

Museum

Vol XXVIII, n° 1, 1976

**Living museums; Museums
which are learning how to
live; Growing museums**

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Living museums

Museums which are learning how to live

Growing museums

Editorial 2

Living museums

Giovanni Pinna *Creation of a fossil museum at Besano, Italy: a community initiative* 3

Lazar Donkov *Etar Ethnographical Park-Museum at Gabrovo, Bulgaria* 9

Museums which are learning how to live

Renate Friedländer *Creative encounter with museums. Experiment of the Cologne Museums Educational Service* 15

A. M. Razgon *Museums and multidisciplinary universal education* 29

Fernanda de Camargo e Almeida *Museum of Images of the Unconscious, Rio de Janeiro: an experience lived within a psychiatric hospital* 35

Growing museums

J. C. Ebbing Wubben *New wing of the Boymans-van Beuningen Museum, Rotterdam* 43

S. K. Bagchi and P. K. Bhaumik *New gallery on transport in the Birla Industrial and Technological Museum, Calcutta* 51

Chronicle

Natural History Museum of Ankara (Sehavet Mersinoğlu) 61

Journey to Denmark and the United States of America—reactions and reflections (B. Jeannot-Vignes) 64

Museums commemorating the Second World War, U.S.S.R. 67

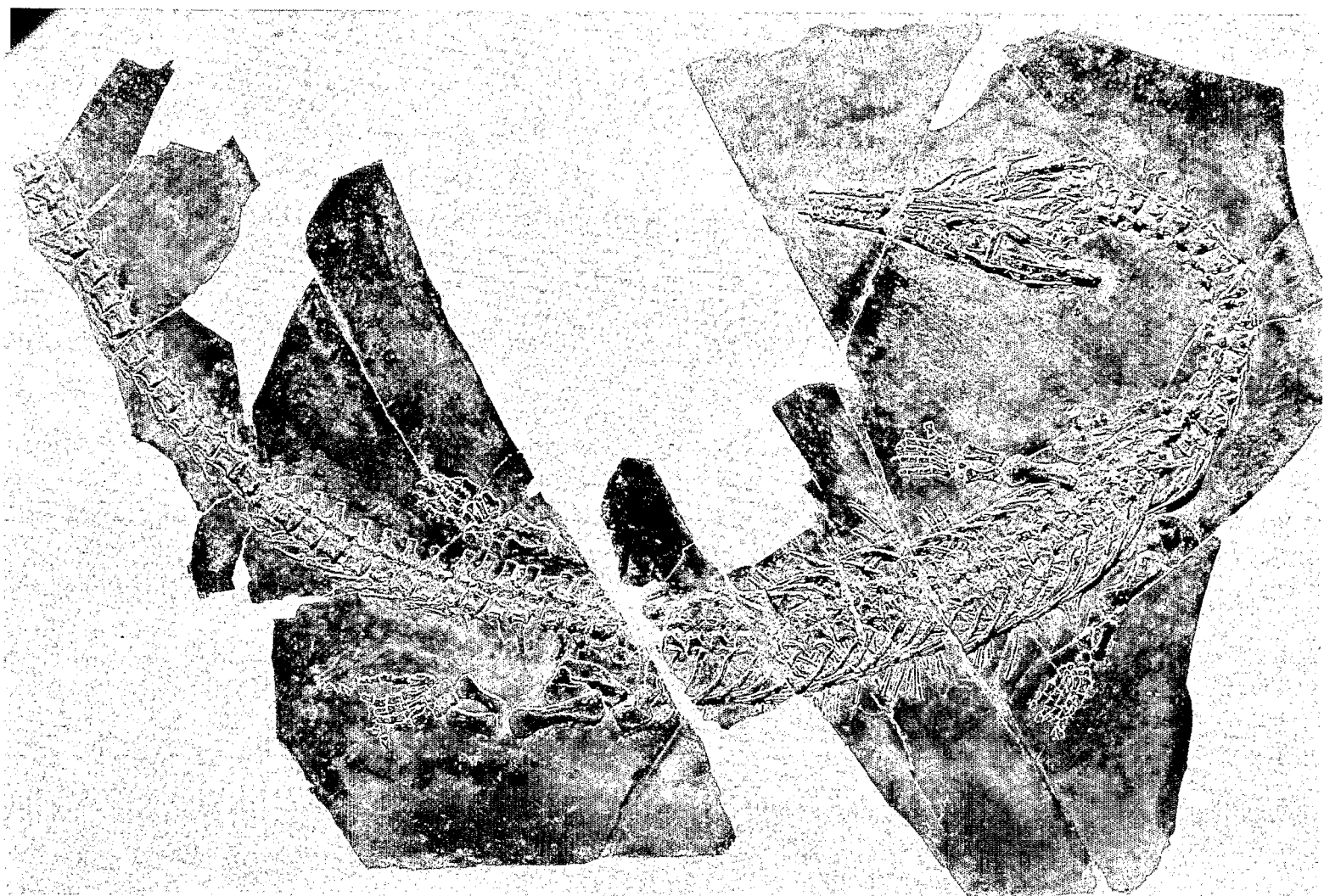
Editorial

Two living museums. The first one has been created by the people of a small town, by themselves and for themselves. The second is a revival of an ancient site, where both man and nature, from field to workshop, have been brought back to life again.

Three museums which are learning how to live. In the first, children are the creators, inspired by the things they see surrounding them. In the second, pluridisciplinarity helps bring home 'the laws of the development of nature and society'. In the third, the personnel of a psychiatric hospital are encouraging their patients to create their own society and to open out to the world at large.

Two growing museums. The Boymans-van Beuningen Museum, innovatory already in its time, is still an innovator today, thanks to the fascinating way in which space has been organized around the spaces of the objects themselves. The Birla Transport and Technology Museum is growing too, adding to its already rich store of technological exhibits a programme on the movement of man on the surface of the earth, in water, in the air and in space.

1
One of the most remarkable fossils discovered in the Besano area: *Askeptosaurus italicus*, a reptile about 1.8 metres long, currently exhibited at the Municipal Museum of Natural History, Milan.



Living museums

Creation of a fossil museum at Besano, Italy

a community initiative

Giovanni Pinna

Active community participation in cultural life is steadily increasing in Italy.

This new need for involvement, however, does not always meet with an adequate response from the local officials whose function it is to act as a link between the community and what can very loosely be described as the 'world of culture'. But we can say, quite categorically, that in contemporary Italy the concept of culture for the few has had its day and that the aura of 'splendid isolation' with which scientific circles in general traditionally surround themselves is no longer justified by the realities of Italian society.

At the present time not all cultural institutions, such as museums, for example, have succeeded in adapting themselves to this new model of cultural development based on active community participation. Public or semi-public authorities responsible for cultural policy seem to have outlived their usefulness, for in most cases they have failed to find a replacement for the outdated model of culture for the élite, with its exclusivist and in many ways prejudiced attitudes.

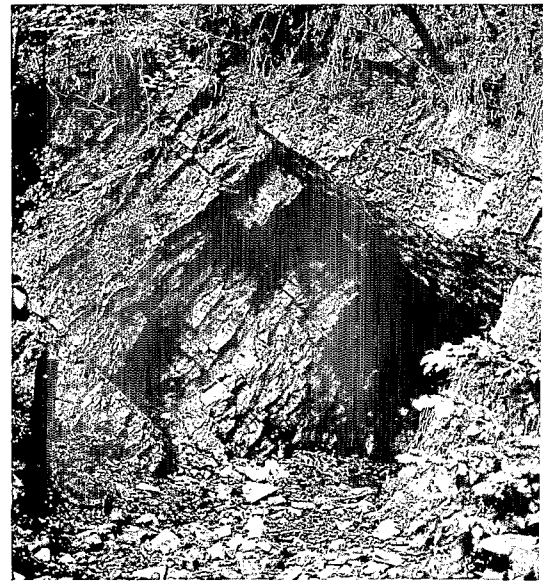
Although a new approach to culture has emerged spontaneously in Italy, where the people are now participating in cultural life and organizing community management of the artistic, historical and scientific heritage, this movement has not been matched, except in very rare cases, by a change in the options and methods of the official organization in charge of cultural affairs, which seems to be turning in upon itself, neglecting many of the opportunities for innovation.

In any case, the official cultural structures as they stand today are such that they can only have an introverted mentality, so that they exclude wide sections of the population from the management of cultural affairs and sometimes make policy decisions of a rather sectarian character.

Nevertheless, some recent events deserve attention: they are the results of the people's own efforts which have been crowned with success despite the obstacles posed by organizational problems and decidedly unfavourable external circumstances.

In the field of science the most recent of these achievements, which is perhaps the only example in Italy of spontaneous action to enhance the value of an important part of the nation's scientific heritage, consists in the establishment of the exhibition-cum-museum of fossils at Besano, a village of some 1,100 inhabitants in the province of Varese in Lombardy.

The fossils found in the commune of Besano have been well known to all palaeontologists since the middle of the last century. In 1854 a scholar from the Natural History Museum of the City of Milan found in the outcrop of



²
The mouth of the mine situated some 30 metres above the level of the village of Besano; many fossils were taken from this mine in the past.

bituminous rocks just above the village several skeletons of small reptiles 200 million years old in a perfect state of conservation. This was only the first of a series of discoveries of major importance for the earth sciences.

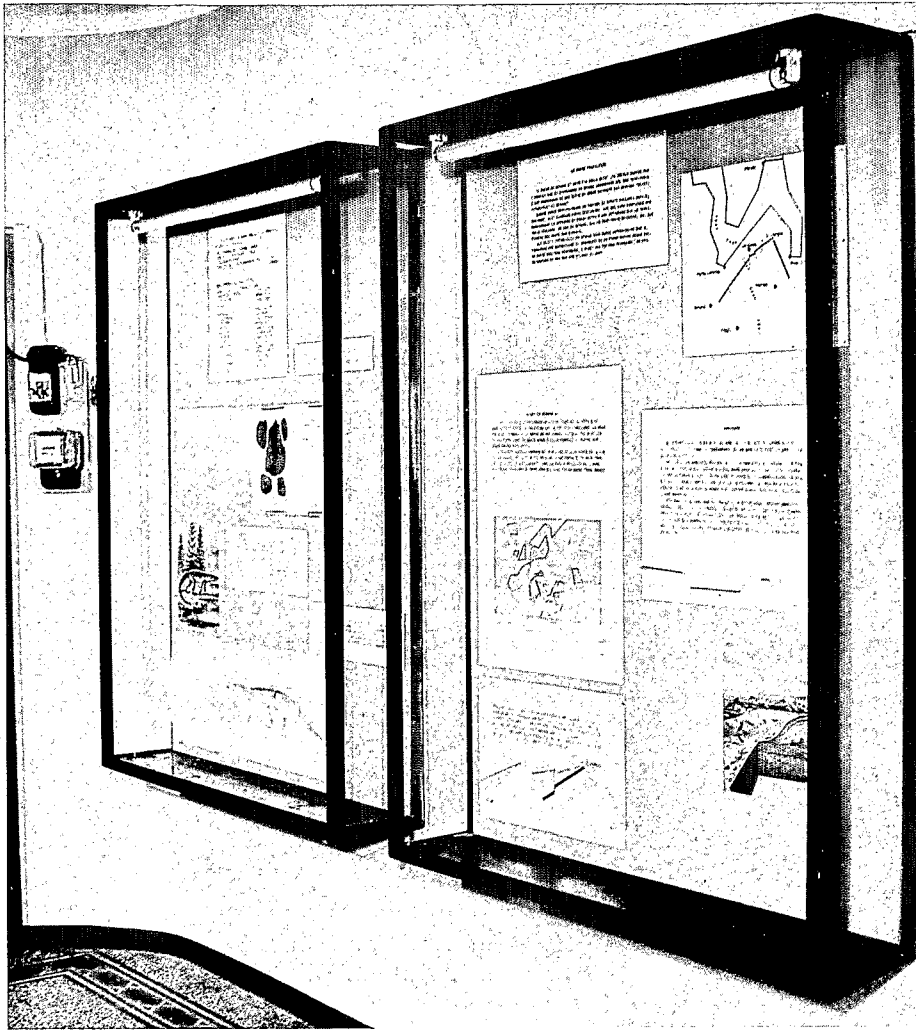
This first accidental discovery was followed up at Besano and, not far away, on the Monte San Giorgio in Swiss territory by further excavations and research work conducted by palaeontologists from the Milan City Museum and the University of Zurich. Whereas the sites on the Italian side had been fully explored before the end of the century, the investigations undertaken on Swiss territory, which began later, in 1924, have not yet been completed.

The bituminous rocks of Besano and the Monte San Giorgio are now world-famous and recognized as being among the richest deposits of fossilized vertebrates in Europe. The area in question contains a sequence of dark-coloured calcareous rocks interlayered with thin bituminous strata whose combined thickness does not exceed 10 metres and which were deposited in the Triassic period, that is, approximately 200 million years ago, in an arm of the sea which covered a large part of Europe in that remote period. The Triassic sea in the region of Besano 200 million years ago formed a closed basin cut off from the open sea. The conditions prevailing in the basin were such that the remains of the plants and animals which lived in it, fishes and reptiles of every type, molluscs and forms of vegetal life, have been preserved intact.

The palaeontological research carried out in the region brought to light an enormous number of specimens and led to the discovery of animals previously unknown. As the research work progressed, it yielded results which have made a notable contribution to human knowledge concerning the process of

³
BESANO FOSSIL MUSEUM, Besano. The entrance to the museum-cum-exhibition of Besano (Varese province, Italy) installed in one of the old village houses.





4
A showcase of the museum devoted to the history of the fossil deposit and to the geology of the area.

evolution and the palaeoecological and palaeobiogeographical structure of Europe in the Triassic period (Fig. 1).

Since the first methodical investigations were completed, in the nineteenth century, no more excavation work has been done in a systematic way on the Besano site. However, the exploration of the fossil deposits situated in Italian territory did not stop completely: in the following years, sporadic finds were made by palaeontologists from the Milan City Museum and by private collectors. Then, when mining operations were undertaken above Besano precisely in order to extract ichthyol from the fossil-bearing strata, the extensive excavations this involved yielded a large quantity of specimens (Fig. 2). With the closing of the mine after the end of the Second World War noticeably fewer finds were made, but this did not discourage the private collectors, who, particularly in recent years, have been through the whole fossil-bearing area, combing it virtually inch by inch. The results of these labours are truly paradoxical: after the loss of the material kept in the Milan City Museum which was destroyed during an air raid in August 1943, we find today that the amount of material which is public property, and has thus been entrusted to museums, is much smaller than the amount of material which is in private hands, and is dispersed, without any sort of control, among innumerable collections.

This situation is, of course, highly prejudicial to our scientific heritage. No control can be exercised over the material existing in private collections, any more than over the private collectors themselves; as a result, specimens having the greatest scientific significance are lost, perhaps forever, and there are unique items whose existence never comes to the knowledge of scientists or of the general public. The disastrous activities of private collectors, or rather of a certain type of private collector who is unwilling to collaborate with



f The first fossil-bearing strata which appeared during the diggings of 1975.

scientific research workers, are steadily increasing. This systematic plundering spurred the people of Besano to take decisive action to protect a heritage which on the one hand belongs to science but, on the other hand, is the legitimate property of the whole community.

In 1970 the Natural History Museum of the City of Milan devoted a section of its palaeontological exhibitions to the Besano fossils, which were displayed against a background representing the Triassic environment and including models of the most interesting animals. As a means of bringing these fossils to the notice of the public, the exhibition proved very effective: it was the point of departure for the movement which led to the foundation of the little museum in Besano.

In order to restrain the indiscriminate fossil-hunting of private collectors, and to prevent or at least restrict the dispersal of this valuable material, the inhabitants of Besano, supported by the scientific staff of the Natural History Museum of the City of Milan, have set up a centre for the conservation of fossils from the area.¹ The centre hopes to collaborate with the Superintendence of Antiquities, the State body responsible for the protection of the archaeological and palaeontological heritage, and intends to encourage all action undertaken with a view to establishing the necessary structures for preserving and displaying to the public the fossils found in the area and, eventually, to organize new programmes of excavation.

The launching of a programme for the restructuring of a palaeontological research system at Besano and the laying of a basis for the protection of the fossil deposit raise many problems. The first and most important of these problems undoubtedly consists in the difficulty of protecting the area where the fossil-bearing rocks emerge at the surface. That this is no easy task is obvious when we consider that a deposit of fossils does not usually lie entirely in one compact area but spreads out, on the contrary, in various directions, the outcrops being found at several points separated by quite considerable distances.

1. Centro di Studi e di Valorizzazione dei Fossili di Besano.

The Besano deposit is no exception to this rule: the fossil-bearing area is a tract of land approximately 3 kilometres long lying in a north-east to south-west direction, where the rock breaks through the surface in several places; the area is so extensive that it is obviously impossible to consider putting up any kind of fence, both because of the expense involved and because a fence would be partly ineffective on account of the difficulty of keeping such a long boundary under constant surveillance.

Given the impossibility of exercising such direct and constant supervision, it is necessary to find another way to protect the deposit and save this part of our scientific heritage from further depredation. This means that there must be active collaboration between the competent official bodies and the inhabitants of the area, who are the natural guardians of the scientific heritage discovered in their soil, and who should feel that it is in their interests to see that structures are set up which will ensure that the material is preserved and displayed for the enjoyment of the public, instead of allowing it to be dispersed far and wide.

We see, then, that the inhabitants of the area themselves are better placed than anyone else to guarantee the protection of the deposit, which would thus be under daily supervision by the people who live on the spot. But if this is to come about, the rocks and the fossils found therein must become so important in the eyes of the people of Besano that they feel personally involved and responsible for their protection.

An important contribution towards the achievement of this objective is being made by the centre which is proving to be a very useful point of contact between those officially in charge of the works and the people of Besano who assisted in the over-all project. This centre should make the inhabitants of Besano understand that they are an integral part of the programme and, even more important, that their contribution is essential for its success; the centre should make them aware that they, as a community, are the owners of the scientific treasures which have come to light on their land.

A favourable opportunity for the establishment of such a relationship was provided by the creation of the exhibition-cum-museum of fossils at Besano² (Figs. 3, 4) in which all the inhabitants were able to take part in the most varied capacities and which is therefore regarded as the fruit of their joint physical and organizational efforts. The people of Besano were transformed into investigators, window-dressers, carpenters, metal-workers, electricians, mounters of palaeontological specimens, draughtsmen, and so forth, and have built a centre which, although admittedly not elegant, is a spontaneous and therefore very valuable creation, for it is a museum built by its users.

However, the centre should not and does not wish to limit its activity to the protection of the deposit and the mounting of an exhibition: its programme is more ambitious and comprises two main lines of action, one being the promotion of further research by means of systematic excavations, and the other the recovery of material at present in the hands of private collectors. Research work has already been started with the collaboration of technicians from the Milan City Museum, and fresh excavations were begun in the spring of 1975 (Fig. 5). Steps are also being taken to persuade private collectors to collaborate with the centre by depositing the material in their possession with the museum or at least by giving the museum access to their collections. After working as labourers and window-dressers to set up the exhibition-cum-museum, the people of Besano are now preparing themselves to become research workers and palaeontological experts with a view to collaborating with official scientific bodies. This is a venture which is without precedent in Italy.

[*Translated from Italian*]

2. The museum was opened to the public on 1 July 1973.



Etar Ethnographical Park-Museum at Gabrovo, Bulgaria

Lazar Donkov

When the intention of the people of Gabrovo to create an ethnographical park-museum at the site known as 'Etar' was publicly announced, many took this to be a joke, since the inhabitants of the town are reputedly past masters in the art. But once the work started, nobody thought it was a joke any more, for the people of Gabrovo are also known to be hard working and always true to their word.¹

Today, the Etar Park-Museum has become a reality. Any visit to Gabrovo is invariably accompanied by a visit to the park which, like the town itself, is situated on the two banks of the Gabrovo River, whose rapidly flowing waters run down from the northern slopes of the Balkan chain. The site used to be Gabrovo's 'industrial zone', near enough for people to work there yet apart from the city itself (Fig. 7(a) and (b)).

During the five centuries of Ottoman domination, the town was a famous centre of craftsmanship. Its pottery, cutlery and *gaitans*² were among the many craft products greatly sought after in both Europe and Asia. Travellers impressed by the development of the region were particularly struck by the importance of its forges, referring to it as 'a veritable Kingdom of Vulcan, where the tumult and the flames rise to the heavens'.

In the nineteenth century, the craftsmen of Gabrovo, eager for novelty, and with their characteristic taste for bold and efficient solutions, were able to benefit considerably from contacts with Western Europe, then in the full tide of its industrial revolution. It was not by chance, for example, that the first lay secondary school in the country was founded at Gabrovo in 1835.

It was to recreate the atmosphere of this epoch, its architecture, its professions, as well as life in the Gabrovo region at the time of the national 'awakening' and the struggle for independence, that the ethnographic park at Etar was conceived.³

From Gabrovo town, where multi-storeyed modern buildings, new roads and open spaces fit harmoniously with the old historic quarters, the road to Etar follows the banks of the river in the direction of the mountains. After several kilometres the slopes suddenly steepen and the vegetation becomes thicker; the first red-brick roofs of the museum buildings come into view. The visitor's first impression is of entering a town two centuries old: low-roofed houses, gardens filled with flowers, sinuous little streets which straddle the river, taverns and restaurants where local dishes are served and, above all, numerous craftsmen's workshops, all of which are functioning (Figs. 8, 9).

The period has been reconstituted in three ways: by the restoration of craftsmen's workrooms and *boutiques* existing at the site and abandoned for

6

THE ETHNOGRAPHICAL PARK-MUSEUM,
Etar, Gabrovo. Visitors to the copper
workshop.

1. Although it is mountainous country, the region of Gabrovo has one of the richest populations in the country; other Bulgarians, who have inherited traditional Eastern or Slav generosity, think of the people here as miserly. The latter have risen to this reputation by inventing countless jokes about their own avarice!

2. Decorations for men's or women's clothing.

3. The passionate devotion of A. Donkov, the founder and first director of the museum, who spared no effort to convince all those concerned that this abandoned site could be brought to life again, merits our unstinting praise.—Ed.

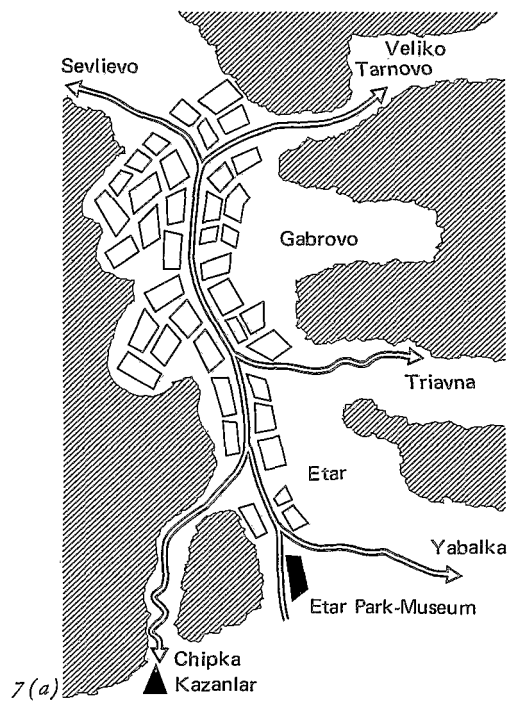
nearly a century, by removing to the museum old buildings found elsewhere and by constructing new ones on the basis of genuine plans and documents of the period. To reconstruct the past to the greatest extent possible, use has been made of the construction methods, materials and techniques employed in the eighteenth century.

The architects have sought for, and managed to achieve, complete harmony between the terrain and the aesthetic features of the buildings. Nature is, indeed, part of the exhibition. The flora and fauna are preserved and the 3,200 hectares of woodland around the park-museum have been made into a nature reserve.

The visitor is impressed by the truly living quality of this museum, where no barrier separates the past from the present. The craftsmen at work on their machines are not simply there for show. When the museum was created retired craftsmen agreed to come and instil new hope into their crafts and work with young craftsmen and apprentices. This ensures the importance of the museum by making Etar the active centre of numerous art and craft disciplines.

There were twenty-six crafts which used to be carried on in Gabrovo. The museum aims to represent them all in its exhibition. A market for craftwork is under construction. Its design creates a harmonious link between the museum as a whole and the surrounding houses. The ground floors of these houses are occupied by workshops and taverns whilst the upper floors (one or two) show what the interior of a craftsman's home of that time was like.

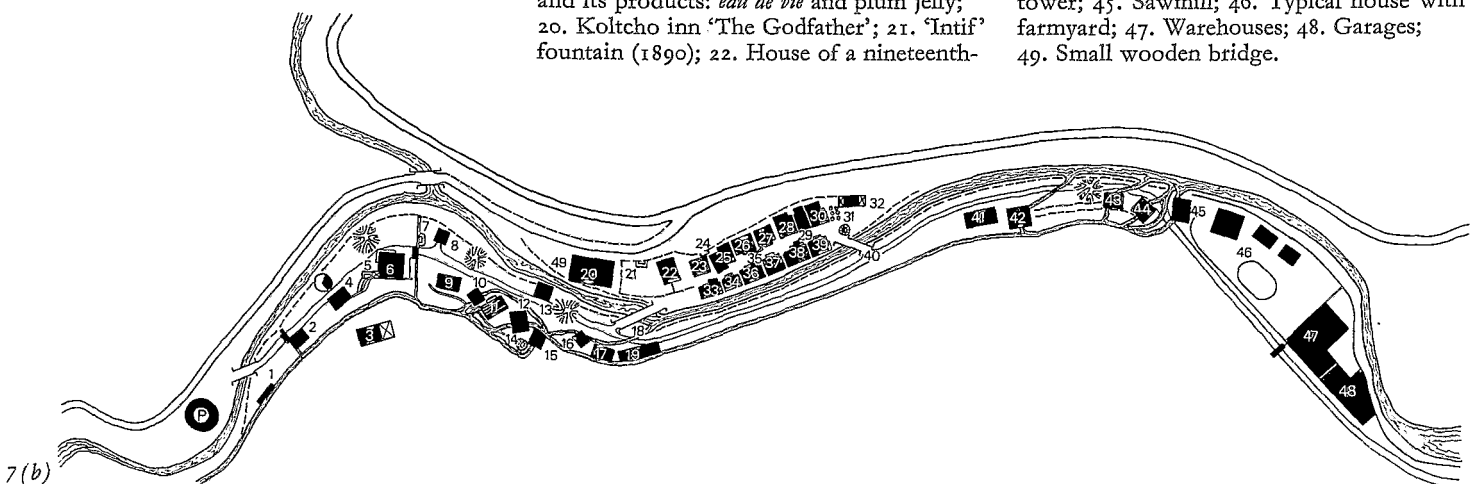
The decoration of the houses, the tools and the water-driven machinery in the craft shops are authentic. The goods at present manufactured in the forges and the goldsmith's shop, the leather work, the *gaitans*, saddles and knives, are exactly like those which were being made at the time of the Bulgarian 'Awakening'. These craft-produced objects are sold on the spot as souvenirs. The profits from these sales and from the dyeing service, knife-grinding, etc., enable the museum to cover its maintenance costs. An exhibition of documents and photographs is also to be created.



7(a)
Schematic plan of the area.

7(b)
Plan of the park-museum: 1. Entrance sign, mosaic; 2. Keepers' house; 3. Dairy; 4. Roasting ovens; 5. 'Holy Trinity' fountain; 6. Typical house with tavern; 7. Pope Guéorgui's fountain (1870); 8. Souvenir counter; 9. Cutler's shop; 10. Mechanical whetstone; 11. 'Tépavitsata' carding machine; 12. Hydraulic mill 'Karadjeika'; 13. Keepers' house; 14. 'Valévitsata' wash-house; 15. Wooden tower; 16. Clock tower; 17. Outhouse; 18. Bridge with two arches; 19. Distillery and its products: *eau de vie* and plum jelly; 20. Koltcho inn 'The Godfather'; 21. 'Intif' fountain (1890); 22. House of a nineteenth-

century merchant; 23. Oven; 24. 'Tchoutchoura' fountain; 25. Slipper-making and goat-hair (used for making bags) workshop; 26. Café-cum-confectioner; 27. Copper workshop; 28. Goldsmith's workshop; 29. Potter's workshop; 30. Tannery (for shoe leather); 31. Well; 32. Service building; 33. Hide-curing workshop (for leather clothing); 34. Bell-making workshop; 35. Fountain (1864); 36. Oil-works; 37. Bat-making workshop; 38. Cooper's workshop; 39. Cart-maker's workshop; 40. Bridge with one arch; 41. Dyer's workshop; 42. *Gaitan*-making workshop; 43. 'Dolapkiniata' mill; 44. Flask tower; 45. Sawmill; 46. Typical house with farmyard; 47. Warehouses; 48. Garages; 49. Small wooden bridge.



