of his teaching of history, geography, science and other fields. Environmental education was not a competitor for increasingly scarce time on an over-pressed school time-table. It was the adoption of a certain style of approach to relevant fields in the curriculum. Mr Crump hoped that course members would assess for themselves the strength of this approach in their lectures and their discussions and, above all, in the practical work of the forthcoming week.

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MONDAY 22 AUGUST

Introduction to the Study Conference
by George Epler,
Principal Administrator, Council of Europe

The activities of the Council of Europe in the field of environmental education have their origin in the first ministeri conference on the environment which stressed the need to promote active educational methods (Vienna, 1973). This mandate was implemented by a step-by-step exploration of environmental education as practised in the different member states of the Council of Europe. As a starting point, we took the IUCN definition of environmental education, which is a very broad concept including a reference to man's biophysical surroundings and culture, as well as to the need to develop skil and attitudes necessary to understand and appreciate biophysical and cultural inter-relationships. Subsequently, we proceeded to an in-the-field appreciation of the wide range of facilities used for environmental education during our first study conference held in the Netherlands in 1975. In its conclusions, emphasis was put on the potential of promoting environmental education through most of the subjects taught at school. Furthermore, stress was laid on a further exploration of the regional ethnology approach, complementary to the biological approach as demonstrated in the Netherlands Study Conference. Also, stress was laid on the potential of environmental interpre for the benefit of the general public. Finally, it was emphasis that there was a need to make full use of the environmental education facilities, either singly or in combination, in order to achieve the aims of environmental education as set out in the IUCN definition.

Our second International Study Conference, held in Denmark in 1976, demonstrated the potential of regional ethnology for the purposes of environmental education and interpretation. This event enabled participants to confront the biological and regional ethnological approaches with the view of assessing the possibilities of each and in order to identify the condition that should be met so as to ensure that the facilities are put to the best possible use. In the conclusions of the Danish conference, the participants confirmed in particular that both regional ethnology and ecology should help towards understanding the functioning of a coherent community as well as the processes of adaptation to changing environmental conditions. They also stressed that in explaining the historical evolution of industrial processes, technology, political science and ecology should be used in combination. Finally, they welcomed the initiative taken by the Council of Europe to test the experiences gained at the Netherlands and Danish Study Conferences in the context of a further Study Conference which would centre on ways and means of practising environmental education in a strictly urban setting.

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The task which awaits us here in Bristol is not a minor one, but I am confident that after a week of hard work we shall be able to arrive at some conclusions which may help us to contribute better towards the promotion of environmental awareness in a setting whose specific educational potential merits further exploration.

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Introduction to handbook
by Graham Carter, Director of the Countryside Education Trust, Beaulieu

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George Epler has set this conference in the context of the Netherlands and Denmark.

This session is intended as a brief introduction to:

1. The draft handbook
2. The conference
3. The discussion groups

Handbook

Draft only, based on a facilities approach.

Conference

Organisation follows pattern of handbook.

TOPIC	HANDBOOK	CONFERENCE
Introduction	Introduction to environmental education	Monday: introduction to Bristol
The general urban environment	Section 1: outline of potential of general urban environment	Tuesday: Town trails and practical work in urban setting
Special facilities for urban environmental education	Section 2: description of range of such facilities	Wednesday: visits to selected facilities
Teaching general environmental concepts in urban schools	Section 3: examples drawn from all educational levels	Thursday: practical and classroom work on general environmental topics
Conclusion	To be written following conference	Friday/Saturday: general discussion and introduction to wider issues

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Comments

At present the handbook is facility-based and largely UK-based. The final form will depend on your decisions this week. The final content, in whatever form, will depend on the submission of adequate information from member nations.

Discussions

The arranged programme of visits and lectures is intended to stimulate thought and discussion on the part of participants.

Apart from evaluating what you have seen, and judging their relevance to your own national situation, discussion groups should consider the following questions in relation to the handbook:

1. What is an ideal format and what are its objectives?

2. Selection of target groups.

3. Is a list of facilities useful? How can you make it more useful?

4. Should there be a section on "ideas" - concepts, subjects - illustrating their development through the use of appropriate facilities?

5. If so, which ideas are important?

   a. Usual environmental subjects - energy, materials, pollution, resources

   b. City in relation to its setting

   c. Man as an agent of ecological change

   d. Structure of a city

   e. Participation in urban change

   f. Aesthetic concerns and value judgements.

   These are only a few of the possibilities.

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DISCUSSION

The participants considered that the discussion should centre on the aim of the handbook prepared by Graham Carter.

It was perhaps difficult to confine the subject to a strictly or totally urban setting. The purpose of the handbook was to help educators incorporate environmental education into their teaching activities.

A town could not be understood apart from its historical, geographical and socio-economic context. To understand its present position required study of its ecosystem in its interdependence with the ecosystems of other environments, whether rural, marine or woodland, with all the attendant complexities.

Graham Carter's handbook is primarily designed for teachers, teacher-training instructors, organisers in public and private institutions, school administrators, social workers and local government officials. The handbook should avoid appearing to be an expression of resignation in the face of the sometimes unsatisfactory conditions of modern urban life. Consequently and allowing for the special aspects of each case, the main topics of the handbook should deal with basic problems. It should first set forth the teaching principles and methods to be used in different groups by presenting selected case-studies from the member states involving one or more educational facilities.

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TUESDAY 23 AUGUST

Miss Sue JONES presented a brief report on the urban trail which she had prepared for Bristol school children between the ages of 8 and 12. Mention should be made at the outset of the difference between the urban trail and the traditional urban walk. Even if the small booklet which had been distributed to participants in some ways resembled a guidebook, its specific aims gave it a distinctive character. Those aims fell into 3 main categories:

- the urban trail is meant to be enjoyed;

- it is laid out for the purpose of stimulating interest in local development;

- its primary purpose is educational.

Obviously the last point was the one of most interest to the participants. Nevertheless, it should not be forgotten that every description of an urban trail reflects the interests of its originator, which might be a tourist information office, a teacher or a museum curator. The aim must be clearly set forth at the beginning of the guidebook as has been done in this case. The critical faculties of children using the booklet should be aroused and their interest in the environment stimulated. It should be pointed out that the booklet contains no historical information and attempts to encourage critical observation in the young.

After showing slides and remarking that it might be difficult to avoid imparting one's own preferences to such a text, the lecturerer invited participants to follow her through Bristol's maze of streets along the urban trail she had introduced. The excursion gave participants the opportunity of evaluating with more or less success the value of such an exercise. The consensus seemed to be that concepts connected with history and environmental protection should not be disregarded even in the case of very young children.

Upon returning to Coombe Lodge, participants listened to a lecture by Mr Jeff BISHOP, architect, on his various experiments in associating children with the work of architects and planners.

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CITY TRAILS NOTES

INTRODUCTION

Throughout the city trails the emphasis is mainly on the historical aspects of the area at which we are looking. However, there are certain main themes which recur in almost all of them:

Town planning and development:
Architectural development and details
Road systems and transport

Monastic sites and types
City gates and walls

Wartime and other effects on the city

Use of old maps

Place names, street names: NB From the books indicated on the book-list you will obtain some information on this subject, but it is very dangerous to guess at names, and you should only work on those that can be verified.

ACTIVITIES

Many different activities can obviously arise from the trails. The main aim has been to give a better awareness of the environment and a method of looking and seeing and doing simple and original research.

looking - particularly at details
drawing
research
writing
dramatisation
investigating other sources of information

RESOURCES

Books:
The city and county of Bristol: Brian Little
The industrial archaeology of the Bristol region - A Buchanan & N Cossons
Bristol and north Somerset: Penguin Buildings of England Series: N Pevsner
History of Bristol's trams: J Appleby
The Georgian buildings of Bristol: W Ison
War-time Bristol: Max Barnes
Books of old Bristol photographs: Reece Winstone
Old directories can be seen in the reference library
Felix Farley's journal can be seen in the reference library

Maps:
A series of reproduction maps of Bristol from the 16th century onwards is available for sale at the shop in the city museum:
NB particularly 1673 map by Millerd.

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BRISTOL CITY TOWN TRAIL

Teachers' notes - Introduction

The primary aim of this town trail is to encourage children of upper junior and lower secondary school age to acquire skills of observation and critical appraisal of the urban environment. The chosen route provides opportunities for the tracker to observe and compare many different aspects of the urban environment such as general use of land and buildings, housing, architecture, building materials, street furniture and shopping. It does not set out to provide factual information of an historical nature although some background notes are provided for teachers.

It is envisaged that teachers will want to recruit the help of other adults in order to be able to split a class into smaller groups. The trackers will be able to ask questions about the history of some of the things they see along the trail and with the help of the background notes some of these questions may be answered. It is felt that to have included these historical facts in the pupil's book would have detracted from the aim of encouraging the tracker to observe the environment through which the trail leads him.

The notes may also provide starting points for further study in the classroom.

It should be emphasised that the way in which the trail is used is entirely up to the individual teachers and of course the children involved. The trail is a series of suggestions of the kinds of things that can be found within cities and to that extent it is relevant not only to Bristol but to urban environments in general. Teachers may wish to ignore some sections of the trail in order to study others in more detail, or indeed some of the ideas may be used in the children's own local area. At any rate, it is hoped that however the trail is used it will encourage the tracker to take a closer look at not only this small part of the city but at the environment around him in general.

Finally, one point: cities are constantly changing. Consequently some of the details in the trail may change or disappear altogether. This in itself will serve to underline this continuing process of change.

Pages 7, 8 and 9 (reproduced on pages 19 and 20)

The trail now leads out into Redcliffe Hill, a very busy noisy road in comparison with Guinea Street. Trackers should be given the opportunity to observe this before referring to the map which shows them where to stop, look and listen. The aim of this exercise is to give the tracker the chance to compare two very close, but different environments.

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The value of it is in the comparison. It may be felt that to find six words is rather a lot for each of the situations but the tracker should be encouraged to really think about the two areas. Stop B will give the chance to have a quiet rest before continuing the trail. This small shopping survey really only scratches the surface of what could be done on such a topic. However, it is included as being a valid element in the total urban scene. A more detailed shopping survey could later be undertaken in the tracker's own area and would include interviews with shoppers to gather information about

1. How frequently the shops are used

2. How convenient they are for the people they are designed to serve

3. What items cannot be found in the shops

4. How far the shoppers have to go to find these items

5. How much choice and competition there is etc, etc.

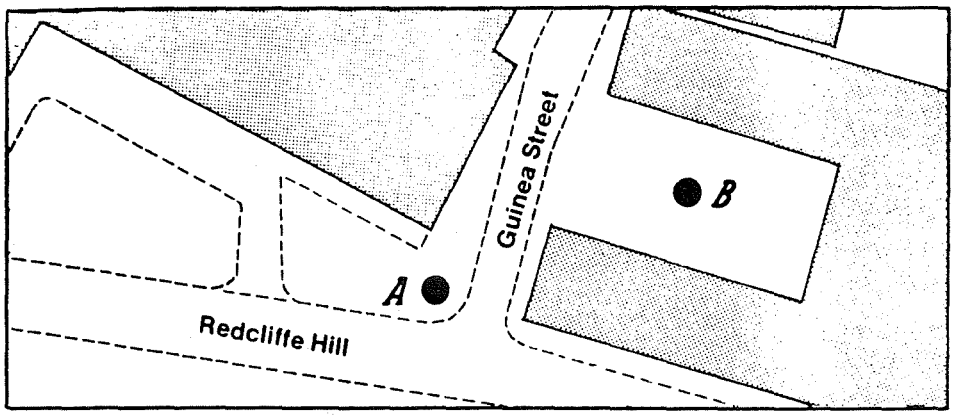
It may be possible for such interviews to take place at the Redcliffe Hill shopping area, but this suggestion is not made in the pupil's book as it is felt that this would be difficult to organise if large groups of children are following the trail at the same time.

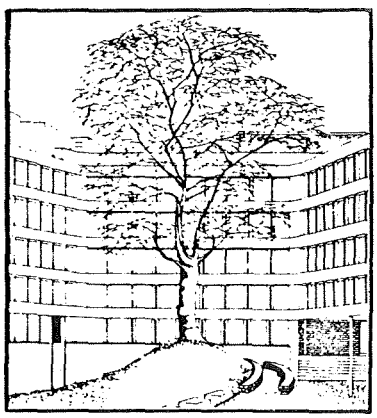
The short detour into the flats behind the Redcliffe Hill shops gives the tracker the opportunity to observe an example of one kind of housing that can be found within Bristol and indeed in most towns. Later, comparisons can be drawn between this type of housing and other types along the trail.

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Now walk to the end of Guinea Street and out into Redcliffe Hill.

Use the map to show you where to *STOP, LOOK and LISTEN.*





Write six words that describe what it is like at A and B.

A

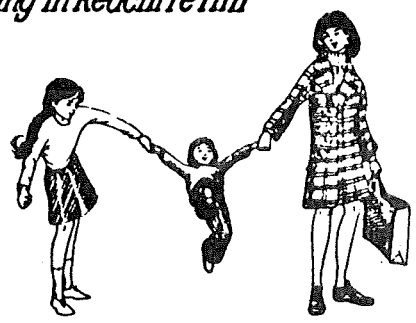
B

7

Spot the Shops

8

Shopping in Redcliffe Hill



Are there any shops here that surprise you? Are there any other shops that you would expect to find in a parade of shops like this?

List three everyday things that you would not be able to find here.

Do you think that the people living in the flats round here would be able to do most of their weekly shopping in these shops?

Tracker's Notes

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Walk around the corner into Commercial Road. On your right you will see the entrance to a big block of flats. Go through and you will find yourself inside the flats. (You are now behind the shops you were just looking at.)

Flats

1. Would you like to live here?

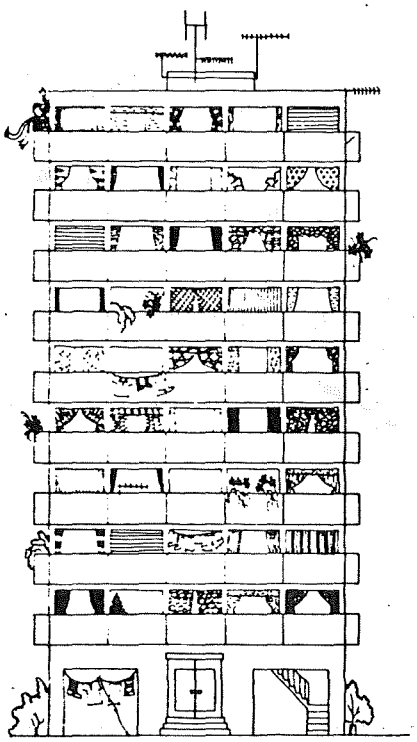
2. What do you like about them?

3. What *don't* you like about them?

4. Would you like to play here?

5. Could you play all the games you usually play? If not, what can't you play?

6. There's a nice view from the top. Would you like to live up there, or down near the ground?



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Children, planning and surveys

Résumé by Jeffrey Bishop,
School of Advanced Urban Studies, Bristol

This talk had three sections and was backed up by a set of notes describing how, in the British context, joint work between schools and planners/architects can be set up. The opening section was entitled "Context" and established the need for and objectives of urban planning projects. The middle section described several projects done in Britain to develop links between schools and planners/architects, and the final short session concluded with some suggestions for future directions.

CONTEXT

Environmental education is about the development of oneself in relation to the environment, therefore there are always a multitude of often contradictory objectives.

Much urban work is historical, descriptive and detached whereas there is a fundamental need to introduce children to the dynamic processes which are currently shaping their own personally experienced environment.

Planning and architecture are two of these dynamic processes and both are now legally constrained by some form of public involvement.

One can therefore link urban environmental education and planning through projects which are:

1. Issue-based - concentrating on broad problems of the moment.

2. Real-life - the problems are those upon which professionals are currently working.

3. Inter-disciplinary

4. Related to the development of judgement, rather than the learning of facts.

5. Related to the development of social abilities.

6. Related to the learning of certain techniques.

Nos. 5 and 6 involve the introduction specifically of survey work, a common feature of planning processes.

APPLICATION

Examples were dealt with in the talk and covered planning and architectural work on a variety of scales, working with children from 9 years old to 19 years old, with some suggestions for work with undergraduates and graduates.

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CONCLUSIONS

These essentially covered gaps in British coverage so far and some ideas for getting work started elsewhere.

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DISCUSSION

During the discussion, participants compared Mr Bishop's lecture with their impressions during the visit of Bristol earlier in the day. It was felt that architects build mouse-traps and then expected people to live in them, or rather to be caught in them. Mr Bishop agreed that such might be the case, but that it was better for architects to be confronted with the problem - even if infrequently - rather than not at all: the more they were criticised for building mouse-traps the more chance people had of not being trapped in future. He noted that for the same price it was possible to construct sensible, livable buildings.

Mr de Vilmorin wondered if such participation by experts was a special case and how it was possible to include such projects in school curricula which were already heavily burdened. Mr Wiederkehr asked whether the authorities followed the children's suggestions.

A. Architects should act as intermediaries in bringing children and members of the profession together.

As regards curricula, if the children's work project was well designed it could be linked to many aspects of the curriculum as a practical exercise.

As to having an effect on politicians, that would be the long-term result of educating future voters who would know how to persuade politicians eager to remain in office.

Mr McSuibhne wondered what the procedure was for building a school in the United Kingdom. Who was consulted?

A. Specialists from the Department of Education were in direct contact with the architect. They were expected to take into account the wishes of both the headmaster and the teachers, but in general by the time the matter had been through the administration such wishes were altered or forgotten. There was no reason for not asking children's opinions as they would be the main users of the building.

Mrs A Heath said that following the Architectural Heritage Year, a group of architects, planners and teachers was working on the planning of school buildings although its activities were still at the survey and preliminary draft stage.

Mr G Carter said that normally a school was built before a headmaster was appointed and that this avoided all these tiresome consultations.

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Mr Charles agreed with the speaker that it was possible to link that type of project with school work, although frequently when schools were being built no provision was made for facilities for such work (lack of specialised installations such as a photography laboratory or a documentation centre).

Mr Bishop felt that the problem mainly involved school structures and arrangement of curricula rather than building questions.

Mr Epler stated that, as Mr Bishop had pointed out in his example, if children had to compare an old and a new school, neither of which was satisfactory, they would not be particularly stimulated. Was it really appropriate for children to give their opinion on the design of public buildings, for instance, the post office?

A. Even if two bad schools were compared, that was a beginning. Understanding the environment would arouse children's critical faculties and make them aware of possible improvements. Projects directly linked with school work enabled children to grasp the importance of school subjects.

In connection with public buildings, children's opinions might not be the best, nor were they the only ones able to give an opinion, but they should on no account be neglected particularly as it would often be possible to take account of their opinions and those of other users without increasing costs.

Mr Ruff wondered whether the next stage might not be to let children have a hand in the work by actively participating in the construction of their playground.

A. That was still an uncommon occurrence.

Mr Spyropoulos asked if it was certain that all children would participate actively or whether some of them might not fall under the influence of their comrades.

A. Such a situation obviously could not always be avoided, but encouraging results had been obtained from children whose school performance had been rather lacklustre and who had suddenly become interested.

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WEDNESDAY 24 AUGUST

The day was spent studying practical teaching methods for furthering the children's knowledge of the town. This also involved a visit to the Bristol Urban Study Centre and the schools department of the museum. In the afternoon a discussion was held and in the evening there was an address on urban studies.

The Urban Study Centre

The centre was originally designed as a resting place and rain shelter for school groups engaged in on-site town studies. It is also a work place and a documentation centre. All in all the centre does or should fulfill three functions, serving as a:

1. alternative study room or classroom for excursions,

2. documentation centre and workshop with various equipment and materials such as statistics, photographs, slides, a video apparatus, projectors, etc ... the centre should become a data bank providing teachers with the necessary educational material,

3. place for reflection open to the public at large: students, community groups, professional people, local inhabitants etc. This third function is not fulfilled at present and the head of the centre has doubts as to whether it will be.

The centre is scheduled to be enlarged and installed in a secularised church. This will also provide a new use for one of the city's many old buildings.

Such installations however are extremely expensive and although the county of Avon and the city council lend financial assistance, schools must be asked for contributions for the operation of the centre and this limits its use. There are several other urban centres and one rural centre in Avon county which sometimes work in conjunction. However because of limited resources, such experiments appear to affect only a small segment of the school population at present.

It should be emphasised that through the collaboration of all the local government departments and excellent personal relationships, basic materials have been gathered and a wide range of complementary activities developed which are enhanced by their presentation at the museum.

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The Bristol museum

This is a general-interest museum which offers the public works from various spheres of cultural activity. It has the advantage of enabling the scientific staff from various fields to work as a team. Branches of the museum have been established in several parts of the town. Each building houses a department specialised in educational and pedagogical activities which is also responsible for relations with the schools. This leads to a new concept of the museum as a workplace.

