FOUNDATION FOR ENVIRONMENTAL EDUCATION IN EUROPE

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ENVIRONMENTAL EDUCATION AND NATURAL HISTORY MUSEA

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Foundation for
Environmental Education
in Europe

Fondation pour l'Education
à l'Environnement
en Europe

INTERNATIONAL SEMINAR

ENVIRONMENTAL EDUCATION AND NATURAL HISTORY MUSEA

Dijon, France, 25 to 28 May 1983

REPORT

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DIJON - NATURAL HISTORY MUSEUM -

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I N T R O D U C T I O N

Following work carried out within the framework of the Council of Europe, the Foundation for Environmental Education in Europe, together with the city of DIJON, organised under the auspices of the Ministry of the Environment, an international seminar on Environmental Education and Natural History Musea.

During the Dijon seminar were, in particular, explored :

1/ ways and means of developing environmental education programmes using the natural history musea as starting points.

2/ introducing actuality in the themes covered by the musea.

Both traditional and experimental facilities were examined highlighting the minimum requirements in terms of space and equipment for environmental education.

During discussion sessions, participants from 6 european countries indicated the spatial problems in natural history museum, those related to animation, as well as what needed to be done.

The practical conclusions resulting from the discussion are reproduced in this publication, for the intention of policy makers, senior staff from natural history musea, and planners.

P R O G R A M M E

25th MAY

2 to 5.30 pm	Registration at the Museum (jardin de l'Arquebuse)
6.30 pm	Drinks at the Town Hall offered by the DeputyMayor. Welcome of the participants.
7.30 pm	Dinner (no arrangements made).

26th MAY

8 am	Departure by bus, place de la Libération (in front of the town Hall).
8.30 to 9.15 am	Presentation of the nature-trail, Combe Saint-Joseph.
9.45 to 10.15 am	Demonstration of work with kinder-garten in the Natural History Museum.
10.30 to 11 am	Demonstration of work of the Natural History Museum aiming at raising environmental awareness of deaf children. Clos Chauveau.
11.30 to 12.30 pm	Introduction to Theme N° 1 : "Ways and means of developing environmental education programmes using the Natural History Musea as starting point". . Mr. FERRIERES - Director of the Natural History Museum of Dijon - gives the example of Dijon. . Mr QUINTART - Chief of the Educational Department of the Royal Institute of Natural Sciences in Belgium - "The educational department of the Royal Institute of Natural Sciences and education for the protection of the environment in Belgium". . Mr. FAYARD - Director of the Natural History Museum of Grenoble - "The Grenoble Museum of natural history and the environment".
12.45 to 14.30 pm	Luncheon
14.45 to 15.15 pm	Theme N° 1 (continued) . Mr. HAASE - Zoological Museum - Copenhagen - Denmark. presents the experience of his country.
15.15 to 17 pm	Discussion.

17.30 to 18 pm	Further demonstration of work of the Museum with children and live animals.
18.30 pm	Projection of a film.
19.30 pm	Dinner

27th MAY

8.30 to 10 am	Introduction to Theme N° 2 "Introducing actuality in the themes covered by the musea" . by Peter WILLIAMS - Museum Service - Warrington Corporation - U.K . by Peter VAN MENSCH - Reinwardt Academie - Leiden - Netherlands.
10 to 10.30	Interruption.
10.30 to 12 am	Discussion on Theme N°2, and setting up of two working parties.
12.30 to 1 pm	Reception at the Town Hall.
13.15 to 14.30 pm	Luncheon.
14.45 to 18 pm	Meeting of working parties. Hôtel de Vögue - Main room and cellar. Evening free.

28th MAY

8 to 8.30 am	Introduction by Mrs BONNEFOY , representative of the Direction des Bibliothèques, des Musées et de l'Information Scientifique et Technique (D.B.M.I.S.T) Ministry of education. France.
8.30 to 10 am	Meeting of working parties (Hôtel de Vögue).
10 to 10.30 am	Interruption.
10.30 to 11.30 am	Plenary session.
11.30 to 12.30 pm	Visit of the old part of Dijon.
13 to 14.30 pm	Luncheon.
15 to 17 pm	Free.

17 to 17.45 pm	Adoption of conclusions.
18 to 19 pm	Public session presenting the conclusions of the seminar.
19 pm	Snacks.
29th MAY	Breakfast followed by departure.

USING MUSEUMS FOR ENVIRONMENTAL EDUCATION. THE EXPERIENCE OF DIJON

A keynote speech by Mr. G . FERRIERE - Natural History Museum - DIJON - France.

Whereas in the 19th century, 70% of children in the country, so having first-hand knowledge of nature, 85% of the children nowadays live in towns and are acquainted with their environment only thorugh the pictures they see on television, visits to zoos or a few square yards of lawn round about their block of flats. It is the duty of the educational system to take account of this change, and help to deal with the situation. An important contribution can also be made by other urban institutions such as municipal services responsible for open spaces, and natural history museums.

The latter have a specially important part to play, because they contain large and varied collections (which can be used as a basis for displays), and also because they employ qualified personnel.

PRESENTATION OF THE MUSEUM OF DIJON

The Dijon natural history museum was set up in the 18th century, in a building used formerly as a firing ground for the king's musketeers. Over the past ten or so years, restoration work has been done on it, stage by stage. There are now seven rooms containing displays of local geology and animal species, the fauna of the different ecological zones of the world, and the fabulous insect world.

Annexed to the main museum building are a temporary exhibition room (a former orangery), a vivarium displaying small regional animals in their biotope with a view to making the public aware of ecological problems, and also shelters of wounded animals.

This collection is contained in a park measuring 5.5 hectares, complete with a botanical garden,a scientific colombarium, a number of avaries and a pond with a complete collection of european anatidae (geese, ducks).