The park-museum is a recent creation that bears the stamp of authenticity. Almost half a million visitors come here every year, many of them from abroad. The museum serves as a centre of ethnographic research, as a source of knowledge of the past, as well as a leisure spot highly appreciated by the inhabitants of Gabrovo and by foreign tourists from all over the world.⁴ The hushed talk of the visitors mingles with the murmur of the water, the creaking of wind- and water-mills, the clanging of hammers—unusual and forgotten sounds which create a strange feeling of peace.⁵

[Translated from Bulgarian]

8
Market street for crafts ware.

9
The water of a mountain torrent drives the mills and towers and washed carpets and blankets. It is the village's source of energy.



8



9

4. In 1975 alone the Etar Park-Museum was visited by 400,000 people.

5. We wish to thank Jordan Peev, Permanent Delegate of Bulgaria to Unesco, who was kind enough to provide us with additional information for this article.

10



Eighteenth- to nineteenth-century Bulgarian house. A two-storey house built without any iron nails, the joints being fastened by means of wooden pegs. On the first floor, on a wide landing from which the three principal rooms lead off, is an exhibition of period furniture. The ground floor houses a tavern typical of the region; here the visitor can sample the cuisine of the area and, among other drinks, sip Bulgarian plum brandy.

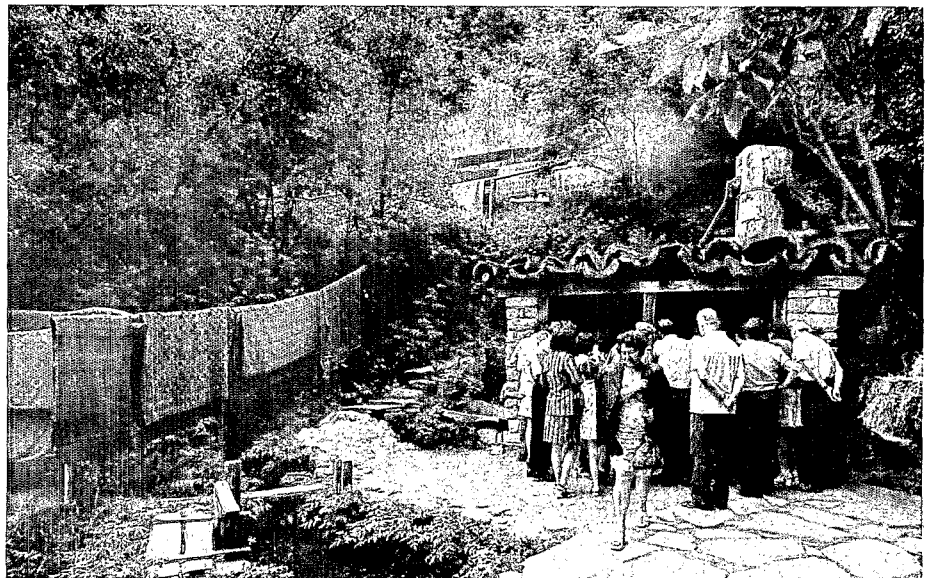
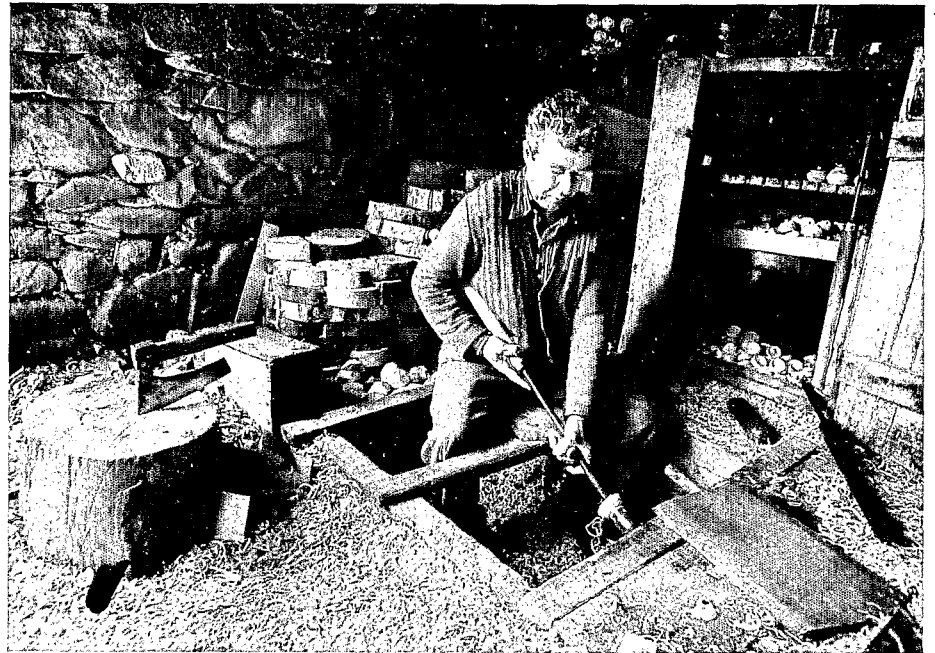
Knifeworks. Brought from a neighbouring village, this dates from the first half of the nineteenth century. It has a forge whose bellows are made from a whole buffalo hide and have been working for 150 years.

Mechanical grindstone. Built during the second half of the nineteenth century. Simple but clever in design, it is used to sharpen the knives and other instruments made in the museum.

The 'Tepavitzkata' carding machine was already on the estate where the museum has been laid out. It was built in the middle of the nineteenth century and is used for preparing wool for weaving on a hand loom. It is worked by water by means of an enormous water-wheel.

The 'Karadjeikata' mill was also on the site of the museum before it was established. It dates from 1780 and is worked by a large horizontal water-wheel.

The pottery dates from 1874. The master potters of Gabrovo formerly produced more than 150,000 earthenware objects a year, for sale throughout the country.



'Valenitzkata' is a kind of old wash house which has stood in its present position since the middle of the nineteenth century. Thick woollen cloth, carpets and blankets can be washed and beaten there simply by the vigorous and continual action of the clear water, without soap or other products, which has given rise to the popular saying, 'the shirt is washed, the water is clear, and the soap unused'.

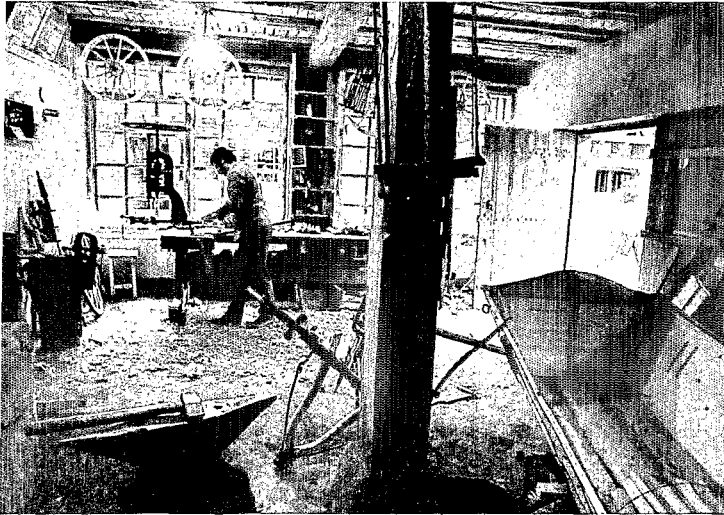
Water tower. This is for the manufacture of wooden receptacles. Built during the second half of the eighteenth century, it is still in operation and the visitor can see the craftsman at work. Although primitive, it is of ingenious design and the water is used to prevent heating to friction.

The dye-shop was built around 1850. The *gaitans*, wool and woollens are dyed here without the use of chemicals. The dyes used are natural, obtained from grasses, leaves, roots, etc., and the colours are faster than chemical dyes.

The gaitan workshop dates from 1854. The machines which plait the *gaitans* are again worked by water. These machines were constructed over a hundred years ago by the blacksmiths of Gabrovo and, despite their age, are still working faultlessly. The water-wheels are arranged so as to use the same stream of water as all the water-wheels in the village, each needing a fall in the water level of only 0.45 metres. The *gaitans* made in these workshops are used in the manufacture of national costumes, but they are also used in the fashion trade.

14

13



15



The 'Dolapkiniata' mill is an exact replica of a mill dating from 1874. It is worked by a water-wheel. Thanks to a system of wooden gear wheels, the working of the mill requires a flow of water only a third of the normal quantity and a fall in the water level half that of the other mill in the museum, although the capacity of both mills is the same. The roof of this mill is designed in an original way. The millstones are on a wooden scaffold, the timbers of which are linked to those of the roof of the building. As the millstone does not always revolve true to centre, vibrations occur which gradually loosen the roof and make the tiles slip off. The ingenious builder found a way of rebalancing the roof by means of a single hammer blow on the wooden peg in the middle of the framework.

The flask tower. Built at the beginning of the nineteenth century, its principle is the same as that of the tower used for the manufacture of wooden receptacles, the difference being that the turner stands over the spindle on which the wood to be worked is fixed. The manufacture of wooden flasks is based on the fact that wood shrinks as it dries. The flask is thus made of green wood whilst the lid to the opening by which the interior is hollowed out is made of dry wood. As the green wood shrinks with the passage of time, the flask and its lid fit together better and better. The interior of the flask is coated with hot wax so that the wine does not touch the wood. A flask of this kind lasts 150-200 years.

The sawmill was constructed around 1870. This is also worked by water. The logs are carried automatically to the saw itself. Before reaching the water-wheel, the water accumulates in an enormous conical reservoir made of wooden planks. This reservoir is made waterproof by the natural moss which grows and spreads there continually in contact with the water.

The leather shop. Constructed around 1865, it possesses the whole range of equipment needed for leatherworking. Around the middle of the nineteenth century, nearly 100 master leatherworkers were engaged in this trade in the Gabrovo region. In particular, they used to make slippers which were sold in Gabrovo and abroad and in the various markets of Bulgaria.

The goldsmith's shop. Built in 1860, it was, towards the middle of the nineteenth century, one of the thirty-five workshops in the town. It currently manufactures jewellery, following traditional national patterns.

The copper shop. Built in 1972, it is still producing various copper utensils today following the old methods.

The sweet shop and café. Barley sugar, lollipops and Turkish coffee are served here in a typical setting.

The oven (1875). Various rolls, cakes and buns are made here with a special yeast.

Sakov's house. Sakov was a Gabrovo trader who lived in the middle of the nineteenth century. This is one of the best specimens of architecture dating from the time of the national renaissance.

A dairy, a bell foundry, a cooper's yard, a cartwright's shop, etc., nineteenth century fountains and many other interesting nooks will also attract the visitor's attention.



Museums which are learning how to live

Creative encounter with museums. Experiment of the Cologne Museums Educational Service

Renate Friedländer

There can be few cities better suited than Cologne for the development of a fruitful partnership between museums and schools. The city has seven municipal museums, under one general directorship, which also have an art gallery at their disposal for temporary exhibitions. All museums are easily accessible, each has its own distinctive character.¹ This immense source of cultural wealth offers unlimited scope for its imaginative use in education. Under the head of the Cologne Cultural Administration, Dr Kurt Hackenberg, the Education Department of the Museums of Cologne—Aussenreferat der Kölner Museen—was created in May 1965 by the now retired Director-General of the Museums of Cologne, Professor Dr Gert von der Osten. Since then Günther Ott has been director of the department. Due to its hard, early pioneering work, increasing numbers of adults and schoolchildren began visiting museums regularly. The Museums' Education Department, with one director, five full-time lecturers and over thirty part-time staff, serves all the city's museums. It offers free guided visits to various groups of adults and to teachers with their classes. For schools within the city limits, there are free buses to and from the museums. The principal aim of the Museums' Education Department is to encourage teachers and classes to visit the museums regularly, with preparation in class before the visit and a subsequent follow-up.

Since 1970 I have been on the staff of the Museums' Education Department. This article gives some examples of my experimental work with different types of classes, particularly creative activities in kindergarten and schools after guided museum visits. It naturally represents just one of the extensive services of the Museums' Education Department.²

First initiatives—with a kindergarten

In February 1971 I was asked to take a group of children from a kindergarten for a course of six guided visits to the Schnütgen-Museum. The teacher, a woman with considerable experience in infant education, wanted to introduce her children early in life to the rich cultural heritage of Cologne. At the time, I wondered whether it was worthwhile taking children of this age to a museum. During their first visit, the children were shown a few big wood-carvings. The figure of Saint George on horseback, killing the dragon with his lance, must have appealed to the children particularly, because when they came for their second visit, I was unexpectedly presented with colourful pictures in finger-paints of Saint George and the dragon. This marked the

16

RAUTENSTRACH-JOEST-MUSEUM, Cologne. Six year-old girl manipulating a marionette she has herself made from behind a screen installed at the exhibition of shadow-puppets at the museum. St Marien Kindergarten, Bensberg-Untereschbach.

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Kölnisches Stadtmuseum: historical museum of Cologne—municipal, economic, and cultural history; archives of local drawings and prints; photographic archives; Fassbender collection; collection of coins; library.

Römisch-Germanisches-Museum: European pre-history; Roman Cologne (Dionysus-Mosaic, Pöblicius tomb-monument); early mediaeval (Frankish) Cologne; collections of Roman glass; Diergardt collection of jewellery; praetorium under the town hall; Ubier monument.

Kunstgewerbemuseum: arts and crafts from the Middle Ages to the present day, in the Overstolzenhaus, thirteenth century.

Rautenstrauch-Joest-Museum: museum of ethnology, art and culture outside Europe.

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Museums which are learning how to live

Creative encounter with museums. Experiment of the Cologne Museums Educational Service

Renate Friedländer

There can be few cities better suited than Cologne for the development of a fruitful partnership between museums and schools. The city has seven municipal museums, under one general directorship, which also have an art gallery at their disposal for temporary exhibitions. All museums are easily accessible, each has its own distinctive character.¹ This immense source of cultural wealth offers unlimited scope for its imaginative use in education. Under the head of the Cologne Cultural Administration, Dr Kurt Hackenberg, the Education Department of the Museums of Cologne—Aussenreferat der Kölner Museen—was created in May 1965 by the now retired Director-General of the Museums of Cologne, Professor Dr Gert von der Osten. Since then Günther Ott has been director of the department. Due to its hard, early pioneering work, increasing numbers of adults and schoolchildren began visiting museums regularly. The Museums' Education Department, with one director, five full-time lecturers and over thirty part-time staff, serves all the city's museums. It offers free guided visits to various groups of adults and to teachers with their classes. For schools within the city limits, there are free buses to and from the museums. The principal aim of the Museums' Education Department is to encourage teachers and classes to visit the museums regularly, with preparation in class before the visit and a subsequent follow-up.

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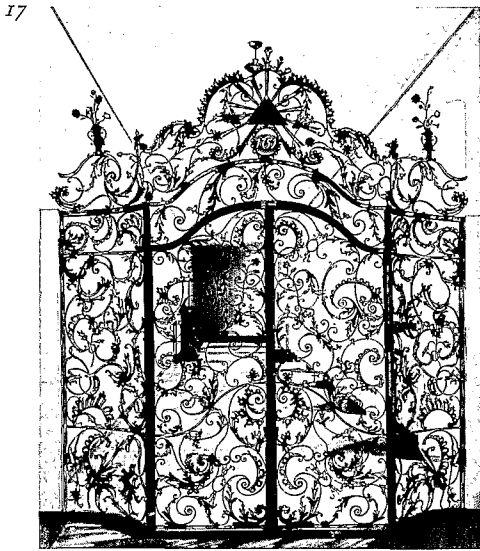
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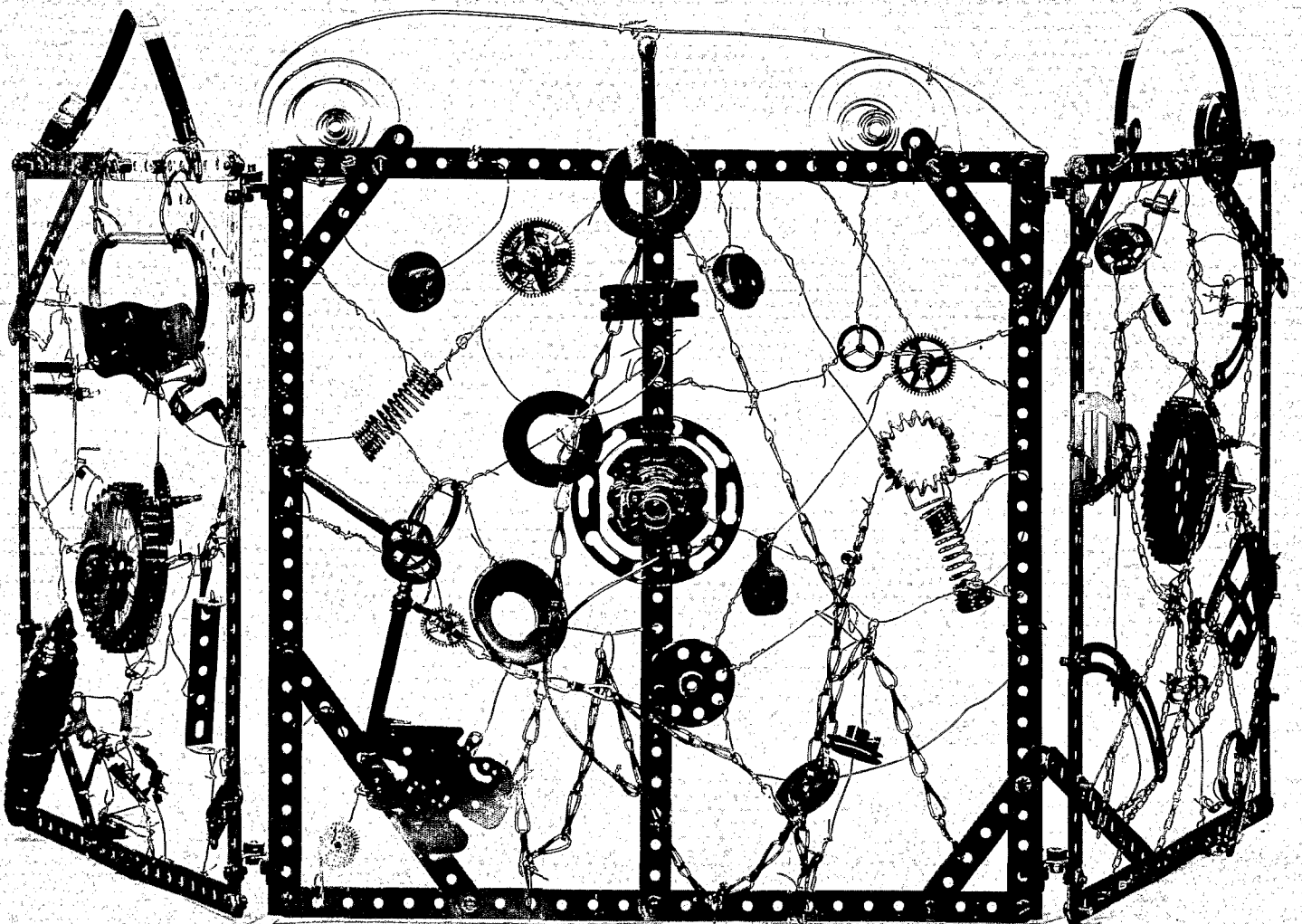


17
SCHNÜTGEN-MUSEUM, Cologne. Wrought-iron gate from the monastery of Heisterbach, eighteenth century.

18
Small 'iron gate', 35 centimetres high, made from iron parts of an old cuckoo clock, a coffee grinder, an alarm clock and a metal building kit, by 5- to 6-year-old children from the St Marien Kindergarten, Bensberg-Untereschbach.

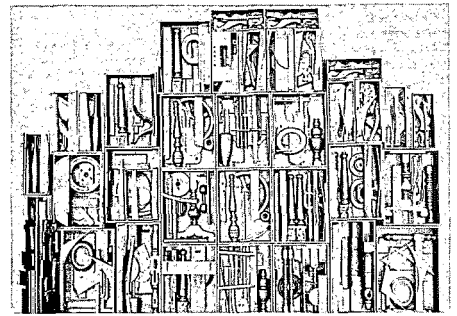
beginning of a close partnership between the kindergarten and the Museums' Education Department. This teacher with her assistant has since then brought a group of about fifteen 5- to 6-year-olds the year before they enter school, for monthly guided visits in the different museums of Cologne, accompanied by several interested mothers. After each visit, those children who wish to (this is always voluntary), may embark upon some project in the kindergarten, stimulated by what they saw in the museum. In this way stained-glass windows seen in the museum were translated into colourful, abstract shapes, separated by black lines (the 'lead strips') in finger-paints on perspex; after seeing ivory carvings, the children carved simple, relief images into pieces of soap; impressions of sculptures were re-created in clay. The transpositions were always creative, never imitative, but represented at the same time an assimilation of what the children had seen. This is shown by the following examples: an eighteenth-century wrought-iron gate from the monastery of Heisterbach, Schnütgen-Museum (Fig. 17), inspired the children to collect scrap iron at home (it had to be iron, they tested each piece with a magnet to be sure!). Out of the remains of an old coffee-grinder, the springs of an alarm-clock, the weights of a cuckoo-clock, and rods from a metal building-kit, they created an iron gate of their own in the kindergarten (Fig. 18). At the request of the director of the Schnütgen-Museum, Professor Dr Anton Legner, the little gate was 'on loan' to the museum for two years. There it stood beside its big prototype, to the children's joy, and to the surprise and delight of many visitors.

The children also reacted with equal interest and originality to contemporary works of art. A large, gold-painted construction of scrapwood by Louise Nevelson, in the Wallraf-Richartz-Museum (Fig. 19), led the children to collect



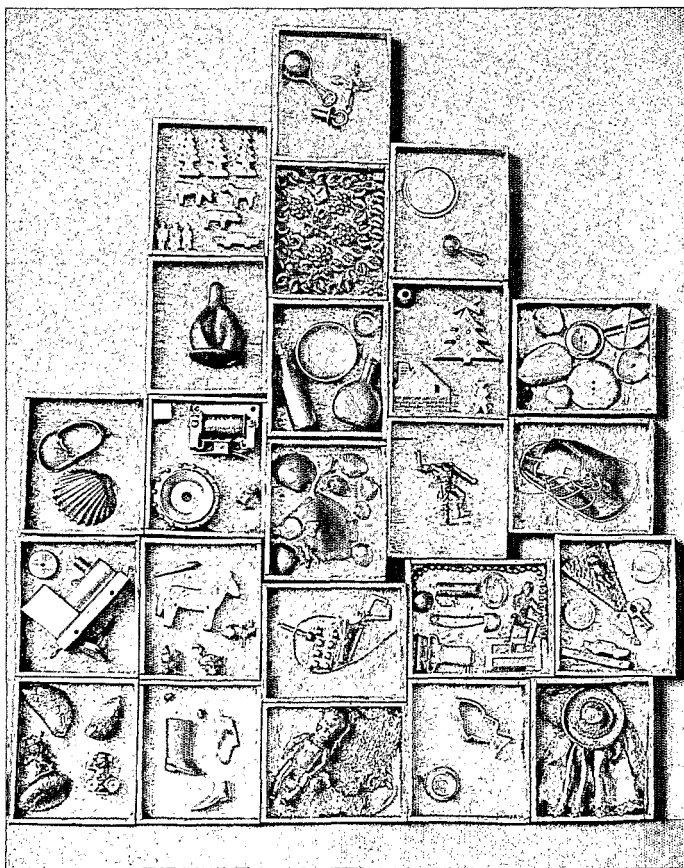
everyday things from home, relics of toys, ornaments, buttons, dolls' clothes, etc. In the kindergarten, the children stuck these into cigarillo boxes with glue. Then came a moment of revelation: as each child painted his box with gold-paint, suddenly, as though by magic, quite ordinary things were transformed into something precious. Now the children composed their boxes into their own 'golden wall' (Fig. 20).

It is interesting to compare here what a group of 9-year-old primary school children made of the same prototype. They stuck scrap material into shoeboxes, and created quite a different result (Fig. 21). After almost five years' work with this kindergarten, the results are encouraging. After the first year of our work, succeeding groups of children from this kindergarten showed no trace whatever of any initial shyness or insecurity upon their first visit. The museum had already become an inseparable part of their kindergarten life long before they came to us; having watched the creative activities of the older ones after their museum visits, the younger children could hardly wait until they were old enough to be 'museum-children' too. Upon leaving the kindergarten to go to primary school, one boy said: 'The best thing about the kindergarten was the museum'. Some time later, the children who were now going to primary school, begged their former kindergarten teacher to take them to museums again, as they did not go with their school. She therefore formed a 'museum club' with them, which came for guided visits every two months. Due to the children's initiative, the local primary school then also began coming regularly to the museums, thus preserving the continuity of guided visits begun in the kindergarten.³

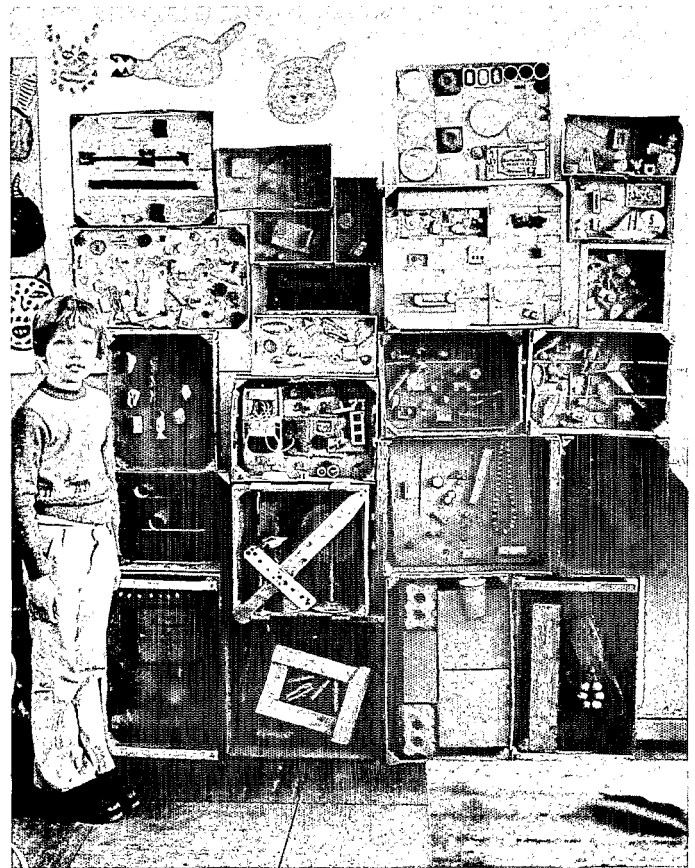


19
WALLRAF-RICHARTZ-MUSEUM, Cologne.
Royal Tide IV, gilt structure by Louise
Nevelson, 1960.

3. See the comments of the kindergarten teacher
in the Appendix, p. 26.



20
Golden wall, 65 centimetres high, made from
small objects stuck in cigarillo boxes,
painted gold and mounted by 5- to 6-year-
old children from the St Marien Kinder-
garten, Bensberg-Unterschbach.



21
Wall, 1.9 metres high, made from shoe
boxes filled with various everyday objects,
painted in different colours and mounted
in the classroom, by 9-year-old pupils of
the Evangelische Grundschule, Bensberg.



22
WALLRAFF-RICHARTZ-MUSEUM, Cologne.
Eiche im Schnee (Oak in Winter), oil-
painting on canvas 44 × 34.5 centimetres
by Caspar David Friedrich, 1808.

First initiatives—with a primary school

In October 1971 a primary school teacher asked for a guided visit for her class of thirty 9-year-olds in the Wallraf-Richartz-Museum. Her aim was to give new stimulus to the art lessons in school, by letting her class first look at original paintings in the museum. After this visit (an introduction to primary and secondary colours in non-representational pictures), the children produced lively and individual paintings. Not one of them was a copy of what had been seen. The museum visit had in no way inhibited the children's originality—on the contrary, it had stimulated even the less imaginative. The teacher decided to arrange a series of guided visits. We have co-operated closely ever since then. As our work developed systematically, the monthly museum visits were incorporated into other lessons as well as art—for instance language and local history.

For two years this class visited different municipal museums in turns. In the Rautenstrauch-Joest-Museum, we wanted to introduce the children to unfamiliar cultures of other continents—for instance north-west America and Africa. The totem-poles of the Haida tribe, Canada, particularly excited the children. The teacher related how, on the following day in school, the class eagerly went to work on 1-metre-high styrofoam blocks—two children to one block, carving big masks on opposite sides—using their hands, big knives and saws. After colouring their masks, they placed the blocks on top of each other in twos and threes, creating 'totem-poles' of their own. Each mask was an original invention. The children had created abstractions of animal heads, unconsciously doing what the American Indian woodcarvers had done.

Another time, we looked at African masks. The class collected orange, lemon, and apple pips, date stones, walnut shells, sea shells, glass beads, coffee beans, wool, raffia, etc., with which they decorated *papier-maché* masks they had made.