The main hall of the museum is used for exhibitions of handicraft or cultural displays in which the pupils assist. One year at Christmas-time, for example, a replica was made of an old-fashioned sweet shop.

Displays in the various annexes of the museum are arranged in co-operation with the Urban Study Centre and the help of the Planning, Forestry and other Departments. The museum is intended not only for the town population but for the whole of the county. It makes its presence felt beyond the town, employing such means as a mini-bus for transportation purposes. Villages in the county request the museum's services in drawing up educational administration programmes - sometimes in connection with handicapped children.

The museum also lends documents to schools. Several times a year in co-operation with the local shipping company it organises reduced rate excursions on the Avon for school children.

Discussion on the experiments in environmental education

Upon returning from Bristol the discussion was organised in two parts: one concerning the scope and meaning of urban trails, the other on experiments in environmental education presented by experts from the various member states of the Council of Europe.

1. Urban trails

On the basis of the previous days' discussions and the resulting exchanges, the participants stressed the importance of urban trails while noting that they should be laid out flexibly and be considered as one means among others of conveying environmental knowledge. Emphasis was placed on the too exclusively urban nature of the children's discovery of the environment and the importance of activities to arouse their awareness of nature in town to complete those concerned with buildings, materials and streets. The process of becoming familiar with the urban environment must be a comprehensive one and include a knowledge of the relations between town and country.

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2. Part two of the discussion relating to the experiment in different countries

As the Netherlands and Danish experiments had been presented on previous occasions or published by the Council of Europe, only the experts of France, Switzerland, Greece and Canada took the floor.

The experiment of the French centres for promoting environmental awareness (CPIE) was touched on briefly as they are still rural centres. Nevertheless in connection with the various experiments of educational action in an urban setting, such as that previously described with regard to Marseilles, it had been decided to set up urban centres, the first of which would be in Marseilles. The centres would concentrate on the knowledge of the town in its regional and national context, and co-operate with the rural centres in neighbouring départements. However as these centres take the form of associations which cannot be set up rapidly, it was decided to couple this facility with low-budget simplified installations on the outskirts of large cities to be known as nature stations (relais nature).

Nature stations are mainly designed for primary school students on day or half-day trips. They are readily accessible to public transport, and are largly operated by group workers. Two are already in operation in the Paris region and eight more are planned.

In Switzerland there is an environmental study programme which concentrates on the urban and industrial setting. Primary and secondary school teachers are entirely free to impart knowledge to their pupils and attitudes concerning the environment as part of their teaching activities . A list of on-site activities is available to them for this. At present however there are no reception or promotion centres.

Subsequently the practical difficulties which teachers encountered in getting children to sites were discussed. These included the scarcity of funds and the responsibilities involved.

Mrs Dumais referred to the handbook published in America by the Audubon Society relating to children's environmental education. It consisted of one volume for teachers and one for pupils. Canada's adapted version would be available in the autumn.

Mr Spyropoulos noted that Hypocrates was the first to have used the word "μετολογικος" (environmental) emphasising that in order for a doctor to perform his task well he should study his patient's relation to the water he drinks, the air he breathes and where he lives. The child must not be isolated in his urban setting where he might feel cut off but rather shown how the town functions in its surroundings.

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Urban studies and curriculum development
Résumé by Rex Beddis, Humanities Adviser,
Avon Education Authority

There is no widely accepted nor wholly satisfactory definition of environmental education. Nevertheless a number of approaches are regularly mentioned whenever the theme is discussed, and three seem basic to any programme for environmental education in schools.

1. the emotional response to direct experience of an environment this is to do with visual awareness and aesthetics, with response to place, with "topophilia"

2. the understanding of the environment. This is to do with the intellect, with concept formation, with the perspective of subject disciplines, with explanations of patterns and processes, forms and relationships

3. the moral response to environments and to the variety of processes that shape them. This is to do with attitudes to environments and to social and political influences, with judgement and values.

In England and Wales there is no central control over the school curriculum. New ideas and practice emerge from such widely different sources as individual teachers working out change with their classes to heavily funded national curriculum development projects. Even then there is no central direction over the implementation of successful and desirable new practice. The result is that no generalised picture can be given of urban environmental education in schools. All that can be done is to refer to certain significant trends.

On the whole, very little attention has been paid to the first of the three approaches - "sensing" the environment. It is least developed at the secondary stage. There are indications that this will become a more significant part of environmental education, especially from the visual approach. One of the leaders in this field is undoubtedly Eileen Adams, previously involved in the "Front door" project and now working with Colin Ward in the Schools Council "Art and the built environment" project. Other leading innovators are Gordon Boon, author and lecturer at Wolverhampton Teachers Day Training College, and Sue Jones, a primary school teacher from Avon. All have contributed seminal articles in the Bulletin of Environmental Education (BEE) - one of the most influential journals in this area of the curriculum.

An example of the way pupils can be led to an understanding of the urban environment through a subject based approach is the "Cities and people" theme from the Schools Council project "Geography for the young school leaver".

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One of the units in the theme deals with residential environments within cities. Four case studies of contrasting residential areas are provided. These are of an old inner city area, an inner city redevelopment area, a suburban area of low density private housing and an outer city council estate. Most towns and cities have similar areas of housing, and the project advocates a close interplay of case study work and direct observation of local environments.

Whilst pupils can be encouraged to respond directly to these built environments, being a geography project the main aim is to develop understanding about the location of these areas, the relationships between the different elements of the built environment and human response to them, and to the influences and processes, - natural, economic, social, political, etc - that have produced and continue to change these patterns. (It goes without saying, of course, that other disciplines would have a different perspective, would focus on different ideas. No one approach can hope to give a balanced or total understanding of the urban environment).

This same theme of varying residential environments within a city - or between, say, a European city and one in the developing world - can and indeed should lead to some effect on the attitudes of students. Questions about the desirability and justice of such contrasts may be raised. Some teachers feel uncomfortable in this field of attitude and value exploration, but the project team felt it to be of great importance. An even greater dilemma arises when in the search for explanations, the realities of decision-taking and power structures within society have to be faced. No school course on urban environments can fail to deal with planning, for instance, but this is soon seen to be concerned with "politics". As such, some claim it should be kept out of education at school level. Others argue that "political literacy" is - or should be - a vital part of the school curriculum.

Attitude and value exploration, and the moral element of human behaviour in creating, allowing or shaping urban environments is an essential ingredient of any honest course on urban studies.

Rarely are pupils introduced to all these approaches at any one time. The hope is that teachers will realise and accept these approaches and so help young people to be more sensitive and responsive to the environments around them, more understanding of how they have evolved and are likely to change in the future, and more conscious of their individual responsibility towards the environments in which they live.

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THURSDAY 25 AUGUST

During the day the participants visited some facilities set up by the Avon Education Authority for teaching general environmental principles in an urban setting.

First, the participants visited Stratford Mill Day Visit Centre which is part of the Blaise Castle estate. It was erected on this site in the 1950s, the building and machinery having been moved from their original position near West Harptree. The mill and machinery have now been extensively renovated and the machinery itself is easily viewed. During the autumn and spring terms, the mill will be available for school parties studying the environment. A full-time teacher is based at the mill to assist in the planning of visits. Teachers may arrange a preparatory visit by telephoning the schools department of Bristol museum.

Facilities within the mill include aquaria containing examples of local wildlife, collecting equipment, guide books, magnifying glasses, microscopes, wall displays, drawing equipment and various other items useful in this type of work. The mill offers local school children a unique opportunity to study the environment of this 400 acre woodland park.

At the Hannah More Teaching Centre, Grace Price made the experts familiar with the objectives of this facility. Briefly, these objectives could be summarised as follows:

to
i. provide a meeting place for teachers in which they can identify their needs, discuss and develop the contents of the curriculum and devolve methods for its effective presentation

ii. provide a convenient location for the mounting of in-service training

iii. provide accommodation, facilities and resources for locally initiated curriculum development

iv. provide resources, especially equipment, for loan to schools, including expensive or infrequently used items which individual schools would not afford or justify

v. act as a clearing-house for resources from other bodies

vi. provide workshop and reprographic facilities for the preparation of equipment and materials.

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At the Resources for Learning Development Unit, Don Foster explained that this facility should be considered as a 4-year pilot project, ending in June 1978. It covered the following five areas: science, mathematics, English, French, social studies.

The unit concentrates on those resources which are cheap to produce and which lend themselves to independent learning. The ambition has been to involve teachers deeply at all levels, at all stages and in all activities. All 64 secondary level schools in Avon have used the unit's material at some stage; about 30 use it on a regular basis. At the end of the 4 years' term, the project will be evaluated by an independent team and decisions about the future of the unit will be made by the Avon County during the current year.

After their return to Blagdon, the experts listened to a lecture by Graham Carter on urban schools and general environmental concepts. In his talk, Graham Carter pointed out the danger of trying to construct sophisticated environmental projects with little or no scientific basis. Another point to be borne in mind was to be aware of children's level of understanding and to separate concepts which were familiar or alien to them. One of the fundamental steps in creating in children a clearer comprehension of environmental issues is to lead them to have a better understanding of themselves as human beings. This can be achieved by the study of the variety of organisms, each being observed carefully as an individual species. The study of organisms, their response to stimuli and their adaptation to the environment leads to social interactions in pairs, families and society. Imbued with such knowledge, pupils can then undertake a comparison of their own habitat in the city and a balanced natural ecosystem.

Finally Graham Carter referred to the need for the assessment of the effectiveness of environmental education in terms of the benefit to the children who participate.

THE RESOURCES FOR LEARNING DEVELOPMENT UNIT

A brief description

June 1977

ORIGINS

The unit owes its origins to the work of the Nuffield "Resources for learning project" (1966-71). This project conducted research and enquiry guided by the following brief:

> "Rapid changes and growing expectations on the one hand, and a continuing shortage of resources on the other, emphasised the need to study how schools might make the best use of teachers' skills and of new developments in method and equipment."

The main outcomes of the project were:

- a strong plea for the more widespread introduction of independent learning with the claim that "it might help with the problems which plague us in our secondary schools";
- a recommendation that "we should test independent, resource-based learning thoroughly as an alternative to class teaching in our secondary schools".

Independent learning meant a shift towards more private study, more individual guidance and tutoring, more library work, more use of modern media (especially where adapted for individual use), but above all it meant that pupils would not depend exclusively on the teacher for the delivery of information and ideas, and for the control and organisation of every single action in the classroom.

The Nuffield project made substantial claims for the independent styles of learning, contrasting them with traditional class teaching.

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INDEPENDENT LEARNING	CLASS TEACHING
Pupils are more active and personally involved in their learning.	Pupils are passive (or expected to be).
Pupils do better when content, pace and style are adapted to individual capabilities and interests.	There is too much uniformity and regimentation.
Pupils are trained to work on their own and to accept responsibility for the organisation of their work - a necessary preparation for life-long education.	Pupils are too dependent on the teacher and are less able to make the change to the role of autonomous student.
Pupils and teachers enjoy better personal relationships in a more adult, responsible "workshop" atmosphere.	Teachers face their pupils in a permanent, nagging confrontation, a major factor in the recurring discipline problems of the secondary school.
Students and young teachers can enjoy a gradual introduction to the skills of classroom management by working with a skilled teacher.	Students and young teachers must "fly solo" at the first attempt.
Schools can be more flexible in their organisation and able to offer a wider range of courses.	Dependence on the teacher implies strict timetables for teachers and classes.

But the Nuffield project recognised that making the shift to more independent styles was not easy. Accordingly it produced a blueprint for a local authority support service which would help teachers bring about the desired transformation. The county of Avon was invited to develop the prototype, with financial support from the Department of Education and Science. In addition the DES provided a research grant to the Bristol University School of Education for an independent evaluation so that other local authorities could be made aware of the experiences of the unit.

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PURPOSES

When the unit came into being in 1974 its purposes were identified as follows:

1. To produce a coherent collection of learning resources which could be used for independent learning in five basic subjects of the lower secondary school curriculum.

2. To involve teachers in the movement towards independent learning, through co-operative planning and resource production.

3. To support those teachers in their experiments with advice, help and in-service education.

STAFFING

The full-time staff consists of:

Director
Assistant Director
5 subject editors (English, mathematics, social studies, French, science)
2 graphic designers
1 administrative assistant
1 secretary
1 despatch clerk

THE PROGRAMME OF RESOURCES PRODUCTION

School year	English, maths, social studies	French, science
1974-5	Resources for 1st year classes	-
1975-6	Resources for 2nd year classes	Resources for 1st year classes
1976-7	Resources for 3rd year classes	Resources for 2nd year classes
1977-8	Follow up	Follow up

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THE RESOURCES THEMSELVES

The unit concentrates on those resources which are cheap to produce and which lend themselves to independent learning - worksheets, study guides, booklets, programmed texts, illustrations, film strips, audio-cassettes, games and simulations. Commercially produced material is frequently incorporated.

TEACHER INVOLVEMENT

The "co-operative" ideal has been a guiding influence throughout the life of the unit. The ambition has been to involve teachers deeply at all levels, at all stages, and in all activities.

SALES

Schools can purchase RFLDU resources at cost, either as single items or through various subscription schemes. The resources are also available to schools outside the county of Avon.

THE FUTURE

The four-year term ends in August 1978. At the end reports will be submitted to the DES by the Project Director and by the independent evaluation team. Decisions about the future of the unit will be made by Avon county during the current year.

Resources for Learning
Development Unit,
Redcross Street BRISTOL BS2 0BA

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FRIDAY 26 AUGUST

Political, economic and educational implications of urban change

Résumé by
Professor Roy WORSKETT
City Architect and Planning Officer, Bath

Since the end of the war in 1945, up until about five years ago, the political and economic pressure had been towards redevelopment. The reasons for the demand for radical physical change in our cities reflected both political and social changes which were taking place within our society.

The almost impulsive desire for change in the physical fabric of our environment has now given way to strong feelings that virtually everything should be kept. The swing of the pendulum has perhaps gone too far.

The movement for conservation of historic buildings and historic cities was, until recently, the main spear-head of this attack upon change. However, the attack has now spread through many groups of society and public participation in the planning process reveals increasingly deeply entrenched protective attitudes. They are protective because people now see the visual results of new development as intrusive and harsh and the economic results of new development has a force which obliterates small scale private initiative.

Town planning has recently begun to respond to these demands for the retention of the status quo. The very idea of preparing forward looking plans in any area, whether it be a town centre or a residential area, begins to look like a thing of the past. Town planning has now become the art and practice of responding to public objection. In many cases the right to object to planning proposals has made both the corporate planning of whole areas impossible and the individual's opportunity to alter his own property much more difficult.

The planning system increasingly relies upon a network of informers - neighbour informing upon neighbour. The role of the elected representative, elected to represent the interests of a ward, is changing as the contact between professional planners, either through the planning officer or through planning aid schemes, with the private individual or residents' group increasing.

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Alongside these new attitudes to change, and to a large extent giving them support, has been the realisation that the economic boom of the 60s is a phenomenon that will never return. Furthermore, the halt in the growth of population gives further stimulus to the atmosphere of retrenchment.

Environmental education faces something of a dilemma. The programmes being developed within urban studies centres and within the classroom seem inevitably bound to the examination of the existing environment, and even a cursory glance at the work of most school children in this subject matter reveals that this aspect of education is also tending to both preach a gospel of preservation and to reveal in children the same preservationist response as appears in their parents. If the main object of environmental education is to develop in the school child the resources for eventual public participation in the planning process, then perhaps childrens' attention should be attracted as much to the opportunities of change, in both social and architectural terms, as to the desirability of preservation.

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Games and simulations

Résumé by
Rex WALFORD
Lecturer in geography and education
University of Cambridge

Games and simulations have become an important activity in many spheres of education during the past decade. Based on a long pedigree of war-games, the technique has been adapted and developed in many ways and used in primary and secondary schools and in adult education of many kinds.

The justification for the use of the technique can be seen in three perspectives:

a. The desire to change the "atmosphere" of classrooms and the style of teaching. Games and simulations develop participatory forms of learning and have demonstrated a remarkable capacity to motivate students when other techniques have not been so successful;

b. The development of a range of general, social and communication skills within the interaction of groups;

c. The need to find ways of teaching about the dynamics of particular systems and situations and also to create empathy for other points of view when viewing particular problems.

In the study of urban environments, there has been in recent years both a growth of interest in the way in which systems function in the environment, as well as a concern about the understanding of alternative perceptions within the city. Thus it is not surprising that there is already a large collection of games and simulations which demonstrate urban themes and which have received considerable use.

The session will seek to briefly consider the theoretical background to the development of simulation as a technique in education, and to demonstrate practically how some simulations with urban themes can be put into practice.

Rex Walford is university lecturer in geography and education at the University of Cambridge. With J L Taylor, he is author of "Simulation in the classroom", a well-known primer on the development of the technique. He has also written "Games in geography" and is the author of a large number of published games and simulations.

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THE ETHNOLOGICAL WORKSHOP AS AN EDUCATIONAL MEDIUM IN AN URBAN SETTING

Résumé by
Hans-Ole HANSEN, MA
Director
Historical-Archaeological Research Centre
Lejre, Denmark

An ethnological workshop was built at Brøndbyøster, a suburb west of metropolitan Copenhagen, by the Højkaer Fritidshjem as a volunteer project in 1974. The project was inspired by the Historical-Archaeological Research Centre at Lejre, Denmark. The initial planning, the legal and financial basis, as well as the current social role and outlook, make this project a good case study. Using it as a concrete example, regional ethnology, cultural ecology and the role of the ethnological workshop as an educational medium in an urban setting will be defined in the course of this presentation.

The Brøndbyøster project belongs to the group of third museums led by the Historical-Archaeological Research Centre at Lejre. The first museum refers to the classic display variety; the second to the open-air or in-situ display type of museum. The third museum utilises open-ended frames for interpretation such as imitative experiments, cultural ecology study models and ethnological workshops in an attempt to explain the magnitude of changes occurring in time and space and the processes of adaptation to altering environmental conditions. The third museum was generated by the need to heighten knowledge and insight relevant to present day problem solving.

Let us consider the ethnological workshop as a medium of the third museum. In an ethnological workshop, dimensions in time and space may be altered. Placing man as a participator in a period and a culture other than his own present one creates a social/psychological atmosphere conducive to stimulating thoughts on cultural ecology and material culture. For example, how did man transmit energy from natural resources to his community? How did these energy transmissions alter both man and the environment? Understanding a coherent community through actual participation is based on a first-hand experience which can arouse man's awareness of his interaction and mutual dependency on the natural environment.

Ethnological workshops can be established in the following variations:

1. urban environment in a highly industrialised society
2. urban environment under industrial development
3. rural environment in a highly industrialised society
4. rural environment under industrial development

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In all cases two important questions must be considered:

a. the degree to which examples of technologies and material culture, as well as cultural ecological energy transmissions, have survived from other time periods and/or cultures;

b. the degree to which the above-mentioned elements must be revived and reproduced in order to establish a functioning workshop.

In cases where the survival rate is high, the interest is often low. When a high degree of reconstruction is necessary, interest increases but the actualisation of the project is burdened by the lacking technological knowledge and insight concerning other times and cultures.

Situation No. 1 was the subject of discussion at the International Study Conference in the Netherlands in 1975. No. 3 was studied at the 1976 conference at Lejre, Denmark. No. 1 will again be the topic in the 1977 conference and Nos. 2 and 4 are candidates for the 1978 conference concerning the role of regional ethnology in the Mediterranean countries.

After the philosophy, setting and purpose of ethnological workshops as educational media in urban settings have been established, there still remain many practical questions.

- Will the activities in workshops be based on local or regional subjects of ancient heritage? What should be selected in the metropolis of New York City - European past, Indian past, Puertorican past, African past?

- Will it be possible to carry out long chains of energy transmissions as in sowing seeds, harvesting, drying and threshing the plants before they can be used as a food source?

- Will it be possible to acquire the necessary capital of technology for running a workshop? Who knows enough about redbrick manufacturing or flint knapping to teach these skills?

- Will there be enough driving force behind the workshop to keep it running? Will we sell the products (economic force), we do not know what to do after school hours (social force), we like to experience the continuity between raw materials, man's skills and the final products, or we like to experience the co-operation necessary to reach our goals and having personal investment in a functioning workshop (psychological force).

Actual possibilities and areas for an ethnological workshop in an urban setting must be considered and selections made from alternatives:

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1. reserved areas of parks or commonly owned areas as in blocks of flats

2. unused or condemned buildings; eg warehouses, garages, factories

3. structures such as ships

4. closed streets, areas between highways, river banks

5. basements, backyards, roof areas

6. reserved areas outside the urban area such as leased fields or parkland

7. collection of materials from craft workshops or small scale factories.