This arrangement gives visitors a chance to observe the specimens from two angles (park and museum).

In addition, special measures are being taken to make the museum more widely accessible to the public. Thus, apart from temporary exhibitions (including some mobile exhibitions), the Dijon fair, special show-cases changed every month and lectures , there are a number of special activities organized for the benefit of the general public.

ACTIVITIES DESIGNED FOR SCHOOLCHILDREN AND STUDENTS.

It is important to point out that the person responsible for these activities is never intended to replace the teacher, both work in collaboration.
The museum provides a teaching aid in the form of living animals, photos, and other materials, and the members of the museum staff provide specialized knowledge in various fields.

Infant school.
Five classes go to the museum every week, and work regularly on the subjects set.

This gives the children an introduction to certain subjects generally regarded as difficult, such as the notion of death, the evolution of man, the cold, etc ...
In many cases, the children, in their turn, make their parents aware of these problems, inviting their families to visit the museum.

Primary schools.
By special arrangement, various activities are organized for school children (guided visits to collection of live animals, to the botanical and ecological section of the Combe St Joseph, etc).

Schools for physically handicapped children.
Provision is made for 9 classes every year. The children (suffering from speech difficulties deafness or motor handicaps) are particularly appreciative of visits from persons outside the school. The subjects chosen are designed to open these children's eyes to nature which, owing to their handicaps, they cannot easily study at first hand.

Secondary educational establishments (lycees, colleges).
Training courses for teachers and laboratory assistants, on subject related to ecology, are organized either in the field or on the museum premises.

In addition,there are lectures in educational establishments, dealing with specific subjects, based on the results of research done by members of the museum staff (water pollution, soil ecology, organization of nature zones).

In collaboration with the Fine Art School, the Museum organises classes in the exhibition hall, and students make figurative drawings (of butterflies, minerals).

ACTIVITIES FOR THE GENERAL PUBLIC.

The Adults Club organizes activities two afternoons a week for people interested in the study of natural environment; and there are excursions where each person in turn selects a subject to treat in detail. Subsequently, there are a series of small lectures in the course of which individuals report on their own findings.

The Club of the friends of the animals living in the Dijon parks.

Every Wednesday afternoon, children aged from 8 to 16 take care of the animals living in the enclosures of the various parks of the town, and help to look after them. There are organized excursions in the course of which they are able to study the flora and fauna, both wild and imported.

They help to rear the ducklings belonging to the collection of anatidae, and make out the descriptive cards for information of the public, giving details of the different species contained in this collection.

And lastly, children have access to a group of carrier pigeons (children are able to "sponsor" individual birds).

HOLIDAYS FOR THOSE REMAINING IN THE TOWN.

Since 1981, the Museum has been participating in the activities of programme organized by the Municipality and the Dijon Public Services.

The main objective of this programme is to acquaint the people of Dijon with their immediate environment, about which some of them know very little.

There are excursions and debates organized (some with the assistance of associations or other public bodies - such as the Bureau de la Recherche Géologique et Minière (Geological and Mining Research Bureau).

The following subjects are covered :

. Discovery of subterranean world : introduction to speleology and inculcation of respect for endigenous life.

. Ecology of the Dijon anticlines ("combes").

. Introduction to geology (visits to quarries, mines ., etc ...)

. Visit to the research Institute (eg. Institut National de la Recherche Agronomique - National Agronomic Research Institute).

. Observation of animals in the parks and helping to look after them.

. Learning about the more distant environment through excursions (eg. mines and the work of miners (Montceau-les-Mines, Saône-et-Loire).

These activities take place either during the short breaks in February and at Easter, or during the summer holidays.

It is interesting to note that public participation tends to increase every year, and that all age-groups are permanently represented.

THE EDUCATIONAL DEPARTMENT OF THE ROYAL INSTITUTE OF NATURAL SCIENCES AND EDUCATION FOR THE PROTECTION OF THE ENVIRONMENT IN BELGIUM.

A keynote speech by Mr Alain QUINTART - Chief of the educational department of the Royal Institute of Natural Sciences in Belgium.

The Royal Institute of Natural Sciences in Belgium is the equivalent of the national Museum of France in our country. The educational department of the Institute takes part in activities for the protection of the environment.

PERMANENT EXHIBITION

The main collection on show is that of the Bernissart iguanodons, a dinosaurian reptile of 125.000.000 years ago. At the moment the Museum (all the exhibition rooms) is in the process of restoration. Which explains why there are few animals on show.

In order to reproduce the natural link which exists between animals and their surroundings, there are more than a score of dioramas, showing certain species of Belgian animals in their ecosystem.

These include a few mammals, a few birds and specimens of all the batrachians and reptiles found in Belgium.

These dioramas not only display the fauna in their environment, but in themselves serve to give a clearer picture of the Belgian scene.

The educational department of the Institute decided to make use of these dioramas for improved environmental education. To this end, a number of questionnaires complete with diagrams were prepared for distribution to groups of young people, schools and youth movements.

The questions draw attention to the situation of the animals, their need of protection ... etc.

The only skeleton at present on view is that of a hump-backed whale. Here again, the accompanying notice points out that whale-hunting threatens many species with extinction.

For these two rooms as well as for the others, the educational department naturally organizes guided visits, and the guides always draw attention to these problems.

In the new rooms just opened, the educational department co-ordinates all the museological projects. Part of the new rooms is occupied by a temporary exhibition showing naturalized mammals entitled "Souvenir of our collections of mammals". The selection of the animals was made by a scientist, a former curator of national parks in Africa. Many of the animals are selected for their rarety, and both the labels describing them and the guides of organized visits draw attention to the need for protecting these animals.