Some time later, an exhibition of children's work, stimulated by visits to the Rautenstrauch-Joest-Museum was arranged by the director, Dr Axel von Gagern. The children themselves were allowed to help prepare the exhibition, and came in small groups with their teacher to paint large backgrounds for their works. This class came for two years consecutively to the museums, before going on to different secondary schools. Just as the 'leavers' of the kindergarten had done, so several of these came back to their former primary school teacher, begging her to continue going to museums with them, as their new school did not arrange visits. They, too, started a 'museum club'. After two years, these children still come at regular intervals for guided museum visits with their former teacher. With her they have a creative follow-up in their old primary school craft room next day—undoubtedly this is an important part of the attraction.⁴

Through looking at paintings in museums, many young children first learn to 'see' their own environment; their subsequent creative work frees them from stereotyped mental images. With a class of 6- to 7-year-olds, in their first year at another primary school, we looked at trees in paintings by Caspar David Friedrich (Fig. 22), Ernst Ludwig Kirchner and Max Liebermann, in the Wallraf-Richartz-Museum. In these works the children discovered that tree-trunks were not always brown and straight, but bent, knotted, covered with moss, dividing into great branches before gradually thinning into twigs; that foliage was not bright emerald 'paint-box' green, but innumerable subtler shades. After this visit, the children looked at real trees around their school. Not one of the succeeding pictures they painted showed a stereotyped tree, and every interpretation was personal (Fig. 23(a), (b), (c), (d).)

4. See the comments of the primary school teacher in the Appendix, p. 26.

23(a), (b), (c), (d)
Paintings of trees by 6- to 7-year-old
children from the Katholische Grundschule
at Balsaminenweg, Seeberg, Cologne.

23(a)



23(b)



23(c)



23(d)

Working with deprived handicapped children in museums

Three years ago, a tutor from a home for deprived children began bringing a small group of children between 7 and 12 years of age for guided visits to the Wallraf-Richartz-Museum every fortnight. She hoped that describing pictures would help their speech training, and wanted to introduce them to original works of art. The children had become retarded or maladjusted, because of the conditions in which they lived: restless, loud, aggressive, without capacity for concentration. The first visits had scarcely lasted fifteen minutes, before concentration flagged. To any outsider, these tours must have appeared futile. It was obvious that we had to re-think methods for guiding these children. We then tried looking at only one painting, for as long as their interest could be held. Meanwhile, in the big exhibition hall on the ground floor, trestle-tables had been set up on which brushes, tempera colours, and paper were distributed, so that the children could now paint. Unruly as they had been only a moment before, they began at once to paint with great intensity, silent and totally absorbed for over half an hour. This was a remarkable change of behaviour. The chance to express their reactions to what they had just seen directly through painting was the right answer for the guided visits of these

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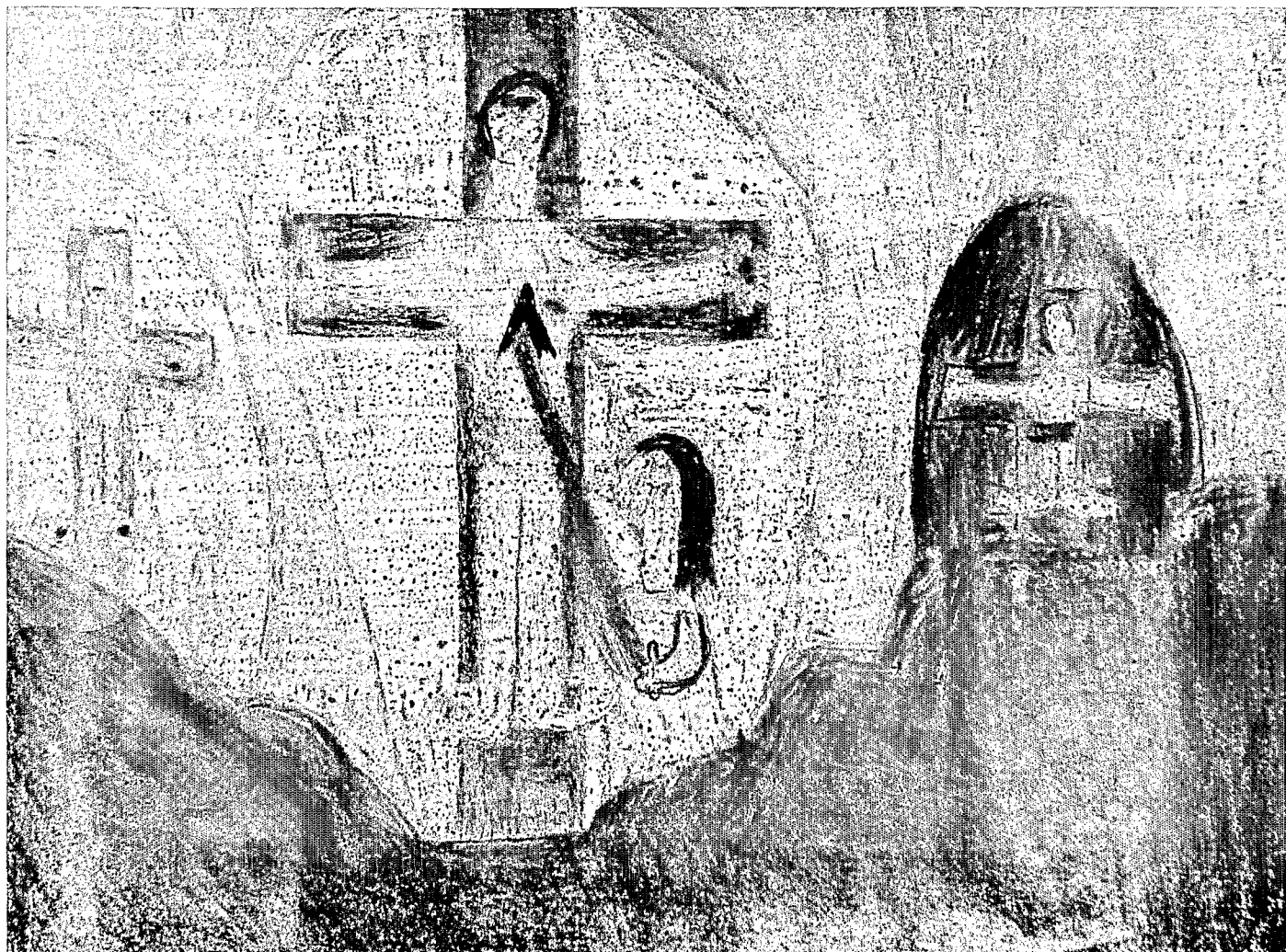
WALLRAF-RICHARTZ-MUSEUM, Cologne.
Leben und Leiden Christi in 31 Bildern
 (Life and Passion of Christ in 31 Images),
 unknown Master, Cologne, fifteenth
 century. Canvas, 1.2 × 3.98 metres.
 Work presented in the *Vor Stefan Lochner*
 exhibition.



children. In the course of the next months they grew calmer, their concentration improved. Today, the same children can look at paintings for over half an hour, and have gained new confidence in verbal and artistic expression.

We then began taking them to other municipal museums. Gradually, these visits led the children to explore their own environment. An example of this is a recent project they undertook on the theme of 'Cologne'. The children's tutor asked me to guide them through the historical museum, the Kölnisches Stadtmuseum, as they were just learning about Cologne in school. In this museum we looked at a model of mediaeval Cologne, with the half-finished cathedral. For our next visit, we went to the Wallraf-Richartz-Museum, and looked at an early fifteenth-century painting with a view of Cologne. The children recognized the town walls, several churches and the unfinished cathedral building, they had already discovered in the historical museum. 'We are going to make our own model of Cologne', they decided. This led them from visiting the museums to exploring the real Cologne. On foot and in the home's minibus, they set out to discover the Cologne of today: the only remaining Roman tower, mediaeval churches, the now completed cathedral, as well as modern Cologne—the opera house, the 'Kaufhof' department store, the many bridges over the Rhine. Back in the home, after several excursions, their tutor gave the children big lumps of clay, and each child chose a building to model. Slowly, what they had seen began to take shape under their hands, rough but full of life. On a large wooden board, the children painted the Roman, mediaeval and modern areas of the city in brown, red and green respectively and the Rhine in blue. Then they put their finished buildings in the appropriate places, adding trees and boats they had made. For them, their model meant far more than an artistic achievement—they had, in many months of work, incorporated Cologne into their lives.⁵

⁵ See the comments of the children's tutor in the Appendix, p. 26.



A class of 9- to 12-year-old physically handicapped children has, for the past couple of years, come for monthly guided visits with its teacher to the museums of Cologne. It had taken the children many months to get over their initial fear of coming into a museum at all. First they treated me with suspicion, because of their fear of not being fully accepted. Now, however, museum visits have become a regular part of their school lives, to which the children all look forward. For some of them, the visits are a great physical strain; yet they often show more endurance and concentration than ordinary youngsters. Intense interest and absorption in what they see compensate for their physical disability. For these children subsequent creative work at school is particularly important, but compared with ordinary children they have an immense psychological barrier to overcome here—the feeling that ‘I can’t do it’. This is the result not only of their actual disability, but of frequently experienced failure at normal schools. One of these childrens’ visits was to the special exhibition of the early mediaeval Cologne school of painting, *Vor Stefan Lochner*, in the Wallraf-Richartz-Museum, March to July 1974. They were most interested in panel paintings with scenes from the life of Christ (Fig. 24), and impressed by the use of ‘symbols’ in these old works—that light and dark colours could be used to express good and evil, for instance. This exhibition stimulated such intense creative activity in different schools, that, by kind permission of the museum’s director, Dr Horst Keller, the colourful collection of children’s work resulting from a visit to the exhibition, was put on show in the snack-bar of the Wallraf-Richartz-Museum. It was a source of great pride for these physically handicapped children, to see their efforts on the walls, on equal terms with those by other children. Some of the class even took their parents to the museum at week-ends specially to show them their pictures (Fig. 25).⁶

25
Crucifixion painted by a handicapped child of 11 after visiting the *Vor Stefan Lochner* exhibition at the Wallraf-Richartz-Museum, Cologne. Schule für Körperbehinderte, Rösraht.

6. See the comments of the handicapped children’s teacher in the Appendix, p. 27.

Work with classes from secondary schools

For two years consecutively, a language teacher from a *Hauptschule* (non-academic secondary school) brought her mixed class of thirty-five 14- to 15-year-old pupils for monthly guided visits to the Wallraf-Richartz-Museum. She wanted them to learn how to look at pictures, improve their language, and get to know one museum thoroughly before they left school. Beginning with the Middle Ages, we looked each month at a few representative works from one period or country in chronological order. By the end of the second year, we had covered some main developments in the history of painting up to the present day, as exhibited in the Wallraf-Richartz-Museum. In the first year, during our conversations in front of the originals, the pupils made extensive notes, which they illustrated with postcards bought in the museum. During their second year, the class worked more independently. The pupils prepared museum visits by reading about the life and work of artists to be discussed. They themselves gave short talks about their chosen painter in front of the originals, and led the ensuing discussions. The teacher and I were now listeners. These pupils expressed their views with much freshness. Our hope was, that after leaving school, they would now have the confidence and interest to explore other museums for themselves too.

A particularly difficult class of 16-year-old school-leavers, whom the same teacher wanted to introduce to the Wallraf-Richartz-Museum during their last year at school, did no work after visits in school—in fact it was a battle to gain their interest for museum visits at all. The teacher reported that by the end of the school year they all enjoyed coming to the museum, and that one of the most provocative girls in the class had actually taken her father to the museum one Sunday. Beginning with first visits to museums at such a late stage, one can expect little more.

The good teacher-pupil relationship made the successful guided visits of these usually difficult age-groups possible, resulting in an excellent partnership between school and museum education.

Not all visits with older pupils proved so successful. Two large classes of 12- to 13-year-olds from another *Hauptschule* were so wild and destructive, that despite optimistically begun guided visits and the willing co-operation of two young teachers, we had to give up the experiment. Very difficult classes can only be guided with success if they are brought in small groups, which schools cannot always organize. Yet some months later, to my surprise, I met two of these 'rowdies' in the Wallraf-Richartz-Museum. 'What are you doing here?' I asked. 'We are explaining the pictures to each other—we often come here after school.' This was an invaluable lesson to me, never to give up, however difficult a class may be.

An art teacher from a girls' *Gymnasium* (academic secondary school) asked for a series of guided visits in several museums for her class of 13-year-old pupils, to stimulate their art lessons. A delightful surprise was the work produced by the girls after visiting an exhibition of oriental shadow-puppets in the Rautenstrauch-Joest-Museum. The centre of interest were instruments of a *gamelan* orchestra and Indonesian shadow-puppets made of delicately painted and finely cut buffalo hide. As an introduction to this unfamiliar world, we listened to a recording of *gamelan* music. The Indonesian puppets represented characters from the Indian Ramayana. The symbolism of their colouring and features, the painted patterns and fine perforations of these exotic figures, fascinated the girls (Fig. 26). Three months later, long after the exhibition in the Rautenstrauch-Joest-Museum had finished, the class unexpectedly invited me to see their own shadow-puppet play in school. In the darkened artroom, there was a sound of strange music. Against a lit-up screen of tracing-paper, delicately cut figures appeared in a self-composed fairy-tale: a princess with transparent tissue-paper skirt (Fig. 27(a)), a dancing girl, a prime-minister with a long nose (Fig. 27(b)), a fearsome bird monster (Fig. 27(c)), and other

characters—each finely worked and different. The orchestra behind the screen included a dustpan-gong, glass jars half filled with water, aluminium foil ‘thunder’, and one girl playing a guitar. The technical skill, patience and inventiveness of the girls had achieved results that exceeded all my expectations. It is interesting to see how the same exhibition stimulated children of other age-groups to re-create what they had seen, corresponding to their state of maturity. Ten-year-old primary school children cut shadow puppets out of lamp-parchment, making perforations with leather-work tools (Fig. 28). Kindergarten children made shadow puppets out of thin cardboard and, against a play screen specially set up for children in the exhibition, they spontaneously performed a story about Prince Rama to an enthralled audience of other young museum visitors (Figs. 16, 26, 29).

My experiences in museum education have convinced me of the following points:

1. Creative work is important as a means of assimilating what has been seen during a museum visit, and is beneficial for the development of a child's personality. The significance of this has been recognized by museums in many parts of the world, notably in the United States, Israel, Sweden, to mention but a few, where there are often excellent workshop facilities for the creative activities of the public on the museum premises. This is of special value for those children and young people, who have no other opportunities of a creative follow-up after a museum visit.

2. Even very young children can be successfully introduced to the cultural wealth of museums. This, as we found, not only prevents psychological barriers against museums developing in the young, it can also reduce them effectively in adults. Many parents are drawn into museums for the first time in their lives through their children. In this way museum education with children is contributing to the rising statistics of museum visitors.

3. There is a need for more partnership between museum educational staff and teachers in schools. The experiments described here were only possible thanks to the close co-operation of teachers, who spared themselves no efforts to make the museum visits of their classes bear the rich fruits they did. Through the results of their visits, these teachers stimulated colleagues from their own and from other schools to follow their example, thus snowballing the demands for guided visits to the city's museums.

4. There is also a need to get in touch with those teachers and children we cannot actually guide ourselves, in order to reach all sections of the community. In view of this, two educational publications have been presented by the Museums of Cologne.⁷ The first, *Unterricht im Museum* (Teaching in museums), of which the second edition appeared in autumn 1974, was especially produced for teachers. It is a comprehensive, amply illustrated survey of the main exhibits in all seven municipal museums, offering detailed suggestions, how these could be incorporated into various subjects of primary and secondary school curricula. The second publication, *Mein Museumsbuch* (My book about a museum),⁸ is a guide to the Wallraf-Richartz-Museum, especially written for children. It is also, however, meant to help parents and teachers to make visits to the museum with their children enjoyable and beneficial. The book grew out of daily practice with 5- to 10-year-old children in the museum, and was written in consultation with an experienced teacher. Works of art, presented under topics attractive for young children, are followed by suggestions for related creative activities at home or in school. Reproductions of children's work created after visits to the museum, are meant to stimulate the young reader.

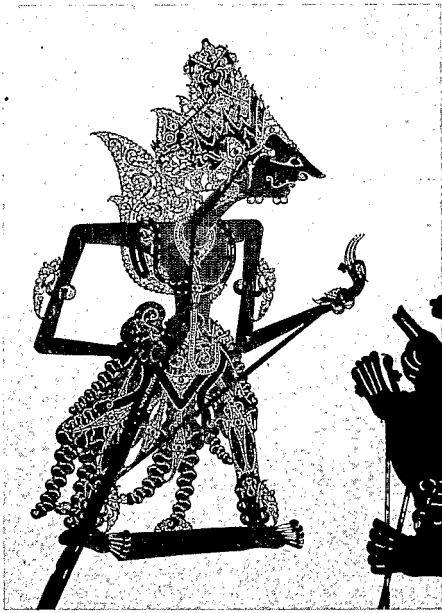
The city of Cologne has long been aware of the indispensable role museums can play in school and adult education. The new Römisch-Germanisches-Museum has proved the popular appeal of its very carefully considered didactic concept. In the ten years since its foundation, the Museums' Education Department has, through intensive work with specific groups of visitors, made a contribution towards experimental museum education of the future.

7. *Unterricht im Museum*, edited by Gert von der Osten, Brigitte Klesse, and Günther Ott, educational editing by Richard Kreidler. 2nd ed., enl., Köln, Kölner Museen 1974. 323 p. + 316 illus. in black and white. (Schriften der Kölner Museen, I.)

Education handbook written for teachers, indicating the most representative objects in the collections of the museums of the City of Cologne, and their incorporation in school curricula.

8. *Mein Museumsbuch*, by Renate Friedländer, Köln, Wallraf-Richartz-Museum, 1974, 123 p. + 29 illus. in colour, + 55 illus. in black and white + 3 plans. (Schriften der Kölner Museen, II.)

Children's guide to the Wallraf-Richartz-Museum, Cologne, showing a selection of works of art, with suggestions for children's own creative activities.



26
 RAUTENSTRAUCH-JOEST-MUSEUM, Cologne.
 Javanese shadow-puppet from an exhibition
 of Wayang (shadow-puppets).



27(a), (b), (c)
 Shadow puppets made by 13-year-old girls
 after having visited the exhibition of
 shadow puppets organized at the
 Rautenstrauch-Joest-Museum in Cologne.
 These marionettes represent a princess, a
 prime minister and a monster bird.
 Gymnasium Hildegard von Bingen,
 Cologne.

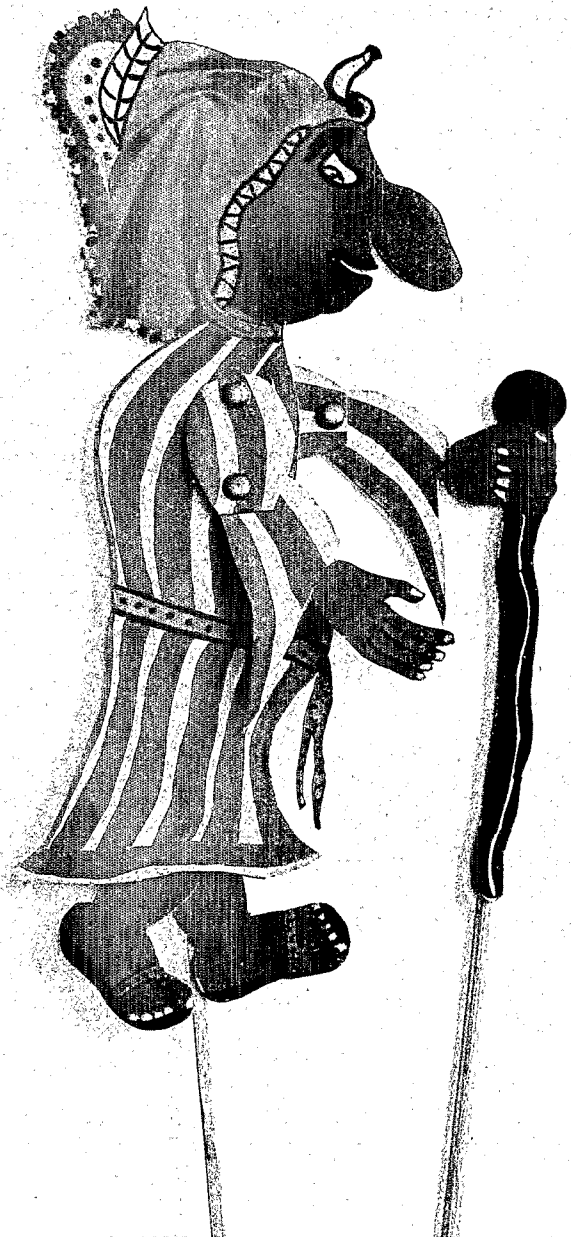
27(a)



28
 Shadow puppets made out of lamp-shade
 parchment and painted by 10-year-olds at
 the Gemeinschafts-Grundschule, Bensberg-
 Kippekausen.



27 (b)



27 (c)



29
 RAUTENSTRAUCH-JOEST-MUSEUM, Cologne.
 Children of 5 to 6 year olds at the St Marien
 Kindergarten, Bensberg-Untereschbach,
 performing a play of their own invention,
 with the help of marionettes made at
 the school, behind a screen installed for
 the museum's shadow-puppet exhibition.

Appendix

Testimony of four teachers

Five years' co-operation with the Museums' Education Department, Cologne, have convinced me that guided museum visits are of great benefit for the young child's development. The discovery of a new piece of the world begins with the bus ride to the museum, leaving home and kindergarten behind. During the guided visit, the children learn to see consciously, developing also a new awareness of familiar surroundings ('We've got stained-glass windows with lead-strips in our church!') Encouraged by the museum's lecturer to utter their thoughts freely in front of works of art, the children's vocabulary increased and their ability to express thoughts in words developed. Museum visits strongly stimulated the children's creative faculties. The effort and enjoyment involved in creating their own works made them anxious that these should not get broken. When their 'iron gate' was set up in the Schnütgen-Museum, one child said: 'Now it's in the museum, no one must touch it any more!'

The creative work of the older children is much admired by the younger ones in the kindergarten. Often we hear them say: 'Next year we'll be "museum children" too and go to Frau Friedländer in the museum.' This remark shows the importance the museum lecturer assumes for the young child. She represents the living link to this new part of the world outside the kindergarten, a role which none of us could fulfil. This link has been reinforced by her visiting the kindergarten. The children have incorporated the museum in their imaginative play—in a corner of the kindergarten they built a 'museum' of their own, filling it with things they had collected.

The children's enjoyment transmits itself to their families, whom they proudly 'guide' through museums on many a week-end. The fact that my former kindergarten children asked me of their own accord to take them to museums again because they missed these visits at school, proved to me that the museum visits in the kindergarten had left a favourable and lasting impression.

Annemarie POPPEK
St Marien Kindergarten,
Bensberg-Untereschbach.

Regular museum visits have much enriched life at our school. They have not only stimulated art lessons, but also given new life to local history, geography, scripture and nature-study lessons. The children's vocabulary and verbal expression have benefited noticeably.

The children always look forward to the museum visit. They enjoy the freedom of movement in the spacious galleries, and the freedom of being allowed to utter their

thoughts and ask whatever questions occur to them in lively dialogues with the museums' lecturer and one another before the exhibits. It often surprises me how spontaneously even my least able pupils at school manage to express themselves in the museum.

Creative work related to what the children have seen always follows in school next day. Regular guided visits during the last two years at primary school established in the children I taught such a good relationship to museums, that my former primary school pupils begged me to continue museum visits with them, because they missed these at secondary school. We formed a 'museum club', which still meets every two months at one of the museums, followed by various creative activities in their leisure time next day after school. This 'museum club' has also had a favourable social aspect, bringing together children from academic and non-academic secondary schools in a common activity.

With interested parents I have now formed a museum group, which meets regularly at one of the museums of Cologne, guided by Frau Friedländer, who is the museum contact person for our school. The parents also have a related creative session with me next evening at our primary school, thus fully sharing the experiences and enjoyment of their children. Now almost all my colleagues bring their classes to guided museum visits, after having seen their beneficial effects on school life.

Adele METZNER
Gemeinschafts-Grundschule,
Bensberg-Kippekausen.

The aim of taking a group of our deprived children on guided museum visits, was to help them gain access to a part of the world outside the children's home. For this to succeed, the establishment of a good relationship to a constant 'contact' person within the museum (important enough for ordinary children) is absolutely essential for the emotionally deprived. These children suffer permanently from lack of individual attention, and need a human representative of the museum to address them personally and make them feel welcome. Frau Friedländer always guided the children in the museums and also came to visit them at the children's home. Gradually the children gained trust and self-confidence. The museums' lecturer has become a key figure for them, unlocking a door to a new aspect of life. This transfers itself to other situations, giving the children courage to continue exploring their environment.

Particularly important for these children, was the chance to express their reactions to pictures through creative activities immedi-

ately after a visit. The museum offered an oasis of peace to do so. It inspired us, after much initial difficulty, to create in the home a small corner of quiet as a workshop. Creative work means an emotional release, that is often therapeutic in its effects. Looking at original pictures in the museum, the children realized that much labour is involved in creating a work of art. From this they learnt perseverance in carrying through their own creative work. Their creativity extended into the life of the children's home, benefiting those who were not able to go on museum visits. Inspired by African masks seen in the Rautenstrauch-Joest-Museum, the 'museum children' made most imaginative masks for the *Karneval* celebrations; they decorated the home for the summer festival and for Christmas festivities. The artistic standard they achieved would have been unthinkable without our guided museum visits. For our often badly disturbed children, museum visits have become a highlight in their lives.

Brigitte DENNERLEIN
Gertrud Bäumer Haus,
Rodenkirchen-Michaelshoven, Cologne.

My reason for bringing my class of physically handicapped children on guided visits to the museums of Cologne, was to help them establish a contact with life outside the protected world of their special school. Due to the prejudices of their social environment, that accepts only the 'normal', many physically handicapped are driven into isolation. Experiences of rejection and failure at ordinary schools, the fear of being

stared at, in addition to their actual disability, often makes these children react with resentment and suspicion to their surroundings. Regular museum visits over the past years have been an invaluable help in creating a favourable contact with the outside world. It took a long time to overcome the children's initial insecurity and fear of not being taken seriously by the museums' lecturer. Contact with Frau Friedländer had to be built up gradually before they had any confidence. It was essential that she should always guide them, as she represents the personal link to an otherwise anonymous institution. Museum visits have become very important for the children. Their lives being restricted, they experience all they see with particular intensity. They feel that they can compete here on equal terms with others. ('In the museum our answers are just as good as those of other children.') The stimulus of museum visits have helped the children in coping with psychological difficulties due to their disabilities in doing creative work. ('Seeing pictures makes you want to try things out for yourself... I never knew I could paint such good pictures.')

All problems of transport, etc., involved in our visits to museums have been more than compensated by the benefits they brought to the children. Apart from the enrichment to their personal lives, they have given the children more self-confidence in coping with new situations generally. This is what one boy meant when he said: 'Museum visits give us courage to go on learning in life.'

Christa JURUS,
Schule für Körperbehinderte,
Rösrath.



Museums and multidisciplinary universal education in the U.S.S.R.

A. M. Razgon

The quantity of information, flowing mainly through mass media such as the press, radio and television, grows constantly in our time. The tremendous importance of these media for education is unquestionable. Yet, at the same time, since man is overdosed with verbal information, the principle of object instruction has acquired particular importance.

This is where museums, possessing genuine material, pictorial and otherwise, come to play an important role. They make it possible to acquire knowledge through sensory perception of an object—a source of information—and, thanks to this, to create a direct contact, as it were, with natural phenomena and historical events. Besides, the effect of museum exhibits on man is increased many times over by the emotional factors which, as psychology has proved, play a major role in cognition and personality formation. An example that is universally recognized is the incomparable effect on man of genuine works of art and commemorative objects connected with great events or great personalities.

Museum exhibits have a special emotional value and great power of conviction. They do not merely diversify the forms of obtaining educational information, though this fact is of no little importance in itself, but also create special conditions for the perception of this information. This seems to be one of the reasons for the unusual interest in museums among the public and for the steady growth of their attendance that has virtually become an explosion in the last few years. The number of museum visitors doubled in the U.S.S.R. in a fifteen-year period, surpassing 115 million people in 1973. According to our prediction, this growth, based on a planned advancement of the educational and cultural standards of wide sections of the people, will be maintained, and this, in turn, will exert a stimulating influence on the development of museum activities.

Another objective prerequisite for the active influence of museums on universal education is their diversity, their direct connexion with many sciences, branches of production and fields of culture.

The network of Soviet museums is made up of specialized museums, corresponding to different scientific disciplines. There are also quite a few polyvalent museums in the country. Regional museums have sections devoted to natural history as well as the arts and commemorative museums occupy an important place.

The connexions between museums and the schools are based on a strong tradition. Already in the message *To the Workers, Peasants, Soldiers, Sailors and All the Citizens of Russia* the People's Commissariat of Education called, on

³⁰
GOSUDARSTVENNYJ ISTORICESKIJ MUSEJ,
Moscow. Polytechnic Museum. Visiting
the space travel section; the theme:
'Physical Bases of Space Travel'.



31
 ГОСУДАРСТВЕННЫЙ МУЗЕЙ ИЗОБРАЗИТЕЛЬНЫХ
 ИСКУССТВ ИМЕНИ А.С. ПУШКИНА, МОСКВА.
 Students of the history department of the
 Moscow State University; theme is
 'Description and Analysis of a Work of Art'.