Activities which are well-suited to a workshop in an urban environment must be selected:

1. work with timber, planks and boards

2. work on redbricks

3. work with iron forging

- all of which could contribute to the gradual construction of a building;

4. production of food

5. production of textiles

6. production of equipment and furnishings such as clay pots and wooden tools

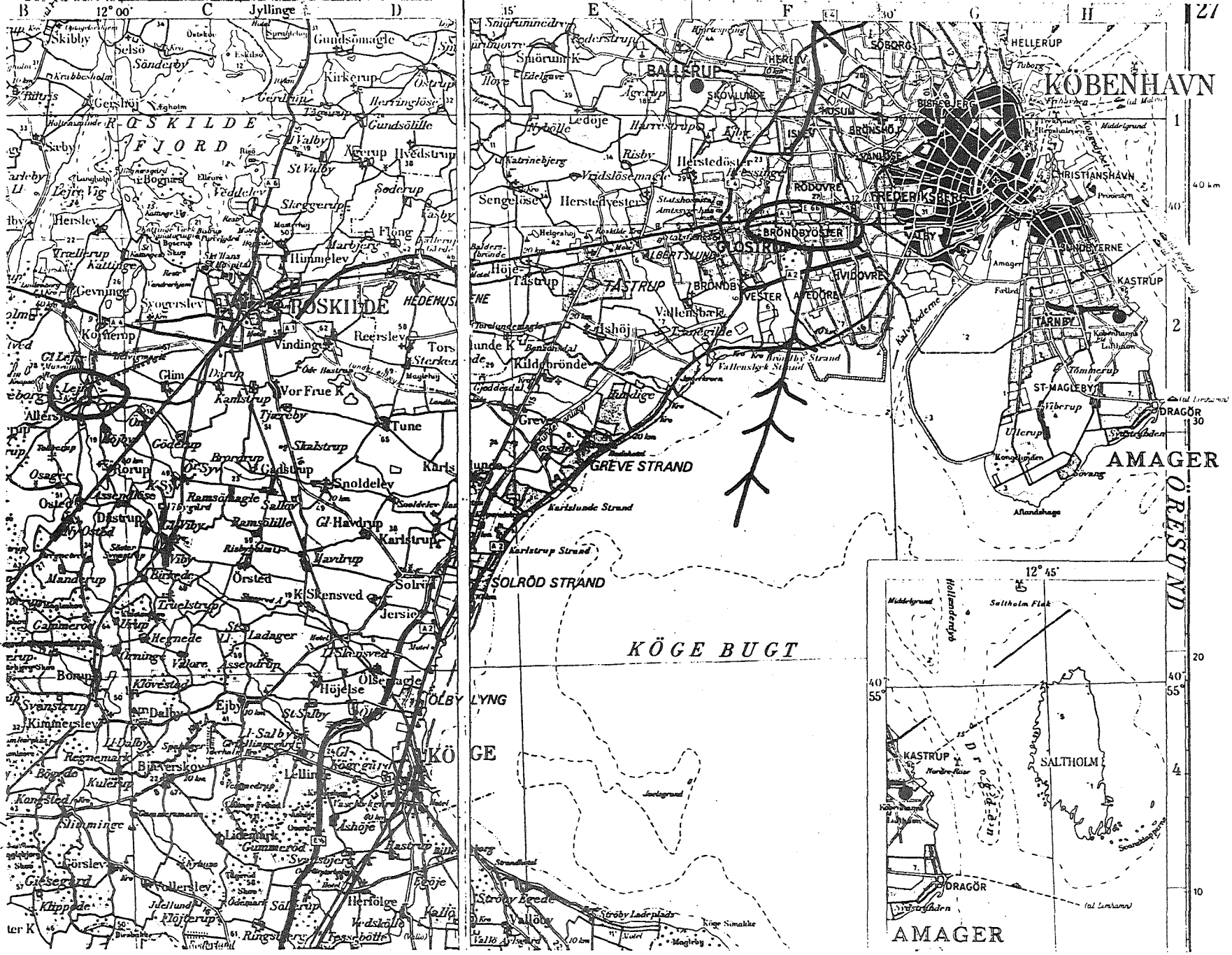
- all based on plant, animal and soil sources.

A high degree of support from the municipalities and communities should be sought. There is always the danger of destruction by children not yet involved in the project. Natural destruction and removal due to private concerns can also threaten the workshop.

However, regardless of the total lack of natural environment, man-made environments of concrete and buildings still hold opportunities to arouse the interest and waken insight into man's mutual reliance on nature. The ethnological workshop may be the educational medium to do just that.

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orientation sketch of the
Brøndbyøster project


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F
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G
H
27
ROSKILDE FJORD
ROSKILDE
HEDEHUS
GREVE STRAND
SOLRØD STRAND
KØGE BUGT
KØBENHAVN
HELLERUP
SØBORG
HERLEV
BALLERUP
SKOVLUNDE
BRØNSHØJ
VANLØSE
RØDOVRE
FREDERIKSBERG
CHRISTIANSHAVN
BRØNDBYØSTER
GLOSTRUP
BRØNDBYVESTER
HVIDOVRE
VALBY
TÅSTRUP
VALLENSBÆK
KASTRUP
TARNBY
ST-MAGLEBY
DRAGØR
AMAGER
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12° 45'
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SALTHOLM
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THE ROLE OF AMENITY GROUPS
Illustrated lecture

Résumé
by
Richard LEE, ARIBA
Richard Lee Architects, Bristol

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1. Identifying the need for amenity groups in the urban contex

In a city, the relationship between the individual, with many constructive ideas and limited powers of realisation, and the bureaucracy, with few ideas and considerable powers of realisation, has reached a critical stage. People feel alienated from the local government machinery specifically set up to protect the community interest and the amenity group can bridge the gap by restating values and influencing attitudes.

2. A look at some different forms of amenity groups

Action can be motivated by either some pressing local issue or a more generalised aim of informal adult education in environmental matters. The whole spectrum from ad hoc action groups to long established civic societies will be briefly looked at with illustrations of some of their recent achievements in Bristol.

3. Conclusions

Some questions were posed, some ideas discussed about the future patterns of public involvement in environmental matters. Strategies were suggested for improvement of educational facilities and for harnessing the potential energy of community groups.

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DISCUSSION

In the context of the wider implications of urban environmental education, Professor Worskett spoke on the "Political, economic and social implications of urban change".

In the pursuit of the aims of urban planning, the planner has to deal with a number of dilemmas. These dilemmas arise from a degree of incompatibility between the requirements of well-advised planning and the requirements of the democratic process, namely, the direct influence of the public on and their participation in the planning process. The planner, pursuing his goals (development of population, matching resources of the community to the needs of growth, urban rehabilitation and protection of national and local amenities, urban conservation and development control) finds himself spending an increasing amount of time overcoming the objections of the population, legitimately expressed, and motivated by a preservationist instinct very suspicious of change.

A major problem is the lack of interest and understanding on the part of the public in the larger corporate issues (facing the city councils). Coupled with that is the ever increasing burden of specialised information on which discussions should be based and which even the councillors and council members often cannot master. The problem is how to involve the public where this is desirable and how to determine the proper limits of public participation.

The solution seems to lie in environmental education. The value of urban study centres was stressed - to develop deeper understanding of corporate issues, to develop and enhance urban culture and to develop social and visual literacy. These centres can serve to inform the public and to redirect its interest into less defensive, more forward-looking attitudes.

The talk was illustrated with slides, which served to demonstrate how the most rudimentary features of the city could be used to environmental educational ends.

The discussion centred on three issues:

1. How to give people confidence in the future when their experience with modern city development has been largely negative? It was felt that if people are educated to be aware of what <u>can</u> be done, they will strive towards the kind of future <u>they</u> want and will influence their elected representatives to pursue these goals.

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2. In an increasingly specialised and segmented society, how does one organise the division of skills and how does one establish intermediaries between the public at large and those who wield power, be they technocrats or politicians? It was felt that environmental education should concentrate precisely on methods of communicating complex ideas to the people in a form that will render these ideas comprehensible and usable.

3. Lastly, it was stressed that the public must participate in order to counter the tendency of planners to promote concepts which respond more to their training than to the will of the citizens.

The morning session continued with a talk and demonstration of the effectiveness of games and simulations in promoting an awareness of how social and environmental systems function. Mr Walford felt these to be a wide ranging and potent methodology, adaptable to almost any situation and target group. The games and simulations aim to make simple replicas of the systems within which people function, and are therefore focused on interaction and response rather than on an appreciation of the setting.

Examples were given ranging from the very simple to the more complex and the audience was then invited to participate in the games themselves.

During the discussion, several points were underlined: To be effective, the player must not be influenced beforehand as to the desired outcome of the exercise. Also, the game or simulation should ideally be followed by a comparison with the real situation being studied. On the subject of the evaluation of the results of such exercises, it was felt that the act itself is the instrument of change, and that any formal evaluation of the results would tend to falsify the true results achieved, by concentrating on the most tangible results. Finally, it was repeated that these games should be flexible and adapted to whatever situation was being tackled.

Mr Lee spoke about the role of urban amenity groups. He explained the rise of such groups as a response to the loss of contact between individuals and those who make decisions affecting them. In the cities they have become a substitute for the traditional rural community which has been lost in recent times.

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He went on to speak about the wide spectrum of amenity groups from long-established societies to ad hoc groupings with a specific aim. These included specific interest groups, local societies, community service groups and groups concerned with the preservation of the local heritage. Their common aim is to inform and educate and to perform a service for individuals or communities. Examples were given, supported by slides, of the successes and failures of some of these groups active in Bristol.

In conclusion, he discussed the future patterns of public involvement in community matters.

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SATURDAY 27 AUGUST

The Chairman of the day introduced the draft resolutions as well as the proposed outline of the handbook on environmental education in an urban setting. After discussion, these texts, as amended by the participants, were adopted and are presented hereafter.

With regard to future international study conferences, it was suggested that similar workshops be organised on a self-paying basis in the member states of the Council of Europe. This was considered to be a practical way of disseminating the experience gained during these international events.

As for the organisation of the international study conferences, the participants requested that more attention be given to discussions in small groups and also to making better use of the experience and know-how of the particip More possibilities should also be given to practical fieldwork. Finally, it was felt that the duration of future study conferences should preferably be six days or more.

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RESOLUTIONS

THE PARTICIPANTS IN THE COUNCIL OF EUROPE INTERNATIONAL STUDY CONFERENCE ON ENVIRONMENTAL EDUCATION IN A STRICTLY URBAN SETTING,

Aware that the lack of recognition of environmental facilities in the functioning of cities has led to serious repercussions for many inner city areas and that environmental education presents an opportunity to improve the situation:

1. Warmly welcome the opportunity given to them to become familiar with the great range of problem areas, educational facilities and environmental education approaches in an urban setting;

2. Note that there is an increasing recognition of the potential of the urban setting for education but recognise the interdependency of the city and its wider environment;

3. Reaffirm that environmental education is not an additional subject but an approach which is relevant to all curriculum subjects in an interdisciplinary way to reach change of attitude in terms of awareness and responsibility for the environment;

4. Wish to point out that for the purposes of environmental education, the value of town trails lies in fostering the ability of children and adults to explore, challenge and question the environment as part of a structured teaching situation;

5. Welcome the recent establishment of urban study centres in the United Kingdom and in other places, and urge authorities in other countries to support such developments as an important contribution to public understanding and assessment of the human environment;

6. Recognise that botanical gardens in association with other educational facilities help in clarifying ecological concepts;

7. Agree that teachers' centres have an important task in stimulating teachers to use a multidisciplinary approach to environmental education by organising in-service training courses, giving background information, doing research work and developing teaching aids;

8. Realise the scope and diversity of the subject-matter to be covered by urban environmental education which calls for further investigation into the most appropriate approach and use of facilities in each specific case;

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9. Consider the importance of developing educational activities in the green spaces of the city and its surroundings especially by setting up the most appropriate infrastructure;

10. Note that great opportunities exist in cities for co-operation between museums and other facilities used by schools, and agree that more consideration should be given to integrating data collection and dissemination techniques for the production of teaching material, designing fieldwork strategies in order to avoid over-use of popular sites, mounting training courses and workshops for the staff of these facilities and teachers to bring them together.

11. Stress that the effectiveness of public participation in environmental planning and education depends on instituting channels of communication at all levels so as to develop the mutual understanding essential to a useful dialogue, and amenity groups should be encouraged by central and local government to play an important part in this process.

12. Underline that both planners and children will benefit from increased contact and exchange of views in child-orientated work. With regard to general planning issues, the main advantage is to the child, who will gain literacy in the planning process and ultimately become better able to participate in issues of this kind.

13. Recall that education to facilitate increased public participation in urban environmental issues is an item which requires further study, preferably by means of a Council of Europe workshop which should deal with the new approaches in this field and which should aim at reaching decision-makers at all levels.

14. Believe that the changed economic situation gives a new dimension to many environmental issues and the need for resources to overcome them. The extension of job creation schemes related to these issues may therefore make a significant contribution towards this and at the same time improve environmental awareness.

15. Welcome the proposed publication by the Council of Europe of a handbook on environmental education in an urban setting, the outline of which is appended.

16. Recommend that a second volume of the handbook be published by the Council of Europe in due course, containing further case studies, preferably coming from the different categories of urban situation, as well as different political, economic and social constraints.

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17. Discussed in addition to the above recommendations the possibility of the Council of Europe exchanging at regular intervals information on on-going activities in the field of environmental education.

18. Underline the need for further international study conferences, the topic of which should preferably be selected from those to be included in the second volume of the handbook referred to above.

19. Consider the need for a meeting of specialists having participated in the various study conferences with a view to formulating, for the attention of the Council of Europe member states, common principles and methods in environmental education.

20. Are aware of the forthcoming UNESCO/UNEP World Conference on Environmental Education and express the hope that the outcome of this event may contribute further towards the recognition of environmental education as a tool for environmental problem solving.

21. Thank the Countryside Education Trust, the Avon Education Authority and all those who gave their support towards the success of the study conference.

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OUTLINE OF A HANDBOOK ON ENVIRONMENTAL EDUCATION IN AN URBAN SETTING

1. Introduction

This will restate the IUCN definition of environmental education and will highlight the main relevant issues to the urban setting. It will explain that the city has been selected as the main theme of this book because it is the setting most familiar to the majority of our population. It will also outline the interrelationship between the city and its wider environment (regional, national and worldwide).

2. General chapter

This will cover the subject-matter at present contained in the draft handbook, rewritten in more concise form and supplemented with further information from member states. Emphasis will be placed on the use and development of active educational methods.

3. General description of teaching principles and methods and resources to be employed with a variety of groups. These groups will be of different ages and may be involved in formal or informal educational activities.

4. The use of case studies drawn from member states based on different teaching methods with varying age groups and using one or more facilities.

5. Extensive bibliography on all known facilities in the urban setting. Literature dealing with the use of these facilities and audio-visual materials with reference as to where these can be obtained

(Editor's note: the compilation of such a bibliography may prove almost impossible and certainly cannot succeed without the support of others)

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KEYNOTE SPEECHES

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ENVIRONMENTAL EDUCATION IN AN URBAN SETTING

by the Rev. Lord Sandford, DSC
President of the Council of Environmental Education

A basic principle of teaching and preaching is to start where people are .. But I'm conscious that the first lecturer in a course on an unchartered topic like environmental education, to a group as diverse as this, drawn from Barcelona to Copenhagen, but visiting Bristol, speaking nine or ten different languages and working in a variety of educational systems, has only a few common assumptions to start with that he can take for granted.

So allow me to start by reminding you of the firm common ground that has already been established.

It has already been decided that we use the definition of environmental education adopted by the IUCN. This is all right as far as it goes. Our national associations for environmental education also start from the same point and as I think the way they have developed that bare and basic definition is thoroughly sound, I commend it to you for some detailed consideration.

May I first of all remind most of you that the classroom teacher and the school head in England is subject to very little in the way of central control, either by the local education authority or by the national Department of Education, over what is taught and how it is taught. The virtues and the dangers of such a system are, of course, a matter of great debate; but the fact that it is so makes it feasible for an association such as this to put these proposals forward, it enables other teachers, persuaded of their soundness, to start testing implementation without further ado and obliges all practitioners to do a fair bit of original thinking themselves before they are ready to put them across in their own particular schools and to their own particular children.

I doubt, but we can discuss, whether environmental education can be handled like this in all the other countries, but I hope you will feel the aims as framed here can nevertheless form a basis for discussion among us all.

I am between lukewarm and hostile to the attempt to divide environmental education up between science and the humanities thinly disguised as ecology and ethnology. I am much more strongly opposed to the division of environmental education into rural and urban studies - a division alas still strongly entrenched but being worn down, in the United Kingdom.

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In fact, the matter on which both Darwin and the Bible are agreed is that man's origins certainly lay in the wilds of nature. But he has now evolved, via nomad, hunter, farmer, peasant, merchant to citizen and both contemporary experience and the Bible agree again that the climax of his destiny can be envisaged as a citizen, a dweller in a city.

It is, of course, right for environmental education to employ rural studies so as to be able to take pupils back to the womb of our history. But environmental education cannot be content to leave them lying there. Not only for the good practical reason that most children's practical everyday experience is with the city and not the country, but chiefly because man reaches his most complex, his most highly developed form of society when he has learnt to live together well as citizens of cities. That is why it seems to me environmental education must always direct its best brains and greatest imagination, its main drives in that direction, while not of course overlooking or forgetting or giving due weight to our simple pastoral origins.

After those preliminaries, I want to spend some moments suggesting three aims to which environmental education needs to be directed in turn:

1. Using the environment to educate the child,

2. Teaching the city,

3. Training the citizen.

Abraham Lincoln once said, "I like the man who is proud of where he lives - we should be concerned to produce such men and women". In cities where such pride of place seems unrealistic, we must at least work to arrange matters so that at least he can take pride in doing something to make a part of his city better - a place in which his children and grandchildren might take pride.

But I join in the warning Graham Carter sounds at page 6 of his draft of our handbook. I reserve my heaviest millstones for the necks of teachers and community development officers and planners who, themselves living outside the area, for which they teach and work, by their insensitivity break down perfectly legitimate pride that many children have in their own familiar well-known home environment just because it lacks a few modern conveniences and looks a bit scruffy.

Aim No. 1: using the environment to educate the child

In pre-history, the primitive child learnt his early lessons the hard way. He ignored the warnings of the elements and the roar of wild animals at peril of his life, but perhaps this helped him to develop quickly a healthy sense of awe, of holy fear, which our children lack together with most of the rest of their spiritual insights.

Anyway, primary and pre-school children still have plenty of curiosity, and with it must be helped to learn to experience their environment with all their senses, and to put what they find into words, numbers, pictures, poetry and prose, and learn to say things well and feel things strongly.

May I ask you to notice (and I hope agree its rightness) that the problem is not just what knowledge is to be imparted but what the children will be expected to be able to do in this stage, at these ages, if this first aim is fulfilled.

May I also ask whether you really think any of this can be done without the understanding and active participation of parents, and if so, have we thought out the implications of involving them more effectively in environmental education?

Aim No. 2: teaching the city

At this stage we turn from child-centred projects to city-centred syllabuses in order to teach the city. We need to start with a grounding in natural features both physical and biological, not as an escape from the city but as a basis for understanding it and its origins.

We also need to develop historical and social perspectives and show for instance how we have built cities for a variety of purposes from which to till and to husband the land around them, such as

- to exchange goods and promote trade,
- to advance learning and the arts,
- to practice worship and culture,
- to exercise crafts and skills together,
- to administer and govern the region around them,
- to apply technology to manufacture in factories,
- to conduct commerce and finance on an even larger scale.

Some of these services and processes we have seen in Bristol today. At the end of this stage of teaching the city, we should have taken our young person to the point of being able to feel pride (or shame) in his part of his city, to give our account of his feelings and to want to act upon them either so as to defend that of which he is proud or else so as to amend that of which he is ashamed, to understand better some aspects, some part, in which he is specially interested.

I hope the combination of reading Graham Carter's long list of urban topics and absorbing in one great gulp a large dose of Bristol's complex geography and 900 years of history, will be sufficient to deter anyone of even thinking you can teach a whole city in its entire complexity to any child by the time he leaves school.

I commend most emphatically to you that the different options in environmental education at secondary level and options too for environmental education projects be undertaken at levels beyond the minimum school leaving age, eg at the British so-called "A" level.

Aim No. 3: training the citizen

Where the teachers have done their work well, the young people leaving school will have their own built-in capacity and desire to take in as they grow up more and more knowledge about their city to set against prevailing ignorance, to acquire more and more understanding with which to overcome surrounding prejudice, to find ways and means of doing something constructive and useful to overcome environmental apathy, despair or complacency (and by wanting to do something young people mean doing something physical to produce visible and tangible results that will last - they do not mean joining a committee to discuss a plan, or collective letter).

So what do we do? We must do or cause something to be done, for if we arrange matters in the schools, so that children know their city, understand their city and want to do things in and for their city and then when they leave, they find no way of taking action and see only other people doing the wrong things, then we will have serious trouble on our hands. In fact, in the inner areas of our British cities we already do have serious trouble. Some is due to apathy but not a little is due to youthful frustration.