The theme of the permanent exhibition now being prepared will be as follows : nature is suffering and it is incumbent both on us (members of this institution) and on you to help and protect nature.

The large natural milieux now disappearing are to be shown in dioramas, as follows : there will first be a diorama of the milieu in natural condition, though already in many cases changed by man; and then a diorama of the same milieu completely changed, destroyed and polluted. After this, the first diorama will be seen again.

Labels will draw attention to the extent of this destruction. Also in this room will be a diorama showing how the landscape changes when a town is built. The demographic pressure will be shown by a huge sphere encircled by a spiral swaring with people.

TEMPORARY EXHIBITION

Organizing temporary exhibitions is another excellent way whereby a natural sciences museum can contribute to environmental education.

It is no mere chance that most of the exhibitions planned deal with the protection of the whole or part of the environment.
The first such exhibition was called : "Flanders Landscapes, past and present". It contained a series of photos taken 75 years ago side by side with photos taken of the same place today. The effect is striking : disappearance of notable features, standardization of all the landscapes.

The next exhibition - "An arctic Oasis" - was organized by the National Museum of Canada, for the purpose of urging the need for protecting the vast territories of the Arctic against industrialization, and proposing turning them, instead, into nature reserves.

EDUCATIONAL WORKSHOPS.

An experimental apiary has now been installed, so that it will be possible, as from September, to organize workshops which will draw attention of the participants, young and old, to the importance of honey-bearing flora and the dangers of all kinds of pesticides.

Field excursions can no longer be organized from Brussels owing to the shortage of educational staff.

INFORMATICS

The most interesting section of the public is that composed of people wishing to de research on nature themselves. It is for their benefit that the educational department has organized an informatics service to reply to all questions.

This service consists firstly of a library of books and periodicals which can be consulted on the spot. In order to enlarge its stock, the educational service co-operates with an association for the popularization of science, the "Belgian Naturalists", which has made available its books and periodicals in exchange for premises for its secretariat.

FIELD STATIONS.

Education for the protection of the environment is far more effective when students are brought into direct contact with nature. The educational department has at its disposal, for this purpose, two field stations, one at Buzenol in the Gaume Region, the other at Middlekerk, on the North Sea Cost.

The station at Buzenol is now being taken over by other authorities. The work done there by the educational department has concentrated on two themes : study of all the milieux of the Gaume Region (Belgian Lorraine), and the production of biogas. The attention of participants was drawn to energy problems and various different ways of solving them. To this end, an experimental station was set up, producing biogas which can be used.

With the new buildings constructed at Buzenol on the basis of plans prepared by the educational department, groups of students will be able to make short stays at this station.

In addition, the Royal Institute of Natural Sciences has a biological research centre in a humid zone, at Harchies, which does important work on the education of the general public.

The Harchies region is shortly to be included in the future West Hainault nature park. This park will be Franco-Belgian, since it is to link-up the Park of Raisme-St Amand with the Forest of Bon-Secours and Harchies.

This region will be a large tourist natural sciences research area, equippe with numerous centres for landscape studies, such as, for instance the Maison de la Forêt at Bon-Secours, with its remarkable dioramas demonstrating the significance of a forest.

The importance of the cycles of matter is stressed by means of enlargements of soil fauna.

The educational department of the Royal Institute of Natural Sciences is not the only organ dispensing environmental education : a special section for the protection of nature has existed in this Institute for more than twenty years.

This section gives important assistance of various kinds : it pays special attention to legal problems; and also produces a large number of short documents designed to spread the notion of the need to protect nature.

The Institute's activity in this domain also includes the organization of associations. It provides premises for the association for "The Nature and Ornithological Reserves of Belgium" and the "Association of Belgian Naturalists". As from 1983, the courses for nature-guides to work in Brussels region will also be held at the Institute.

It is clear from all this information what contribution a natural science museum can and should make to education for the protection of the environment. Museums' work in this field could be greatly increased if they were supplied with the staff and resources necessary.

THE GRENOBLE MUSEUM OF NATURAL HISTORY AND THE ENVIRONMENT.

A keynote speech by Mr FAYARD - Director of the National History Museum of GRENOBLE - France.

The Grenoble Natural History Museum, which was set up in 1851, contains a large number of collections on paleontology, geology, mineralogy, zoology, botany and ethnology, and was,therefore, classified originally as a first-category museum.

Designed as a place to house collections, it continued, for scores of years, to present its exhibits in the set, traditional way; and it was only after organizing research on local and mountain museums that it acquired its specificially mountain character.

It is not possible for any museum, in this rapidly changing world, to maintain a static image ; so we have, over the past four years, branched out into various fields. Though our main objective still is to keep in permanent touch with the public.

As a result, the dingy, sleepy traditional museum has now turned, into an open, lively place, illustrating the character of the town, the department and the region. We are aiming to use the present museum, which is a small-scale copy of the National Natural History Museum, as a special instrument for spreading information about the environment.

We are naturally concentrating on the mountain environment, making maximum use of the resources placed at out disposal by technical progress, the mass-media, nature parks and other institutions for organizing activities both inside the museum and outside.

Important work is being done to spread scientific information about the environment by the use of written and audio-visual documentation, to disseminate such information more widely throughout the region, and to make it accessible to the many people who are not able to visit the Museum.

At the same time, the Museum continues to be the chief centre where visitors can find the main collections and obtain basic information : a starting point from which to plan or carry out field work.

The Museum also takes an active part in presenting new information, collaborating closely, for this purpose, with the Park du Vercors and the Park des Ecrins. It is represented on the scientific committees of these parks, so maintaining and affirming its scientific status.