3 November 1917, for preserving museums 'full of rare, beautiful, instructive and soul-edifying objects', and pointed out that 'all this will help the poor people and their children swiftly to surpass the former ruling classes educationally'.

Lenin drew the attention of executives of the People's Commissariat of Education to the great desirability of 'arranging small museums of poly-technical education'. Speaking at the First All-Russia Conference on Museum Affairs in 1919, A. V. Lunacharsky, People's Commissar of Education, metaphorically referred to museums as 'a grand memorial book of mankind' and pointed out that they should be 'strongholds in the great cause of people's education'. These ideas have been put into practice today. Museums take part both in instructional and extra-mural educational school work.

Instructional work is carried out by museums on the basis of visits to expositions and exhibitions, as well as study of stock collections. Consultations are also arranged on behalf of workers and teachers. The success of the utilization of exhibitions in the teaching process rests on the fact that they are arranged on a strictly scientific basis, with due account for the educational and cognitive requirements of visitors, particularly school pupils. This does not mean, of course, that museum exhibits, designed for all categories of visitors, are mechanically adapted to school programmes. Such simplification would inevitably result in an unsolvable conflict between the functional diversity of a museum as a special kind of a scientific establishment and its single-purpose adaptation to a narrow concrete aim.

The principles of exhibition arrangement, worked out by Soviet science of museums, including, for example, the arrangement of a complex-thematic exhibition, are much wider than the concrete aims of school instruction, and this is precisely what makes them good for diversified educational purposes. The material is systematized in museums according to themes determined on the basis of the latest scientific achievements in line with the museum's specialization; besides, the complex nature of museum themes is meant to lead one to the understanding of the laws guiding the development of nature and society. Genuine museum articles are accompanied by different scientific aids promoting the cognition of both the objects themselves and the phenomena and laws they reflect. Such expositions have a large educational potential.

Scientific expositions enrich the teaching process and some museums render direct services to class work by lending materials from duplicate stocks, but the museum itself does not lose its characteristic qualities as a result.

Museums also contribute to extra-mural educational activities. Various groups for pupils function at many museums. Children are included in archaeological and historical expeditions, in excursions collecting materials for natural-scientific exhibitions. Museums play an important role in school tourism. Expeditions are often given romantic names exciting school pupils' imagination, such as 'Robinsons' Camp' in Kazan (the Tatar A.S.S.R.), 'Red Path Finders' in Leningrad, Kamensk-Uralski, Krasnoturinsk, etc.

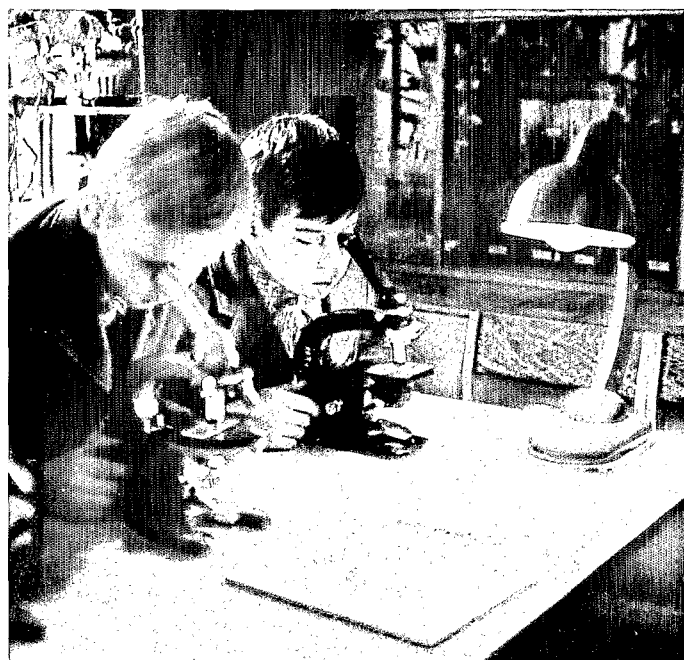
In a number of museums extra-mural work has assumed the form of organizing school study-rooms at museums (the State Museum of History, the State Museum of the History of Leningrad, the Rostov-on-Don Regional Museum of Local-Lore, etc.). At the State Museum of History (Moscow) such a study-room has been functioning since 1940. Study-rooms are used by study-groups on working different scientific disciplines or even on concrete problems. Visual study-aids and exhibitions of pupils' work are also prepared in them. Groups of young nature lovers, geologists, historians, archaeologists and geographers function at local-lore museums (in the Volgograd, Novgorod, Perm, Kirov, Primoriye and other museums).

The role of museums is inestimable in the aesthetic education of school children (Fig. 31). The leading position here unquestionably belongs to art museums possessing collections of genuine works of art. But museums of history and local-lore also have, as a rule, a considerable number of art objects,

particularly in the line of applied arts and folk crafts. This is why they also occupy an important place in the system of aesthetic education. But, as is generally known, aesthetic perception also depends to a large extent on the visitor's background and calls for a certain amount of knowledge and practice on his part. So museums impart this knowledge by organizing excursions, study-groups, lecture cycles and art studies for children (Fig. 32). To help fix and widen this knowledge of art, museums help schools build up collections of reproductions.

Polytechnical education acquires a special importance in the epoch of the scientific and technological revolution and places particularly important responsibilities on technological museums. Inasmuch as the number of museums of this specialization is not yet big, much is being done in this field by local-lore museums which, thanks to their complex nature, have a considerable number of relevant articles on display. Materials on the history of modern industry, agriculture and science when shown in local-lore museums within a regional context become particularly interesting to the children of that region and serve as an excellent help to teachers.

As for technological museums, the largest of them, the Polytechnical Museum



32



33

in Moscow (Fig. 30), lends to secondary schools its expositions, its stock materials and duplicates and sets up special exposition sections with excursion and lecture services attached. A programmed instruction laboratory functions at the museum and exhibitions on this theme are arranged (Fig. 33). A special international conference, 'Museums and Polytechnization', was held in Moscow in 1970, with the participation of polytechnical museums of the U.S.S.R., the German Democratic Republic, Poland and Czechoslovakia, and demonstrated the possibilities of technological museums in the field of education.

All Soviet museums co-operate most actively with schools. I shall name only some of them: the State Museum of History (Fig. 34), the U.S.S.R. Central Museum of the Revolution, the Timiryazev State Museum of Biology, the Pushkin State Museum, the State Tretyakov Gallery, the Pushkin State Museum of Fine Arts (Moscow), the State Museum of the Tatar A.S.S.R. (Kazan), the Karelian State Museum of Local-Lore (Petrozavodsk, the Stavropol Territorial Museum of Local-Lore, the Perm Regional Museum of Local-Lore—the Russian Federation), the Alytus Local-Lore Museum (Lithuanian S.S.R.), and the Byelorussian State Museum of the History of the Great Patriotic War (Minsk).

The entire school work of museums is planned both by museums themselves

32
BIOLOGICESKIY MUZEJ Umeni TIMIRJAZEVA.
Practicals on the theme of 'Cells and
Tissues'.

33
MOLITEHNICESKIY MUZEJ, Moscow. Lecture
on 'The Technical Processes of Programmed
Instruction', at the Programmed
Instruction Department of the Polytechnic
Museum.



34
GOSUDARSTVENNYJ ISTORICESKIJ MUZEJ,
Moscow. National History Museum.
Findings of the Primitive History Group.

and by public education bodies, and is recommended as an obligatory element of instruction by the Academy of Pedagogical Sciences, teachers' conferences and other methodological centres. Systematic visiting of museums by school pupils is common practice in today's teaching process. With a view to ensuring the planned and effective progress of this work, museums notify schools of the themes of excursions, accept preliminary requests for excursions, maintain constant ties with public education bodies, and publish literature on various forms of museum work with the school.

There are still, of course, areas in the country rather far removed from museums where it is not yet possible to systematically link museums to the teaching process. But their number is diminishing constantly with the development of the museum network, the setting up of people's and school museums and the progress of means of transport.

Museums also work with higher educational establishments. Naturally, the main place belongs to universities and pedagogical institutes on account of their universality and multidisciplinary character, as well as to higher educational establishments connected with the arts (academies and institutes of fine and applied arts or design as well as theatre schools) whose curricula include direct study of works of art whose originals are found mostly in museums. But to other colleges museums can also render, and do render, a significant contribution: medical colleges are given help in history of medicine and biology; technological colleges are assisted with respect to the technology of yesterday and today and in studying social questions which are in the programmes of all Soviet higher educational establishments.

The specific requirements of higher education are met both by special educational museums functioning at many universities and institutes by the network of museums devoted to different specializations, and, to a certain degree, by special research museums. In addition, a number of higher educational establishments have museums of their own history which are also partially used for educational activities.

The Museum of the Earth (Agronomy) of the Moscow State University, named after Lomonosov is a typical educational museum. Taking up seven upper floors of the tall university building on Lenin Hills, the museum was set up on the basis of a geographical and pedological museum and other collections. It has the following departments: The Origin and Structure of the Earth, Endogenous Processes, Processes of the Formation of Minerals, Exogenous Processes, and Natural Zones, Physico-Geographical Regions of the U.S.S.R. and the World, as well as The History of the Development of Exact and Natural Sciences in the Moscow State University. The themes of the exhibitions are tied in with the contents of lectures and seminars. The museum is an organic part of the educational process in the geological, geographical and pedological departments. Students of the university, as well as those of the Timiryazev Agricultural Academy and the Lumumba Friendship University, study there, often to prepare for field work. Special programmes have been worked out for school pupils as well.

However, despite the importance of the educational activity of specialized educational museums, most higher educational establishments use the services of the usual network of natural science, history, art and other museums.

For example, students of the humanities come to the State Museum of History, the U.S.S.R. Central Museum of the Revolution and the State Museum of the Ethnography of the Peoples of the U.S.S.R. In the State Tretyakov Gallery and the State Museum of Fine Arts instruction is given to art students and students of art history; university students and students of pedagogical institutes get practical training in the regional local-lore museums of Vologda, Krasnoyarsk, Rostov-on-Don, Ivanovo, Yaroslavl, Saratov and other cities.

Use in the educational process of unusual means such as monuments of material and spiritual culture and natural-science collections means that students and teachers must master the certain specific methods of work. But this is

fully justified by the deepening of the knowledge gained, the fact that students can thereby grasp aspects of science unattainable through the use of purely traditional verbal and logical methods of instruction.

In their practice, Soviet museums have also worked out a number of original methods of educational influence. The University of Culture is a particularly good example in this field. Cycles of lectures on history and culture are delivered, according to special programmes, to a definite and permanent body of those attending this particular university; seminars are also held for them and practical training is given with the help of exhibits and stock items. Those attending the university get diversified theoretical and practical training in chosen disciplines.

Museums and the science of museums have yet to do much to improve the methods of using museum means for educational purposes. The study of visitors to discover what new knowledge they have in fact gained is practised by museums in many countries, but it cannot be said that this research is fully up to modern scientific requirements nor that it allows to propose an integrated theory of education through museum means.

The effectiveness of the use of museums in education largely depends on the training of pedagogical personnel and their ability to organize and, partially, to carry out this work. First of all, secondary school teachers and college professors must clearly grasp the possibilities of specialized museums of different specializations and be able to incorporate various forms of the instructional work of museums into the pedagogical process. The best approach is to give future teachers this knowledge as a part of their training. Use is also made of further training which all secondary school teachers and many higher school instructors receive. The programme of advanced training institutes for teachers include special courses and practical lessons on problems of the use of museums for educational purposes. This kind of activity either makes good the gaps in their preceding training or adds to the knowledge already acquired.

In view of the fact that local-lore museums are particularly numerous and that they are well adapted for work related to many scientific disciplines and for using local material in the process, information on museum work is given at Soviet pedagogical institutes and advanced training institutes mainly with an eye to this group of museums, as well as to art museums. Students and teachers of history, geography, biology and literature attend lectures and practical training courses, indispensable for questions of method. Study and methodological literature is also produced.

The museums, for their part, do their best to carry out analogous work with teachers, to explain to them the specific features of museum collections, how to use them and how to collect ethnographic, historical and natural-scientific material and to give them basic information in museology which they may need to guide the activities of school museums. This instruction is given at meetings of teachers' associations, at teachers' conferences convened regularly by public education bodies, through individual consultations, etc.

The acceleration of the rate of historical development, so characteristic of our epoch, is notable, among other things, for the growing educational standards of increasingly wider sections of the population. It is hard to overestimate the importance of museums for multidisciplinary universal education today and it will undoubtedly grow steadily and systematically.



35
BIOLOGICESKIJ MUZEJ U MENI TIMIRJAZEVA.
Medical students attending a biology
lecture.



Museum of Images of the Unconscious, Rio de Janeiro

an experience lived within a psychiatric hospital

Fernanda de Camargo e Almeida

Situated in the northern part of the city of Rio de Janeiro, the Museum of Images of the Unconscious (MIU) occupies the ground floor of one of the pavilions of the Pedro II National Psychiatric Centre.

The museum was created to safeguard the works of patients who frequent the occupational therapy workshops in the hospital. Nearly 90,000 works—drawings, paintings and models, almost as many in plaster as in ceramic and other materials—make up this interesting *ensemble*, the selection of which was undertaken in 1956 by Dr Nise da Silveira, the psychiatrist responsible for the occupational therapeutic activities started a long time ago in this centre.

It is not only the collection of works of art, but also the museum which offers a character uniquely its own. Its whole set-up differs completely from the majority of other museums. As the works of art arrive daily at the museum's workshops, which function daily from Monday to Friday throughout the year, the collections are constantly being enriched, and the work continues in all the sections.

A workshop, used mainly for drawing and painting, is situated at one end of the museum. It is vast and well-lit, furnished with working tables, tables for materials, a piano and an organ. Often people sing and play there, thus associating images with sound. Modelling is generally carried out in another workshop or in the garden.

In the workshop the patient works in an excellent atmosphere, with the aid of occupational therapists, and comes frequently into contact with artists and personnel from the study group, without ever losing his freedom of creativity.

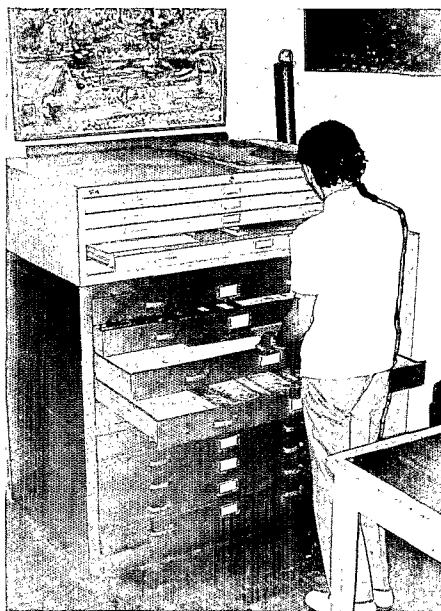
After leaving the workshop, the works are listed and catalogued, and become an integral part of the museum's archives. The cataloguing is carried out in accordance with the ARAS¹ system adopted by the Jung Centre of Zürich and Dr Nise da Silveira; a complete dossier is thus compiled on each patient (Fig. 37), which permits psychiatrists and researchers to follow each case and benefits studies and researches on the unconscious. The works are stored, awaiting an opportunity when they can be exhibited, but it is always possible to refer to them (Figs. 38, 39).

Up until 1973, the museum showed gaps in its museological and museographical aspects, and consequently two museologists from the consultation unit of the Association of Members of the International Council of Museums, Brazil (AM-ICOM),² were invited by Dr Nise da Silveira to study in depth the improvements which could be carried out without jeopardizing the museum's main structure. They came to the conclusion that it would be

36

MUSEUM OF THE UNCONSCIOUS, Rio de Janeiro. The work of art, the artist and the public are in permanent contact. For the patients at the psychiatric centre, the museum and the workshop are a window opened wide to the outside world.

1. Archive for Research on Archetypical Symbolism.
2. National Association of Members of ICOM (Brazil).



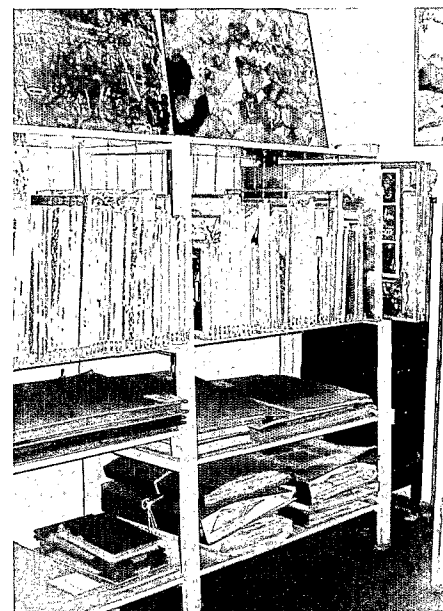
37

37
Part of the cataloguing section. Material being studied.



38

38
Reserve. Files of drawings of each patient.



39

39
Reserve. Part of the stock of paintings on canvas.

necessary to enlarge the exhibition rooms, create a permanent exhibition room which would adjoin the gallery and the temporary exhibition room, and study solutions in respect of the pedestals, the supports and the lighting, without ever losing sight of the fact that the patient who frequents the workshop also frequents the museum, the one and the other being indispensable meeting centres where the patient can make contact with the outside world. That is why sudden modifications cannot be introduced nor certain methods of display be adopted which would risk confusing the patient (Figs. 40, 41).

The museum's technical personnel posed another problem; how to introduce into this museum, with its own particular characteristics, a staff unaccustomed to living with sick people, and which could very easily lead to misunderstandings? It seemed preferable to proceed slowly, using methods which would not risk shocking the patients by their novelty. Accordingly, the rooms were modified during the day time, in the sight of visitors coming from the workshop. The hospital personnel kindly helped us to cover the walls with hemp cloth, as in the other rooms; the patients themselves helped to arrange the plants and set up the lighting. In addition to the wooden boxes already used as supports (Fig. 42), we also used bricks covered in hemp cloth and, for supports destined to exhibit small ceramic objects, small pieces of upturned glass (Fig. 43). We draw attention to this problem of supports because the use of an unknown material could be considered by the original artist an interference in his work and create in him a feeling of repulsion.

The method used in solving this problem and the way in which it has permitted the presentation of figurines of anthropomorphic animals, small deities and other ceramic pieces, have shown us which direction to take.

The training of technical personnel for a museum of such specific characteristics posed another problem. It was not the problem of adaptation which caused our concern or led us to take extra precautions. Rather, we were worried about seeing museologists and other museum professionals bring orthodox museological standards into the museum, thereby upsetting the general harmony that reigned. The risk was of disrupting the satisfactory relations between the patients and the participants of the study group from the Carl Jung Research Centre working in the museum, between the patients and the visitors, and thereby destroying the authenticity of MIU. To be more precise, one could say that certain professional standards, in spite of their high technical level, cannot be applied to this museum.

The contact that we have had with the museum's staff, and the interest they have always shown in helping us solve all problems which presented

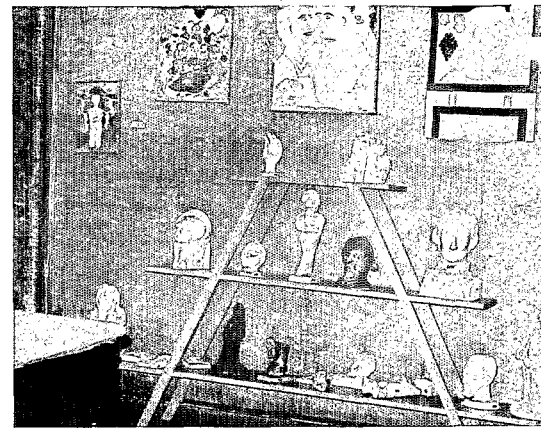
themselves, led us to try an experiment. Instead of training museologists for the needs of the museum and its environment, we decided to try and train the personnel actually working in the museum and the workshop, i.e. the employees of the National Psychiatric Centre. It was necessary to begin by giving them elementary information on the cultural heritage: museology and museography. They were taken to visit other museums and asked for their impressions afterwards, to establish parallels, to undertake specific projects and research tasks. Intensive training groups were formed whose aim was to attain objectives more and more specific. We also continue to collaborate with the museologist Lourdes do Rego Novaes, and to work conjointly with a training unit of AM-ICOM and a consultation unit; whilst the latter is engaged in presenting new exhibitions and improving the museum, the training unit is working out a training programme on the basis of articles written by Yvonne Odon, notes by George Henri Rivière and our own experiences with the museological courses in Rio de Janeiro. The objective is to assure practical training, adapted to present needs, without ever losing sight of a wider reality, and which gives a sound general foundation to the trainees.

The environment for these courses has been so heavy that we have had to provide courses for people working in other sections of the hospital who used to work in related areas. The candidates formed a very eclectic lot: doctors, psychiatrists, psychologists, educators, occupational therapists, administrative staff, nurses, technical personnel. The rate of attendance for each course was between 97 and 98 per cent, and the work which students completed was 100 per cent of the work assigned to them. We have succeeded in bringing each student, without imposing upon him, to the point where he can envisage the given subject from the viewpoint of his own speciality. We thought that

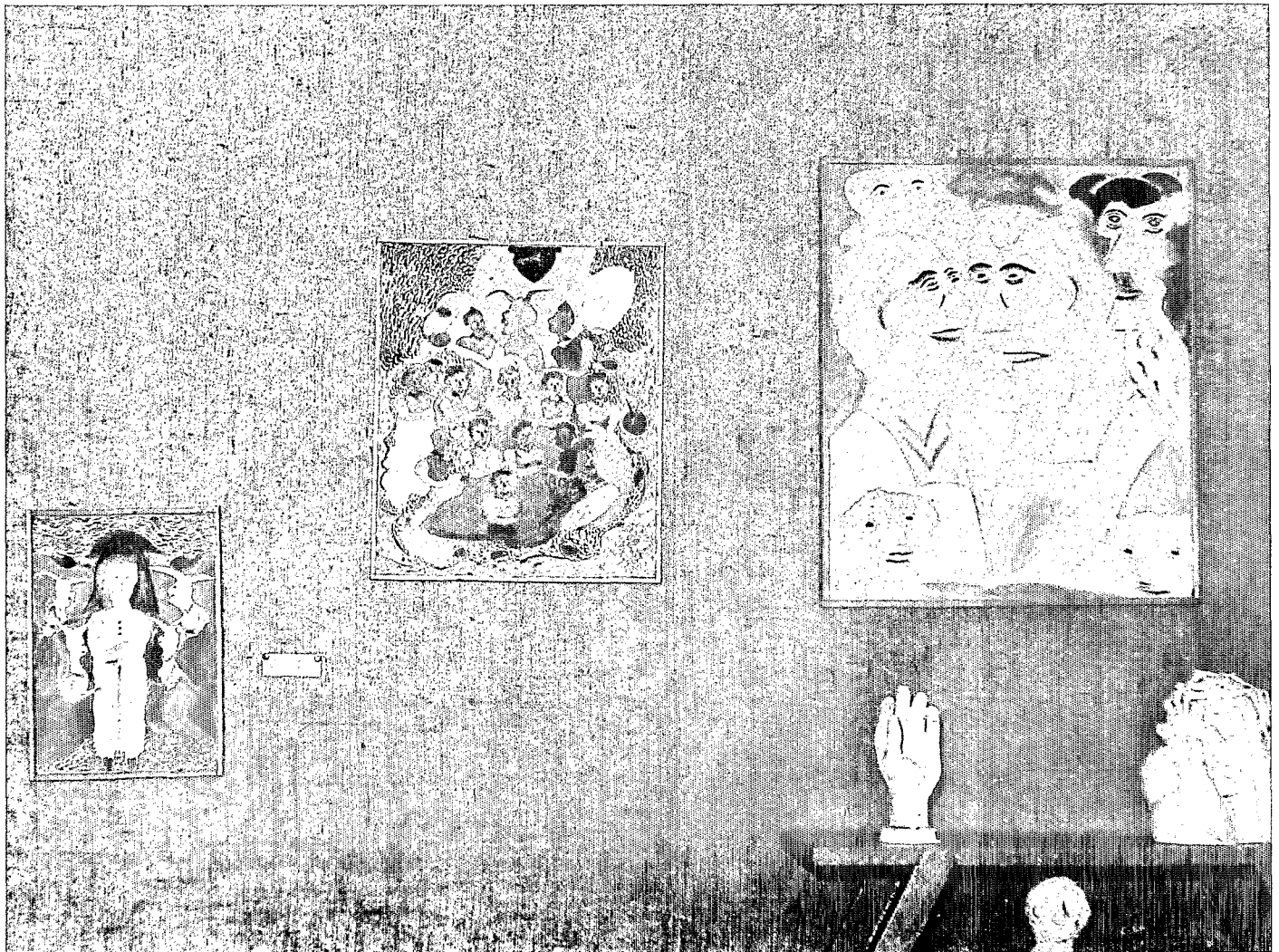
40

Part of a permanent exhibition room. (a) The walls are lined with hemp cloth, as in the workshop, and the shelves are like those in the workshop so as to create a more pleasant atmosphere for the patients. (b) Detail. Paintings illustrating the Dionysos myth.

40(a)



40(b)





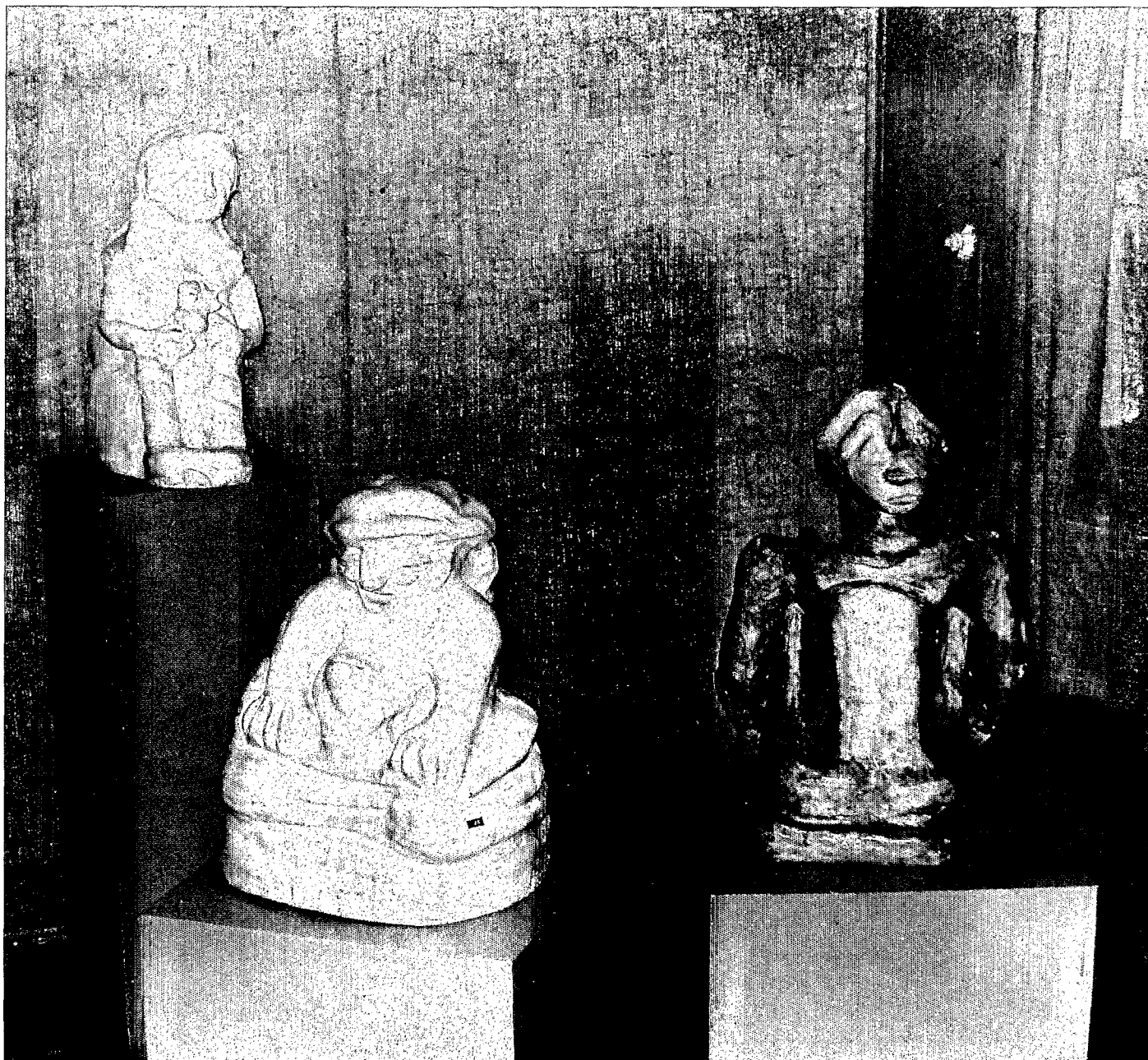
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as soon as we had finished with general notions the group would have to be divided into specialized sections. But we need not have worried. Each student wished to gain more knowledge in all fields. Therefore, it will not be until much later that we will be able to organize smaller and more specialized groups, which will receive more specialized training.