So let me introduce you to "Townscape", one remedy for this state of affairs - I mean thoroughly run down, neglected, inner city areas of waste land, and living in them waste men and women, physically fit, reasonably educated, but jobless.

In Britain our central and local governments have been grappling for decades to make good the ravages of being the first nation to undergo the industrial revolution.

The pre-war policy of clearing the slums and moving industry out was redoubled post-war to clear up after the bombing as well. Now it has overrun its usefulness: too many precious communities have been too thoughtlessly torn apart, too much value has been set upon the modern conveniences of the modern flat in the new estate and too little over the familiar and cherished scene and well-knit neighbourhood community. The aim of "Townscape" is to provide and to offer for a modest fee to anyone of our metropolitan local authorities a sophisticated frame of effective management. This frame puts together local young unemployed (school leavers in particular) who can offer their energies, local industries and other sponsors who can offer tools, some expertise, with the central government offering grants for mitigating unemployment. With

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these it can achieve some permanent constructive environmental improvement which will not just mop up youthful energy but also restore confidence in the area, overcome apathy and begin to attract investment back to places that have seen none for years.

This particular scheme is in its infancy and since the three pilot runs in Newcastle, Blackburn and Merseyside have barely started I am not commending the scheme as yet for adoption by member states of the Council of Europe.

All I am doing is to suggest that environmental education which includes training the citizen should not stop short of seeing that there is something useful for the trained citizen to do in his area, whether he is otherwise employed or not. Nor should environmental education stop when the school leaver passes out of the school gate for the last time. Environmental education is the most continuing, most "permanent", of all forms of education and needs to be designed and provided by all means for all ages and in forms tailor-made for the needs of each neighbourhood and each community in each city.

My experience prompts me to think that for a big city a few labour study centres such as those currently envisaged will not suffice. The strategic development of city-wide environmental education programmes will call for a metropolitan centre based in a university or polytechnic closely associated with institutes or departments for training teachers but also capable of drawing from and contributing to other departments dealing with other civic professions.

Such a centre must be capable of mounting very local research and surveys and then in the same centre deciding how such local findings can best be imparted to those who could use it best. This might be a seminar for local teachers, it might also be a course for local planners or a conversation with a local residents' association or an article in the local newspaper.

TOWN TRAILS

by Sue Jones,
Teacher, Grove Junior School, Nailsea

The urban trail has developed out of a long tradition of walks intended to reveal urban places to the observer and to encourage perception of individual buildings and circumstances rather than the day to day recognition of the townscape which surrounds us. The TRAIL shares this aim and both the trail and the walk attempt to add value to a place and to encourage the observer to get as much out of it as possible. In method, however, the trail and the walk have one fundamental difference. The walk itemises structures, provides historical information and invites aesthetic enjoyment of the features observed. It very much follows the guide book tradition and only hints at an element of exploration.

The trail on the other hand positively sets out to challenge the tracker to explore, to question the environment the trail leads him through and invites him to appraise and critically evaluate the quality of the particular environment. The emphasis here is on practical and direct experience and interpretation of the townscape.

It is difficult to pinpoint the first urban trail in this country but the movement has gathered momentum rapidly since 1972 with the publication of the Leicester Town Trail and the Architectural Trail in Dudley and the incorporation of Keith Wheeler's ideas in the Guide to the Structure of London. Hundreds of trails have appeared since then which have taken many different forms and have been the inspiration of a great variety of groups, individuals and organisations.

Tourist information offices, local authorities, local amenity societies, schools, teachers' centres, universities and museums throughout the country have developed urban trails and the origin of the trail gives some indication of the aim and content of each trail. For example, trails inspired by local authority departments are likely to reflect the interests of the particular department. Museums are likely to link outside environments to internal exhibits. Amenity groups are more likely to focus on historical features and aspects of conservation. Trails developed by schools will have a more specific educational content.

So there is a great variety but what is important is that the aim of each trail should be clearly stated at the beginning of the publication.

The trail will probably fall into one of three main categories ...

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1. for enjoyment as a primary aim

2. for education as a primary purpose

3. to stimulate interest in local conservationist activities as a primary purpose.

Trails will probably have elements of all three, but the primary purpose of the trail should always be clearly stated.

The trail that you are going to walk this morning has clearly stated aims ... It attempts to encourage the young observer to acquire skills of observation and critical appraisal of the townscape. It adopts a visual approach to the environment, attempting to focus on some of the various elements which combine to make our townscapes. The visual quality of what surrounds us has a tremendous impact on our lives and the whole area of visual education and education of the senses generally is a neglected area in school curricula.

Linked with this idea of visual education in the trail is an emphasis on critical evaluation of the townscape. The trackers are asked not only to observe but to experience the environment in a direct and personal way and to respond to what they see. Through this direct, emotional and aesthetic experience we may be able to develop the sort of interest in and sensitivity to the environment which would form the basis of more intellectual discussion and insight into the complex network of forces which combine to shape our cities at a later stage in the education system.

This particular route was chosen in part because it covers some of the docks, the very heart of the old city, but principally because it provides great contrast and evidence of the constant changes which the city has undergone and indeed is still undergoing.

There is no historical or factual information in the towntrail booklet. It was felt that to have included this would have detracted from the primary aim of encouraging the tracker to really look at and explore the environment through which the trail leads him and to experience what is actually there for him to see. The evidence of the past is there in the townscape and of the changes which have taken place. In addition to this, however, is the opportunity for the tracker to say something about the future of the city as represented by this small part of it.

This is an important function of the trail. The conservatic of the best in our cities and sensitive planning for the future depend ultimately on an informed public which knows how to participate in the processes which shape our future environment. This town trail is a small step towards stimulating an awareness and interest in the urban scene.

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SLIDES

FINAL WORD

All areas offer a rich source of study. It is not only the historically important of the visually exciting areas which lend themselves to such an approach. There is always the opportunity to observe and react to what surrounds us. Many of the ideas in the trail could be used in completely different urban settings.

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CHILDREN, PLANNING AND SURVEYS

by Jeffrey Bishop,
School of Advanced Urban Studies, Bristol

1. Capabilities

In terms of their contributions to planning it is not enough just to think of children as doing something that you would do, only not so well. There are actually some reasons for supposing that they can do better than planners:

a. They often have great local knowledge.

b. They are a group with significant perceptions of an area, particularly on issues which directly concern them, such as recreational facilities.

c. They may fare better at interviewing because they are not seen to be "from the council".

2. The relevance for planning and architecture

There is a very wide possible spectrum of approaches for relating planning and architecture to school work. These range from one end at which the planning professions gain little or nothing to the other end where the pupils gain little or nothing:

a. Assuming that environmental work on planning, architecture, conservation, etc goes on anyway, there are good reasons to try to ensure, through contact with teachers, that what is taught is correct and up to date. There is no contact with the children, but there is still some value in this.

b. One can do ad hoc individual lectures and talks unrelated to specific projects. These are also quite valuable (if nothing else is possible), but almost inevitably they end up as "talking to" the children and it is difficult to get any relationship started, or talk back initiated.

c. Lectures/trails etc as additions to or part of ongoing courses or projects. This is at a rather more coherent level than No. 2 but is still rather isolated and difficult to build on. It is also very dependent upon the structure (and hence perception of the problem) set up by the teacher.

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d. The most fruitful area - for both sides - is what I call "joint projects" which demand a shared preparation and teaching load. This enables the planner or architect to establish his/her objectives within the broad educational framework set by the teacher and to influence the teaching methods etc. Thus the objectives could relate to the need for information on pedestrian movement in a town centre, which can easily fit in with two of the most common environmental studies topics - traffic and shopping. These projects are often time-consuming, although even on the first occasion they should as it were, "break even" or perhaps make a slight "profit" in terms of results. Because there are other objectives, however (public awareness, local interest), and because the second and third projects are easier than the first, it is well worth persevering.

e. One can use the kids as a captive audience for one's research or even as cheap labour. In such cases the educational aims are subjugated to the informational aims and one should therefore be very cautious about using kids in this way. There are, however, virtures in doing such work on particular occasions.

3. Methods and techniques

Before getting in contact with schools try as far as possible to sort out the objectives of any work, the issues, anticipated results, degree of chief officer/partner backing, timing, staff and other resources etc - teachers are very busy and are cautious about general ideas, preferring something specific to start from, even if it all changes. (Much of what follows is aimed at secondary school work, but is relevant for juniors) Make contact through:

a. Local education authority - difficult unless you know exactly who to approach, time-consuming, probably better after one or two projects if you then wish to put things on a more coherent basis.

b. Advisers - these are ex-teachers who now have a travelling role as a sort of subject expert to keep teachers up to date, get them in contact with each other etc. Can be excellent contacts, title usually a good guide - "Environmental studies adviser" (very hopeful), "Humanities" (good chance), "Geography" (can be good or bad), "Social studies" (possible) and "Biology", "Art", etc (may just be lucky).

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c. Head teachers - rather like contacting the LEA, not specific enough, probably better to work through No. 2 or 4, although head (unlike the LEA) must be contacted at some time by somebody.

d. Subject teachers - preferably head of department unless there is a personal contact. The most likely contact in secondary schools is the geography department, followed by art, history, biology and then others.

Try to get actual names before contacting schools and be explicit about what is involved.

The next step, having got initial agreement, is to give a rough idea of programme. The major problem to overcome here is the school curriculum and timetable. The curriculum will be fairly rigid in most schools although this gives a certain amount of subject choice to pupils. One can just about imagine the complexity of time-tabling a large number of pupils with even a limited choice and it is not surprising that once this is done, schools are unwilling to make anything more than minor changes - usually between just two or three teachers. The timetable is built up around a basic unit of one period - about 35-40 minutes - and only a certain number of subjects get double periods with few, if any, getting longer at one time, (eg a whole afternoon). Some schools run a two-week timetable which makes life more awkward unless it can be altered. Even if projects are well established it is unlikely that schools will amend their curricula and timetables simply to create large, single-subject blocks. To give an example of the problems, suppose that you wish to do a project and the geography department are keen. The teacher may offer you all the periods over four weeks, but these comprise two doubles and two singles a week. Unless you are very lucky, time is needed to get to and from the study area so single periods are out and doubles almost become singles. In order to use the time you ask if you can get one whole afternoon on site, and this involves the geography teacher in: a. persuading other teachers (perhaps three because the final period is one where a choice exists) to give up their lessons and also the pupils to give up their classes - some may be happy, others may be asked to miss what is for them a first choice. b. persuading another teacher, preferably a geographer, to take over the class which "your" teacher is having to miss. Even over a four/five week project prepared well in advance it is highly likely that some other event will disrupt your plans - a trip arranged for another subject, sports events, etc. If you wish to do an inter-subject project things get more difficult because this introduces a further criterion to the selection and grouping of sessions.

Assuming you have arranged the timetable and sorted out the main directions, there are points to watch for when children are out of school and on site:

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a. Is the school suitably insured? If not, who pays? Even if the school is insured they may require a letter sent to all parents informing them of the project and requesting their approval (I have never heard of a refusal). Some insurance demands that dates be set and this would be OK. If it were not for ...

b. Rain. Kids regard drizzle as nothing and will work on happily even in fairly heavy rain. This does not mean that you should let them, (although it can be very useful when they are doing door-to-door work!) The most important point about rain is that it can disrupt a carefully organised programme, so that you must be prepared with good alternatives, both on the rainy day and for the other sessions. Most projects take place in the summer term but even winter is possible if suitable preparations are made.

c. Clipboards are a must - even hardboard and a bulldog clip. Most schools have some but be prepared to contribute.

d. Maps/papers - large, fold-out maps are awkward and papers should be kept to a minimum. For whatever reason, things get lost if left with the kids, so it is useful to collect everything at the end of each site session. Cost is also a factor, contributions are always welcomed.

e. Travel - there are two problems with this, time and cost. It takes a surprising amount of time to load up a minibus (except on the way back!) and every minute is important. The time needs to be taken carefully into account when preparing the basic timetable. Some schools have their own minibuses which "cost nothing" (directly) but if it is necessary to hire coaches/minibuses, money for this is increasingly difficult to find. Perhaps this is something the architect/planning department could contribute?

In terms of techniques to use to put over or work on a selected subject there are obviously too many to cover in detail. Some guidelines can, however, be given:

Worksheets: are the most commonly used technique. They list all the questions and as far as possible, leave space for some results. The worksheet should contain general questions to get kids thinking about the particular topic, and it can be backed up with further survey sheets - for example, building analysis forms. Small area maps for each session are useful - perhaps one small area per two kids. They record landmarks, shops, parking spaces on the map. Questionnaires are also commonly used. Their weakness is that it is difficult to judge how many to prepare. One way round this is to provide one sheet of questions and blank paper. One kid reads out the questions, the other records the answers on the blank paper against the number of each question.

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The information one wishes to get must be carefully related to the particular kids, timetable etc. Generally there are accuracy problems with really factual material, although if one uses pairs of kids and two schools or classes, this ensures that the same information is collected four times and can be internally checked. It is probably more useful to use the kids to get opinions, judgements, perceptions etc. They can get very good results but this varies considerably and without careful organisation good results are impossible.

Streetwork: This is merely the urban equivalent of fieldwork and yet it is worth mentioning because there are still some teachers who think that one can work on the environment successfully within the classroom and without going out of school. (There are also some planners who think that they can do their job from maps and census print-outs!) Any environmental project worth doing demands work outside the classroom. Perhaps the only slight exception is when one is studying the school itself, but even this demands streetwork of a sort. Following from streetwork, one of the basic opening techniques are trails. These should need little explanation except to say that they do serve very well for an introductory session. I personally tend to use one particular form of response to trails - freehand maps - which can also be used on other occasions during a project, either produced by the kids, local residents or even kids from other schools or classes. They are a rich fund of local information and cause great interest.

Games/simulations: are another more remote technique which can be used on their own, eg to provide ideas for a site, or in connection with a longer project, eg policies for a conservation area at the end of a series of surveys. Teachers are not yet fully familiar with games and as yet no simple and useful guide exists for their preparation. Questionnaires have been mentioned and, if time permits, the kids can decide some of the questions themselves. There are problems with biases and samples but if these are acknowledged the results can be useful. Questionnaires are just one form of survey; others are simple walkabouts when information is recorded, observational techniques (counting cars), door-to-door interviewing with an open-ended set of questions. Urban studies centres. These are much more a resource than a technique and are beginning to come into existence around the country. Basically they are a centre from which urban work can move out into a town, usually in its own centre. They are run by the Education Department, sometimes with support from planning who hold exhibitions and meetings there. As a slight aside, there is one other "technique" to mention and that is how to talk to kids. There are no simple rules, one has to be responsive to the various groups. Do, however, avoid jargon wherever possible, talk slowly, use examples which they will relate to their own lives, exaggerate slightly on occasions, but never talk down. Kids react strongly against paternalism - quite rightly. They have much to teach you.

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Two apparently minor points: It is probably a good idea to arrange an exhibition of work after any project is complete. This helps to give a bit of edge to the work and also gets it finished (even a simple project provides a vast number of loose ends!). There are many ways of arranging exhibitions so there is little reason for commenting except to bring in the second point - press coverage. From my experience you will never get a bad press if the papers etc are involved from the start. Press releases, visits to the kids on site and visits to the exhibition are all valuable for education and planning. Do clear this carefully, however, with head teachers, chief officers and PR departments.

4. Content

I suspect that there are only two basic formats for projects, although endless variations and permutations are possible. Firstly one can do an "area" study, eg a newly designated conservation area, in which a wide variety of topics are to be studied across a particular (hence usually small) area. Alternatively one can do a "topic" study, looking at housing, shopping etc, perhaps comparatively, perhaps over a larger area than is possible with "area" studies.

For planners, some possible subjects could be as follows:

a. Survey work for a local plan

b. Topic work for a structure plan, eg shopping, traffic

c. Public participation for structure or local plans

d. Studies of recreation, transport etc as they particularly affect shooolchildren, (the literature is appallingly weak on these two issues)

e. Survey work for a conservation area

f. Work to produce a local town guide for the handicapped (contact the Central Council for the Disabled).

For architects some of the above are not irrelevant but more pertinent ones might be:

a. Preparation of local history, materials, styles and other background information for design guides

b. Site surveys - traffic, trees, views, noise, soils etc

c. Appraisal of existing buildings - especially their own schools. Not just their, but public's views

d. Appraisal of new buildings - especially schools, housing libraries, sports halls etc. Again they can explore other people's views, as well as their own.

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NOTES FOR TEACHERS WISHING TO DO SURVEYS AND INTERVIEWING WORK - and planners or architects intending to join in

Although interviewing, questionnaires, etc are not in any way the prerogative of environmental studies in schools, they remain a major technique in general and a truly central one when considering joint projects with planners and/or architects. The notes below are aimed at teachers but should be considered by any architects or planners when projects are being prepared and timetabled.

The first question any teacher should ask him/herself is why are you doing interviews and what are you intending the children to learn from the experience?

There are perhaps two basic objectives:

a. To provide a context in which children can develop social abilities amongst themselves and, more importantly, between themselves and others - from the cautious housewife who thinks everybody is from the council to the old dear who never gets to the point and won't stop talking about her grandchildren.

b. To simply produce results - facts, statistics or opinions.

In terms of where to do interviews/surveys there are three basic locations:

1. Door-to-door

2. Street interviews stopping passers-by

3. Group interviews - in school, in clubs, meetings etc

Within these there are two alternative approaches to the sample - either unprepared ie knock on any door, stop first pedestrian, or prepared, ie knock only on doors with many bells (multi-occupation) or arrange to talk with a group at an old persons' day centre.

There are various factors which influence the applicability of each location to particular topics, ages and abilities and various general pros and cons for each. These follow:

1. Door-to-door - obviously very applicable for small area studies on most topics; very useful on housing surveys and appropriate to a very wide age range of children, from 7 years upwards if streets/areas are carefully chosen. The biggest advantage of the door-to-door technique is that it gives the best chance of sustained, thoughtful responses to questions and can be followed up later if necessary. It is a technique which many children feel happy with and can provide a good, well-controlled sample. Its primary drawback is its heavy reliance on people who are at home during the day -

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mostly women with young children, old people and some students. It can be physically exhausting, but has considerable advantages on very hot or rainy days when shelter, a seat and a drink may be proferred.

2. Street interviews - these are particularly applicable if you want a large, broad sample and also for studies of, for example, shopping patterns. Their major advantage is the access to a large number of people without plodding for miles, and they can even be done during heavy rain as people tend to make for shelter, providing captive audiences. Street interviews need to be well organised to ensure that there are enough people circulating, (try to avoid early closing days) and surveyors need to be spaced to ensure that one poor interviewee is not stopped several times. Their major drawback is that people are not so willing to stop, answer or linger and children sense this - they are not so keen on stopping people. A series of short, sharp, yes/no questions is most appropriate.

3. Group interviews - particularly applicable for getting quick answers from a lot of people, provided that you are not too worried about the effects of "group pollution", ie the tendency for some to change their answer when they see what others are doing. The groups can be within your own school, (I have got secondary school pupils asking questions in a primary school class), and there are various clubs and meetings, even staff canteens, which provide suitable venues. It is a good method if you want simple yes/no answers by a show of hands, eg how many children come to school by bus. Its advantages as I have said, are the numbers involved and the speed. Its disadvantages are various group effects and the need to timetable it very carefully. Children of most ages quite enjoy doing it, entirely on their own.

There are a variety of styles of survey/interview which can be used and again I shall deal with them in terms of applicability and pros/cons.

1. Rigid questionnaire - most applicable to group interviews, then to street interviews, and common, but not essential, for door-to-door interviews. The major criterion in selecting the fixed questionnaire is time available. In the group interview it is essential to have a simple, clear, prepared set of questions and the same points apply to street interviews. If your aims with door-to-door work are to build up with good sample then rigid questionnaires are quick. Their obvious advantage is that if you have decided what is important you will get the results you want. This is also their main disadvantage because you rarely get the opportunity to discover whether what you think is important is also important (and in the same ways) to those who you are interviewing. Some form of pilot survey should be regarded as obligatory for this approach.

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2. Open-ended questionnaire - this is a sheet which has basic, fixed questions but also one/two at the end, and perhaps some in the middle, which are much more general. It is more applicable when you are uncertain about particular points and wish to establish whether you have missed anything. It also provides a more open format for people to express and develop their opinions. Its main advantage is that it is quick, gets answers but, if prepared properly, is not perceived as totally restraining. Its disadvantage is that once some people realise they can chat, they never stop. It is also more awkward to analyse and I have seen results which simply analyse the factual questions and do no more than give examples of answers to the open questions. This approach is, however, very good with kids because they always have the fall-back position of the factual questions if the interviewee is unwilling to extend answers.