In the light of 4 years experience of organizational and publicity work and of environmental research, we have decided to concentrate on :

. the renovation of exhibitions, with special reference to ecology and economy themes, taking due account of museological research, done mainly abroad;

. the organization of an environmental centre using data-processing techniques;

. the constitution of data banks on fauna and flora, and participation in research on mountain ecology;

. the production of information material (booklets, brochures, sets of slides, films, exhibitions, etc ...)

As a result of the action taken for the attainment of these objectives, the traditional character of the Museum has changed; it has now become an important centre for the dissemination of information about the natural environment. In this way, it continues to be responsible for the preservation of the natural environment whilst at the same time keeping abreast with the latest scientific progress.

The Museum thus transformed will constitute to be a place of discovery, providing both information and also facilities for leisure and cultural activities.

WAYS AND MEANS OF DEVELOPING ENVIRONMENTAL EDUCATION PROGRAMMES USING THE NATURAL HISTORY MUSEUMS AS A STARTING POINT.

A keynote speech by Peter HAASE - Zoological Museum - Copenhagen - Denmark.

The museum exhibition will appeal to "the man in the street" only if it expresses itself in a manner, which is understandable for that target group. The target group should be every dane from about thirteen years and older .

These were two of the statements in early sixties when planning the present exhibition in the museum of Zoology in Copenhagen started.

The exhibition especially deals with the interplay between living organisms and their environment.
Subjects which the individual citizen must understand in order to be able to take a stand on many of the problems in modern society.

As regards the quality of learning, it is important that the learning situation be as concrete as possible.

For many biological subjects the most concrete experience is obtained by working in and with "the real nature" - the environment.

Can the museum exhibition be a substitute for this situation? In my opinion, the answer is no.

When teachers are going to plan an education programme - the museum visit will only be a very little part of that programme. Very often the museum exhibit will be used - and I agree with that - as the starting point.

I believe, that one of the most important roles for the museum consist in providing motivations.

The aim is to draw attention to stimulate the curiosity, so both the teacher and the children can't stop - but have to go on with direct experience-activities in their own environment.

I thing that in the work of getting better "education-facilities-activities" in the museum, we have to use the exhibition itself as a medium instead of making classroom facilities, work-sheets, and so on.

In a present temporary exhibition called : Perceive,look, touch and listen ..... we try to make an experiment with the exhibition. The exhibition tells how animals - and man - communicate with the help of senses, and it is built up so that the public should experience this through as many senses as possible.

One of the ideas behind the exhibition is to turn the personal experience into a learning situation itself.

When at the exhibition we tell how an octopus feels and senses its way with its tentacles toward the prey in the rock-hole, you have the possibility to insert your hand and feel what may be hiding in the dark cleft.

Through this kind of museum instruction the students do not realize a deep insight into the theme "senses and communication".

But this is not the intention of the exhibition. The student is stimulated and through personal experience and activity, piece by piece, an understanding is reached.

This "jig-saw-puzzle" effect partly gives the motivation to prepare and enlarge the museum visit, and partly it can work to give the background, that is necessary to understand the general idea and biological principle of the theme.

Of the approximately 150.000 children who annually visit the museum, about 60.000 come in connection with a carefully planned educational programme. The remaining 90.000 children come without any connection to the schools!

These children take advantage of the various pedagogical offers! About half of all work-sheets yearly handed out by the museum are used by children, who come by themselves or with their parents or friends.

For the teachers in the schools near the museum, there is no need for using the museum.

The children themselves have used the exhibition as starting point for their own activities and experience.

The teachers have just to go on from there. Maybe this is the best and most important part of our taking part in the educational planning.

AN ACCOUNT OF AN ENGLISH MUSEUM EDUCATION SERVICE - "PLEASE TOUCH"

A keynote speech by Peter WILLIAMS - Warington Corporation - U.K

Warrington is an old established industrial town halfway between Liverpool and Manchester. The town has a long history of educational awareness. It housed the famous 18th century Academy with its well-known staff - Aiken, Priestley and Rheinhold Forster.

A local industrialist collected natural history specimens and this became the basis of the Warrington Natural History and Antiquarian Society. In 1847 this collection was transferred to the Town Council, and Warrington Museum became the second Museum in England to be funded by local taxation.

A purpose-built museum was proposed, the foundation stone was laid in 1855 and the new Museum opened in 1858. The earliest view of the interior is dated 1907.

The Museum was used by schools from the beginning and the local School of Art was placed within its walls.

A properly staffed Education service began in 1972.

No Museum displays its material to suit all the needs of the community. For example, in the early 1930's the geology room was redisplayed. The fossils were arranged according to the geological column and sub-divided according to the linnaean classification with its latin labels. The display was considered an excellent educational exhibition and as a result won a Carnegie Award.

Most schools using the Museum would at this time, have some knowledge of latin and only their great natural love of fossils and dinosaurs keeps them coming back.

When schools book a visit to our Museum to-day they receive a programme of activities tailored to meet their individual needs. Recently a class of 7-year olds requested material on the theme of "Underground". The schools T.V programme they were following included animals and their underground homes as well as fossils and the mining of ores. The first twenty minutes were spent looking at slides and stressing facts which would not be clear just by looking at the specimens. For example, an ammonite is reconstructed in a slide and the important point made that when we find an ammonite there is usually no trace of its soft parts, only the hard parts are normally preserved.

The slide presentation was followed by a handling session which included animals, fossils and minerals. The children were requested to draw example of each, and apply descriptions to the minerals, e.g heavy, rough, crystal shape, etc ...

The final session took place in the Museum galleries where excellent specimens were displayed. The whole time taken was about 1 1/2 to 2 hours.

It may be noted that the majority of time was spent in the classroom where material could be handled and closely examined.