Since the museum began its new phase, two temporary exhibitions have already been organized. These exhibitions are usually half-yearly and coordinated by the Carl Jung Study Group which is managed by Dr Nise da Silveira, and who, as we have seen, constitutes the museum's scientific research section.

During the first half of 1974, the theme studied by the group was 'Affectivity-Contact'. On this occasion, an exhibition of drawings and paintings on the same subject was organized in the temporary exhibition room, which is also the room where the Study Group meets once a week. The presentation of these exhibitions is very simple; on the labels only the iconographical details, the author's name and the date are given. No mention is made of the patient's psychiatric or psychological condition. Thus, these exhibitions can be visited by everyone.

In the second half of the year, the theme studied by the group, which was



42

consequently that of the exhibition, was 'Metamorphoses of the Feminine Principle'. Apart from paintings and drawings, this exhibition consisted of a few models and sculptures of the greatest importance. The 'Mother Goddess' theme returns continually for each exhibition—a certain number of the most interesting forms have been selected (Fig. 44). This exhibition has seen an increased participation on the part of the students who familiarize themselves with museographic techniques as their use becomes necessary.

Another question, that of the social, cultural and educational activities of the museum is currently being studied. It is quite evident that the museum's first objective must be, apart from the preservation of particular objects, to fill a social function in its own community, that is to say, for those who participate in its life and who are in contact with it. The Pedro II National Psychiatric Centre is in fact the immediate community, the first point of insertion and subject of the museum's particular attention. Next comes the Engenho de Dentro quarter in the old industrial district to the north of the city, adjacent to a highly commercial working-class quarter—Meyer. The Engenho de Dentro quarter has very high temperatures in summer and very low temperatures in winter, and poses the particular problems of a working-class area. The population still have a few fears about living close to one of the country's principal psychiatric centres. As elsewhere in the world, the proximity of a big hospital with mentally sick people involves the constant fear of seeing patients escape and attack people. However, in this case the problem is well under control. The museum itself is trying to elucidate its message little by little. We hope that shortly it can not only collect data locally and integrate itself into the district but also work together with the local people, opening up to them new horizons and making them understand what the psychiatric centre really is, what mental illness and its treatment is all about. Through the city, the museum hopes to reach out to the entire country. Visitors from other parts of the town, the countryside and abroad, come to the museum with a lively interest.

The museum is open every day and, in order to visit it, it suffices to inform the caretaker when there will be a small group, and to obtain special permission in the case of a large one. The well-being of the patients cannot be forgotten. They walk freely in the galleries, often accompanied by dogs and cats. Dr Nise da Silveira calls these 'my hosts', and in her studies and working techniques the animals play a 'co-therapeutic' role, indispensable to the equilibrium of the patients (Fig. 45). The excellent results obtained confirm this. Both the works which are preserved in the archives, and everyday life as it can be witnessed here, attest to this. The presence of animals in a museum of painting and sculpture may seem incongruous but is one of the features which permits us to grasp the particular techniques used at the Museum of Images of the Unconscious.

Thoughts on the visitors' behaviour

The complexity of the collection as a whole and also the special characteristics of the museum obliged us to pay great attention to the behaviour of the visitors. Systematic research began in 1974, but since 1975 the analysis has been more thorough and the results more clearly defined.

We began the survey with an initial stage of observations which took four main points into account: (a) general characteristics of the visitor; (b) relations between the museum and its surroundings; (c) the effect of the museum as a whole on the visitor; (d) the effects of the exhibits on the visitor.

General characteristics of the visitor

We receive two types of visitor, internal and external. The internal visitors are

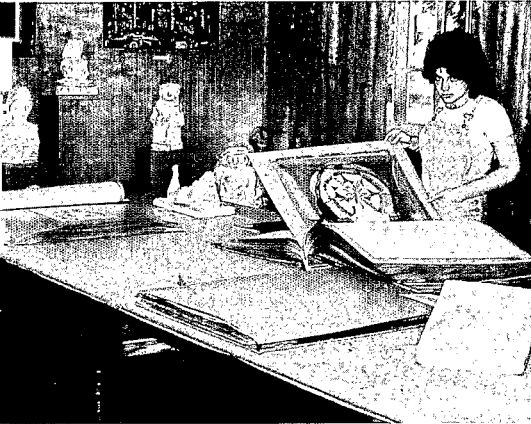
41
Part of an exhibition room. Works illustrating the myth of the Mother-Goddess.

42
Part of the temporary exhibition room. Models illustrating the myth of the Mother-Goddess. Crates serve as supports.

43
God of the underworld with serpents. Ceramic. Glass serves as support.



43



44
Archetype symbolism attracts the young; they linger mainly over large albums of drawings in colour as well as before paintings and sculptures of mythological themes.

those who use the workshops (patients/artists). Forty per cent of them are regular visitors to the museum. The other 60 per cent form a vacillating group (patients/artists who play a sporadic part in the life of the workshop and museum) but make a very important contribution to the project as a whole even if as many as half the group vary from one week to the next. All these characteristics are nevertheless vital for the over-all development of the project. The observers from the AM-ICOM consultation unit working on this part of the survey are almost certain that the link between workshop and museum (exhibition galleries, etc.) becomes stronger each time; and that if the workshop daily adds something to the museum, the museum also gives something to the users of the workshops, providing a dialogue of images and contact with the outside world. The link between the three parts, namely: workshop-users (patients/artists)-museum, is so strong that it forms a nucleus of relationships in which the human element is the sensitive and vital element above all others.

The external visitors come under two categories, regular visitors and casual visitors. Regular visitors are generally associated with the museum in some way and we have noticed that each regular visitor usually incites a certain number of other people to visit the museum.

The museum is open from 10 a.m. to mid-day, Monday to Friday. Visitors in groups of more than four persons are asked to give prior notice in order to avoid making the internal visitor feel rejected, which could easily happen with the arrival of a crowd. During 1973, there were 280 ordinary (casual) external visitors to the museum, 580 in 1974 and 80 during the first thirty days of 1975. Most of the visitors are psychologists, psychiatrists and students of these two subjects but there are also many visiting intellectuals and artists, and people from the surrounding area are gradually beginning to come. Foreign visitors are frequent. They are often brought along by Brazilians but we have been surprised on several occasions by foreign students arriving directly.

The relations between the museum and its surroundings

This part of the survey was carried out under the direction of the psychologist Paulo Roberto Carvalho as part of the practical work in the museum's course on museography held in 1974. Mr Carvalho organized a working party which distributed a questionnaire to 100 people of varying occupations living near the psychiatric centre and hence, near the museum. The findings show that 80 per cent of the people receiving the questionnaire did not know the museum, but they were pleased to find that there were workshops and a museum at the psychiatric centre. It was also noted that visits from people living in the area were gradually becoming more frequent and the museum was thus able to undertake a certain number of activities to initiate dialogue between the community at the psychiatric centre and those living in the neighbourhood. The first activity consisted of inviting those who had replied to the questionnaire to visit the museum and say what they thought about it. Given the museum's special circumstances, this has to be done very slowly.

The effect of the museum as a whole on the visitor

Of the visitors, 90 per cent are strongly moved by the museum as a whole. The percentage of those who show understanding is the same. The visitors' sensibilities are so moved that they immediately feel pity. In these circumstances, however, pity is unacceptable even if a person is fully informed. There is everywhere such a wealth of information and messages that the adult, young and even child visitor, whatever his level of perception and sensitivity, finds all his senses appealed to at the same time. Sixty per cent of the visitors feel considerable fatigue after the visit and an even higher percentage is very impressed.

This first evaluation was made by observation and conversation with the visitor during and after the visit. An attempt is made each time to carry out

a more thorough and meticulous evaluation. The ever-greater communication which takes place between the staff of AM-ICOM working on this project and patients living in the centre and working in the workshop makes it possible to observe and evaluate the external visitors' behaviour with regard to the human elements as well (the patients) and vice versa. This observation is very difficult as communication between them is very slow but one feels that the process is rewarding for both sides. Among the various reactions, it is even sometimes possible to discern traces of the characteristic affective potential of schizophrenics.

The effect of isolated exhibits on the visitor

This is a topic on which it is not yet possible to say anything. The value of the exhibits, their content, message and even their particular value, from the point of view of the artistry or creative spirit manifest in some of them, is never questioned. However, no one ever thinks to judge them according to the criteria of art. In the museum they make an impact on the visitor. When they are examined by groups of students or sensitive people, their symbolism opens up several paths along which the spectators are completely carried away.

Exhibitions staged outside the museum so far have been successful, but always among a specialist public. Halfway through 1975, almost 240 items, drawings and paintings, will leave the museum for exhibition in another museum in Rio, open to the public at large. It will be possible, after this exhibition, to make a real evaluation of the impact of isolated items on the general public and the ordinary visitor outside the atmosphere of the museum as a whole.

The course on museography given at the museum

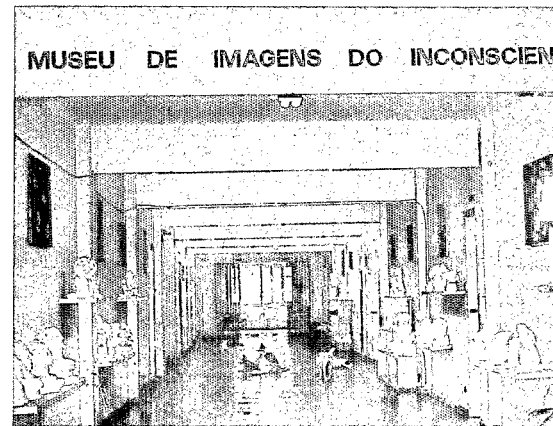
The first course, specially adapted to the museum's needs, consisted of ninety-eight hours of theoretical and practical work. There were thirty-five participants, all of them workers at the psychiatric centre, among whom were one psychiatrist, two psychologists, one medical student (trainee), one lawyer, twenty ergotherapists and ten administrative workers. The attendance rate at lectures and participation in the practical work was almost 95 per cent, the highest attendance rate for a course on museology or museography anywhere in the country.

The theoretical part of the course dealt with the cultural heritage, preservation, protection, museology and museography. At the same time, a supplementary part of the course dealt with cultural development, art and ethnography, since the study of the museum's collection is carried out by means of the analysis of universal archetypes.

The practical part of the course consisted of four activities: observation games to develop descriptive ability and to give balance to the group; visits to museums followed by the presentation of reports and discussions; discussions on the classification of collections, documentation, etc.; and last, but by no means least, progressive classification of the museum's items on the basis of a museological system in addition to the ARAS system adopted previously purely for the purposes of research. From now on, both types of classification are used side by side. The practical part of the course is continuing for a second year.

Our aim is obviously not to train museologists since technical supervision must always be the work of qualified museum specialists. Our aim is to give the workers at the centre, and principally the museum workers, necessary information about museums and their needs so as to enable them to work in and understand the Museum of Images of the Unconscious.

45
Central gallery of the museum. In the centre, 'co-therapeutic' dogs and cats can be seen. Workshop in the background.



46



Growing museums

New wing of the Boymans-van Beuningen Museum, Rotterdam

J. C. Ebbinge Wubben

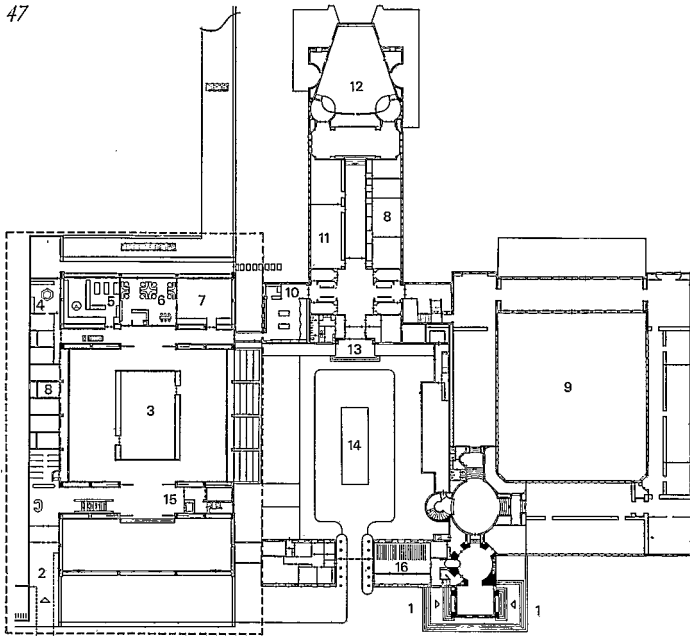
On 28 February 1964, plans for enlarging the Boymans-van Beuningen Museum were submitted to the Rotterdam city council. The plans had been drawn up by A. Bodon of the firm of architects of J. P. van Bruggen, G. Drexhage, J. J. Sterkenburg and A. Bodon to which A. van der Steur, the architect of the building completed in the Mathenesserlaan in 1935, had also belonged. These plans provided for the extension of the museum towards the Westersingel (eastern side) to be carried out in two stages. The first stage would extend only over part of the adjoining gardens, and the second would take the extension of the museum up to the Westersingel. On 12 March 1964, the city council decided to authorize A. Bodon to prepare plans for the first stage and to have the corresponding estimates drawn up. The architects completed their work towards the end of 1965 so that it would have been possible to start building during 1966. This was nevertheless delayed by the difficult economic and financial situation in the Netherlands and in the city, and it was not until 30 May 1968 that the city council, without any prior vote, accepted the proposal of the mayor and his deputies to make an initial sum of money available for the construction of a new wing to the museum. It was possible to prepare the site and begin building work in April 1969.

A long process lasting more than twenty years had preceded the decision to enlarge the museum on the Westersingel side. Numerous solutions had been sought and one plan, in 1955, even envisaged covering over the museum's outer courtyard, but this would have provided only a very temporary solution to the problem of the increasingly acute lack of space. The acquisition of almost the entire collection of D. G. van Beuingen in 1958 had clearly shown that a solution had to be found on a much vaster scale, leaving more possibilities open for a much more distant future. The 'Westersingel project', based on an idea which A. van der Steur had put forward back in 1942-43, indeed showed this wider vision. In addition, this plan retained the museum's garden as well as the façades overlooking it, and further provided for the possibility of direct and well-lit connexions between the old building and the new wing.

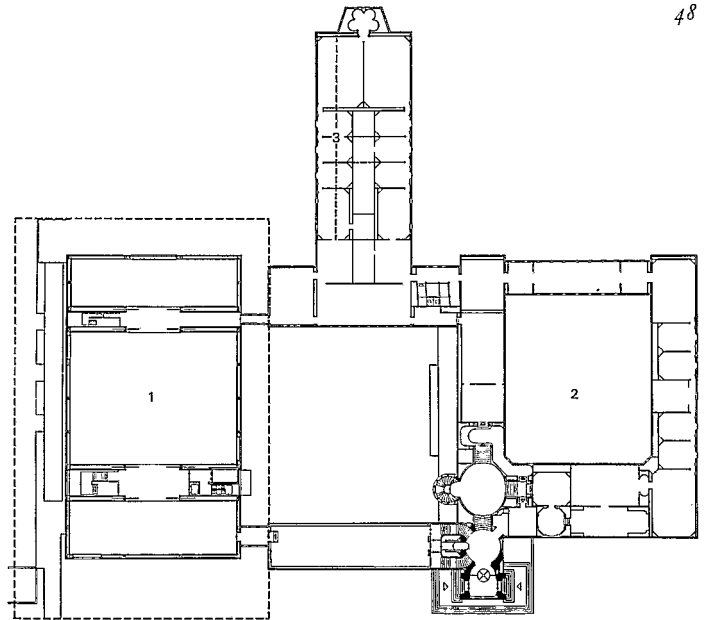
The long years of planning and preparation nevertheless had one advantage. When the time came to draw up the final plans for the first stage, it was possible to take into account the fact that the modern-art section was assuming more and more importance among all the museum's collections owing to the fact that the new trends in modern art have their own particular requirements. One of the basic ideas was to provide exhibition areas which could be used and divided up for very varied purposes. This resulted in a construction without any supporting members to break up the large areas, these being subdivided

⁴⁶
BOYMANS-VAN BEUNINGEN MUSEUM,
Rotterdam. North façade, opening out to
the street (Mathenesserlaan) to encourage
passers-by to enter. The north-sloping
glass roof can be seen.

47



48



47

Ground-floor plan of the buildings:
 1. Entrance to painting and ancient sculpture sections; 2. Entrance to the modern art section; 3. Modern art; 4. Nursery; 5. Study-room: drawings and prints; 6. Snack bar; 7. Meeting room; 8. Offices; 9. Decorative arts; 10. Reproductions; 11. Library; 12. Auditorium; 13. Entrance to educational service; 14. Inner courtyard; 15. Lift; 16. Storerooms.

48

Plan of the first floor: 1. Modern art; 2. Old paintings; 3. Willem van der Vorm collection.

by means of mobile, sectional partitions. A second innovation was the open nature of the new building on the street¹ in order to interest the passer-by in what was going on inside (Fig. 46).

The basic 1946 plan provided for an extension of the museum eastwards as far as the Westersingel. The land available for the first stage of building was restricted to a section of the gardens, about 46 metres wide and 60 metres long, situated in the direction of the Westersingel. On this plot, a compact, rectangular building was put up with two connexions to the front and the rear of the existing building. The architecture and the system of construction used show clearly that this is a new wing with its own functions. All the same, an attempt was made through the choice of materials (red brick) and the architectural proportions and details to create a harmonious bond with the 'old' building. Like the old building, the new wing has three levels: the basement (for the stores, workshops, technical installations, etc.), the ground floor (exhibition galleries and offices) and the upper floor (exhibition galleries). Most of the ground-floor space is lit from the sides whilst the galleries of the upper floor are lit from above.

Layout

The ground floor and upper floor, as the plans show, are divided into three parts separated by two 'movement zones' formed by the through-ways, staircases and lifts. At the front (on the north side) and at the rear (to the south), the galleries are longer than they are wide, whilst towards the centre of the building they are squarer in shape.

The front, ground-floor gallery, running along the Mathenesserlaan, is at street level and hence somewhat lower than the other galleries (Fig. 47). This gallery has a glazed frontage from floor to ceiling and a wide terrace outside, and these provide contact with the exterior. As this gallery is north-facing, it has particularly favourable lighting.

In the middle of the large central area is a gallery with artificial lighting only, intended for the exhibition of prints and drawings. It is also particularly suited for the exhibition of all objects seen to best advantage under artificial light.

The space around this gallery is in the form of an ambulatory. The wide portion to the west has a glazed façade looking on to the museum courtyard whilst the corresponding space on the eastern side is bounded by a partition of frosted glass. Behind this partition are a series of offices for the museum admin-

1. The Mathenesserlaan.

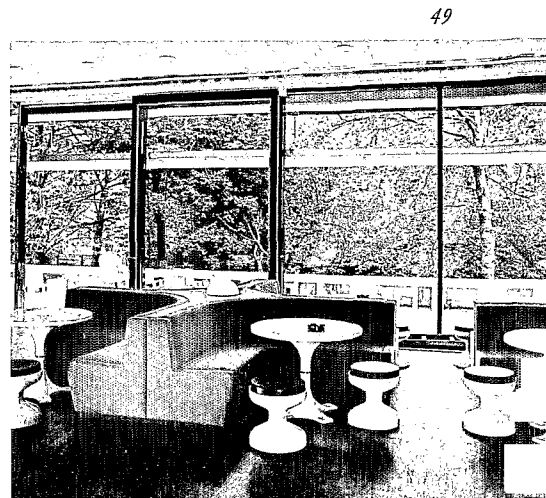
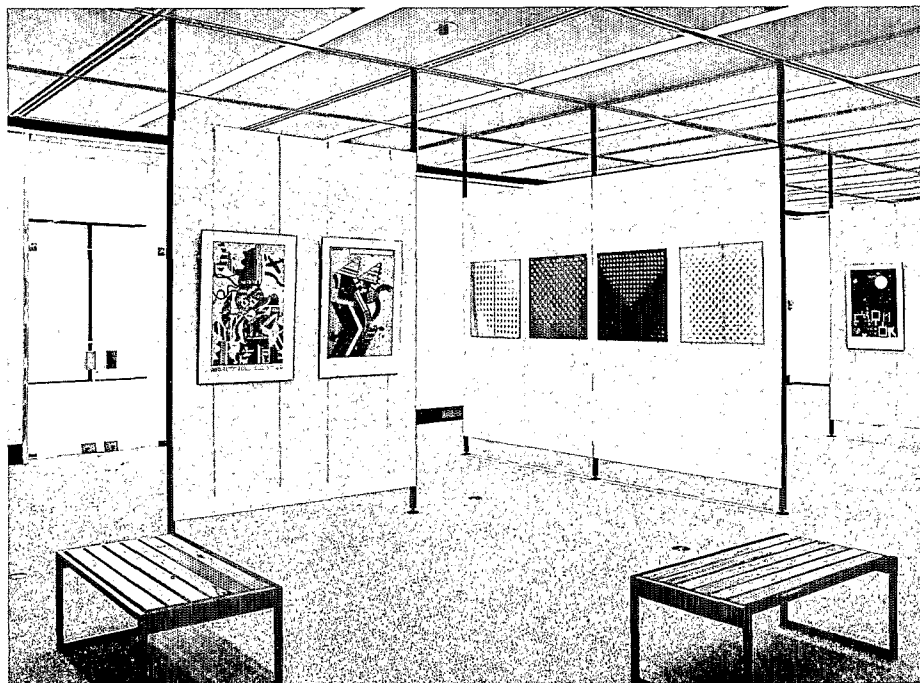
istration. To the rear of the building are three areas. In the middle is a snack bar (Fig. 48); to the right of this (when facing the snack bar) is a room for meetings or lectures which can be made to open on to the snack bar, whilst on the left is a study where the collection of prints and drawings may be consulted (Fig. 49). Outside these three areas is a long terrace, accessible from the snack bar, and also leading to the museum garden (Fig. 50).

A room (with a terrace) has been provided adjoining the study, at the end of the row of offices, and this will serve as a crèche.

The study, the snack bar and the meeting room are in the furthest and narrowest 'movement zone' which ends at the corridor linking the new wing to the old building. Through this corridor, one comes to a space newly laid out for the sale of reproductions, catalogues, etc.

The entrance, with a covered approach, and the cloakroom are at the front of the new wing, to the left of the gallery which looks on to the Mathenesserlaan. The whole entry area, with the offices and crèche, are of light construction and will be removed when the second stage gets under way.

From the entrance, one comes to the first, wide 'movement zone' with a staircase leading to the upper floor and another leading down to the basement where there are the visitors' toilets.



49
The snack bar and its terrace, facing south over the gardens.

50
Prints room, in the middle of the ground floor.

Opposite the staircase is the visitors' lift. At the point where this 'movement zone' reaches the courtyard is the service entrance with a capacious service lift. Here, under cover, the works of art can be stored and taken by lift either to the basement or the upper floor. The service entrance and service lift are reached by way of the covered approach on the courtyard side.

The floors of the exhibition galleries (except for the print room and the two ground-floor corridors) have a white Venetian marble finish. This is laid in squares measuring 1.1 metres by 1.1 metres, which is the 'module' on which the whole plan is based. The walls are plastered and painted in broken white. The walls of the corridors are of the same brick as the façades but painted white. In the print room and study, there is light grey, synthetic, antistatic carpeting. In the snack bar and meeting room, there is a wooden floor made of very long planks of dark *wengé*. To contrast with the very light exhibition galleries, a restful and more furnished atmosphere has been deliberately created in these three areas.² All the ceilings on the ground floor are covered with sound-proof panels.

2. The prints and study rooms, the snack bar and meeting room as well as the new sales room were designed by Mr Salomonson.

The visitor climbs to the upper floor by an open staircase with solid teak steps (Fig. 51). The upper floor is divided into three, by two throughways just like the ground floor.

Communication with the galleries of the old building is provided in two places, at the narrow side of the long front gallery (north façade) and at the end of the last throughway (Fig. 52).

The building's front gallery, the corresponding gallery to the rear and the main central gallery (Fig. 53) have no internal supports, which makes them seem bigger. This effect is further heightened by a broad window in the southern façade which overlooks the trees in the Westersingel gardens. The three exhibition galleries are lit from above by a series of oblique windows sloping northwards so that there is no direct sunlight.

The arrangement of the western and eastern façades clearly expresses the place and function of the throughways.

The galleries on the upper floor can be subdivided by means of mobile partitions making it possible to adapt the way the area is arranged to changes in the permanent exhibition or to the requirements of temporary exhibitions. These partitions are made up of detachable sections based on multiples of a module of 1.1 metres (2.2 metres, 3.3 metres, and so on), with a width of half or three-quarters of a module and a height of 2.4 metres or 3.6 metres. As the galleries are 5 metres high, one still feels that they form a unit. Whereas the floors and walls of the ground floor are covered in materials which give the appearance of stone, the floor surface of the upper storey is covered with light grey, synthetic, antistatic carpeting, and the walls have plywood panels over which white jute has been stretched, also used to cover the mobile partitions. Pictures and other items can be hung from picture rails by means of bars or may be fixed directly to the partitions. A teak floor in the throughways prolongs the decorative theme of the staircases. On both the upper floor and the ground floor, the main areas can be shut off by sliding partitions making it possible to set up an exhibition without disturbance, the visitors then using the 'movement zones' and staircases. These sliding partitions can be set in different positions so as to widen or narrow access to the galleries at will.

The basement houses the workshops and stores as well as an area for the air-conditioning installations (Fig. 54). The workshops are situated on the courtyard side and are lit through skylights. In the workshops, the works of art are packed or unpacked, prints and drawings mounted and binding and boarding carried out, as well as joinery. Opposite the workshops and separated from them by a wide corridor are four bomb-proof storerooms, three for pictures and one for works of applied art, sculpture and other items.

Immediately to the left of the service lift, a space has been provided for storing packing cases, display cases, etc.

Beneath the study for prints and drawings are two superimposed storerooms for graphic collections and drawings. A spiral staircase and a service lift for boxes and files link the study with the two storerooms.

Finally, showers, toilets, etc., are to be found in the basement.

Volume and area

The new wing has a volume of 35,000 cubic metres and 2,325 square metres of exhibition galleries, which is more than two-thirds the area of the old building where there are about 3,270 square metres of exhibition space.

The façade on the Mathenesserlaan side is 34 metres long, and the side walls are 60 metres long.

The internal measurements of the galleries are as follows: ground floor—north gallery, 33 × 9.9 metres, with a height of 4.15 metres; all the central area (print room with its ambulatory), 30 × 26.4 metres, with a height of 3.6 metres; the space for the exhibition of prints and drawings measures 11 × 16.7 metres.

On the upper floor—the north gallery, 33×9.9 metres; the central gallery, 31.9×8.25 metres, all with a height of 5 metres.

Up to roof level the building is constructed of reinforced concrete, with the roof resting on a steel framework. The blind parts of the façade are of brick.

Lighting system

The angle of the inclination of the north skylights was determined by Philips Lighting Laboratory, which advised on the entire artificial lighting installation.³

The three galleries on the first floor are lit from overhead; thus an even distribution of the light, coming in from above, was necessary over the whole surface of these galleries. As the new extension is situated practically north-south, this even distribution of the light was achieved by choosing a 'shed-construction' of the (steel-framed) roof: skylights, facing north, whereas the sunlight from the south is shut out (Fig. 46).

In the roof are mounted, parallel to the skylights, rows of fluorescent lamps in such a way that the fixtures are attached as near to the closed parts of the roof as possible, so that in daytime as little daylight as possible is intercepted.

For the fluorescent lamps Philips colour '32' was chosen, a warm-white daylight colour, which was already used by the museum in the old building for the artificial lighting of the galleries as well as of the showcases. Tests by Philips Lighting Laboratory have proved that this type gives the maximum guarantee against discoloration and fading. Both forms of light, natural and artificial, are evenly diffused through a ceiling of opalescent laminated safety glass extending over a latticework of white enamelled aluminium, each section of which is 27.5 centimetres square, i.e. a quarter of 1.1 metres, the basic module on which the plan has been designed.

To prevent the walls in the galleries on the first floor immediately beneath the ceiling from being too strongly lit, the ceiling is extended on all sides by a board strip of 0.8 metre wide, the latticework starting only at that distance from the walls.

To clean the opalescent laminated safety glass and to change the fluorescent lamps in the roof, rails have been suspended at regular distances from the roof construction; fourteen lorries are suspended from these rails, and run over the entire area, so that every point can be reached.

Electrical rails, in which spotlights can be put wherever they may be wanted, have been mounted at regular distances beneath the latticework. Plug connexions have been mounted above the floor in the walls. Daylight and artificial light can be used separately or in combination; in the latter case it is possible to use only half of the fluorescent lamps. All three galleries on the first floor have large windows, to prevent any feeling of claustrophobia and to establish contact with the outside world. The sun can be kept out, and too strong a light from the outside can be tempered by electrically controlled Venetian blinds, fitted inside, in the north and central gallery, and outside in the south gallery. The blinds before the very large window in this latter gallery which affords a magnificent view of the trees in the Westersingel gardens, can also operate by an automatically controlled photo-electric cell, sensitive to sunlight.