3. Semi-structured interview - this is the first of the true interview forms, but still retains some of the aspects of a questionnaire. Instead of giving fixed questions with occasional gaps for chat-answers, you simply trigger off the chat with one question and then occasionally steer the conversation back to particular issues so that, when the interview is complete, you find you have covered the major points. The method is most applicable if you are trying to get opinions and attitudes on a whole series of things and particularly if you wish to learn something about the relationships between varying aspects of people's lives and their personal priorities. The advantages are obvious from what I said above, but it is worth adding that children very much enjoy this sort of exchange. The disadvantages are time - it is lengthy - and the fact that learning to steer the conversation to cover the prepared list of issues is really quite difficult; children naturally tend to get carried along and forget their lists. It is not easy to analyse results, except through a long but often enjoyable process of abstracting themes, words etc, and grouping them in varying ways.

4. Unstructured interview - by now this should be self explanatory. It is quite simply an interview which is triggered off by one simple question like "what do you think of living here?". It should also be self-evident that it is applicable when opinions in depth are needed and is enjoyed immensely by children. Its advantages are its total open-endedness (literally I have known children emerge from a house to clock-off at 3.45 and disappear back in!), and its richness as a source of material. Its disadvantages are its total open-endedness - it is largely unpredictable and difficult to extract conclusions.

Having covered where to interview and the styles to use (certain combinations are clearly not possible) it remains now to make some points about organisation of interviews with a class of school children. This is divided into three sections - the preparation beforehand, the survey itself, and the analysis after.

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1. Preparation - having selected what sort of interviews to do, the next step is to prepare the questions, the sheets and the sample. If it is a conventional questionnaire there is no reason why the children cannot prepare the basic questions. The sequence should move from the general to the specific, from what people used to do, to what they do, to what they might do in the future, etc. All the questions should be clear and unambiguous - a trial run on other teachers is a good idea, especially if it is treated seriously and you get an idea of how long it takes. Keep things simple and decide what sort of answers you expect - one word or whole sentence etc. Make sure each form/survey sheet has some identifying questions such as address, age, sex of respondent, where interviewed etc. It is a good idea to have this at the end of the form because you may get a nil response or somebody may dash off after answering one question, leaving you with a spoilt form. Keep everything to a minimum eg do not bother with male/female if you only intend to interview women. Decide whether respondents will fill in forms themselves or the children will fill them in. Try to keep bits of paper to a minimum and put references on any which might be used more than once.

When it comes to selecting the sample you have to refer back to the objectives. In certain areas - suburban estates, new council housing, areas of multi-occupation - you may get a very poor response because so few people are in during the day. In other areas the respondents may be all old people or young mothers. Results must bear these biases in mind. Try to make some estimate of the response rate for future reference and so that you do not ask questions which depend upon a specific sample which may be unobtainable.

Beware of saturating an area, prepare some way of recording which people were helpful, others who were unehlpful, and addresses where there was no response. For group interviews, eg in a primary school or an old people's club, prepare the visit beforehand and make it clear exactly what is expected, who is coming, who is supervising, etc.

2. On site - when you arrive at an area there are various things to tell the children to watch for. Get them to work in twos or threes for companionship, relief and security. Make sure they have understood why they are there and give them a standard opening sentence to use. Let them develop their own styles - some of them are very subtle, others blunt but successful. Tell them to use their eyes to guess who to stop, which houses have people in during the day etc (ie don't stop a shopper running for a bus and do pick houses with open doors and windows!). To save printed paper, one person can ask questions off a form while the other records answers on blank paper by writing down just the question numbers and then the answers etc. Clipboards are essential. There is no reason why they cannot use a tape recorder for fuller interviews but make sure someone knows how to work it -

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and is willing to watch instead of getting too involved in conversation - recorders have a habit of going on silently after a tape has ended. If you have a whole morning or afternoon I always say that they can go in to a house for a talk or a drink once, but for full interviews this is essential. Warn them a little about the mixture of responses they might get but the best lesson is experience. When the sessions are complete, collect up all bits of paper, asking them to initial their own sheets. For group interviews, probably using prepared questions, try to go along with the children. Be punctual and quick. To give an example, asking young children about play facilities is very easy and productive. One of your group reads out a question, another counts the hands of boys saying yes/no and records the answer. You then record the girls' answers, on to the next question and so on. Make sure you introduce it briefly and thank people at the end.

Try to ensure that you know where everybody is at any one time, and arrange a route for supervision and places to meet. Rain need not be a major hazard.

3. Analysis - back in class, hand back the sheets and ask everybody to make sure all information is there and if not neat and tidy (this is a lot to ask anybody), at least comprehensible to others. Analysis is best done by a small group of 2-4 children. They can simply add up answers to each question, do maxima, minima, averages etc. It is good to get them to interpret results. If taped or other interviews were done, they can gather everybodys' comments on specific items, record the negative reactions (and negative words used), the positive reactions and neutral reactions. How often things, people or places get mentioned is significant. Again treat the analysis consistently with the whole event - don't try to find out more than you have really got information on.

Presentation of conclusions is best done by a small group and it is up to you whether they use agreed graphic techniques or their own personal ones. If there is to be an exhibition, good explanatory notes and conclusions are essential.

NOTES FOR TEACHERS ON CONTACTING PLANNERS AND ARCHITECTS

The majority of contacts will be with planners and architects working in local government. Very few planners work privately, but there may be good reasons for trying to contact private architects - especially those doing council projects (schools, housing etc). These notes concentrate on local government because this is probably the major location of joint projects with schools. The notes also presume that readers will have (or will) read the earlier notes for architects and planners on contacting teachers.

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The major point to realise is that although planners might come to you to ask you to adjust your teaching to fit in something for them - quite reasonably - it is very difficult for you to do the opposite. You may persuade them to give a talk, explain a scheme or lead a trail on a one-off basis, but their time is very carefully controlled and calculated, and anything longer term or on a recurring basis will need to be related closely to what they are doing at the time.

If you want to establish contact is is worth finding out informally what issues are currently of concern to the district of county. The county should be working on the structure plan but although some are complete and most should be fairly soon, there may be work and information needed on specific topics such as housing or transport. Remember that for somewhere like Leicestershire for example, the scale of the structure plan is very large. Many counties and districts are moving into the production of "design guides" to steer mainly private developers towards "better" design, and primarily in relation to housing. These guides often need to be based on surveys of the local aspects of landscape, materials, trees, shrubs and building vernacular - schools can contribute to this. For conservation areas, districts are probably better to contact than counties. You can easily get a map showing conservation areas from which you can see if they are interesting or very local, etc. It is rare for authorities to have done studies in depth of such areas and much more information is needed. Local plans are probably one of the most fruitful areas of contact because of their scale - ie rarely as large as a whole district, usually areas of around 15-20,000 population. They are supposed to follow the structure plans and are therefore not so advanced. The district can tell you which ones are being prepared and which are proposed, and again they are very often short of information. Research departments are always short of information!

If you are totally unfamiliar with planning and architectural processes many authorities have an advice centre or exhibition room - don't be afraid to hog their time in the early stages. Once you have decided on a context or an area try to get straight through to the person actually dealing full-time with that specific problem - don't bother with the chief officer at this stage. If you do not know a name, ask around because a remarkable number of architects and planners marry teachers! Even without a name a bit of persistence should get you through to the person you want but if you have a name of somebody else in a different section of the department, try that contact first.

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Make sure from the start that the architect or planner realises that you are not just extracting but offering - they get dozens of phone calls from people with tiny and often wrongly directed questions. Try to arrange a meeting as early as possible but from the start be ready with some idea about what class(es) might be available, how much time, degree of flexibility in the timetable, (to get, for example, a whole afternoon on site), whether you are fully insured, who will lead, who pays for maps, etc. The main worries of planners and architects are that they will be left in charge of 300 kids scattered over 2 square miles, that the exchange will be one way, the information will be inaccurate, and that it is all a device to relieve the teacher! The sort of arguments you could use are as follows:

a. You are offering a large and often enthusiastic task force, whereas most planning groups are small and under pressure for time.

b. There are reasons to suppose that a group of kids who are clearly not "from the council" will get <u>better</u> answers and information than the planners or architects.

c. Provided things are suitably duplicated and surveys carefully set up, there is no reason to be too worried about the accuracy of information.

d. The kids will probably have a greater, and certainly a different amount of local knowledge which should be tapped.

If the planners and architects are keen and seem willing to give time, they will have to clear it with their chief officer who will no doubt look at the ideas in terms of input to output ratios. It is very important to make it clear that the first effort will do little more that "break even" if you are lucky, but others in the future can soon become more "profitable". If all is OK then the details can be worked out and here the planner must rely heavily on your knowledge of the kids' expertise and abilities, and of the various teaching and survey techniques available.

Do not let things slide into obscurity when projects are finished. For everybody's benefit, follow up the initiative. This is especially important because the impetus for a project often comes from one keen individual. That impetus has to be fostered.

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TEACHERS' CENTRES IN AVON

by Grace Price,
Senior adviser, in-service training
and curriculum development,
Avon Education Authority

Teachers' centres are a comparatively recent but very important development in education; indeed they have been described as one of the most significant developments in the last decade. The growing dissatisfaction with current curricula and methods in the early sixties led to the establishment of projects funded by the Nuffield Foundation and subsequently by the Schools Council, the government financed body directed by educationists and with a majority representation of teachers on the Council itself. One of the requirements of participation in the earliest national projects, notably mathematics and science for primary schools, was the establishment of teachers' centres by local authorities in geographically strategic places with adequate accommodation staffing and resources. As Schools Council Working Paper No. 10 (1967) - "Curriculum development: teachers groups and centres" put it (paragraphs 23-24), "National projects cannot provide support for local development unless the plan of campaign includes the multiplication, by stages, of the number of teachers familiar with new materials. The next step in enlarging the number of teachers familiar with development work rests with local education authorities supported, wherever possible, by teachers' associations, area training organisations, colleges of education, university departments of education, and professional subject associations. The role of each body depends upon the character of the grouping achieved in each locality. The particular way in which their help can best be given should take account of the wishes of the teachers themselves, expressed through their local development centres". Later in the same paper (para 27), the importance of teacher initiative at local level is further emphasised as is the importance of co-operation effort and equal partnership "between teachers and all those who are able to offer co-operation". Thus teachers' centres were set up all over the country with a wide variety of locations, structures, resources and staffing; from large city centres with several full time staff, extensive accommodation and resources and a wide ranging programme, to small organisations using spare classrooms in existing schools and part of spare time help from enthusiastic teachers, not always paid. In the early days the emphasis was on lectures, discussions and practical sessions, especially concerned with mathematics and science. Since then, teachers' centre activities have grown and diversified, while retaining the essential primary objective of meeting the needs of local teachers. They are given very honorable mention in the James Report (1972) which envisages some of them developing into professional centres and all being part of a network of provision in support of teachers in partnership with other agencies.

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The objectives of teachers' centres can be summarised as follows; to:

1. provide a meeting place in a "neutral" situation, for teachers and teachers' professional and subject associations in which they can identify their needs, discuss and develop the content of the curriculum, and evolve methods for its effective presentation. (A steering committee consisting of a majority of teachers but, in addition, with representation of all other interested parties, is essential in this context);

2. provide a convenient location for the mounting of in-service activities offering opportunities for partnership between teacher and a variety of providing bodies - eg courses provided by advisory services;

3. provide accommodation, facilities and resources for locally initiated curriculum development (again involving a variety of agencies);

4. provide resources, especially equipment, for loan to schools, including expensive or infrequently used items which individual schools could not afford or justify. (This is especially important for small rural or semi-rural primary schools);

5. act as an agency/clearing house for resources from other bodies eg museum, archives, Schools' Council projects, careers etc;

6. provide workshop and reprographic facilities for the preparation of equipment and materials. (A full-time technician is essential for this to be effectively achieved);

7. provide a means of bringing to teachers' attention national, regional and local information and literature and other reference material. (A full-time warden is essential for the comprehensive but discriminating collection and dissemination of such material. The co-ordination and planning of the centre programme, in collaboration with other agencies, is of course the major task of the warden, who also acts as a catalyst and an innovator in his own right);

8. provide a base for the organisation of activities in the area, drawing on the accommodation, resources and personnel most appropriate to the activity concerned.

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THE AVON SITUATION

Avon has inherited four major centres and three associate centres or "outposts". There are inevitably wide variations in ethos, organisation, accommodation, resources and activities, and while these, to some extent, reflect the varying needs of the areas they serve, there are differences which cannot be justified on geographic or educational grounds.

Establishment of a network of professional centres

Within the terms of the James Report and subsequent White Paper, teachers centres were expected to play a part in the total network of agencies available to plan and provide in-service education including induction of new teachers. Regional and local consultative machinery is envisaged for the effective co-ordination of such agencies and it is important that teachers centres are appropriately represented on such bodies.

In planning the future of other agencies, eg colleges of education, the network concept should be borne in mind and approaches to in-service education which are task- and need-orientated rather than institution-orientated, kept very much in mind. A great deal of thought, discussion and careful planning is necessary before the implications of this can be fully worked out.

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A P P E N D I X

TEACHING POPULATION OF TEACHERS CENTRES

	Teachers centre	Area	No. of teachers (Approximate figures)
1.	Hannah More	2	3,500
	Filton	1 & 3	2,000
	Bath	5 & 6	1,330
	Weston	4	1,120

2. Teaching staff in maintained schools in Avon 1976

	Nursery	Primary	Secondary	Special	Peri Rem	Total
F.T.	58	3,411	3,993	323	127	7,912
P.T.	1	428	371	22	76	898
						8,810

Full time equivalent

Nursery	Primary	Secondary	Special		Total
55	618	58	68		799
				Grand total	9,609

3. Number of maintained schools in Avon in 1976

Nursery	Primary	Secondary	Special	Total
17	401	64	29	511

Number of pupils attending maintained schools in Avon

	Nursery	Primary	Secondary	Special	Total
F.T.	1,046	86,217	70,460	2,419	160,142
P.T.	462	1,018		52	1,532
					161,674

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Other resource centres for the Avon Education Authority

1. Resources for learning development unit, Redcross Street

Director: Philip Waterhouse

The unit is developing materials and techniques for independent learning in the following subjects:

English, mathematics, social studies, French and science.

Editor/writers with an editorial board comprising teachers in schools - the Board provides guide lines to syllabus content. Teachers/writers contribute to the units. A graphics team is available at the unit.

Materials are designed for secondary school pupils years 1 - 3.

2. The urban studies centre Bristol

3. The urban studies centre Bath

4. Resource centre church house - Religious studies

5. Multiracial language centre - Hannah More Annexe for non-speaking English, Asians, Pakistani, West Indians etc (Pop: approx.

6. The Weston coastal studies centre

7. The Cleeve activities studies centre - a converted old primary school for the use of pupils from Avon primary schools. Rural studies, nature studies etc.

8. The Dean field studies centre, Parkend, Forest of Dean - Residential field studies centre for secondary students - geographical, ecological, geological studies.

Outdoor pursuits - rock climbing, canoeing, orienteering and adventure courses.

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URBAN SCHOOLS AND GENERAL ENVIRONMENTAL EDUCATION

by Graham Carter

Director, Countryside Education Trust, Beaulieu

This lecture should be seen in the context of the one given in the Hague in 1975 and also in the light of information included in the draft handbook. No attempt is made to repeat information given previously. The paper should also be seen as complementary to that delivered by Rex Beddis earlier in the week and it is hoped that the two taken together will provide a broad over-view of the subject.

Rex Beddis mentioned three broad aspects of the development of environmental awareness in children and we will look again briefly at these three. Firstly, emotional response; secondly, understanding; and thirdly, moral response to environmental issues. (Although we will concentrate on the middle section, that is, understanding.)

We have seen, in the course of this week, a great deal of the potential for practical work outside the classroom and in the immediate locality of the school. The majority of this talk will be devoted to possibilities within the classroom itself.

Emotional response

In order for children to be able to develop some sort of emotional response to living things it is essential that they should be brought into close contact with them. This is more difficult for city children who may grow up in very sterile surroundings and it will be the responsibility of the school to compensate for this sterility.

Close contact with animals and plants should begin early in a child's life and continue throughout his school career. A variety of organisms should be constantly available for study and there is a great deal of published literature suggesting constructive ways in which they may be used in the classroom (suitable studies are suggested in many of the Science 5/13 publications, eg Mini-Beasts, also in the books of the Educational Use of Living Organisms Project, and in Nuffield Secondary Science and Biology Curriculum Materials).

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There are two aspects of this subject which require particularly careful attention. Firstly, it is necessary to modify the environment of the classroom before animals and plants can survive in a satisfactory way. In other words, great care must be taken to provide adequate accommodation for all living organisms. Much thought has already been put into this particular subject and the items of apparatus on display (animal cages and terraria, propagating frames etc) have all been designed with the needs of the organisms in mind and these particular examples are all available from biological suppliers, in this case, Harris Biological of Weston-super-Mare, Avon.

The provision of adequate accommodation efficiently run will also eliminate the few health hazards which can arise from maintaining higher organisms in the classroom.

The second important point is that the teacher's attitude to other living organisms is of overriding importance in the development of the correct emotional response in his pupils. In one project developed in the United Kingdom, children aged about twelve years were required to study developing chick embryos; these were reared in incubators in the school laboratories and at appropriate stages sections of the shell were removed by the children in order to enable them to see the various degrees of development prior to hatching. At the end of each lesson the result would be that the waste bin was full of dead or dying chicken embryos. It does not seem to me that this type of work introduced to pupils of this age is a sensible way to instil in pupils a sensitive response to the needs of living organisms. This is an extreme example that many of us have been guilty of - finishing biology or conservation lessons with dustbins full of plant material. We may even still allow children to collect far more materials during field expeditions than is really necessary for the success of the work.

Understanding

In our anxiety to make our pupils more aware of the major environmental issues which face us today we must be very careful not to overlook the necessity for laying a firm foundation of knowledge in the earlier stages of the child's school career, on which the later more sophisticated concepts may be firmly based. The key word here is simplicity. Should we begin by handing out sophisticated concepts to children who have no basic understanding of the ecological processes involved, then the children will end up shouting meaningless slogans. Such a response is of no great value to the environment nor indeed to the children themselves.

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One of the fundamental steps in creating in children a better understanding of environmental issues is to lead them to a clearer view of themselves as human beings, but even this may prove to be too difficult a starting point and we must first create a broad frame of reference within which man can be set.

This can be achieved by the study of a variety of organisms, each being observed carefully as an individual species. The following could be taken as an example of one possible pattern of development, including reference to such practical work as may be easily carried out in city classrooms.

1. Study of individual organisms

   a. examination of senses and responses using invertebrates and choice chambers;

   b. learning - simple experiments on learning using perhaps aquatic organisms, mammals with mazes and the pupils themselves, with simple transfer of training experiments;

   c. adaptation to environment - children can consider morphological adaptation of any organisms available.

2. Interactions between organisms of one species

   a. the pair - many easily maintained organisms can be used to allow children to observe the basic interactions between two individuals of the same species; many insects and fish, have well documented courtship routines which can be observed within the laboratory. In connection with this many will also demonstrate patterns of aggression and territorial behaviour;

   b. the family group and the more sophisticated concepts of parental care can be studied amongst the vertebrates, particularly mammals kept under laboratory conditions;

   c. the social group; the social insects are the most convenient organisms to make available to pupils studying this particular topic. Through their observations of such organisms children can become aware of the characteristics of social groups, eg division of labour, hierarchical structure etc.

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3. Comparison with man

The studies outlined above will have been paralleled by a variety of different approaches to basic biology and the pupils should now be in a strong position to be able to begin comparison between man and other organisms. It is easy to demonstrate the many morphological and anatomical similarities between man and higher organisms, and pupils can then begin to understand the minor differences which have made man so different. Such advantages as binocular vision and the possession of an opposed thumb in the pentadactyl limb can easily be demonstrated by the classroom experiment, although comparisons of intelligence and advantages of the vertical posture etc may need to be rather more theoretical.

So far the approach has been purely biological, but children should now be albe to relate what they have learnt to many other traditional disciplines, for almost all other aspects of their education are a direct outcome of the comparatively minor morphological and anatomical differences outlined above. Pupils should be able to relate what they have learnt to the concept of man as a maker and user of tools or to his ability to extend his own sense perception through a variety of instruments. Man's capability to increase his strength and range of movement through machines; his ability to modify his environment by buildings and his capacity to grow, store and transport food - all these concepts link directly to other traditional curriculum subjects such as history, geography, crafts, sciences and mathematics.

The final step is to consider man as a social animal, stressing that in this case division of labour does not require morphological adaptation but relies on training, intellectual capacity etc. Such studies provide direct links with geography and history, arts and crafts, and develop into the structure of cities, urbanisation, living space etc. For groups unable to leave the classroom many of these ideas can be successfully handled through the use of games and simulations.