PRE-SCHOOL PLAYGROUNDS.

In England, children begin their state education at the age of 5 years, but most districts have a Parent-organised Pre-School Playgroup which accepts children from the age of three.

For these sessions the Museum education Officer takes a group of stuffed and mounted specimens to the play-group location. They usually include Fox, Badger, Bat, Squirrel , Weasel, Starfish butterfly, tigger skull and globe fish.

Because young children find it difficult to concentrate for a long time, the activity is split into three parts ; first a short talk is given describing the animals, their mode of locomotion and food requirements, this is followed by a handling session the children are encouraged to describe what they feel, e.g fox fur is soft, badger fur is rough. They are encouraged to count the animal claws and the colour of the butterfly. After washing their hands, the children assemble for the final session which consists of play-acting the role of the animals.

The imagination of young children is very vivid. Without fail they can feel the waves and hear the seagulls as they lie down, eyes closed, legs and arms stretchec out like a starfish on the sandy shore. The session usually ends with some animal songs . These activities are vitally important, not only because young children develop language and learn facts about wild animals, but most of all they become aware of the real size of them. Children are familiar with animal photographs from books and television but they can have no concept of the real size until they see the animals face to face.

N.B I do not believe in using live animals because of their unpredictability, especially with such young children, and secondly, I do not believe torturing wild animals with letting hundredsof children grasp them.

HOLIDAY ACTIVITIES

During the school a programme of activities has been available since 1973. In the summer of 1975 an important new development took place. As part of a programme devoted to the study of rocks, an excursion to the Pennine hills was organised.

Parents were encouraged to accompany their children and examine limestones for fossils and minerals. This coach trip lasted a whole day and the following day was set aside to examine and identify specimens found. Children were encouraged to make their own decisions after comparing their specimens with the labelled Museum examples.

Museums ought to relate to their environment and one way to do organise relevant outside visits.

In 1976 a similar programme centred on a small stream on the outskirts of the town. Jam jars and nets were the only equipment used outside and the morning spent collecting a representative sample.

The stream displayed a variety of life forms above a sewage plant outfall. The only life at this point was the sewage fungus. Ten yards below this outlet the stream began to recover and the sludgeworm (tubiflex) and the rat-tailed maggot (tubifera) were collected. Slowly the stream recovered its oxygen and the fresh-water shrimp (gammarus) appeared and slowly increased. Identification took place in the Museum classroom in the afternoon. The only equipment being several old glass aquaris, six flat enamelled dishes and one 19th century microscope. (Two large diameter and 1 dozen small hand magnifying lenses were the only special puchase).

In recent years a more interdisciplianry approach to the environment has been used. Both a castle and a Church have been explored. Some groups of children have chosen to pursue a historical topic, whilst others examined the wildlife in the surroundings. In the Churchyard a group of boys interested in geology were able to examinedifferent stones used for graves and the differential erosion on various rock types.

The aim of our activities is to encourage children to observe by placing them in an environment where learning can be a pleasure.

In 1980 an exhibition of old photographs was held in the Museum. Besides a week of historical activities, a week was devoted to photographic processes. Sessions were organised on the following topics :

(1) The camera obscura.
(2) The Blue Print process
(3) Make your own cardboard camera
(4) Make your own photographic paper (Calotype process)
(5) Photographic face prints
(6) Photograms.

The arts as well as the sciences were represented in this programme.

The examples given so far were initiated by the Education Department but carried out with the assistance of all Museum staff.

Last year an exhibition of Tea Pots was organised by the Keeper of Art. The public were invited to loan items, especially the rare and the unusual. The tea companies were invited to contribute and a competition was organised with a prize of a large supply of tea. The Education Department was invited to make a contribution and did so in two ways : firstly a display to interest children was assembled using the "Alice in Wonderland" tea party as its theme. A victorian doll appeared as Alice and specially made soft toys represented the Mad Hatter, the White Rabbit and the Dormouse; secondly a quiz loosely based on the Alice in Wonderland story required children to look around the Museum of its answers.

In this exhibition Art, Ceramics, Ettnography, History, Local History, Social History and Botany were represented.

The Museum is committed to a temporary exhibition programme of interest to a wide range of people. Similarly, the Education department is committed to providing activities for youngsters and adults which are relevant to the Museums collections, and the environment in which they live.

NATURAL HISTORY MUSEUMS AND ACTUALITY.

A keynote speech by Mr Peter VAN MENSCH - Reinwaerdt Academie - Leiden Netherlands.

I am very well aware of the fact that a museum has many functions. At this moment however I will concentrate on the public-orientated activities. Among these activities we can distinguish between :

1/ public relations
2/ exhibitions,
3/ interpretation and education.

As much has been said already about education, I will concentrate on the exhibitions.

Although today's theme is on actuality, I think it is useful to pay some attention to the historical backgrounds. I don't want to go deep into it. I will make some general statements connected with the theme of this seminar.

During the 19th century museums showed a tendency to specialization (1). Many of the early 19th century museums were encyclopaedic. Natural history was often combined with history and art. Natural history itself included not only zoology, botan and geological sciences, but also ethnology and archaeology (2). In many museums ethnology and archaeology were separated from natural history (3).
In some museums specialization went even further : specialized, zoological, botanical and geological museums arose (4). The reason I mention this development is not a purel academic one. In this proces of specialization we lost the holistic (5) approach to our environment (and ourselves). I come back to this point later on.