The galleries on the ground floor are lit at the front and to the west side by light coming in through window walls over the entire length; at the east a wall of opalescent glass separates the exhibition gallery from the staff rooms. Daylight comes through this opalescent glass and can be combined with artificial light. The central gallery, on the other hand, has artificial lighting only, being intended for prints and drawings, and for all those objects, which are meant to be shown only by artificial light. All the galleries on this floor can be lit by artificial light from the ceiling (fluorescent lamps '32') and by spots, which can be placed in rails mounted beneath the ceiling, in a wide range of strengths and in many

3. The electrical installations were designed by the Municipal Electricity Company, while the various alarm systems were devised by the Netherlands Internal Telephone Company, The Hague.

different places. When very fragile drawings are exhibited in the central room, the strength of the light can be reduced to any desired level. Electrically controlled Venetian blinds are fitted over the window walls at the front and to the west.

In all the galleries on the ground floor electrical points have been mounted at regular distances in the floor; when not used they are protected by waterproof bronze lids. Moreover plug connexions are mounted in the walls, above the floor.

Air conditioning

The air-conditioning system is linked to the central municipal heating system.⁴

It is designed to maintain a constant temperature of 20.5° C and a relative humidity of about 55 per cent. To prevent condensation in wintertime, all the windows have double glass, and are insulated; the steel frames are also double and similarly insulated.

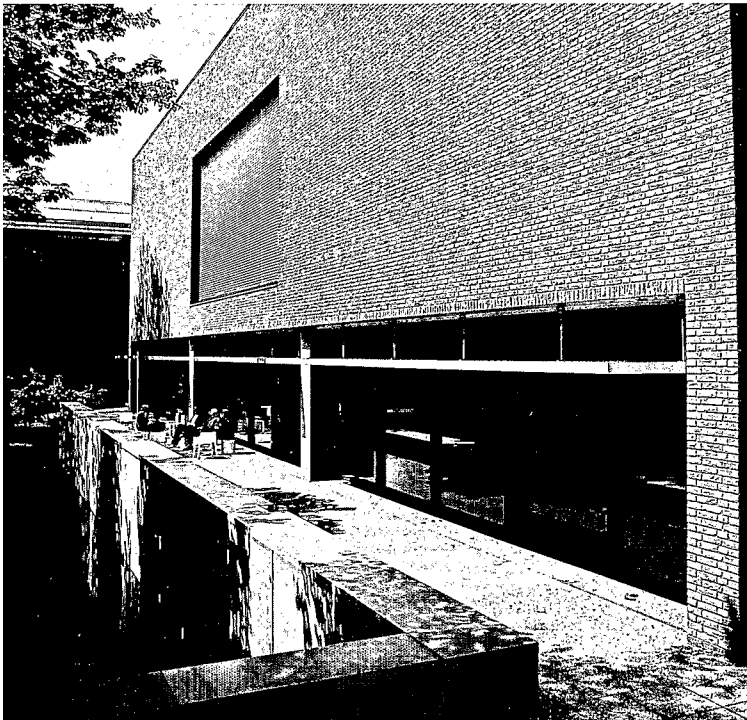
The building is made up of different units: complete units for the exhibition

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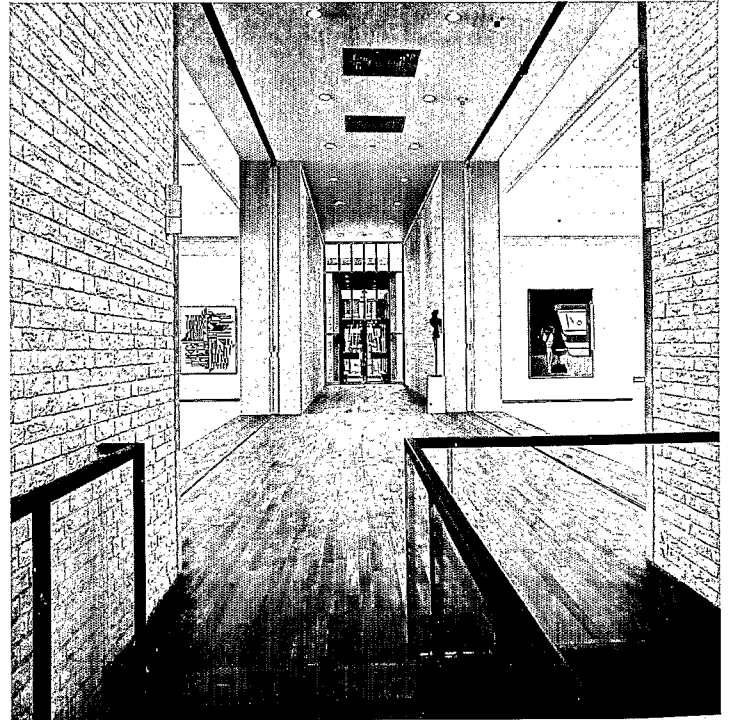
South façade and terrace, in front of the snack bar. In the background, left, the 'old' building can be seen.

52

First-floor corridor between the south room and the central room.



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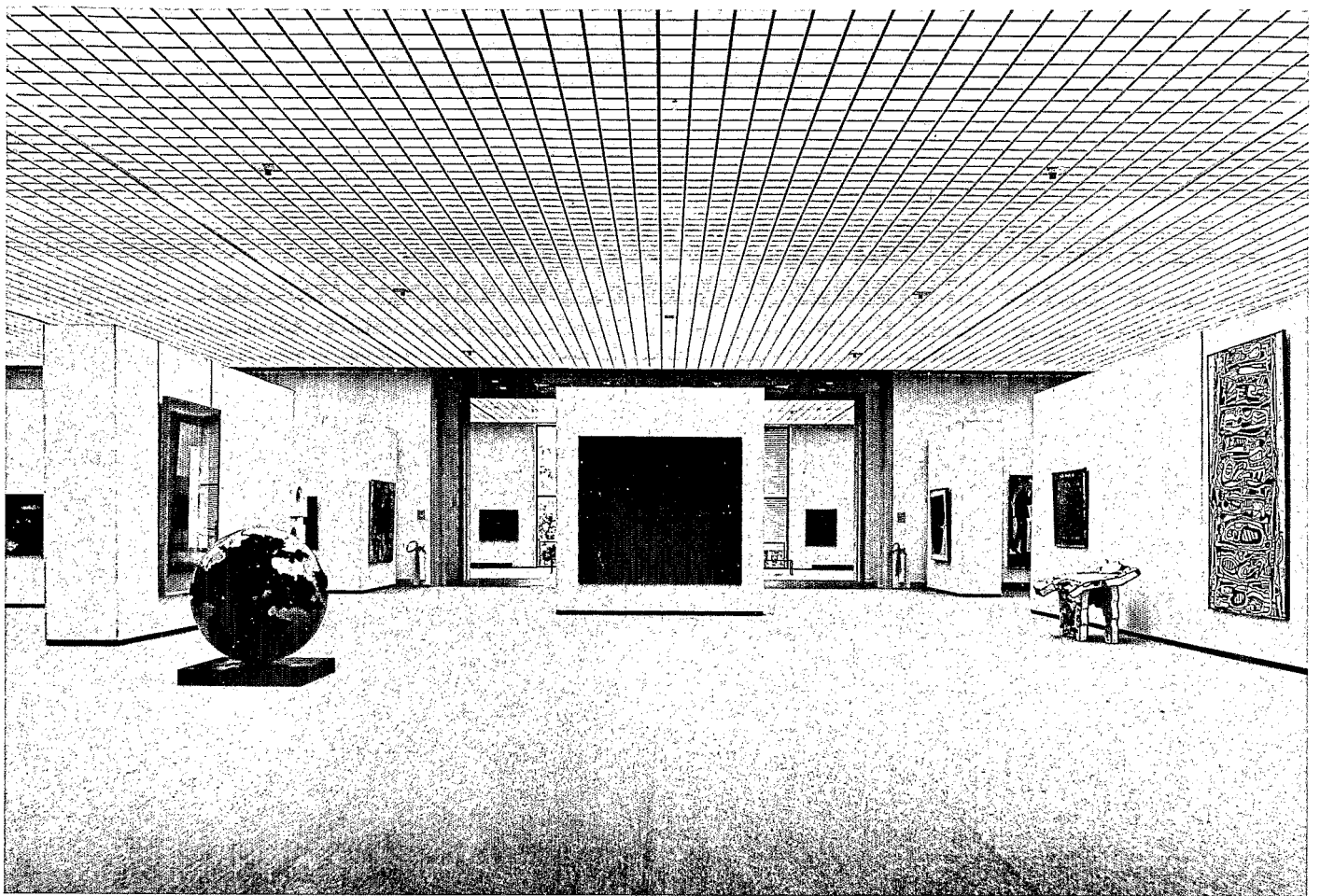
galleries, the storerooms and the packing room; units for heating and cooling in the roof.

A complete unit filters the air when it comes in and when it goes out again; it warms or cools the air, adds moisture, and circulates it.

For the areas where prints and drawings are exhibited, consulted or stored, i.e. the central gallery on the ground floor, the study room and the two stores below, the air is run through a soda-and-water solution to purify it from SO₂ before it is circulated in these rooms.

The water used for cooling purposes is demineralized in a special apparatus which has been installed together with the cooling-aggregate in the machine-room in the cellars of the old building, whereas the other units are placed in the new machine-room in the new wing. Units for filtering, warming and cooling the air are placed in the roof; here, as well as in other places where cooling water could escape as a result of defects in the machinery, contacts have been mounted in the floors, which react immediately when becoming

4. The installation was designed by the Mechanics Section of the Municipal Works Service.



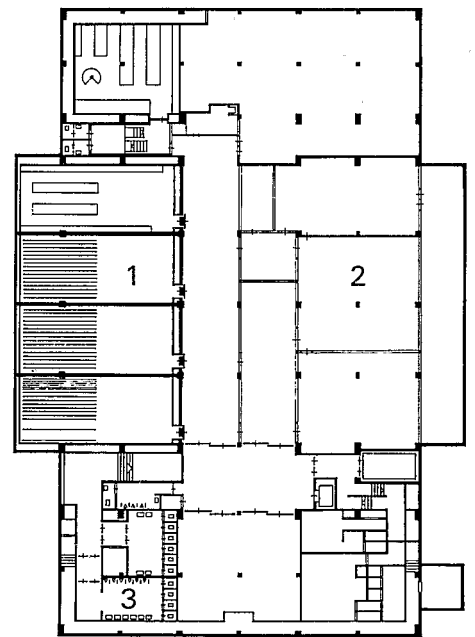
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moist, a reaction which is signalled on a central control panel, placed in the entrance hall of the administration wing of the old building. This panel, which is monitored twenty-four hours a day, also controls other visual parts of the air-conditioning machinery as well as the fire-alarms, installed in all the galleries and other rooms of the new wing, and the safety devices against theft or burglary.

Organization

The new wing has now been functioning for a year and it can be said to serve fully the needs of great flexibility, efficiency and convenience of working. Works of art, coming in for exhibitions, etc., can be unloaded in the courtyard under a canopy, in front of the service elevator, which measures 5.20 × 3 × 5 metres, and which takes a load of up to 3 tons. The cases, with the works of art, are then sent down to the basement, where they can be unpacked in the special large packing room; the cases can be stored in a special room for packing material, showcases, etc., the works themselves in one of the fully air-conditioned store rooms. When needed in one of the exhibition galleries they can be brought up by the same elevator and distributed. The spaciousness of the lift, corridors and galleries makes it possible to use lorries of large sizes, lift-trucks, etc., if necessary.

Before mounting an exhibition, a layout is prepared on a 1:50 scale model, with the movable walls reduced to the same scale. Once the layout has been decided, the distribution of these walls is noted on a plan on the same scale. According to this plan the galleries are divided; by means of row-bars on rollers, the movable walls can be moved around in the galleries very easily. This system makes it possible to adapt the galleries always to the special demands of the works to be shown; in addition, the visitor gets each time the impression of entering a new and different space.

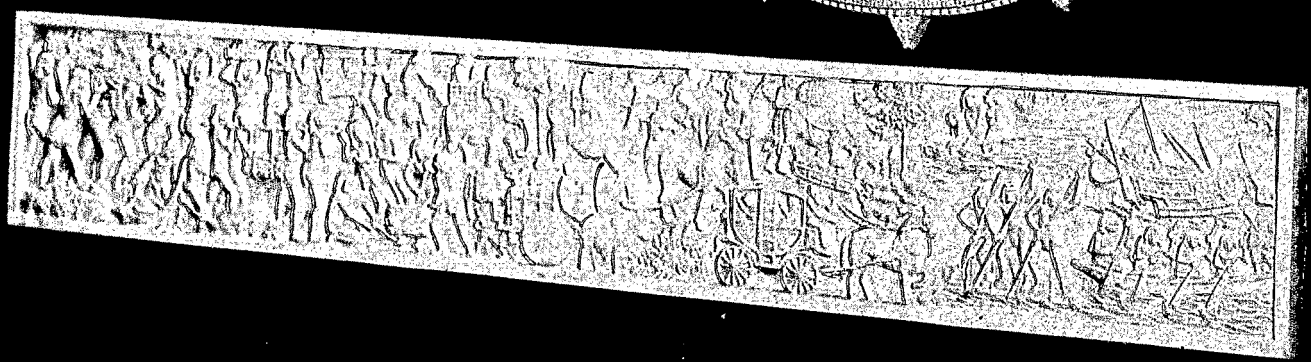
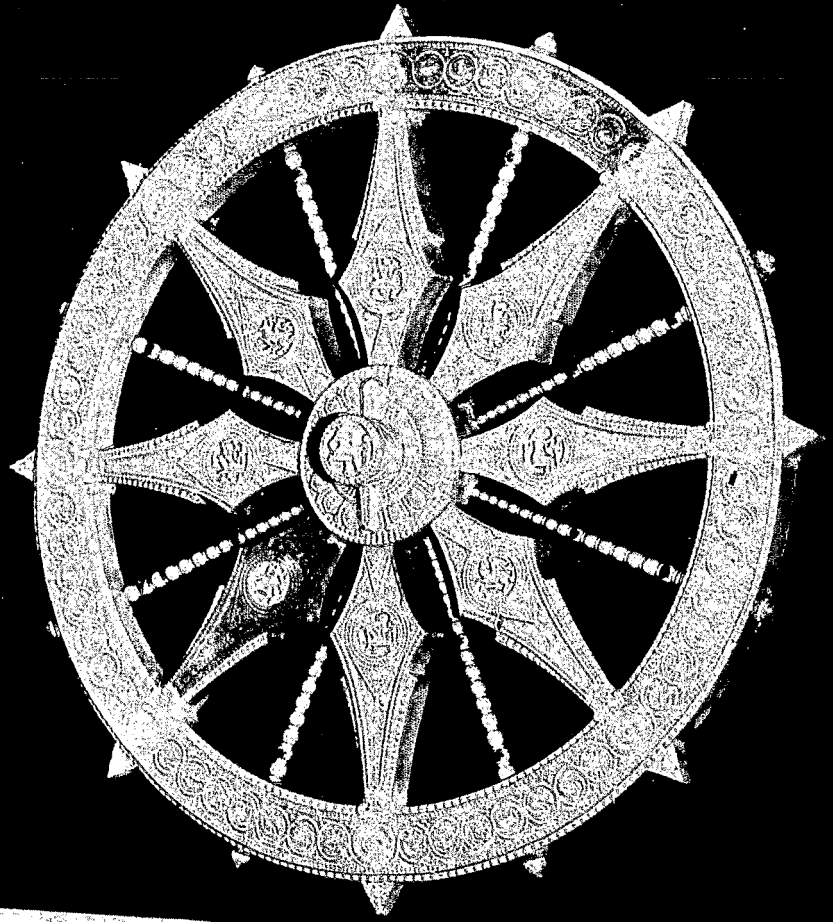


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53
Central room on the first floor, view looking south.

54
Basement plan: 1. Storerooms for the reserve collections; 2. Workshops; 3. Toilets.

Transport
परिवहन



New gallery on transport in the Birla Industrial and Technological Museum, Calcutta¹

S. K. Bagchi and P. K. Bhaumik

The Indian sub-continent saw one of the four earliest river valley civilizations spring up in the settled Chalcolithic settlements of Harappa and Mohenjodaro in around the third millennium B.C. The others belonged to the Egyptian civilization in the Nile valley, the Sumerian in the Tigris-Euphrates basin and the Chinese in the Hoang-Ho valley. These civilizations fostered trade with each other, resulting in the introduction of wheeled vehicles on land and of sailing ships on seas which accelerated communications and made possible the bulk transport of goods. The discovery of a dockyard of the Harappan age in Lothal on the Arabian Sea proved that the Harappans were a great maritime people; this is also borne out by the discovery of Harappan seals in Sumeria and also by the figures of ships on seals. That the Indian area had intimate contact with distant lands is also proved by other sources. When Sir John H. Speake went on an expedition to discover the sources of the Nile, he was handed at Bombay a map of Africa prepared by Lieutenant Francis Wilford from the references in *Purānas*.² In the age of recorded history, in the Periplus of the Erythraean Sea compiled towards the end of the first century A.D., a Greek navigator recorded that 'ships built and fitted by the Indians sailed with their merchandise of pearls, precious stones, spices and fine cotton cloth called muslin'. Ptolemy's geography in the following century mentions Sopara, a sea port on the western coast near Bombay. The extant evidence of cultural contacts between India and South-East Asia in the first millennium A.D. also speaks of the mastery of the Indians on the seas. The rich paintings and sculptures in the temples of the period give evidence to their achievements. For centuries, until the advent of steam engines, the transport system on land and sea remained more or less static. The introduction of the steam engine in the eighteenth century heralded the industrial revolution in Europe.

The industrial revolution was concomitant with a revolution in communication and transport. The demands of commodity production necessitated quick disposal of goods from the place of manufacture to the consumers. The rise of colonialism in its modern connotation is also related to the expansion of markets for manufactured goods. All these new demands led to an ever-increasing need to speed up transport and communication, resulting in the development of steam engines and the telegraph. The availability of cheap electrical power gave birth to electric traction on railroads. The discovery of petroleum and the development of internal-combustion engines gradually rendered steam power in transport obsolete in the advanced industrial countries. The mythologies of many races are resplendent with mythical accounts of aerial transport. In the beginning of the present era the Wright brothers made

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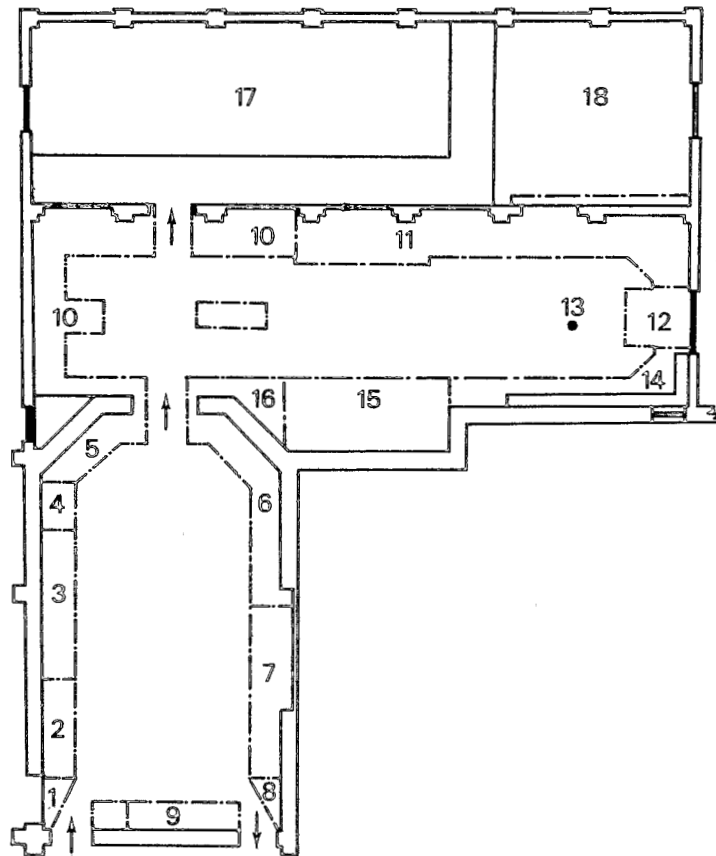
BIRLA INDUSTRIAL AND TECHNOLOGICAL MUSEUM, Calcutta. Entrance to the transport gallery. Replica of the wheel of a temple chariot from the Konaraka sun temple and a bas-relief representing various means of transport used in the past and still in use today in different parts of the world.

1. A new gallery on transport was opened at Birla Industrial and Technological Museum, Calcutta, in 1973.

2. The *Purānas* are ancient Indian religious texts.

56

Plan of the gallery: 1. Introduction to the exhibition; 2. Primitive forms of land transport; 3. Influence of geographical conditions on transport; 4. Eighteenth century, Calcutta; 5. The first bicycles; 6. The first trains; 7. Locomotives and carriages; 8. Plan of the future Calcutta underground; 9. Modern locomotives; 10. Automobiles; 11. Air transport; 12. From the earth to the moon; 13. *Saturn V* space vehicle; 14. Water transport; 15. Monorails and teleferic systems; 16. Cranes and carriers; 17. Locomotives of the narrow-gauge Indian railways; 18. First automobiles.



the first practical breakthrough in aviation. The development of rocket propulsion has made possible transport in space and has heralded the dawn of the 'space age'. The revolutionary breakthrough in rocket technology has materialized the dream of Tsiolkovsky, 'Earth is the cradle of mankind but one cannot live in a cradle for ever'.

This, in a nutshell, is the saga of transport on land, water, air and space above. Every science and technology museum tries to capture this dynamic story of the evolution in transport in its galleries. Actual antique transport objects are considered to be prize collections of museums. Specialized museums have also been established which deal exclusively with a particular aspect of transport, e.g. the railway museum, the tramway museum, the maritime museum, etc.

Planning of the gallery

When the Birla Industrial and Technological Museum decided to set up a gallery devoted to transport, several basic factors were taken into consideration: the role of a museum of science and technology in a developing country; criteria of selection of objects; historical factors; limitations of space in the transport gallery of the museum; collection problems.

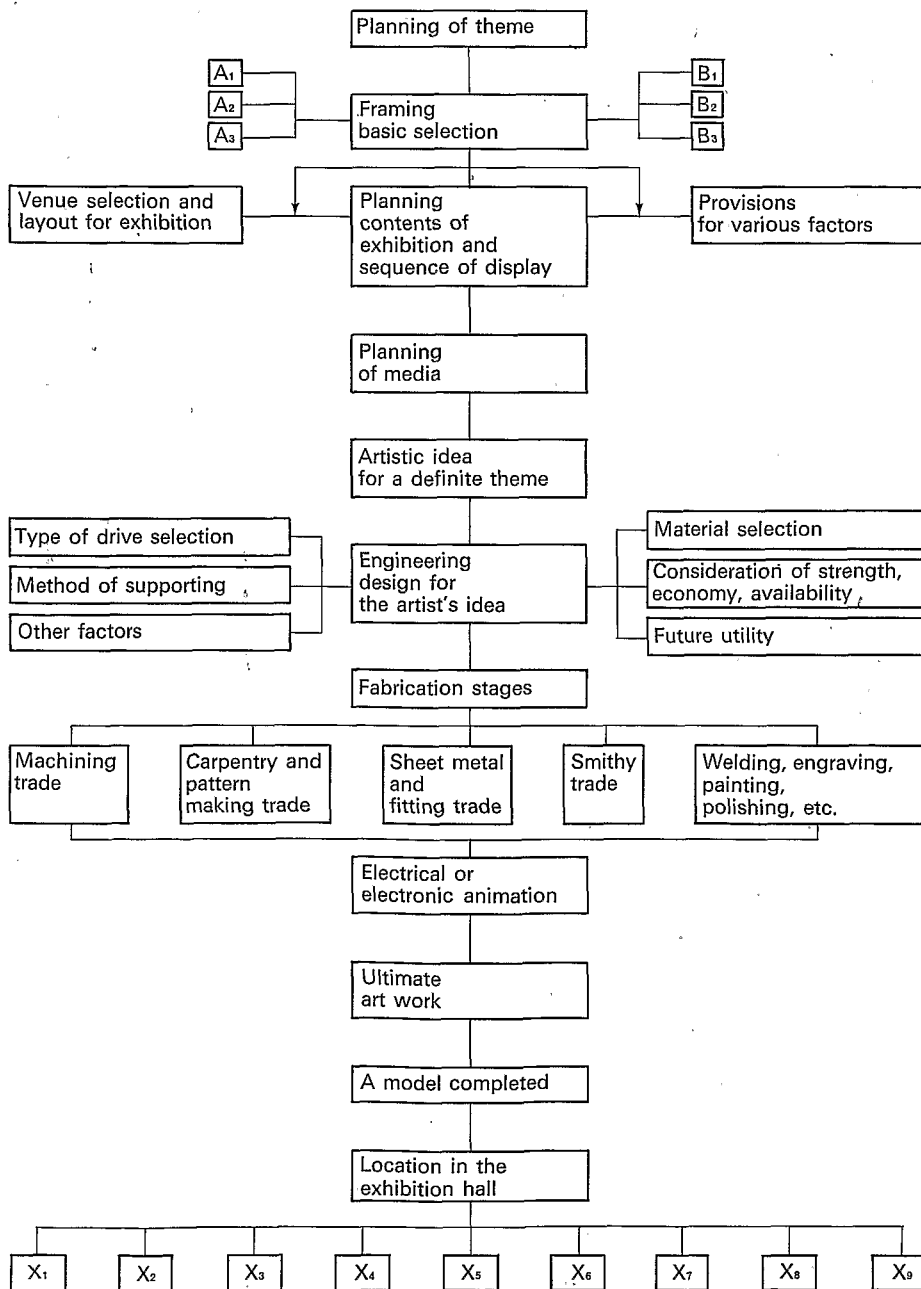
The role of a museum of science and technology in a developing country

Most of the important museums in the world, such as the Smithsonian, the Deutsches Museum, the London Science Museum, are national prestige institutions whose collections show the material culture of mankind in the field of science and industry, with special emphasis on the national heritage. In recent times museologists all over the world have become aware that museums must serve the community in a more dynamic way, so as to blot out the stigma of the storehouse concept of museums. A museum must be a living and vibrant institution reacting with the community in a dialectic manner. It

is felt that this approach is all the more appropriate in the case of developing nations. Only through science and technology can an underdeveloped nation attempt to achieve economic 'take-off'. In this challenging task, a museum of science and technology in a developing country has to assume an active part in the fascinating drama of national rejuvenation. As the children and youth of today will be the scientists and technologists of tomorrow, the main endeavour of the museums should be to educate them and supplement the education they receive in schools and colleges. With this aim in view, the exhibits of the transport gallery were so chosen as to serve the purpose of the education of students in general and of the engineering students of polytechnics and engineering colleges in particular.

Criteria of selection

The question that the curator had to settle first was the criterion of selection of an object for the collection. As a polytechnical museum, the Birla Industrial and Technological Museum aims at establishing broad landmarks of the history of science and technology. In the field of transport this history is vast



17 The different stages of planning and constructing the new gallery.

and fascinating; the horizon of science and technology is an ever-expanding one. A science and technology museum portrays the past and the present, and projects the future. It was thus decided that the antiqueness of an object should not be the primary factor in the decision to acquire it. The main criterion was whether the object showed a major breakthrough in technology. The fast rate at which science and technology are advancing in this century turns the products of today into antiques within fifty years. The museum, however, cannot house every specimen of minor improvement. Moreover, the collection should portray the vast development that has taken place in land, water and air transport in India since the country became independent in 1948.

Historical factors

For historical reasons, India did not pass through those stages of the industrial revolution which the West had to undergo. Hence, it is difficult to collect original artefacts in the field of science and industry. The curator therefore had to satisfy himself with scale models of historic inventions in the field of transport. A few original specimens of the early twentieth century have, however, been collected which will be discussed later in this article.

Space limitations

The museum is housed in a building which was built for residential purposes. The total exhibition area in the building is only 1,900 square metres, of which the transport section comprises 350 square metres in three halls. Figure 56 shows the plan of the three halls. It may be noticed that the space is too meagre for a transport gallery which has special needs. This factor has subjected the curator to a collection policy limited mainly to scale models with very few specimens of original artefacts.

Collection problems

The difficulties of collecting original artefacts have been pointed out earlier in the article. There are not many manufacturing firms which fabricate scale models, because the demand for such models is very limited, and there is not sufficient skill in the art of model-making of the standard and quality required by the museum. Hence the museum has to depend on its own craftsmen in its workshop, which comprises the mechanical, electrical and display sections with about sixty technicians; with more than fifteen years of experience, they have developed a high skill in the model-making craft. The museum has also had help from foreign museums and local industrial firms.

Planning the exhibits

The idea of starting a gallery devoted to transport was first approved by the Scientific Committee of the museum, which is an advisory body with experts from the museum as well as from outside. The curator in charge of the gallery made a special study of the history of transport and decided that the gallery should have the following sections: early land transport; topographical influence on systems of transport; story of the bicycle; automobile section; air and space transport; railway transport; boats and ships; other typical systems of transport.