In the pattern of study outlined above we have been concerned in the main with a single species and the interactions between members of those species. Such an approach may be seen as either behavioural or autecological. It is possible to develop an equally logical pattern on a synecological basis. Once again it is perfectly possible to develop all the basic concepts without leaving the city classroom. For example, the role of primary producer can be understood through the traditional classroom experiments on photosynthesis, while the idea of the primary and secondary consumer can be greatly aided by another traditional part of the curriculum, namely studies of dentition and diet. Similarly, food chains, food webs and simple ecosystems can be demonstrated in city schools by means of aquaria or terraria. The key objective here is to lead pupils to a clear understanding of the concept of the ecosystem through which energy flows and within which materials circulate.

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Imbued with such knowledge pupils can then undertake a comparison of their own habitat, a city, and a balanced natural ecosystem. A few possible items from such a comparison appear below.

	ECOSYSTEM	CITY
Structure	Biologically diverse	Tendency to be monospecific
Adaptation	Organisms adapted to environment	Environment adapted to organisms
Energy	Used for growth and maintenance of organisms	Used for growth and maintenance of organisms: - production and maintenance of artefacts - to modify effects of environment - to overcome physical deficiencies of organisms
Materials	Circulation, little through-flow	Through-flow, little circulation
Trophic levels	Balance of producers and consumers	Mainly consumers

In an ideal world it would, of course, be possible to add a third column to the two above, namely, the ecologically balanced city. This would be a city managed in relationship to its surrounding countryside in such a way that a large degree of ecological stability would ensue. Unfortunately such cities are not available for study in the twentieth century.

Moral issues

Having attempted to develop an appropriate emotional attitude to life within our pupils and having endeavoured to provide them with a basic understanding of the most important concepts, we are now much better equipped to discuss moral issues facing environmentalists. We could consider briefly whether the development of an environmental ethic represents a fusion of emotional response and understanding. Certainly emotion without understanding is of very little value and understanding without emotion can be dangerous, resulting in unsympathetic manipulation of human beings in the interests of an abstract environmental ideal.

One problem which we face is that environmental hazards are of many different kinds and can be studied from a variety of perfectly valid viewpoints. This can result in environmental groups with different emphases finding themselves in opposition to each other over any particular case. For example, one group may be concerned only with those hazards which threaten the overall ecological balance of the world, while others may feel that the environmental issues of overriding importance are those which threaten the survival of the human species. These two viewpoints are obviously not necessarily compatible for it could be argued that the surest way to ensure continuing ecological balance would be to eliminate the human species, although it is a remedy that few would propose. Taking a slightly different approach, some who would call themselves environmentalists may be concerned primarily with the inequality of opportunity which exists in human societies today; others may centre their efforts on threats to communities or social groups, while yet others may belong to an extreme preservationist group which considers that all that is old is good and all that is new is bad. All these groups could find themselves working in a derelict inner urban area. Those seeking equality of opportunity may wish to sweep away all the old houses and replace them with modern flats offering better living conditions. Those concerned with the community may see such massive redevelopment as a threat to the coherence of long-established social groups in the area. The preservationists may fight to save the older houses; while other civic groups may approve of their demolition as being of little value and yet be appalled at the aesthetic qualities of the buildings which replace them.

Through the use of games and simulations we can demonstrate to pupils that even in purely environmental terms major issues have no ready solution and that some sort of working compromise must be sought. At a slightly simpler level many groups of children are now involved in studies of pollution and on show are a variety of kits and other resource materials which allow pupil groups to participate in monitoring activities in such fields as air pollution, water pollution and noise.

Most of what has been said so far is related to the teaching of broad environment issues within the classroom and the school building itself, but it must be emphasised that there is no single right way to approach any of these issues and studies can be greatly enlivened by the use of the local environment.

Let us briefly consider one topic to see how this might work.

Energy: children can develop a basic idea of what we mean by energy in the classroom by simple experiments on transformation of energy from potential to kinetic to electrical to mechanical etc.

They can then study their own energy intake by looking at calorific contents of the foods in their diet and gain some conception of their energy output through experiments with ergometers etc, as well as through studies of respiration. They are then able to move on to studies of heat loss and insulation, still in the classroom or laboratory. They may then move out of school and see how the principles they have learnt can be used in conservation of energy. They may decide to look at the possibilities for reducing energy loss from their homes and learn something of the efficiency of alternative methods available. They may also study energy production by visiting gas works and power stations in their own locality and perhaps other sites supplying our energy needs, should these be readily accessible.

On such a firm foundation older pupils may now examine some of the moral issues involved. The inequitable distribution of energy used across the earth's surface, for example, or problems of limitation on renewable resources for the production of energy. Such work can add a double value as it can help the students to understand the necessity for the careful examination and evaluation of second-hand information. Many teachers will wish to continue this development with a study of the advantages and disadvantages of both the renewable and non-renewable resources. It is here that a carefully balanced approach is needed, for as well as pointing out the advantages of using renewable energy resources like the wind, the tides, heat exchanges etc, it is also the responsibility of the teacher to point out the current shortcomings of many of these alternative technologies. Teachers who approach environmental education in this way are helping pupils to make intelligent decisions from a broad basis of information.

Facilities

During this week you have seen and heard about a wide variety of facilities designed to support teachers of environmental studies in cities. Most of this lecture has been concerned with classroom teaching, so it may be worth saying a word or two about the use of such facilities at this stage. The first thing that must be said is probably that there are no rules for the good use of such facilities. In the United Kingdom at least they are used by the teacher in the way that seems most appropriate to his particular class and subject. One or two examples may help to clarify the point.

Example One: If we look again at the concept of the ecosystem we can follow the stages of its development in children and see what facilities may be used at each stage.

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a. Variety of life: at this stage the teacher may use a variety of living organisms maintained in the classroom or school grounds, but there are many alternatives that may be used as available. A teacher may decide to make use of film or slides or book material in the traditional way, or may take children to the local park or a zoo or botanic garden.

b. Adaptation to environment: at this stage also all the resources mentioned above are appropriate. For a detailed study of trophic levels, food webs, etc the teacher may employ either controlled habitats established in the classroom or facilities such as ponds in local parks, or may even move right outside the city area, with more advanced pupils looking at specialised habitats. Finally, for detailed energy studies and studies of biomass it is likely that a combination of field work and carefully controlled laboratory experiments will be employed.

Example Two: Food. As one line of divergence from the basic work on food chains and food webs and trophic levels, some groups may wish to pursue a study of human food and diet. Experiments on identification of food types may be conducted in the classroom. Groups may then visit local shops to study the diversity of foods available and their sources. At this stage they will be able to categorise them into essential and luxury foods. The work can be extended to look at distribution of food through any wholesale markets in the area, food manufacture, and perhaps food production, with visits to farms on the urban fringe or further afield.

Example Three: It is in the study of specifically urban topics that many of the special facilities are seen to their best advantage. For example, the study of the growth of a particular town may begin in a teacher's centre where groups of teachers are able to meet over a long period to develop and test resource material. During this development period they may visit the local library and public record office, make use of the local newspaper archives, study the streets and buildings of the town itself, and they may discuss proposals for future development with the local planning office and try to determine the attitude of the local amenity groups. The resulting information, in whatever form, may be deposited in a local urban study centre, for use by visiting schools, or it may be reprinted by the resource centre for distribution to all schools in that particular local education authority.

None of these examples is particularly important or complete in itself, but merely intended to demonstrate the variety of approaches to the use of facilities for environmental study in towns.

I would like to close with a brief consideration of two further points, namely sequence of teaching and assessment.

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Sequence of teaching

There is not the time to deal in detail with the ages at which different aspects of any particular subject should be taught: it is only possible here to reaffirm well-established educational principles. Firstly, the basic rules of good teaching apply equally to environmental education as to any other subject on the curriculum, hence we should proceed from the known to the unknown, the simple to the complex and the concrete to the abstract.

The second point stresses that more important than the chronological age is the stage of development of a particular child. The Science 5/13 Project makes extensive use of Piaget's theory which broadly categorises the three stages in a child's development. One, intuitive; two, concrete operations; three, abstract operations. Young children are largely intuitive, they are capable of absorbing information handed to them and they can reach conclusions but not by very logical means. This stage is common in children up to five or six years of age.

Slightly older children are able to engage in the concrete operations to construct simple experimental situations and carry out tests. Their investigative capacity is limited to begin with but increases steadily towards the early teens. The final and most sophisticated stage of development is that of abstract operations where children are able to handle data mentally. If we were to correlate these three stages roughly with the main headings set out in this lecture we could approximate the intuitive stage to the level of emotional response. The stage of concrete operations would be comparable to the process of developing an understanding while the third stage, the moral response, is obviously an abstract operation.

With these basic principles in mind it is possible to devise the developing curriculum for the whole of the child's school career which should ensure that the correct approach is adopted for the majority of children within any normal group.

Criteria for assessment of performance

Two years ago while talking on this subject in the Hague I emphasised the necessity for the selection of objectives in urban environmental education. Those of us who are concerned with the growing imbalance in man's ecological relationships with the rest of the world see environmental education as a hope for the future. We believe that we are laying the foundations for the creation of a human society and in better balance with its surrounding. However, complete dedication to any impersonal objective can lead teachers and others to disregard the needs of the individual child. In such cases,

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education is rapidly replaced by indoctrination. It is essential to retain a sense of proportion, and this means that we must be able to assess the effectiveness of our programme in terms of the benefit to the children who participate. In an attempt to assist teachers to judge the quality of their work, Her Majesty's Inspectorate in the United Kingdom have established an assessment of performance unit. The development of this unit is still in its early stages, but some of the criteria which they propose for use in assessment of performance are most relevant to our own particular interests and I would like to mention a few of them just to finish this talk. They are paraphrased for convenience.

1. Can a child see what there is to see?

2. Can he/she select from observation those items which are relevant?

3. Can he/she isolate patterns or in other words, find interrelationships?

4. Can he/she design experiments?

5. Can the child relate prior knowledge to a new situation?

6. Is the child developing a manual dexterity?

7. Has the child verbal/mathematical competence?

8. Is the child acquiring openmindedness, self criticism, a sense of responsibility, independence of thought, perseverence, and a sense of adventure?

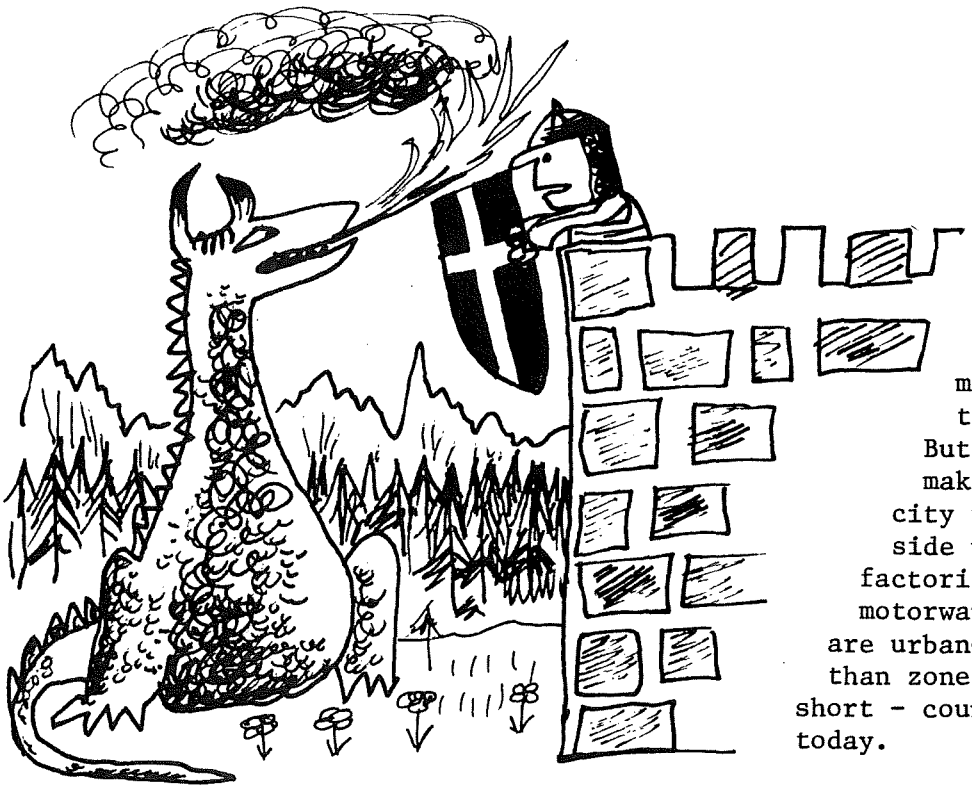
Are these in fact sensible criteria to use and if so, do we know how effective our environmental education programmes are in city schools viewed in the light of these criteria?

Conclusion

I would like to end by raising one more possible topic for discussion. I do not know the exact situation in all member states, but in the United Kingdom environmental education in city schools has developed from two fairly distinct sources. The broader ecological issues are usually of greater interest to teachers who have been trained in the biological sciences, while the majority of teachers engaged in leading studies of cities' patterns of settlement, transport etc have a geographical or historical background. In many cases these two approaches operate in complete isolation from each other. The problem is a twofold one. Firstly, how do we stimulate greater co-operation and exchange in information between the two groups of teachers predominantly working in this field, for co-ordinational co-operation is essential if a child is to be presented with a balanced programme of environmental education throughout his whole career in schools of different types.

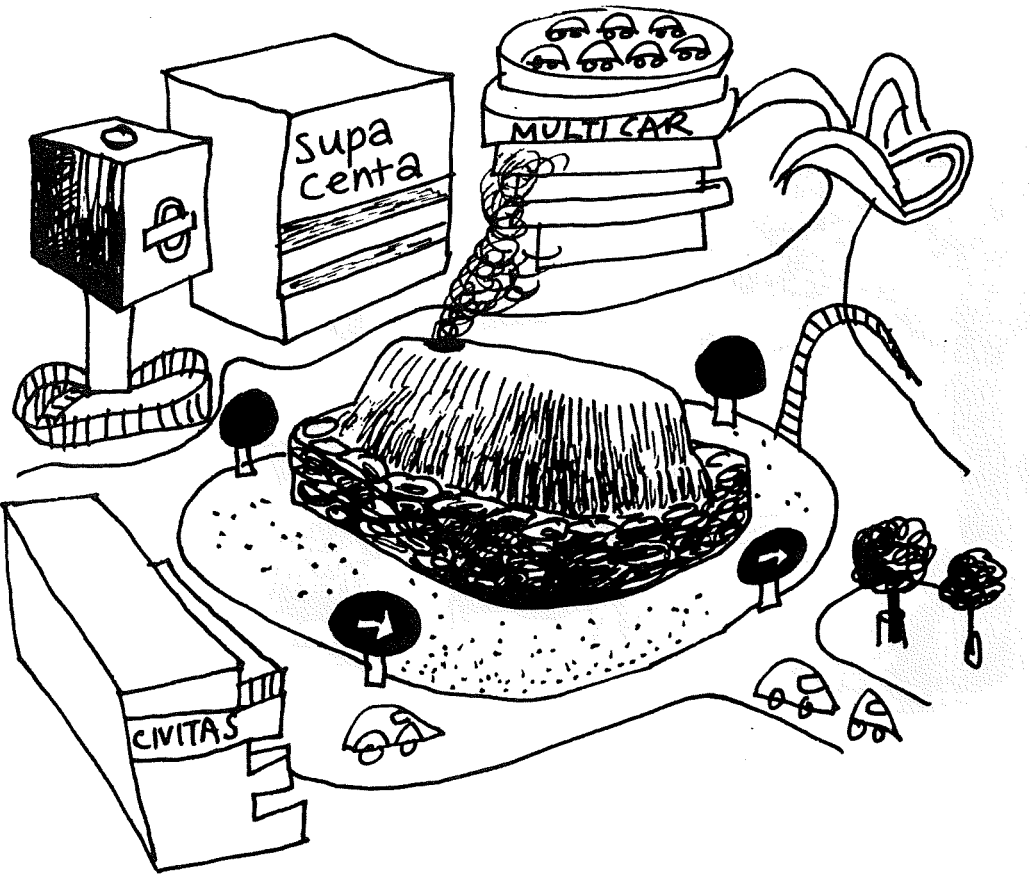
THE WIDER IMPLICATIONS OF URBAN AND RURAL ENVIRONMENTAL EDUCATION: ST. GEORGE AND THE DRAGON

by Don Aldridge,
Assistant Director, Countryside Commission for Scotland



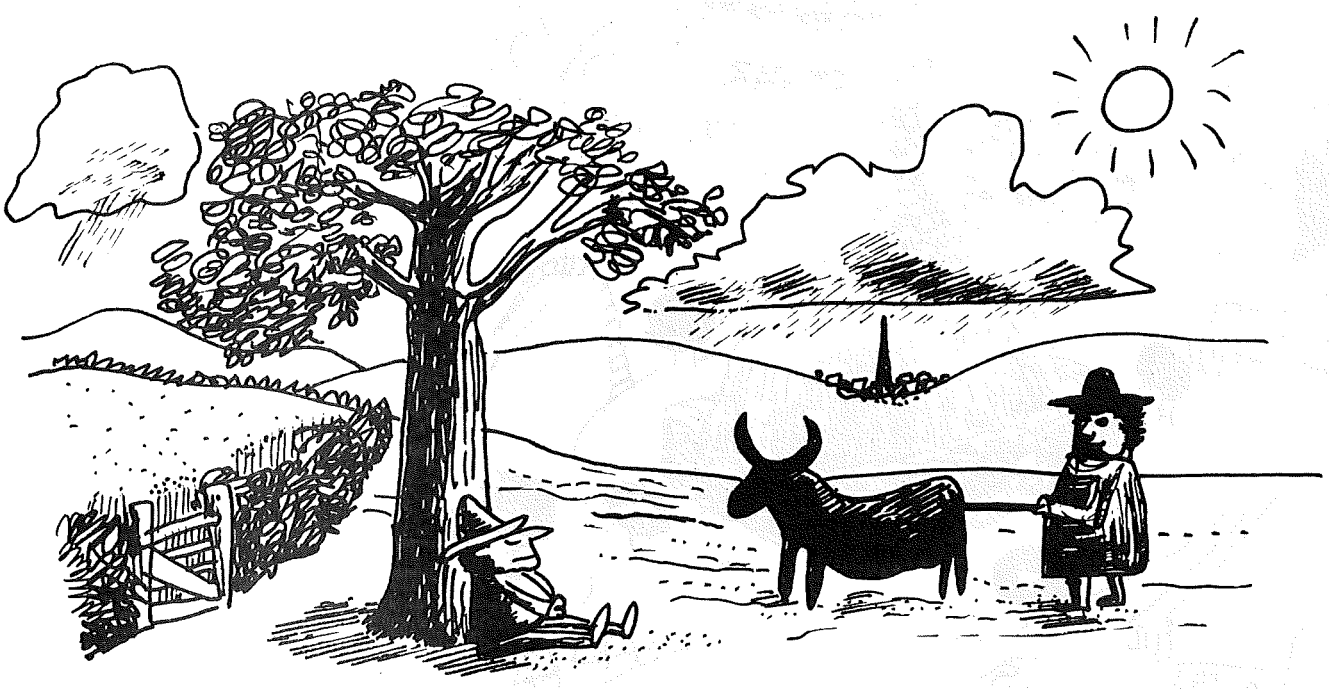
It has never been possible to think of a wall between the urban and the rural, cutting cleanly between city and hinterland. The city has never been self-sufficient, for its life depends on food and water, minerals and building materials and, increasingly today, on recreational land. But this dependence does not make the countryside simply a city region - as if all countryside were zoned for future housing factories, ring roads, reservoirs an motorways. Whilst our rural areas are urban-influenced they are much mor than zones of urban influence. In short - countryside still has a meaning today.