In the second place mention should be made of the development of the so-called bipartite museum. In the beginning of the 19th century the complete collection was on display; the exhibits were the collections and vice-versa (6). A famous Dutch museum director said : "The taxpayer has a right to see everything he has paid for".(7 During the second half of the 19th century some museums started to separate a show collection (with a selected number of specimens) from the scientific collection : the bi-partite concept (8). The separation of exhibition and storage made it possible to develop new concepts in the exhibitions. The traditional, scientific displays were almost exclusively taxonomical : a systematic arrangement of specimens according to Linnaeus or another scientific author. Now ecology was introduced. For this new theme new visualizations were developed : habitat groups and dioramas. This meant an enormous advance in exhibit theory : the "idea exhibit" was born. It emphasizes concepts rather than objects (9).

Strangely enough almost no new concepts were adopted in the (permanent) exhibitions since the adoption of ecology as a main theme in natural history museums. Some museums are in fact still wrestling with the question whether the collection should be displayed according to a taxonomical scheme or not (10). A lot of natural history museums still chose for an "object approach" (9). A selected number of representative specimens are arranged according to scientific principles : taxonomical, chronological or geographical.

After World War II museums became more and more public orientated. Educational services came into being. Much attention was paid to working with schools groups. New working methods were introduced : field work, nature trails, etcaetera...

New themes became popular. But the exhibitions did not change! the display of collections and the educational activities are apparently considered asquite separate activities. My point is that the exhibitions of many natural history museums should be reconsidered. The exhibitions are basis and starting point of all public orientated activities. In my opinion an exhibit should be interpretative. A public orientated museum, taking its educational task seriously should ne longer be "object orientated", but "concept orientated" in its exhibitions. In developing new exhibits team work is a " conditio sine qua non". Curators, educators and designers should cooperate as closely as possible (11). A curatorial, scientific approach does not appeal to our average visitor who is not familiar with the scientific ideas that lay behind the arrangement of objects (12).

As stated above, ecology was the first concept orientated exhibitions. An ecology exhibit mostly took the shape of a diorama. Much can be said about the quality of dioramas, but in order to be effective as a learning opportunity a diorama should be supplemented by a series of interpretative exhibits (13).

However, ecology is not the only theme we should deal with in our exhibitions. There are many other interesting and important themes. But we should chose those themes that in some way meet the need of information of the population. The visitor (or potential visitor) should be the starting point, not the curator. That means that we should pay attention to actuality; that we, for axample, give background-information on actual topics : pollution, the changing climate, nuclear energy, sociobiology, biotechnology, genetic engineering, etc ... And where is our body?But a very few natural history museums pay attention to the human body. In my country most conversation between people is about the weather and their health. Not a single natural history museum in the Natherlands paysattention to these subjects! Another point is that most people live in urban environments. Natural history museums should pay particular attention to the urban surroundings, not only to the "green component" of a town, but also to urbanisation, social structure, economics, history, architecture, etc ... (14).

A few more words about ecology. During this seminar much is said about ecology. Much less is said about what can be called "human ecology". Man is part of the ecosystem ! This notion should be our starting point. Environmental education should include not only nature conservation in the sense of the protection of flora and fauna, but also the problem of energy, mineral resources, pollution, etc ... Continual emphasis must be placed on the environmental problem, as a social, economical and political problem (15). The environmental problem is a global problem strongly related with development problems. (16). The domestic problems of the west cannot be separated from problems of development in the so-called Thirl World. Pollution in our part of the world is connected with deforestation and erosion in other parts. For museums this means a return to a less specialist and a more holistic approach (5). It is not only natural history we are dealing with, but also history, economics, social sciences, etc ... Cooperation with history and antropology museums is important. Local concrete situations must be used to illustrate global relationships and foster global awareness : "Act locally, think globally".

Of course a new "non verbal language" has to be developed. It's no use putting up large texts with photographs. Museums are created environments into which the public is invited with the idea that in accepting this invitation there is at least something to experience. We must offer an experience, if possible for all senses. The museum environment offers such possibility and also the possibility to combine many types of education at varying levels of receptivity, with help of a great variety of media. Natural history museums are still in the proces of developing new visations (17).

However, museums must not be seen exclusively as a "display medium", as an exhibition centre. With an exhibition as a core a network of educational activities can be developed (18). Some museologists speak in this respect of a "system of self directed learning" (19). I tend to speak of a museums as a "consultation medium".

The exhibition answers the first, general questions of the visitor. It is not necessary nor desirable to put all available information into an exhibition. In order to find answers to more detailed, more specialized questions the visitor can use a series of additional resources : audiovisuals, library, documentation centre, computer, terminal, etc ...(20). In this way it is much easier to deal with actuality. Condition is that in choosing the themes and in developing the above mentioned information-network, museums develop a certain receptivity for actuality in general and for the themes that interest people most.

I would like to combine the idea of a museum as consultation medium with two other concepts : the tri-partite museum and the environmental record centre. The tri-partite distinguishes between storage/scientific collections, exhibition (generally concept orientated) and open storage/reference collection/study collection (generally object orientated) (18,21). The reference/study collection can be part of the multi-media approach as an additional information resource. The second concept worth mentioning is the british concept of "environmental record centre" (22)

Combination of above mentioned trends leadsus to the concept of the "integrated museum" (23). Such museums not only contribute to the development of an environmental awareness, but also provides the necessary information for ecological behaviour of the population as well as the authorities.

Notes :

1. This aspect is often neglected in historical surveys. For a general history of museums see for example Bazin 1967.

2. It is interesting to see that this process is still going on in the Musee d'Histoire naturelle at Dijon, which museum was visited during the seminar. In the african room remains of the old concept of natural history, including ethnology and archaelogy, can be seen.

3. An illustrative example is the history of the British Museum. See Caygill 1981.

4. Specialization can also be found inside the museums. In most museums there is a rather rigid division in separate departments, also in the exhibitions. In the Musée d'Histoire Naturelle at Dijon diorama's are part of the zoological exhibitions. Additional information is given only about the animals, but not about the botanical aspects not the environment as a whole.