Advertisements were issued in the newspapers for the collection of evidence of land transport. Letters were sent to various manufacturing firms soliciting the gift of actual transport objects or models of them. Letters were also sent to foreign museums and institutions for drawings and photographs of historic rail and road transport inventions like Cugnot's vehicle, Stevenson's *Rocket*

locomotive, etc. A master list of exhibits was then prepared in a sequential story form to depict the various aspects. The list of exhibits was then submitted to the Technical Committee of the museum for approval.³ The curator was asked to prepare a list of exhibits which could be accommodated within the space earmarked for the transport gallery. The curator fixed tentatively the dimensions of each exhibit. The exhibition officer then prepared a three-dimensional dummy of the transport gallery giving approximately the position of each exhibit. The number of exhibits was reduced still further in view of the space available. Figure 57 shows a schematic diagram of the various stages in the planning and execution of the work. After the dummy was approved, detailed drawings of each of the cabinets were prepared. An estimate of the materials required was made and indents were placed for procurement of the stores. After the final list was ready and approved by the Technical Committee, work orders were placed for the fabrication of models and preparation of graphics. When the collection of exhibits had reached an advanced stage, the fabrication of cabinets was undertaken by the technicians of the museum workshop, which has a well-equipped carpentry and painting section. At every stage there was a feed-back to the Technical Committee of the museum—which meets every month—for appraisal of the progress, critical analysis and establishment of priorities. The museum received a fair number of donations: a good collection of models of boats from the London Science Museum, drawings and photographs of antique road and rail vehicles from various museums.⁴

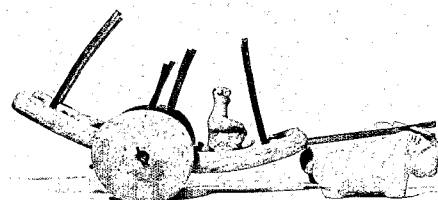
Different animation techniques have been used in the exhibits to explain the principles on which the machines function. The designers and draftsmen of the museum prepared working drawings of the exhibits so that workshop technicians could carry out fabrication work. In the meantime, the Curator-in-Charge of the gallery got busy with his museum assistant to prepare posters, charts and labels. Bilingual labels in English and Bengali (the regional language) have been used for the first time. The display section, which has artists, designers and a photographer, gave the finishing touches to the gallery.

The gallery

At the entrance the visitor's attention will be immediately captured by two sculptures: one, a replica of a chariot wheel of the sun temple of Konāraka⁵ and the other, a long mural in bas-relief, showing a panorama of various transport media in vogue in ancient times which continue to be used in various regions of the world (Fig. 55).

The exhibit in the first hall begins with a toy replica in terracotta of a bullock cart (Fig. 58) discovered at Mohenjodaro of a kind that villagers in some parts of India still use and a diorama of a conjectural reconstruction of the Mohenjodaro site with various kinds of transport media. Three dioramas highlight the influence of arctic, desert and mountainous topography on transport (Fig. 59). The visitors are invariably fascinated by the movement of the animated models. Several toy-like models show the evolution of the bicycle. The visitors find it fun to see how people used to ride a penny-farthing or a hobby-horse.

The second hall houses exhibits on automobiles (Fig. 60), air and space transport, shipping, and on cranes and conveyors. The first exhibit in the series is a scale model of Cugnot's historic vehicle. Working models of Trevithick's road locomotive (1802), Benz's tricycle (1886) and Daimler's bicycle (1885) are put up next. The visitor can operate these models by push button. The models were fabricated in the museum workshop from the drawings and photographs available in books and obtained from different museums of the world. A high horse-power sectioned automobile engine donated by a leading manufacturer is exhibited; the students can study it by direct participation. Sectional and working models of automobile accessories



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Reproduction of a toy ox-cart found at Mohenjo Daro.

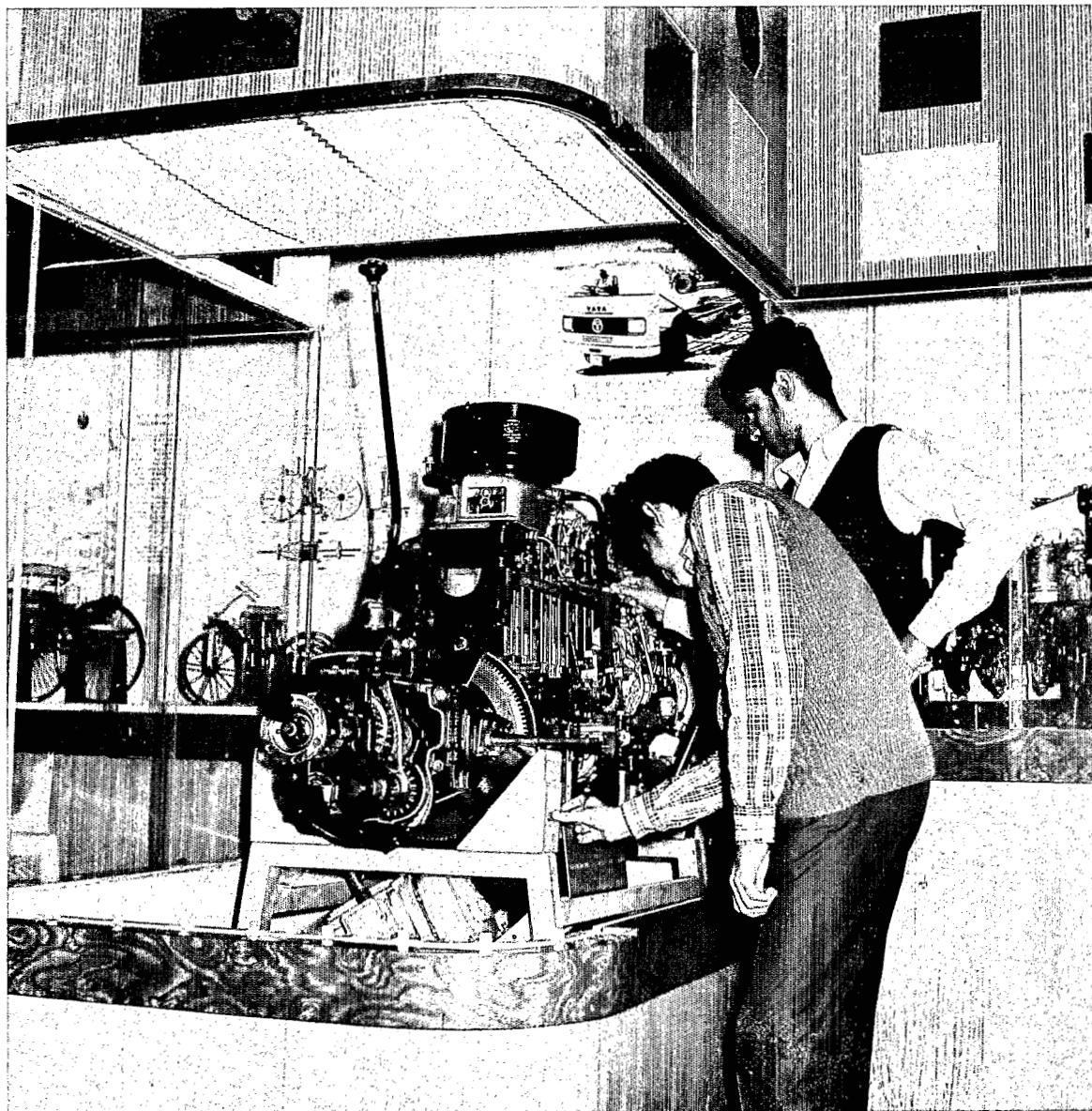
3. The Technical Committee comprises the different curators and supervisory technical personnel of the museum.

4. Conservatoire National des Arts et Métiers, Paris, the London Science Museum, the Smithsonian Institution, United States, the Deutsches Museum, Munich, and the Daimler-Benz Museum, Federal Republic of Germany.

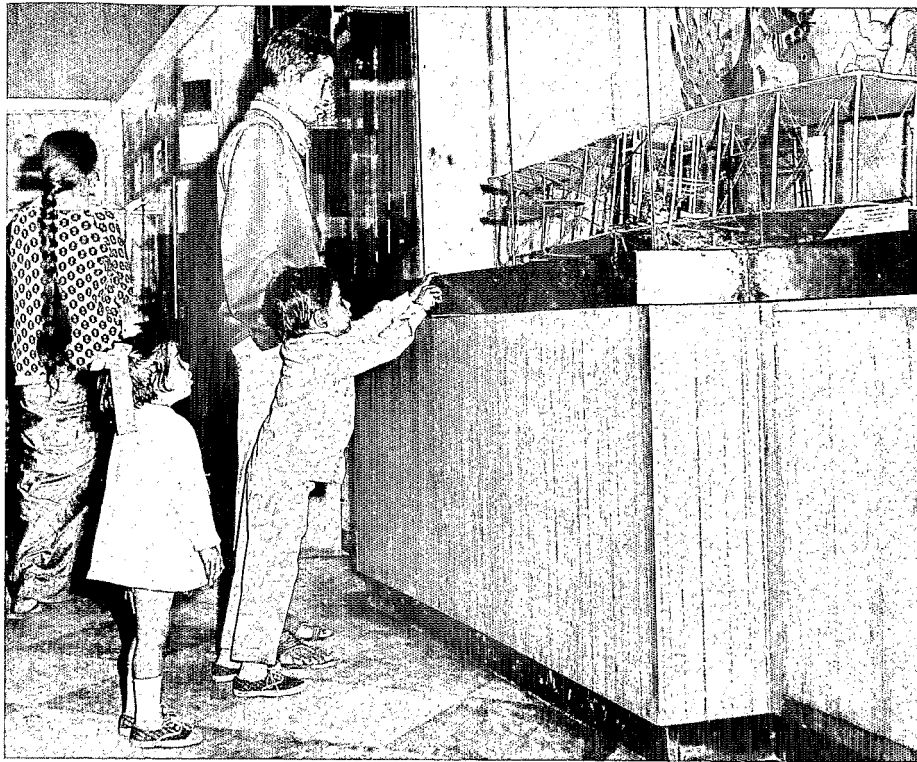
5. Konāraka is a famous temple of the thirteenth century A.D. dedicated to Surya, the sun god. The temple has twelve decorated wheels, the whole representing a chariot in which the sun god rides across the heavens.



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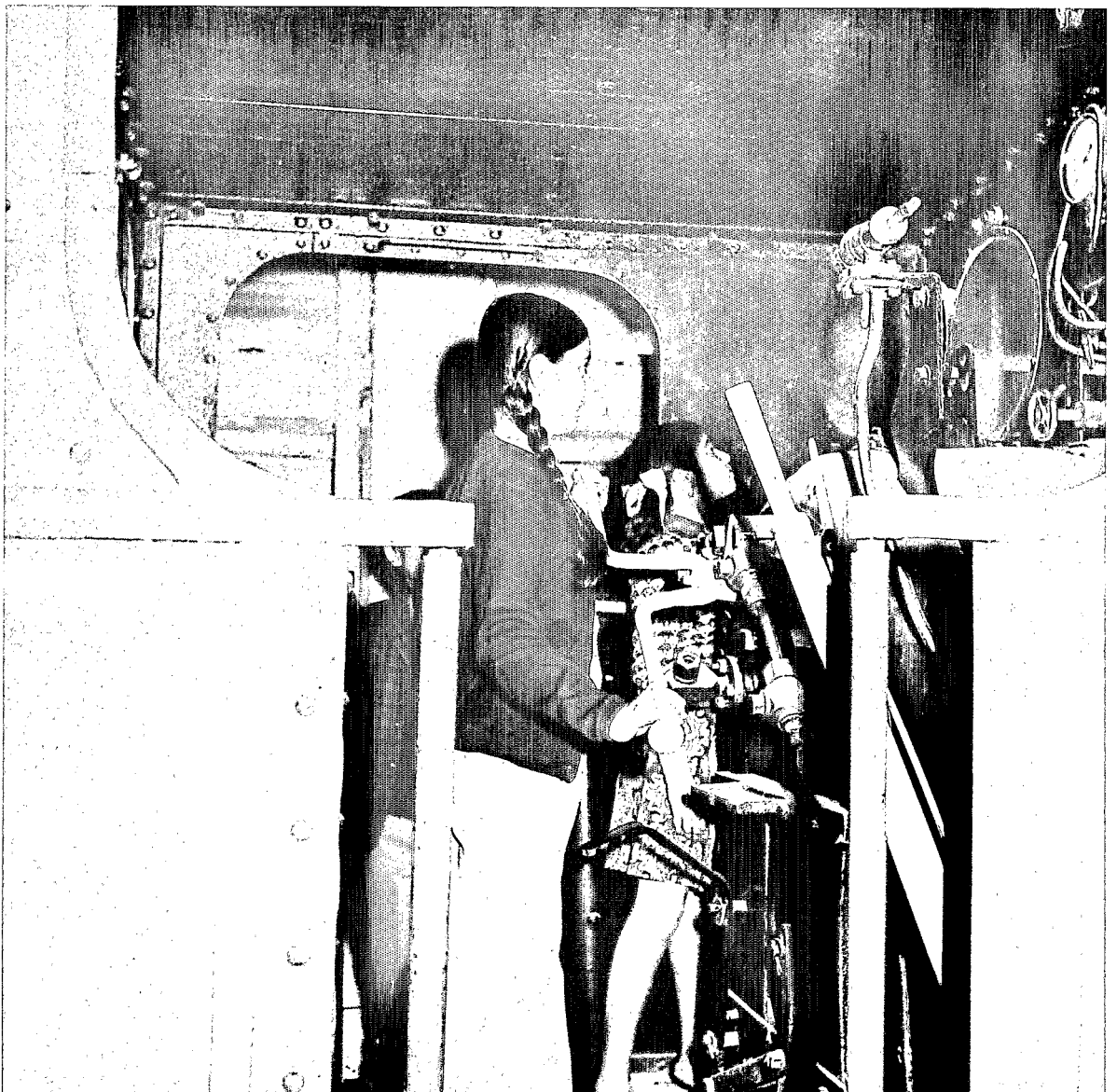
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59 Diorama of transport in the Arctic region.

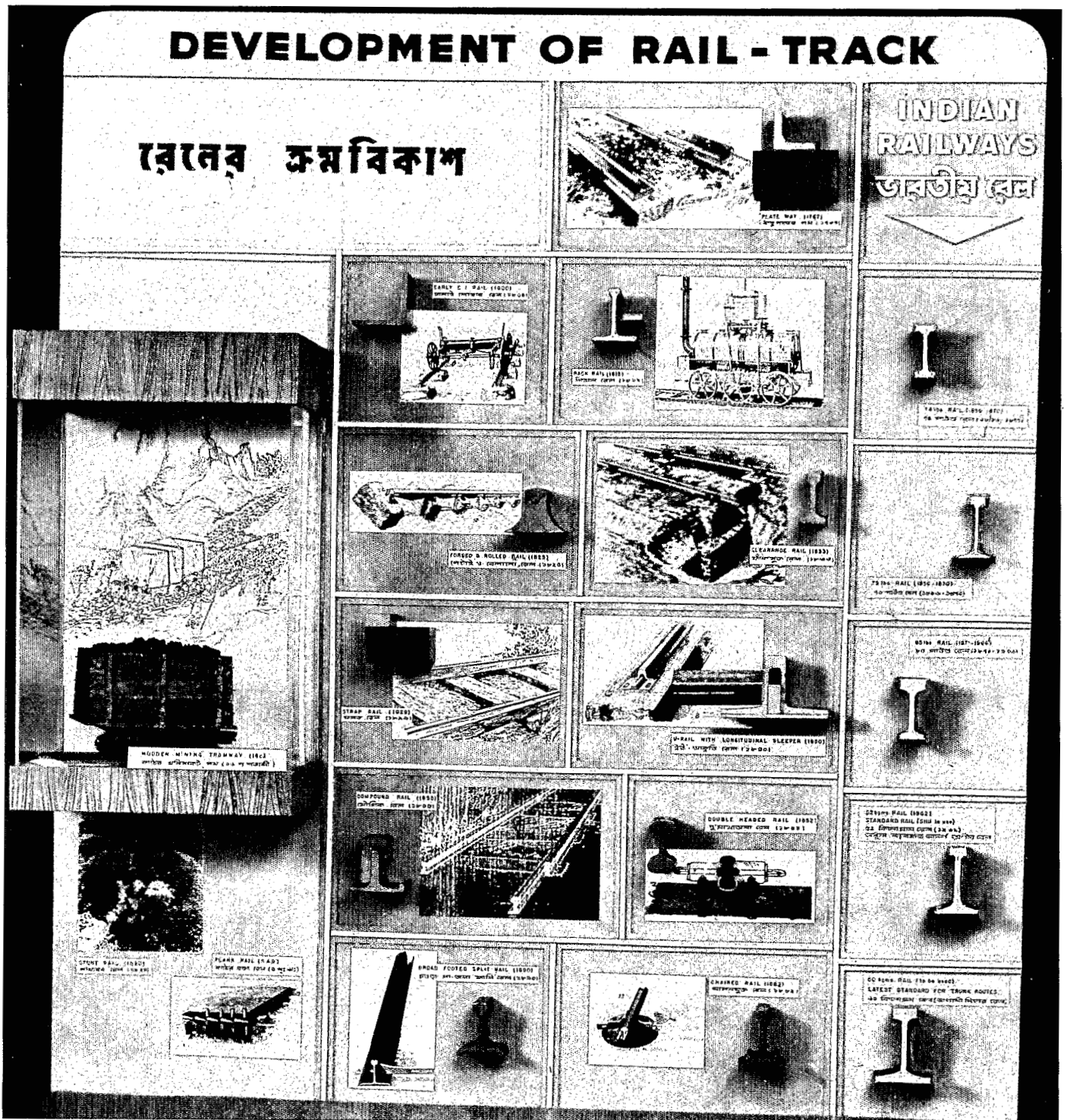
60 Future engineers studying a powerful diesel automobile motor (original).

61 Children operating a working model of the Wright brothers' *Flyer-I*.

62 Pupils try to drive a steam engine.



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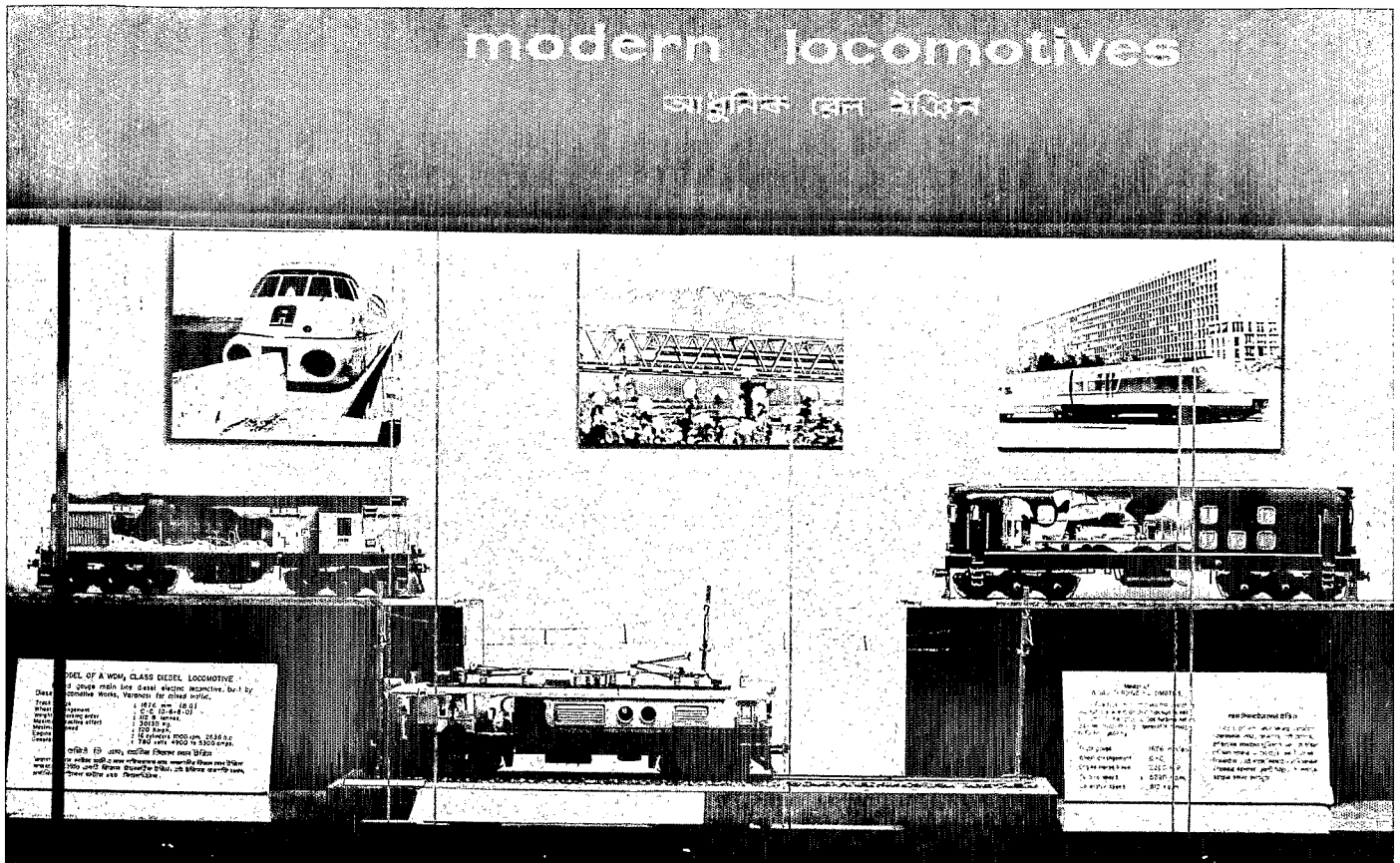


63 Panel illustrating the development of the railways.

like the fuel pump, carburettor, radiator, differential gear, hydraulic-brake system, three-speed gearbox and so on have considerable educative value for curricular studies. In an adjoining gallery small animated models of four-stroke and two-stroke petrol and diesel engines explain the principle of internal-combustion engines. An animated board shows the electrical installations in an automobile, which the visitors can operate.

The air-transport section opens with an animated model of *Flyer-I* of the Wright brothers (Fig. 61). Models of aeroplanes in use by different world airlines are exhibited. The diorama of space flight from the earth to the moon is a great attraction for visitors. This exhibit works on a time-relay circuit showing various operations in sequence.

In the shipping section, models of various types of boats in use in different parts of India and neighbouring areas have been exhibited. Many of these models were obtained from the London Science Museum as a permanent loan.



Among them is that of a royal luxury boat of the eighteenth century. Graphics show the development of Indian shipping and shipping industries while other exhibits tell the story of Calcutta port.

A working diorama showing monorail and ropeway transport draws many visitors. Material handling is very much a part of the transport industry today. A series of small working models of conveyors, cranes, lifts, telescopic gangways and escalators is therefore shown.

The third hall of the transport gallery is made like a miniature railway station in which a narrow gauge steam railway engine of 1933 and a diesel engine are exhibited (Fig. 62). Sound animation by tape recorder creates the atmosphere of a railway platform. A display shows railway evolution (Fig. 63). Photographic displays portray the story of the Indian railway system since its inception.

The gallery has two vintage automobiles—a Rolls-Royce Phantom I of 1926 and a 1925 Fiat Tipo 103. The Fiat is considered as a prize item in the collection as it was owned and used by the renowned Indian scientist Āchārya⁶ Jagadish Chandra Bose.

The visitor has to re-enter the first hall for the exit where models show the development of railways. The working models of Murdock's, Trevithick's and George Stevenson's railway locomotives show historic landmarks in rail transport (Fig. 64). These models were produced in the museum workshop from photos and drawings obtained from foreign museums and also from books. Various models of coaches, wagons and engines used in Indian railways are exhibited. Two working models of a diesel locomotive and an electric locomotive, now manufactured in India, excite the curiosity of visitors.

Calcutta has embarked on a project for an underground tube railway network which will aim at solving the chronic passenger transport problem of this metropolis. A graphic display at the end of the gallery compares this project with tube systems in some other major cities of the world.

64 Showcase containing various scale models of automobiles.

6. Āchārya is a sanskrit word which means a teacher.

65
NATURAL HISTORY MUSEUM, Ankara.



Chronicle

Natural History Museum of Ankara

As early as 1960, when the construction of a set of new buildings were being planned to house the expanding (Mineral Research and Exploration Institute of Turkey (MTA)) Dr Alpan, the General Director, had already the idea of establishing the first Natural History Museum of Turkey, within the institute buildings.

This idea having been realized and purpose achieved, the museum was first opened to the public on 7 February 1968 at the Mineral Research and Exploration Institute of Turkey, Ankara.

With a ground floor used for palaeontology (Figs. 65, 66), a first floor for mineralogy, petrography and physical geology, it covers some 3,500 square metres (Fig. 67) including a basement where a set of dioramas will shortly go on exhibit (Fig. 68). The first of these dioramas reflecting the fauna and flora of central Anatolia is being exhibited. Although emphasis seems to be on the earth sciences and natural history with a 1,799-specimen mineral collection and a 2,678-specimen fossil collection displayed at present, presentation of other related subjects is also taken up and likely to follow suit.

A small laboratory is active on the basement floor, where all preparations are carried out.

The institute takes special pride in stating that, with the exception of a few show windows constructed at the outset, all work, inclusive of design, decoration, display, mounting, etc., was handled and accomplished by its own staff, who indeed have done a remarkable job of it, without any outside assistance.

The institute keeps in close contact and co-operation with the universities and other organizations of the country with a view to enrich the museum. A number of valuable fossils and mineral specimens were sent to us as gifts from other countries, such as the United States (Smithsonian Institution), Canada, Federal Republic of Germany,

Yugoslavia and the U.S.S.R. Likewise, presented to the institute by the French Government (Natural History Museum, France) was an impressive casting of a fossil mastodon. An Allosaurus fossil casting was recently bought from the United States.

Of all the possessions of the museum a set of footprints presumably belonging to early men who lived in Anatolia some 250,000 years before our time, rightfully hold a unique place and attract the admiration and attention of the more scholarly visitors (Fig. 69). It has been claimed that, nowhere else in the truly famed museums of the world, is there another display of human footprints so well preserved. This fact certainly adds to our museum's standing on the comparative scale.

Public interest shown in this museum ever since its foundation is openly reflected in the growing number of visitors from all walks of life who come to see it daily. Mostly students, some 153,000 visitors came in 1975. Systematic information on the materials exhibited in the Natural History Museum is given by the members of the Executive Committee to the students, public and more scholarly visitors. This being an important task, attempts are made to obtain bursaries from museums abroad for the training of the museum staff.

The interest displayed by the public seemed to take a new turn recently by people either reporting the whereabouts or actual digging up of interesting fossils. As a result, parts of fossils of giant mastodons, tortoises, etc., were found not far from Ankara and immediately put on exhibit.

The underground wealth (rich with mineral and energy resources) of our country thus includes a rich variety of fossils as well, ranging from the most ancient life forms up to the recent ones, possibly giving an unbroken chain of evolution, in some cases. The lower jaw of Anthropoid fossils (*Sivapithecus alpani* sp.) found in the vicinity of Ankara, is a remarkably interesting and



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Palaeontology section. In the foreground, specimens of invertebrates. In the background, vertebrate specimens.