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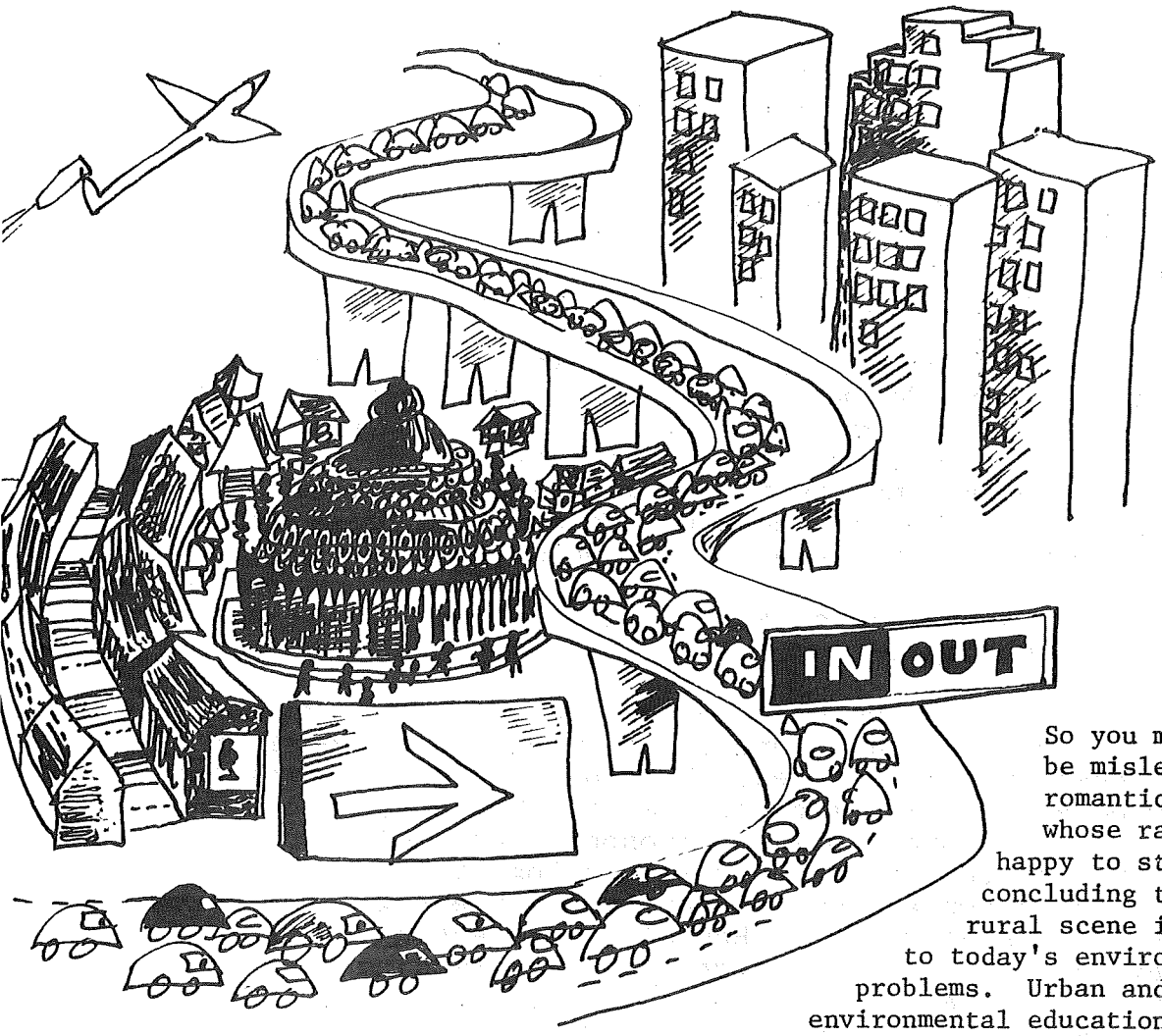
Urban and rural have characteristics which can be defined and mapped. True rural character is frequently derived from a tradition related to the natural environment. Styles of architecture which were a response to climate, local geology and social organisation of the community are vernacular and they still influence and inspire humanised modern buildings without slavish imitation or "fakelife". Ask the students to determine exactly where town ends and countryside begins, work out how they know and then examine their own criteria.

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Extremists who think that there is no need to study the rural environment may be over-reacting to romanticism - the cult which portrayed the countryside as a place of rustic and buccolic charm peopled by happy peasants sporting themselves in some idyllic pastoral scene. Such aristocratic affectations were not shared by the agrarian labourer who, understandably, had a less romantic view. But the town drew its life-supporting features from the surrounding countryside and it still does. Environmental awareness requires an appreciation of this inter-relationship and of the fact that each of us is still dependent upon the natural environment.

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So you must not be misled by romantics (amongst whose ranks I am happy to stand) into concluding that the rural scene is irrelevant to today's environmental problems. Urban and rural environmental education should continue to be integrated and neither is an end in itself. Environmental education is ultimately concerned with changing people's attitudes - to nature, to the population/resources equation, to conservation of the quality of life and options for the future. If the claims made at this Study Conference that we must also develop new public values in aesthetics, uphold democratic principles, and try to understand the reality of the decision-taking processes are also to be our aims, then we most surely need to understand the urban-rural relationship. This is true whether we start with an ecological approach and study the dynamics of change, the survival of communities and the extent to which changes can be assimilated without destruction of those communities, or whether we take the approach of regional ethnology which achieves the same end products by comparing the historical development of one area with another or by making a comparison of past and present in just one area. We can learn from this more about the individual in the community and look particularly at traditions which have disappeared. We need this information for the future. Public participation in planning is our way of patching up the damage done when we lost our sense of community.

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THE ETHNOLOGICAL WORKSHOP AS AN EDUCATIONAL MEDIUM IN AN URBAN SETTING

by Hans-Ole Hansen, MA

Director of the Historical-Archaeological Research Centre
Lejre, Denmark

The keynote speech was introduced by an experiment: three participants were asked to collect from a foodstore what they considered traditional food in another country (a participant from Italy selected a meal from the Netherlands etc).

Differences from nation to nation were (not unexpectedly) demonstrated. Cans for/with wine, beer, coca-cola and water were disconnected beforehand. Without special openers none of the cans could be opened in a normal situation. Thereby the need for tools, that is to say the capital of technology, was demonstrated. We are dependent on our food traditions and traditionally manually operated tools.

How this was developed and still develops, is the concern of regional ethnology.

Let us consider the ethnological workshop as a medium of the third museum. In an ethnological workshop, dimensions in time and space may be altered. Placing man as a participator in a period and a culture other than his own present one creates a social/psychological atmosphere condusive to stimulating reflections on cultural ecology and material culture. For example, how did man transmit energy from natural resources to his community? How did these energy transmissions alter both man and the environment? Understanding a coherent community through actual participation is based on a first-hand experience which can arouse man's awareness of his interaction and mutual dependency on the natural environment.

After the initial demonstration of what is the basis for (ethnological) historical workshops, a number of colour-slides were shown.

In brief, they covered a variety of situations in which (ethnological) historical workshops could be used.

1. Who are those to survive in the long run: the users of the downtown Chicago skyscrapers or the users of a cluster of Kenyan clay huts?

2. Do we really know the reasons why the different cities in Europe look so different? Krems-an-der-Donau (Austria) compared with Pampaneira (Alpujarra, Spain) and West Anstruther (Scotland). In all three cases: cobblestone paved narrow streets, two rows of house-façades. Yet a great number of other differences may be observed.

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3. Man and animals tilling the soil in Tunisia, Spain and Denmark. (In Denmark: part of a reconstructed training programme.) To the two first ploughmen in Tunisia and Spain, the work is reality. To the teachers in Denmark, trying an ancient ard, the work is simulation. A workshop simulation has great validity as an interpretation of what the farmer in Spain and Tunisia is doing.

4. Dream and reality in contact with animals. A horse used as a pet animal in a playground in Copenhagen (Denmark), a school garden in the Hague (the Netherlands), compared to the mule used for pack-saddle transport in Alpujarra (Spain). The husbandry animals - read: nature - become a different tool in a totally different life situation.

5. The (ethnological) historical workshop is used for two very different reasons. A reconstructed prehistoric village (Iron Age, Denmark, 500 BC - AD 800) represents history teaching on a national, and official, level. A copy of an Indian longhouse near Chicago, USA (Pawnee Indians) demonstrates the pride of a minority group for its own past.

   In both examples, social and spiritual, local and national pride supports the interpretation of ancient high-skill knowledge of the use of reproductive raw materials.

6. The process of restoring ancient houses or ships in a workshop situation is identical in different countries.

   Youngsters, guided by elderly people, both in Copenhagen and in Anstruther, restored an old vessel - a light ship and a large fishing boat.

7. The workshops may also have different aims. As a training course for teachers or leaders and interpreters of open-air activities (heating of pottery kilns), or as part of a scientific research programme (burning a reconstruction of a prehistoric longhouse).

   The use of fire is essential to all knowledge of the elements. Next follows the use of water. The amount of potential and direct "punishment" through mishandling of fire or the sea raises the educational value of the experiment. An (ethnological) historical workshop burned down by children playing with fire outside controlled activity hours demonstrates this.

8. Man in different psychological, social and technological situations will look differently at the potentials, or non-potentials of his environment. American students attending a Scandinavian history training course at Lejre carry heavy wooden beams with other expectations than the unemployed workers waiting for possible, heavy work recruitment on a market place in Livingstone, Zambia.

One of our basic tools in environment education - whether in urban or rural settings - is the museum. A visit will demonstrate the magnitude of change and differences of space. But - we must consider the various types of museum. The display system at the Danish National Museum differs from that of the Open Air Museum of "The Old Town" at Aarhus, Jutland. The latter is built in real size, and submitted to the forces of nature. The former presents isolated objects sheltered from these forces.

To promote coherence, "live demonstrations" are sometimes used - farming, iron forging, functioning machines - both in display (the "1st museum") and in open-air museums (the "2nd museum"). But there is a "3rd museum". It is characterised by being an "open-ended" museum of experiments and trials, of creation of a social-psychological atmosphere conducive to stimulating thoughts on the environment and cultural ecology as one way of using the environment in the past, and insight into the environment combined with knowledge of a given set of tools and working methods.

The experiences are - however - met here and now (not as a part of the past) and - moreover - as opposite to the "filtering effect" of many other medias. The experiences then are "owned" personally by the participants.

The role of regional ethnology, as a framework to simulated workshop situations, applies to the urban setting too.

One example is the "Højkaer", a children's leisure time home.

An ethnological workshop was built at Brøndbyøster, a suburb west of metropolitan Copenhagen, by the Højkaer Fritidshjem as a volunteer project in 1974. The project was inspired by the Historical-Archaeological Research Centre at Lejre, Denmark. The initial planning, the legal and financial basis, as well as the current social role and outlook, make this project a good case study. Using it as a concrete example, regional ethnology, cultural ecology and the role of the ethnological workshop as an educational medium in an urban setting was defined in the course of the presentation (see illustration number 1 - page 42).

If one compares one house unit of the "Højkaer" - surrounded by blocks of flats - with one house unit in the "Iron Age village" at Lejre, surrounded by a beautiful landscape, obviously the possibility for environmental education is much to the favour of the latter. But is the disadvantage of the former site after all that obvious?

The people living in the Kenyan clay huts may want to live in an urban environment once this becomes possible. They look forward to migrating to "the concrete worlds" totally dominated by man.

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The people living in "the concrete world" may want to stay there - or they have a desire to go back to the countryside.

Emotional attitudes thus affect the way people look upon their environment, hence the way they wish environmental education to be implemented. Which kind of pride do people wish to create in their children's mind? Pride, identity, and attitude are psychological factors greatly influenced by the environment. It seems that "the concrete world", if understood, can create pride, identity and attitudes.

Patterns of consumption influence the environment a great deal in our world of today and tomorrow. Like the 6-7,000 year old "kitchen-midden-dwellers" of Scandinavia, the industrialised world sits on large masses of waste, whether destructive to life or not. Between the resource and the waste there lies a use. Environmental education can be geared to understand the various stages of using the resource - or the traces left by the use. Looking at the components of a car, we may ask: where did the material come from? As regards its use, where did the car go to and what forces reshaped our environment in order to benefit the users of cars? Finally, the car is withdrawn from circulation - what could the components be recycled for?

A few trees were planted in a street in Chicago, USA, probably ordered by the municipal authorities. Tiny symbols of nature?

A great crowd assembled at an open-air beat festival at Roskilde, Denmark. Refuge in a mass dream?

The tiny symbols and the mass dream (you should expect youngsters to plant trees in masses and municipal authorities to arrange dreams for the masses) are the easiest responses to an overwhelming man-dominated environment. Between these extremes, environmental education through (ethnological) historical workshops seeks to find a multitude of better starting points leading towards understanding and awareness.

The handbook, presented to this study conference includes a great number of facilities for environmental education, out of which a selection have been tested during the conference days. From my point of view there are even a few more facilities and methods to be considered.

In general, facilities can serve the following two teaching approaches:

1. The process leading from observation to thinking.

2. The process leading from the performance of certain functions to thinking.

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Notes concerning (1) relate to what we observe. A "town trail" is a perfect example in this context. The observations made contribute to problem-solving through a multidisciplinary approach supported by an analysis of situations and phenomena.

Which observations and analyses can actually be carried through in an urban setting?

Notes concerning (2) relate to what we actually do. The "Stratford Mill Day Centre", Bristol, is a good example. Another example are children producing a feedback to other people or authorities, as illustrated in the keynote speech on "the children and planning projects".

Operations such as restoration, model building, possibly grain milling in the future, facilitate open-ended problem-solving by means of a multidisciplinary approach supported by manual/technical practice. Which operations can actually be carried out in an urban setting?

Illustration No. 2 shows the continuity from the study conference in the Netherlands (1975) to Bristol (1977) in the context of this keynote speech. Illustration No. 3 illustrates the two didactic models presented during the Bristol study conference.

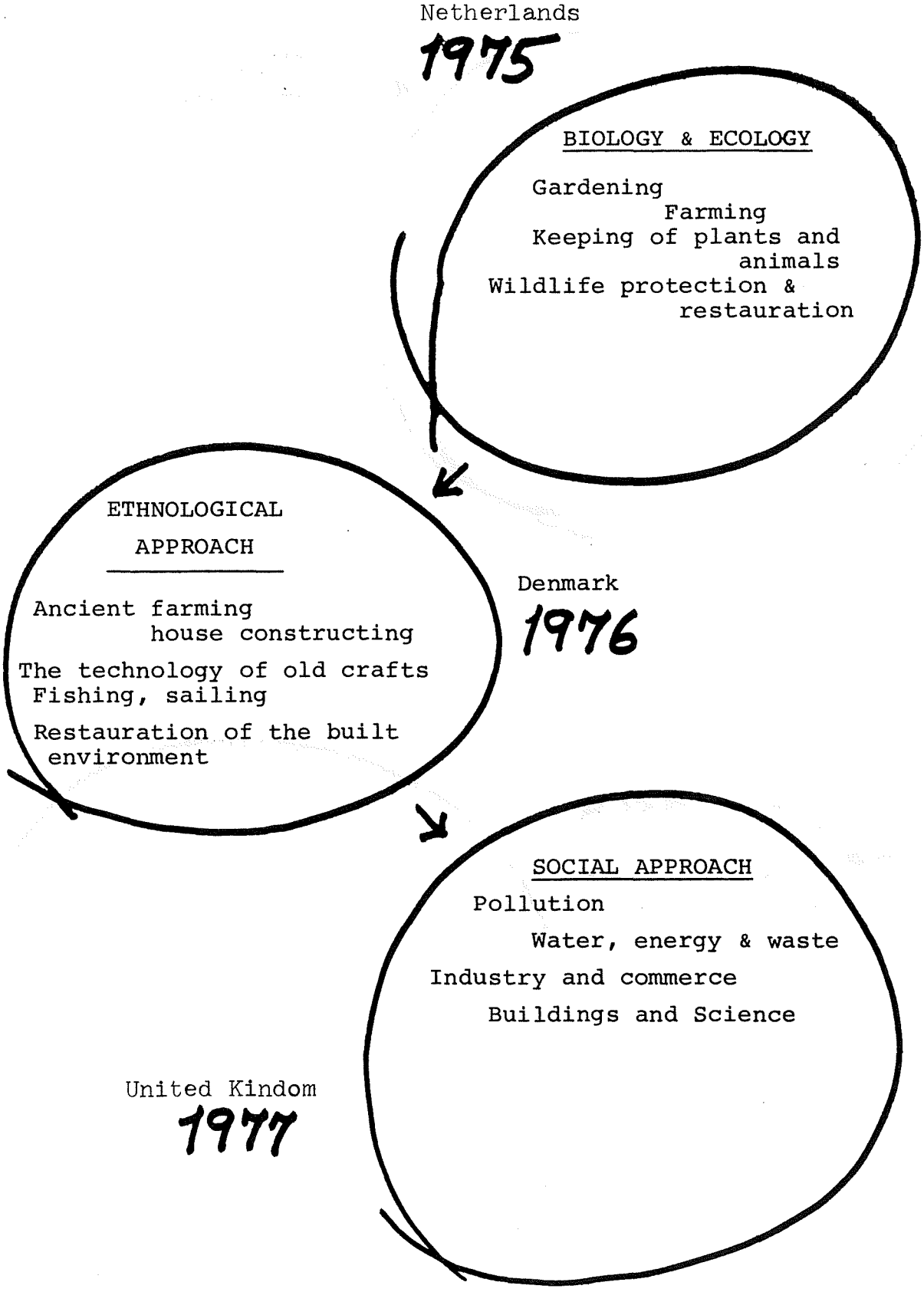
Illustration No. 4 shows a sketch of possible workshop facilities in an urban area, here the Bristol region. It also demonstrates that to speak of a "strictly urban setting" is probably not very appropriate. Far into the heart of Bristol, areas of derelict land covered by wild plants demonstrate the excellent possibilities for obtaining plants for workshop activities (plant dyeing of yarn, cooking, fibres for textile etc).

When demonstrating the ethnological approach to environmental education and interpretation at the Lejre study conference (1976), we did concentrate on two historical situations: the prehistoric farming society, where the cultural ecology of ancient man could most easily be experienced on a workshop level, and the situation of the farm labourers and smallholders during the rise of industrialism.

The Bristol study conference (1977) has clearly shown to me, that the ethnological approach based on workshop situations should encompass the choice of a social and technical situation in "post 1900" societies, maybe situations in the 1940s or 1950s in urban as well as rural settings.

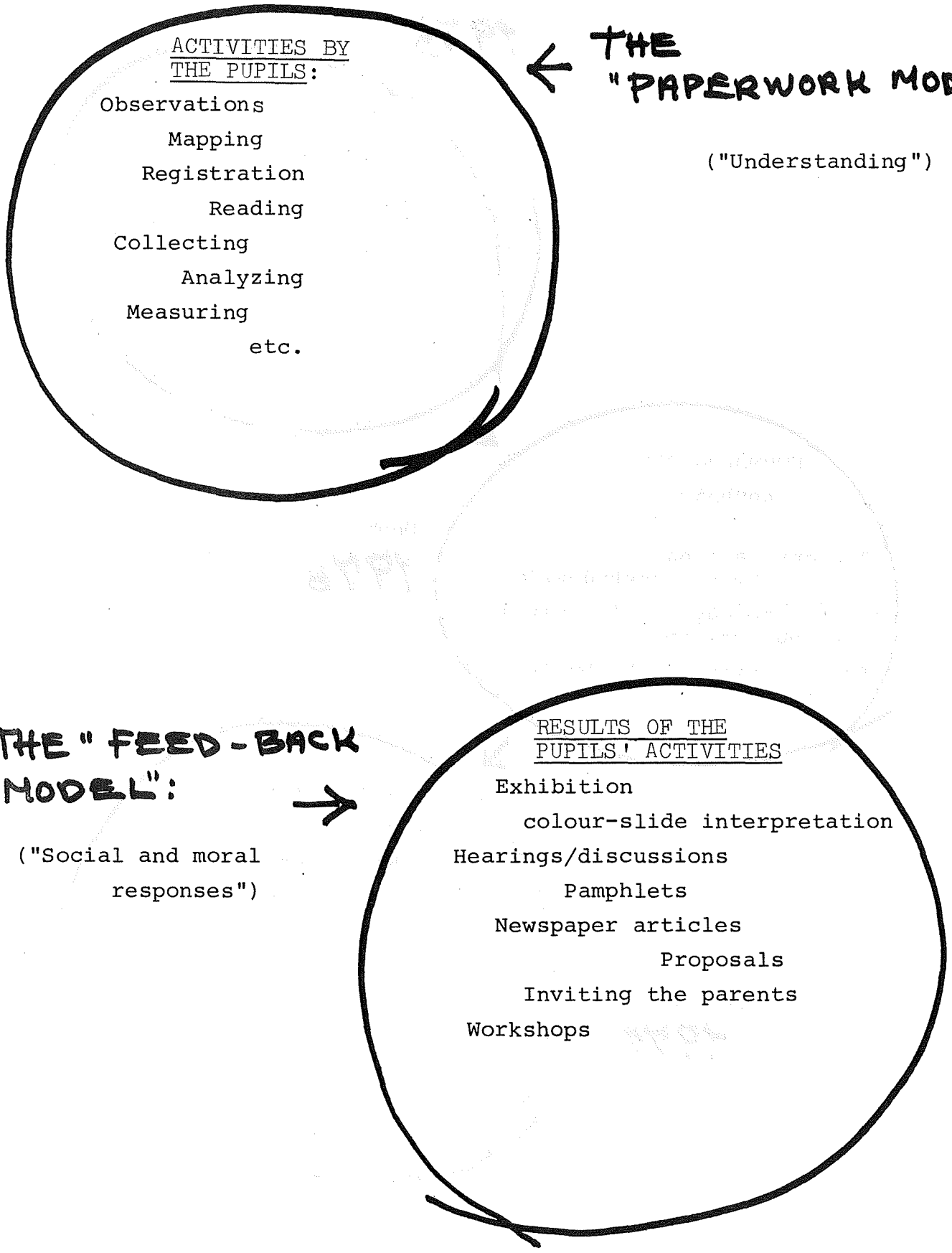
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(2) The continuity over the three study conferences:



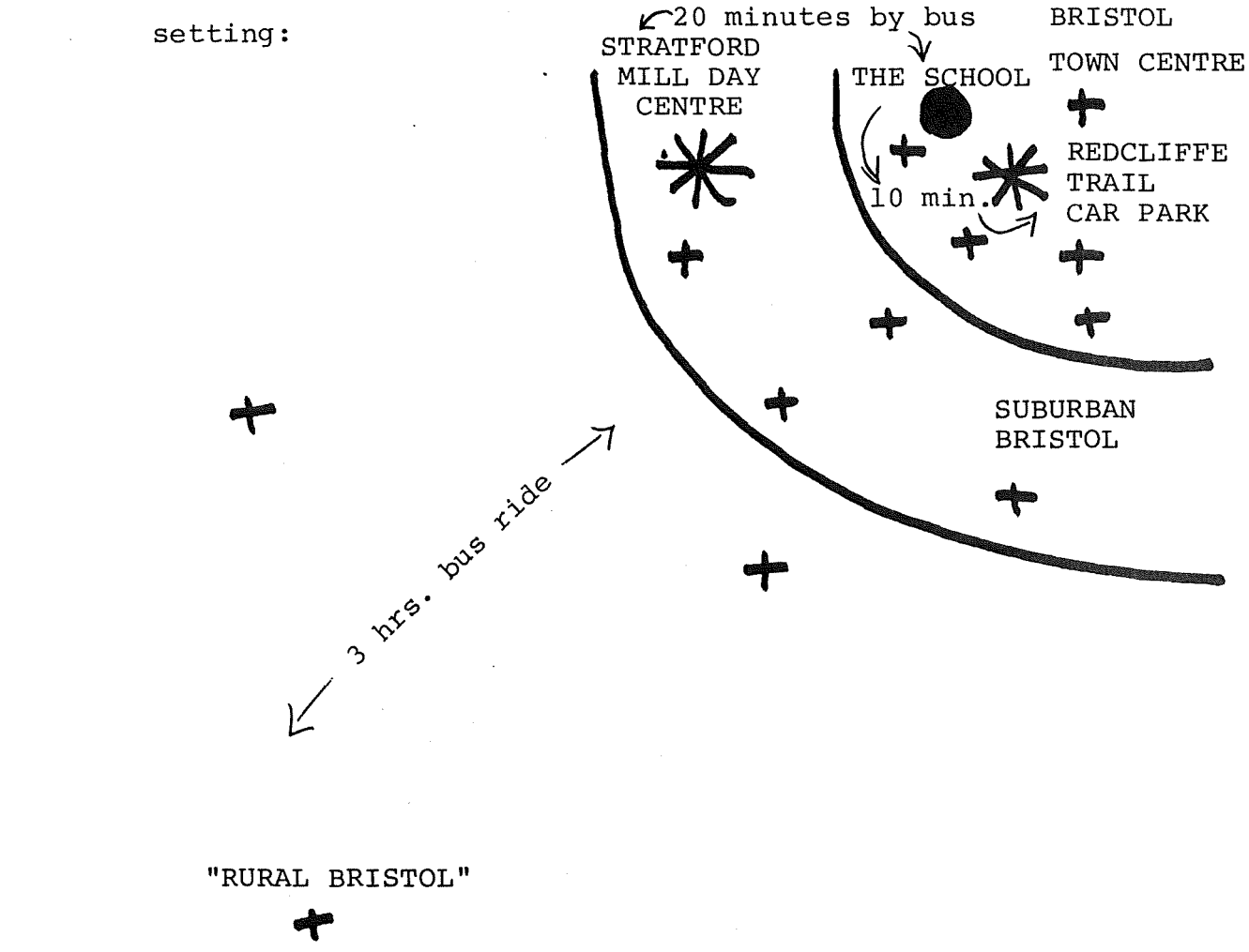
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(3) Two didactic models of environmental education



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(4) Principal sketch of workshop facilities in a total urban setting:



= Minor facilities with some potentials (not exactly workshops)

= Workshop facilities with special potentials

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GAMES AND THE ENVIRONMENT

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(Reprinted from Bulletin of Environmental Education - BEE 13)

Introduction

There used to be a credibility gap concerning the use of the word "game" in education; in some places there is still suspicion of the word, if not the idea, but overall the last five years have produced a remarkable growth in the development and use of simulation ideas in general.

One of the prime reasons for this has been the motivational effects that games and simulation seem to have. Even the fiercest critics of the technique offer no real criticism on this front, save that it is dangerous for children to become "too involved" (a view which would scarcely be seen as a large danger by those who struggle daily with general apathy to all classroom activity). Since games and simulations usually involve group activity, discussion, and problem-solving, their impact on participation in the classroom is usually self-evident. Some teachers are happy to work with them for their value in relation to communication skills and group dynamics alone.

But there is another perspective to their use. Their style of learning can be allied to distinctive purposes in terms of content; research already shows some indication that simulation is more effective than other methods in teaching about particular things.

It is not factual content to which this applies (though some exhaustive American studies have suggested that simulation can achieve factual learning at least as well as more expositional methods) but to the realm of system and process; and to the understanding of the decision-making situation.

Hardly surprising, therefore, that such a technique should be invoked in the attempt to understand the environment. In a decade when it is increasingly realised that the environment needs more than just a descriptive approach, the simulation of man-environment situations can hopefully aid the development of a committed and knowledgeable student at all levels from primary to postgraduate.

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But perhaps even more crucially, it is now clear that the landscape or townscape cannot just be taken at face value. The real basis of many environmental ills lies in decisions taken in faraway offices, in overburdened structures which fail to respond to pressures, in mechanisms which are so taken for granted they are never overhauled. One of simulation's chief attributes relates to the way in which it can present process, stripped down to the essentials; and here, environmentally speaking, there is plenty of necessary work to be done.

Perhaps a single example may help to illustrate this.

Urbanisation - a development game

In my own college much of our first-year work in the geography department was and is involved with first-hand environmental study in rural, urban and suburban environments. We were often aware that the problem was not having enough environmental data to work with, but too much. It was the very complexity of situations which often proved a stumbling block; and if students were tackling a first piece of work it was often, for them, difficult to disentangle the trivial from the significant in their observational work.

We also found that environmental problems were often seen in vivid black and white terms; people tended to line up either in the vanguard of preservation ("All bungalow colonies are, by definition, an ugly rash on the landscape; new towns are a bad thing") or in the vanguard of progress ("All conservationists are backwoodsmen in more senses than one; the motorway must go through") etc.

We did not want to discourage enthusiasm and commitment and replace it by fence-sitting, but we did want to make sure that such attitudes were not uninformed; so in order to try and prevent the misreading of situations when work in the environment was being tackled, a game seemed an obvious ploy.

There are some existing games that are concerned with planning and development process (John Taylor has a comprehensive survey of them in his Instructional Planning System (CUP)) but when we looked at them we found that they took days, often weeks to play, longer than we could afford, given students doing a main subject on only one day a week. So to devise something ourselves was the obvious answer.

It is held in some quarters that game-building is a highly esoteric process and one to be left to "experts"; on the other hand, it would seem, if you have a burning idea for the central interaction of a game, the rest of the

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material soon fits around it. Trial and error, and a few preliminary experimental runs may well de-bug a home-made effort successfully; the biggest problem is usually to keep the central part of the process central to the game, and not succumb to the temptation to add in superfluous rules in order to simulate everything.

We had a central idea to work with - the idea that the process of urbanising a landscape is not a heroes v. villains slanging match, but a process in which, economic, social and environmental factors interact in different ways through the unpredictability of human nature. We wanted to show, for instance, that not all in-filling destroys landscapes, and that sometimes landowners sell land for development for the best rather than the worst of motives.

Our board for the game was based on a disguised piece of South Downs landscape - similar to the mid-Surrey areas which we use for field-work. It was covered by a grid of squares which represented the individual lots of land which would be the subject of negotiation during the playing period. Teams of players in the game represented the various interests which were concerned with the development or preservation of the landscape - local landowners, prospective developers of housing, industrialists, and so on. One key group was to simulate the local council. This group not only controlled the administration of the game to some extent, but also represented a "joker" in the pack. An election result (simulated by the drawing of a card) was announced every three rounds - one roung representing a year of activity - and this could change council policy. It was suggested that when the council was "Blue", it was chaired by the Lord of the Manor who could thus have a substantial influence on planning decisions; when "Red", it was given incentives to develop more housing at the peripheries of built-up zones.

It was obvious that the development of such a simulation could not simply work from a crude basis of financial competition. In this kind of situation, for instance, there may be elements of competition, but clearly the total objectives of (say) an industrialist wanting to locate a factory may be different in kind from those of the Lord of the Manor. The industrialist may have an environmental conscience but be thinking in terms of a suitable location mainly in terms of cost-benefit; the Lord of the Manor may find the loss of some favourite parkland or the despoiling of an old-world village something beyond any financial calculation.

We tried to cope with this by allowing differences in objectives to be written into the starting position. We postulated that all groups were interested in (a) their bank balance, (b) the state of the environment to some degree, but weighted the balance of these accordingly. Thus the state of the environment score was x10 for the Lord of the Manor in the final resort, but only x2 for one industrialist.

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Assessing the state of the environment itself was also, of course, something which needed to be reduced to quantifiable terms. In doing this we were aware of simplification, but concerned to provide a mechanism that was a measurable component in the game. So we set up a maximum score (500) at the start of the game from which points were deducted every time some urbanisation took place. Points were deducted for squares themselves urbanised, and for the edges of squares, ie patchy separated development would reduce the score more quickly than that which was in-filling or rounding-off existing development.

Land changed hands by a process of negotiation in rounds; the rounds were divided into "verbal negotiation" (15 minutes) and "written negotiation" (5 minutes). During the verbal negotiation players with land available for sale might interview more than one prospective purchaser - in some cases stringing several along until written bids came in from which they selected. The written bids (solicitors letters?) represented binding contracts for land and were then registered with the local council who adjusted the game board accordingly.

The council also had a "Planning Department" which could give or withold planning permission for land, within certain constraints; thus the unwise purchaser of land might find himself in difficulties if he had not ascertained planning policies in the first place.

Organised in this way, we found that the game took two or three hours to play - plus extra time for briefing the teams and for discussing it afterwards. It could be operated comfortably within the context of a full day's work for 24 students.

It needed nothing more than the board and informally grouped tables and chairs (aided by identity signs) in a single room; the group playing the council tended to set up a group of tables as "council offices" and work departmentally from these.

A succession of plays of the game produced interesting variations in strategy; sometimes the "villagers" sold out far too easily and later regretted the increasing development which went on apace to the benefit of others; at other times, the developers and industrialists had to pay grossly inflated prices to their own disadvantage in order to obtain land that they wanted.

The early games often found the Lord of the Manor and the local landowners getting together in a "local pact" in order not to sell out; this was disturbed on more than one occasion by the controller of the game notifying the squire privately that he needed to raise several thousands of pounds for tax payment in a hurry. The resulting lack of confidence between allies bore resemblance to more than one village community that we knew where this had happened.

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One extra piece of flexibility in games like this ought to be in relation to rules. If participants suggest that certain points are not covered, then there is every reason to respond to this by creating new rules on the spot - even allowing new strategies. The most extreme (but ingenious) example of this has been the occasion when the male Lord of the Manor became worried at the guileless way in which a local (female) landowner was selling pieces of land to developers. He proposed "marriage" in order to subsequently take over her assets; since the lady was willing, the controller performed a short and highly unlikely ceremony, and game went on with the two playing as one ...

The final result of this game is not as important as what usually happens afterwards. If there has been some discussion about what is involved in the game, it can be related to the immediate programme of field investigation that follows. Students go into the environment with their minds less on "local building materials", and more on the planning policies of local rural district councils. They look for economic and social reasons for housing and industrial development; for community strength and strategy in retaining the character of existing village settlements. Above all, they are alerted to the unseen processes and systems behind the snapshot view of rural England which may spring most immediately to the eye in an initial glance.

Thus a game of this kind is not a replacement for fieldwork, nor a substitute for study of planning and development problems; but it is, if used within an integrated teaching unit, something which can enhance and deepen the possibilities of environmental study subsequent to it.

Some games discussed

A game such as the one described above may seem to be complex in its organisation and rule-structures; and so it needs to be if the process under scrutiny is one with a large number of variables. Nevertheless, even the construction of such a game is time well spent; the identification of the essentials of a working system is a self-education in itself, quite apart from its relevance to the subsequent game activity.

But not all simulation approaches to the environment need to have that kind of scope. A game has rules and restraints; a role-play has hardly any. In this latter kind of simulation activity, initial briefing of participants is usually restricted to a paragraph of biography, aided perhaps by other technical information which is available for use if needed. Then the discussion (council meeting? cabinet meeting? international conference? government enquiry?) begins and the matter is wide open from there.

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Role-plays of this kind based on local issues (the siting of an oil refinery, the redevelopment of a town centre) can be extremely effective, though it is much better if the participants are not aware of what has actually happened in reality; sometimes familiar landscapes can be disguised by the use of such simple devices as changing names and reorienting maps through 90 or 180 degrees.

One published role-play which is a good example of the virtues of simplicity, immediacy, and controversy is SPRING GREEN MOTORWAY which, as its name suggests deals with the problem that a new road might cause in a small local community. It can be completed within an hour, or extended into a project lasting two or three weeks, depending on how far participants search and utilise additional technical information to strengthen their case.

One of the most famous of urban-oriented simulations is the PORTSVILLE activity in the first unit of the American High School Geography Project. Portsville was one of the activities which carried the AHSGP to fame, and its attractive plastic boards and building blocks are ideal for the simulation of town growth in the North American situation. However, as a prototype it is probably inspirational rather than directly analogous to the British situation; its grid-iron patterns are distinctively USA-Canada style, as are its programmed sequences of development. In addition it is relatively expensive when purchased in the form of a class set (six boards for groups and associated materials).

There have been several English attempts to adapt this simulation idea, using alternative materials and data. The most successful ones have used hardboard, and more readily shapeable adhesive materials such as Sasco or Plastigraph. One blueprint for development on this approach is in Everson & FitzGerald's successor to "Settlement Patterns" ("Inside the City", to be published shortly).

One attraction of these town growth simulations is the possibility of starting with a known historic situation and seeing the possible alternatives that may emerge; discovering, in other words, that what is "reality" is only one of a number of solutions that might have actually developed. But beyond this it is intriguing to let simulations run on into "future periods", postulating the town as it might be in 1981, or 2001. This is, in fact, one of the practical uses of the tool (though a risky one) at all levels from Herman Kahn's scenario-generating "think-tanks" to local council planning.

An alternative style of simulation used in this context is that which uses a random number "Monte Carlo" approach to create patterns of settlement. (See Keeble, Hancock, Gowing & Jones.) Here an environment (divided into grid squares) is evaluated for the likelihood of settlement as an initial stage

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in the operation; then the operation of chance factors (through the random number tables) is added to these assumptions and units of settlement growth are thus developed and located. In this style of simulation, the participant is not a decision-maker, so much as an operator of the mechanism of chance; and though the final alternative patterns of (say) eight groups are often interesting to compare, without calculating or computing aids, the mathematical "busywork" of this style of simulation can sometimes be disproportionately time-consuming.

This emphasis on the process of town growth has come to supplement a more two-dimensional approach to urban morphology and structure. In the same way, urban studies in general have, it seems, been developing stronger interest in the functioning elements of cities; the question "what is this place like?" being now linked to "what is happening here?" Yet, at present, perhaps because the ground itself is much less extensively covered, there is a general absence of published simulation material which deals with environmental movement patterns. We could do with some more convincing models of commuting, leisure activity, and industrial linkage for classroom use and study.

Current concern about the nature and quality of the environment has already found considerable reflection in both published and unpublished material, however. For instance, the Coca-Cola American-derived "Man and his Environment" simulation is carefully designated as a kit rather than a game (another euphemism currently in vogue is "instructional exercise"), but it sets up a planning situation in which the class discuss possible items of development. The board, and pieces, though attractive, have a confusion of plan and oblique perspectives which will not satisfy some teachers (or children) and the simulation limits its own value by postulating a "correct" solution to the problem - hardly a concept which environmentalists would find completely acceptable.

An environmental exercise on a different scale was that thoroughly devised by S McB Carson & D J Lewis for the Hertfordshire Education Committee eighteen months ago. Their "Conservation Game" needed forty or fifty players and a day to play. Teams, armed with dossiers a couple of inches thick, pre-thought the Roskill issues, using giant boards of south-east England, supplementary 1" and 2 1/2" O S maps, and acetate overlays of runway sites and noise contours in siting not only a third London airport, but also attendant settlement, communications, water supply and sewerage facilities.

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Teams struggled to first find a suitable site and then maximise their efficiency in laying on services, before comparing solutions with other teams at the end of the day. One interesting feature of this simulation was the double currency employed - £££'s and conservation points. You could build a cheap airport and destroy every site of scientific interest in sight on one hand; or else run up an excessive bill for the sake of practicall every Brent Goose on the other. Discussion of the relationship between these two currencies was a key factor in the de-briefing of the game.

Some of the best material concerning the quality of urban life has come from American sources so far - with the problem of translation into British environmental terms a prerequisite for use. It points out the frequent need to adapt other people's material rather than to use it as it stands.

But one such American simulation that certainly deserves a European counterpart is the POLLUTION simulation devised for the Wellesley Public School system in Massachusetts. Here the game begins with commercial users and developers happily making profits, at the expense of polluting both air and environment. If they continue to feather their own nest, everyone in the end does badly; if they seek some voluntary restraint and co-operate in tackling the pollution problem (reducing the "count"), it is to the benefit of all - a useful lesson in any event, and certainly an example to show that simulation and gaming is not a synonym for pure competitive zeal.

American simulation use and research is considerably more advanced than ours in the environmental sphere, and yet we shall need to be careful not to take exclusively North American (or even West European) prototypes to fit all situations; it is the snare of the development syndrome in another form. But where problems are not idiosyncratic, there must surely be much future help from a technique which allows students to put themselves in other people's shoes, to practice strategic thinking, and to examine the dynamics of a world in which the system of activity are themselves in constant change.

Some published sources of relevant game and simulation material:

PORTSVILLE is marketed as part of Unit 1 (Geography of Cities) of Geography in an Urban Age (Crowell-Collier-Macmillan, London). The whole unit (a term's work in English situation?) includes materials for 30 students and contains a dozen different activities at a cost of £130. A "replacement kit", containing one Portsville board and related building and recording materials can be bought for £24.25.

The general idea is used in an English context and described by J A Everson & B P FitzGerald in "Inside the City" (Longman, 1972 - forthcoming).

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Mathematical models for town growth are described by:

D Keeble in an article in GEOGRAPHY, January 1969 (Geographical Association, Sheffield); J C Hancock in an article (also available separately as an offprint) in PROFILE, December 1970, St. Paul's College, Cheltenham, Gloucestershire.

Another example developed by D Gowing & Sheila Jones appears in "Simulation in the Classroom" by J L Taylor & R Walford (Penguin Education, 1972 - forthcoming).

Extracts from the Hertfordshire CONSERVATION GAME (Carson & Lewis) are included in the same book.

"Instructional Planning Systems" by John Taylor (CUP 1972) includes as an Appendix a full description of his LAND USE GAMING SIMULATION and refers to many other university-style planning games.

SPRING GREEN MOTORWAY, a role-play, is published by Community Service Volunteers (28 Commercial Street, London E1) at 35p a copy.

MAN AND HIS ENVIRONMENT, is published by Coca-Cola Corporation (Atlantic House, Rockley Road, W14) at £3 a copy.

STREETS AHEAD, a social problems game, is published by the Liverpool EPA Project (Paddington Comprehensive School, Liverpool) at £2.12 a copy.

Descriptions of games in books include:

SHOPPING in "Games in Geography" by R Walford (Longmans, 1969).

Several in "Simulation Games in Geography" by R Dalton et al (Macmillan, 1972).

Several in "New Ways in Geography" by J P Cole & N P Baynon (Blackwell, 1969-72), Introductory Book, Books I, II, III.

Some major American simulation agencies include:

Abt Associates, 55 Wheeler Street, Cambridge, Mass. - designers of POLLUTION for the Wellesley Public School System - however the game is unpublished.

Project Simile II, Box 1023, La Jolla, California - publishers of ECOPOLIS (a simulation about long-term ecological problems) & EQUALITY (a struggle for racial equality in a typical American city).

Urban Systems Inc., 129 Mount Auburn Street, Cambridge, Madd. - publishers of DIRTY WATER & SMOG (both pollution-type games) & ECOLOGY.

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