5. Holism emphasises wholeness : a whole is more than the sumtotal of its components.

6. Burcaw (1975) calls this the "open storage approach".

7. See VAN MENSCH 1978.

8. For natural history museums this concept was developed by Agassiz and introduced in Europe by Möbius.
   Again it is intesresting to see that the Musee d'Histoire Naturelle is undergoing this process at the moment. Compare for example the bird and shell exhibits with the insect exhibits.

9. See Burcaw 1975.

10. The Museum d'Histoire Naturelle à Genève for example claims to be one of the most modern natural history museums in Europe.
Its permanent exhibition however is arranged exclusively according to the old 19th century concept : showing the animal kingdom from protozoa to hominadae.

11. Teamwork in museums has been the main theme of recent conferences of the Committee for Educational and Cultural Action (International Council of Museums). See ICOM-Education 9, 1981).

12. The geology/paleontology department of the Musee d'Histoire Naturelle at Dijon is an example of what I mean. Although this department is modernised it is still the old object orientated approach.

13. One of the best examples is the Introducing Ecology exhibition of the British Museum (Natural History) at London.

14. See Carter 1979, especially p. 52.

15. During the seminar an example was given of an outdoor educational activity. Slides were shown of people visiting a farm. It was said that the farmer explained how he respects nature. Attention should also be paid to the economic problems , fertilizers , re-parcelling, the use of pesticides, the Common Market problems (speaking of actuality!), etc...
For general problems see for example : IUCN, World Conservation Strategy (1980).

16. See CNBE 1981.

17. For example see Environmental Committee 1971.

18. See figure.

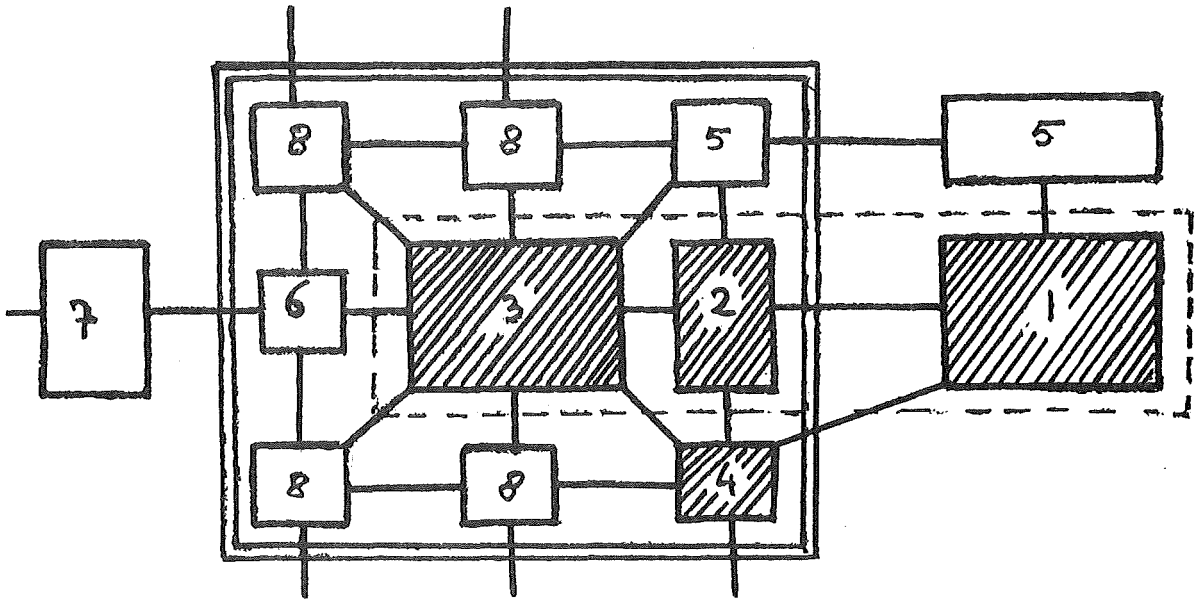
19. See ICOM-Education 10, 1983.

20. During the seminar examples of developing additional information resources were given : documentation centre in the natural history museum at Brussels and the new library in the natural history museum at La Rochelle.
In my opinion there should be a strong relationship between these additional activities and the core-exhibition.

21. An example of tri-partite museum is the Musée des Arts et Traditions Populaires de Paris.

22. Environmental record centres are data banks, at a county level, on a multi-disciplanary basis. They collect and house records about man's physical and cultural landscape. See Stewart 1980.

23. See Hudson 1977.



The tri-partite museum

The museum as consultation medium

1 Storage, scientific collection (not open to the public)

2 Open storage, reference collection (open to public)

3 Permanent exhibitions

4 Temporary exhibitions

5 Environmental record centre

6 Educational activities

7 Outdoor activities, extra-mural activities, museumoutreach

8 All other kinds of activities and information resources.

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CNBE : Commissie voor Natuurbeschermingseducatie (State Committee for Environmental Education, Netherlands).

Copies of above mentioned report of this committee can be obtained from Mr. GEESTERANUS, Hoofddirectie Natuurbehoud en Openluchtrecreatie, Ministerie van Landbouw en Visserij, Postbus 20401, 2500 EK 's GRAVENHAGE (Netherlands).

PRESENTATION OF THE DIRECTION DES BIBLIOTHEQUES, DES MUSEES ET DE L'INFORMATION SCIENTIFIQUE ET TECHNIQUE (D.B.M.I.S.T)

A keynote speech by Mrs BONNEFOY - Ministry of education, France.