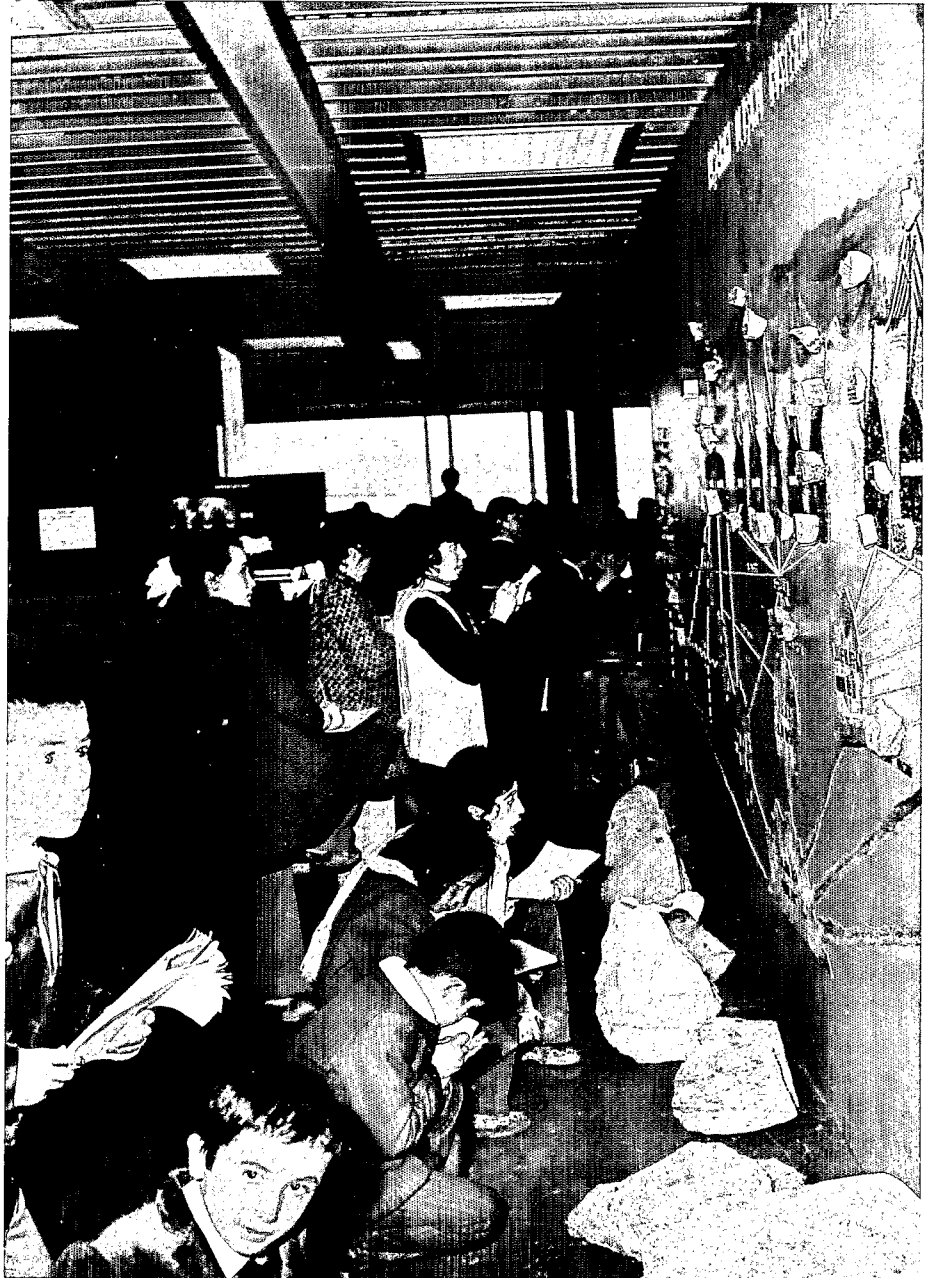
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67
Children in the mineralogy section.

68

68
Reserve collections. Storerooms.

67



68





69

important discovery for Turkey and Euro-Asia inasmuch as it represents evolutionary characteristics of mankind.

The museum also has a lecture hall on the entrance floor to accommodate an audience of over 350 people and a library on the first floor with over 70,000 books and periodicals.

Materials delivered to the museum are first registered with stock code numbers and supplementary to this recording process, entries are made on cards, kept in a card cabinet, on the basis of palaeontological and mineralogical classification, regional localities and stock code numbers to facilitate systematical access. Four storerooms are set aside to preserve delivered material, all of which are not necessarily exhibited, in their original boxes. At present a total of 42,086 fossil samples are preserved in the four storerooms of the museum (Fig. 70).

I was able to acquire the techniques of dioramic representation at the Smithsonian Institution. Ground, rocks, tree trunks, etc., are used with realistic painted background in the dioramas, leaves being moulded into acetate and coloured manually and/or by gun. Backgrounds are painted by the painters.

Taxidermy techniques on the other hand are not fully developed. Methods employed

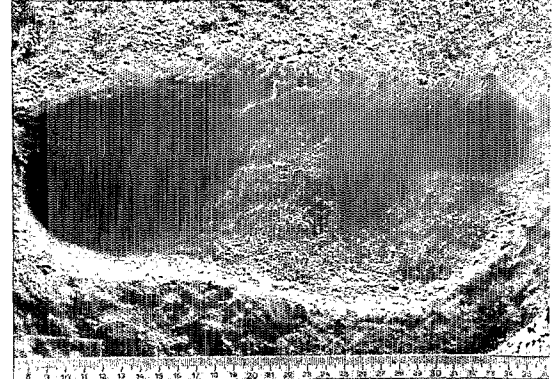
at the Berne Museum are adopted to stuff small birds, etc. For stuffing the bigger animals, however, conventional methods are employed. This preference is solely due to the lack of trained and experienced staff in this field. Attempts are made to obtain bursary awards from abroad for the training of the museum staff.

The staff of the museum includes, besides the Executive Committee, one curator, four guides, four decorators, designer and diorama technicians and about twenty palaeontologists, archaeologists and mineralogists who contribute on a part-time basis.

The museum receives direct financial support from the Mineral Research and Exploration Institute financially. The samples are collected by the institute staff of 1,500 technical personnel (geologists and others) besides the private contributions. All the samples are used for exhibition, and educational purposes, as well as for research groups.

It is the MTA institute's sincere desire to keep in touch with other museums of natural history or other similar organizations in view of mutual assistance and possible exchange of specimens.

Sehavet MERSINOĞLU



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Diorama of the vegetation on the coasts of the Black Sea.

70

Imprint of the foot of an Anatolian man who lived about 250,000 B.C.

Journey to Denmark and the United States of America—reactions and reflections

I was engaged by the Fonds d'Intervention Culturelle (FIC) attached to the Secretariat d'Etat à la Culture (formerly Ministry of Cultural Affairs) to draw up a general programme for the more effective presentation of the historic and prehistoric treasures of the Valley of the Vézère in Périgord Noir,¹ and asked to make proposals of an innovative or even experimental nature. Although similar work has been done in France,² I went, on the advice of ICOM,³ on a trip to Denmark and the United States in order to visit and make a study of certain display, organization and participation centres whose methods might prove to be highly novel and effective and, at the same time, relevant to my mission.

Thus it was that, in the space of thirty-three days, I visited eleven Danish museums⁴ and over thirty-five American centres,⁵ scattered throughout the length and breadth of that vast country. This in itself was a physical feat necessitating faultless organization;⁶ but it was also, and above all, an exceptional opportunity for discovery and reflection.

The chief advantage of a trip such as this is its great instructional value. For it is an opportunity to immerse oneself wholly, for nearly five weeks, more than twelve hours a day, in the world of museums, learning to see and look, to ask questions and listen to the answers. What could be more rewarding than those long hours of discussion in the exhibition galleries, the architect's office, with the director, the scientific officer or the chief designer? What more instructive than visiting the technical workshops of museums, or talking to the person responsible for the budget? Or taking the opportunity to visit a museum with a small group of children and talking before, during or after the visit to the persons in

charge from the department of education, the teachers and the children themselves? I had innumerable such experiences in dozens of museums and parks.

The truth is that all this information, all these contacts and all this accumulated experience are invaluable as a basis for inspiration and comparison for anyone confronted with the problem of planning a museum. However, it must be borne in mind that very few of these centres could be simply picked up and set down elsewhere.

What is there to say about the exciting museological experiments being made at Viborg,⁷ or about the magnificent Louisiana Museum at Humlebaek, after seeing one of the New York museums⁸ consisting of twenty buildings, covering an area of over 70,000 square metres, containing more than 23 million exhibits, employing more than 600 people and having an annual budget of over \$13 million? What have the museums of the Smithsonian Institution at Washington, which are designed not for conservation and presentation only but also for research in all domains, employ over 6,000 people and are visited by more than 20 million people a year, in common with the National Museum at Copenhagen, or even the Musée du Louvre?⁹

But here precisely lies a sure source of encouragement for museums which have no statistics such as these to show: it is that the contribution of a museum depends less on what it has to exhibit than on the fact that in its daily practice it moves with the times. The reason why so many museums today are criticized, and rightly so, is on account not of the exhibits on display or of their actual museographical methods (although museums feel morally obliged to maintain a high scientific and technical standard) but because of their anachronistic attitude to

1. This valley is located in the region of Aquitaine, in south-west France, 150 kilometres to the east of Bordeaux. It is famous throughout the world for its prehistoric remains and its caves with their wall paintings. It is in this region that the Lascaux cave is situated.

2. The reference is more particularly to the experiments carried out by the Ecological Museum of the Urban Community of Le Creusot-Montceau and the eco-museums of the French regional natural parks.

3. I wish to express my thanks to Georges Henri Rivière, Permanent Adviser to the International Council of Museums (ICOM), for his invaluable advice, without which this trip would not have been what it was.

4. National Museum, Copenhagen; Rosenborg Slot Museum, Copenhagen; National Museum of Art, Copenhagen; Zoological Museum, University of Copenhagen; 'Oldtidsbyen' Archaeological Research Centre, Lejre; Viking Ship Museum, Roskilde; Kulturhistorisk Museum, Randers; Museum of Prehistory, Moesgaard; Viborg Stifmuseum, Viborg; Louisiana Museum, Humlebaek; Fridlands museet (open-air museum), Lyngby.

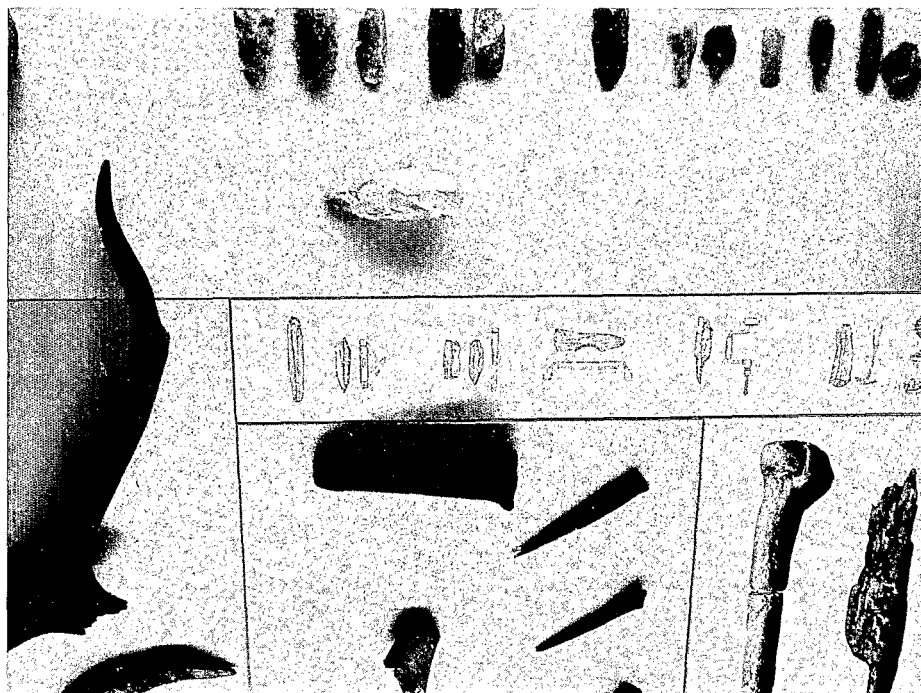
5. American Museum of Natural History, New York; Metropolitan Museum of Art, New York; Brooklyn Museum; Museum of the City of New York; Cloisters of the Metropolitan Museum of Art, New York; National Museum of Natural History, Smithsonian Institution, Washington; Museum of History and Technology, Smithsonian Institution, Washington; Harpers Ferry Center, National Park Service, West Virginia; Manassas, National Battlefield Park, Virginia; Colonial Williamsburg, Virginia; Jamestown, National Historic Site, Virginia; South West Regional Office Park Service, Santa Fe, New Mexico; Museum of International Monuments, New Mexico; Chaco Canyon National Monument, New Mexico; Navajo Lands Group National Park Service, Farmington, New Mexico; Mesa Verde National Park, Colorado; Yosemite National Park, California; Milwaukee Public Museum, Wisconsin; Field Museum of Natural History, Chicago; Museum of Science and Industry, Chicago; Institute of Fine Arts, Chicago; Old Sturbridge Village, Massachusetts; Boston Children's Museum.

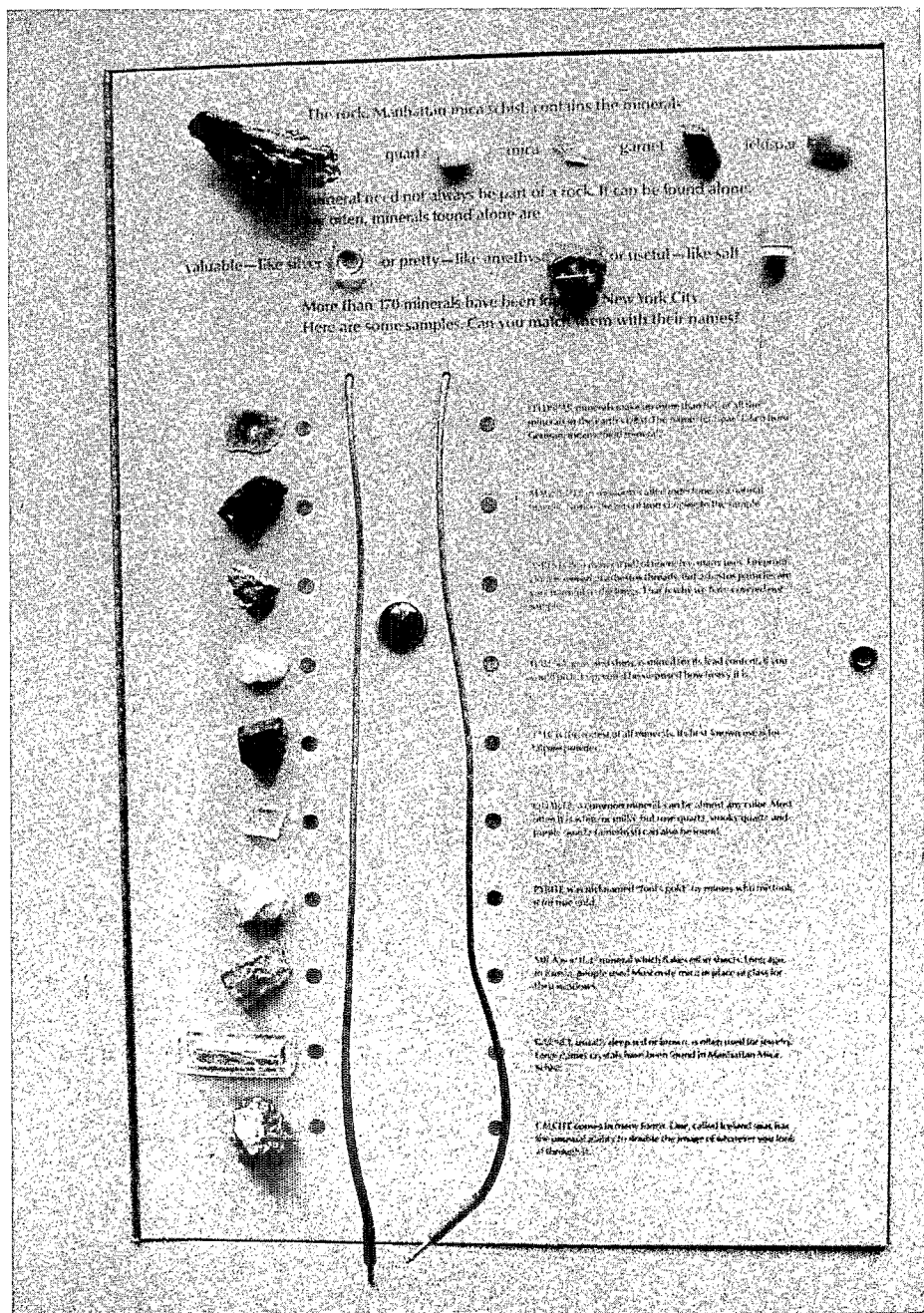
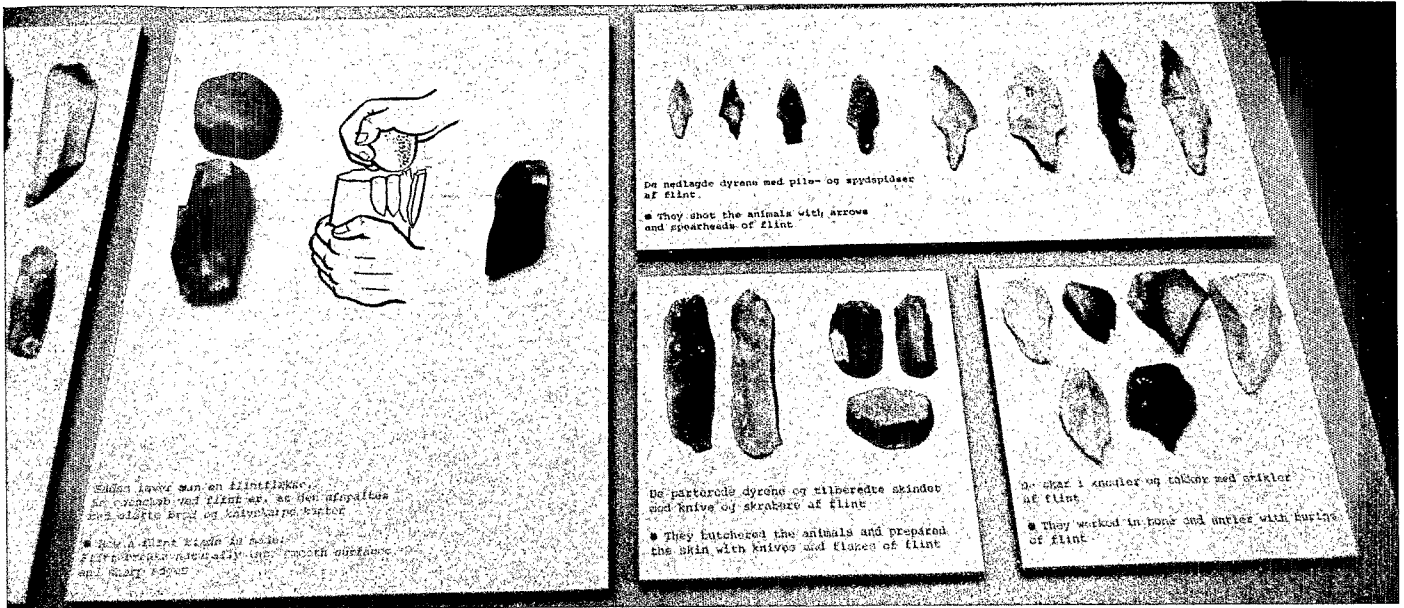
6. My thanks are due in particular to Paul N. Perrot, Assistant Secretary for Museums Programmes at the Smithsonian Institution, who so kindly organized the programme for my journey to the United States.

7. Communal Museum of the History of Civilization, Viborg, Denmark; Louisiana Museum, Humlebaek, Denmark.

8. The American Museum of Natural History.

9. cf. a survey carried out in 1974 by the Metropolitan Museum of Art: Daniel Yankelovich, 'The Metropolitan Museum and its public', *The Metropolitan Museum of Art. Annual Report 1973-1974*, p. 15-19, New York (104th Annual Report).





71
 VORHISTORISKMUSEUM, Moesgaard. Presentation of prehistoric tools. Side by side with real objects, the relation between the prehistoric tool and the present-day one is shown with the help of diagrams.

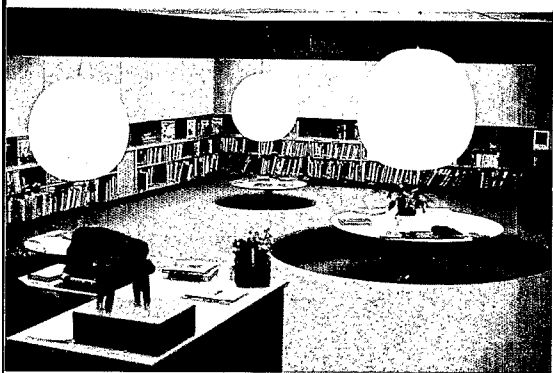
72
 NATIONALMUSEET, Kobenhavn. Department of prehistory. Flint tools. The legends are in both Danish and English. To the left, a sketch shows the technique of fashioning a flint tool.

73
 MUSEUM OF NATURAL HISTORY, New York. Minerals found in the soil of New York City. A game—to find the name of each mineral shown at the left. The visitor plays by placing the tip of one cord in the hole corresponding to a given mineral and the tip of the other in the hole corresponding to its identification. If the answer is correct, the red button lights up.

74



75



74
MUSEUM OF SCIENCE AND INDUSTRY,
Chicago. Individual projection system.

75
INSTITUTE OF ART, Chicago. Children's
reading room.

culture, the conception of which has changed since the nineteenth century, and even since the Second World War.

The novel feature of the Danish and American museums I visited is that they comprise both a traditional sector and numerous experimental sectors.

These museums' new approach is, generally speaking, manifest in three different ways:

1. *Their attitude towards knowledge and learning.* Scientific specialization is no longer regarded as the sole means of explanation and understanding and, at the same time, increasing emphasis is being laid on multi-disciplinary participation, giving rise to a new kind of relationship between scholars, museum staff and the general public, so that the museum becomes a collective venture.

2. *The role of the museum in the life of the community.* That in France three people out of four never go to museums is because there is nothing to induce them to. The only way of getting this non-public into a museum is by giving them the opportunity to participate directly in its life, making it not a 'temple of culture' but a meeting place where each will find not only the exhibits in which he is interested but also facilities for creative and inventive activities, games and discovery rooms and recreation areas for reading, resting, eating and drinking. A museum should not be merely a sanctuary conserving objects for future generations, but, first and foremost, a place where people can live, where they can meet and relax, find opportunities for self-expression and exchange views. The historic and natural parks in the United States of America, such

as Old Sturbridge Village near Boston, the Danish centres where direct experience is provided of the craft or activity in question and the eco-museums of the French national parks are examples of this new conception of the museum.

3. *The importance attached to the educational sector.* This entails a high degree of organization as far as the museum is concerned and the employment of large numbers of lecturer-guides. It means, above all, that museums, instead of merely arranging for the usual visits of school classes, must themselves provide a range of educational facilities such as will cater for the particular needs of their public, throughout childhood and adult life.

The museum should contribute naturally to the development of the population and of the region in which it lives. To strengthen its links with schools and universities is of course essential, but the main thing is to keep in touch with industries, factories, housing estates, the springs of urban or rural community life.

The museum must change its image, use appropriate means for publicizing its activities, aim at making itself financially self-supporting and step down from its pedestal. There is of course a danger that it will be either too conservative or too revolutionary but, seeing all these experiments, it is impossible not to be optimistic about the future. Thus revitalized, the museum would be a source of inspiration, and of a new awareness of their identity, to town and country districts alike.

Bernard JEANNOT-VIGNES

Museums commemorating the Second World War, U.S.S.R.

Many museums all over the world have sought to fix the events of the Second World War in the memory of their visitors by exhibiting objects and documents relating to that period.

In certain countries such as the Soviet Union a new type of museum has even been created with the sole aim of commemorating the struggle of the U.S.S.R. and the Allies against fascism.

In Byelorussia and in the Ukraine, which bore the brunt of the Nazi invasion, important national museums of this type exist.

The Museum of the History of the Great National War at Minsk, inaugurated on 7 November 1944, comprises thirty-two rooms and a total surface area of 3,600 square metres. There are over 70,000 items in its collection: artillery pieces and light arms, military engineering and communications materials, clandestine tracts and papers, flags, printing equipment, personal effects of war heroes, etc. Among the exhibits, for example, is the 'Barbarossa' plan prepared by the Hitlerian headquarters; testimony of the organization of the Soviet fight against the invader; the régime of the occupant and the Nazi death camps in Byelorussia; the partisan uprising and the secret resistance organizations; the immense effort of the

Soviet war industry; the great Battles—Stalingrad, Orel-Koursk, the Dnieper, etc. The struggle of the Allied Powers is also shown, in particular the exploits of the Normandy-Niemen squadron and the participation in several European resistance movements of Soviet citizens who had escaped from fascist prisons.

The National Museum of the History of the Great Patriotic War at Kiev is also very impressive. The exhibits of original objects and authentic documents are explained and the considerable use of audio-visual aids gives complementary information.

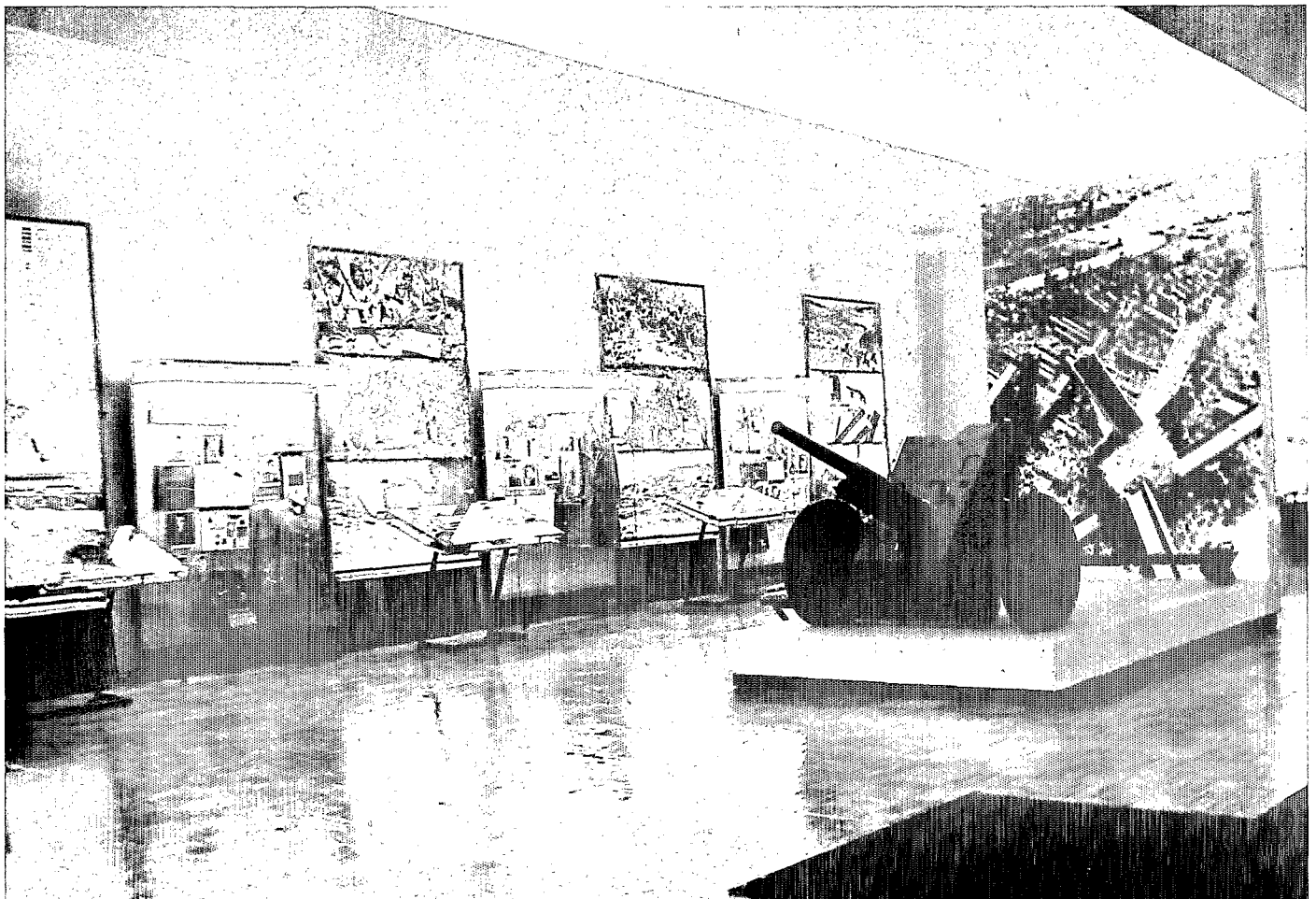
In addition to the major national museums there are many local museums such as that which commemorates the battle of Korsun-Shevchenkivsky, the Spadshchansk forest complex of some fifteen sites where partisan action took place and artillery was seized from the enemy, or the Krasnodon Museum where the exploits of young resistance fighters has been immortalized with the help of films and lectures and by meetings arranged with the parents of the young heroes.

All these museums attract a very large public, and some of these visitors come from considerable distances away.



76
BELORUSSKIY GOSUDARSTVENNYJ MUZEJ ISTORII VELIKOJ OTECESTVENNOJ VOJNY, Minsk. Branch of the Byelorussian National Museum of the History of the Great War. Monument to the memory of the victims of Nazism, Khatyn. Visit by U Thant, Secretary General of the United Nations.

77
UKRAJINSKIY GOSUDARSTVENNYJ MUZEJ ISTORII VELIKOJ OTECESTVENNOJ VOJNY 1941-45, Kiev. (National Museum of the Patriotic War of 1941-45). Room devoted to the heroic defence of Kiev, Odessa and Leningrad.



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Studies in the history of art at the Utrecht University (with Professor Dr W. Vegelsang) 1935-41. Curator of the collection of engravings at the Boymans Museum in 1941. Director of the Boymans Museum since 1950.

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Born 1929, Berlin. Emigration to the United Kingdom in 1939. Attended Birmingham College of Art and Crafts from 1947 to 1951. Took Art Teacher's Diploma 1951. Ten years' teaching experience in various grammar schools, work as a practising painter. Study of art history at the University of Freiburg im Breisgau, Federal Republic of Germany. 1969 *Magister Artium* (M.A.) in art history. Since 1970 on the staff of the Aussenreferat der Kölner Museen (Educational Department of the Museums of Cologne). Published several articles on creative work in museum education with children. Author of *Mein Museumsbuch*, childrens' guide to the Wallraf-Richartz-Museum, Cologne.

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New aspects of historical museums

Museums and interdisciplinarity