The Direction des Bibliothèques, des Musées et de l'Information scientifique et technique (Directorate of libraries, museums and technical and scientific information) was set up in February 1982, indicating the determination of the national ministry of education to elaborate and carry-out a long-term museographical policy. This Directorate is responsible for the major national institutions such as the Museum d'Histoire Naturelle, the Palais de la Découverte, and the CNAM *, also for natural history museums in the provinces.

The task of the DBMIST is to elaborate a policy for scientific and technical information, designed firstly to make such information available to universities and museums through the use of new technologies (data banks, publishing, modernization of university libraries ...); and secondly, to promote the dissemination of information ar scientific and technical knowledge amongst the general public.

With regard to museums, the policy of DBMIST is based mainly on the assumption that the museum is not an enclosed space, but rather a means for the acquisition and dissemination of scientific and technical knowledge. In this connexion, it should complement other cultural media or instruments such as the television, the press, books or teaching, by providing information of a less scrappy, superficial or theoretical kind; or organizing outside activities (audio-visual, field work ...)

For this purpose the museum uses :
. objects making a visual or emotional appeal to the public,
. scientifically trained staff,
. methods designed to convey scientific information to the public or rather to various different kinds of public.

We also think it important that the activities of Natural History Museums should be carried on outside the museums as well as inside, so that they constitute not only a place where collections are housed but also a center catering for other bodies operating in the same field.

DBMIST has therefore, so far as its budget allows, adopted a policy of encouraging and organizing activities in co-operation with other bodies, though it is realized , that such cooperation cannot be fully effective unless museums' material and financial resources are increased.

In the domain of the environment, natural history museums naturally have a vital part to play. We realized very soon, in particular on the occasion of the symposium of museums held at Le Havre, that many curators were anxious to concentrate more on the regional environment and to deal more comprehensively with man's relations with his natural milieu. BDMIST has given priority to links with the ministry of the Environment, concentrating not only on the cultural activities of schools, but also on problems concerning the public at large.

As a pilot project, three natural history museums (Grenoble, Nantes, La Rochelle) took two studies made for the ministry of the Environment, one on "grazing lands", the other on the "marshes of the West" as the basis for museographic and pedagogic activities.

* Conservatoire national des Arts et metiers - National School of Arts and Crafts.

On the educational level, the two ministries - of the Environment and of National Education - have signed a convention for the promotion of teacher training and teaching activities and equipment. Five natural history museums (Autun, Auxerre, Dijon, Orleans et Strasbourg) are taking part in this programmes.

We consider that, in regard to environmental education, special attention should be paid to the teachers themselves, especially at primary level.
For this purpose, museums should concentrate more on contacts with teachers, and arrange with rectorates, pedagogic research and documentation centres, and regional inspectors to organize courses, and disseminate the information collected and the results achieved.

In order to make better use of existing structures, it might be desirable to set up groups, at regional level, and arrange for meetings with regional environmantal directorates, visits to museums, associations, parks.... as means to promoting exchanges and broadening information.

Such co-operation, which is only just beginning, may be extended as a result of the ideas and suggestions put forward by the various bodies concerned.

To sum up, the major role of natural history museums should be to enable the general public to "see" their environment and discover its components through better understanding of the basic factors. The Natural History Museums of today, instead of existing for learned amateurs, as they used to in the past, have now to cater for extremely heterogeneous public, whose curiosity they must arouse.

This means that our museums must be prepared constantly to adapt and innovate. In this context, it is desirable that we should compare our experience with that of museums abroad, from which we may have much to learn. It would no doubt be possible, with the aid of the Foundation for Environmental education in Europe, to organize inter-museum exchanges.

C O N C L U S I O N S

Museums of Natural History with their rich collections which bear richness of our heritage, are not only places for fundamental research, but play also a fundamental role in environmental education, the ultimate aim of which consists in promoting an awareness of the public with respect to its environment.

This process, which is necessarily an interdisciplinary one, highlights in particular the links between nature and culture, especially relying on such facilities as associations, parks, municipal services, other musea, botanical gardens and scientific groups.

This approach meets the needs of the individual to situate himself, to find his own regional roots and to affirm his own identity, thereby becoming fully concerned.

Natural History Musea receive visitors with highly various expectations, and must therefore put forward different approaches (exhibitions, audiovisual aids, excursions and different activities).

Any form of respect begins with a thorough knowledge of the subject matter in question . And musea may considerably assist in this , due to their collections, documentation, and staff who are able to act as intermediaries between the public and the world of science.

In order to motivate the visitors to take part in museum activities it is desirable that one looks for a mean of facilitating their identification with the themes put forward, and in particular with those which relate to current environmental issues.

With this aim in mind, it would prove valuable to gather together all those concerned - inside or outside the museum - who are in a position to pool their respective competences with a view to selecting and investigating into these themes, as an on-going process.

This undertaking can only become fully successful through the setting up of "technical" and "material" data-banks. There will also be a need for a new kind of strategy in the field of modern methods of communication. The effect of all this will enable musea to participate and to play an active role in the harmonious integration of new-comers, nationals or foreigners , to the area.

The natural history museum should also serve as a mean of reference, information, education and concrete action in present-day society, on a regional, national, and also international level.

The museum will thus contribute to its cultural and economic development. The selection of current issues will mainly be made in the light of information stemming from the mass-media. These issues will also result from the selection carried out by the museum itself among the natural and social events which are likely to arouse a varied public interest and thus a whole range of activities. Having dealt with current issues in this way, the museum will be in a position to diversify and expand its specimen-collection and its documentary material.

The outward looking approach proposed by musea concerning our natural and social environment should encourage other organizations and facilities to do the same, so as to promote greater public awareness.

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